

# Final Environmental Assessment

## Runway 17R/35L Rehabilitation Project

**SUBMITTED BY:**

Dallas Fort Worth International Airport

April 27, 2022





U.S. Department of Transportation  
Federal Aviation Administration  
Southwest Region

**Finding of No Significant Impact (FONSI)**

Runway 17R/35L Rehabilitation Project  
Dallas/Fort Worth International Airport  
Dallas County, Texas

May 2022

**1. INTRODUCTION**

This document serves as a Finding of No Significant Impact (FONSI) for the proposed Federal Aviation Administration (FAA) actions necessary for the implementation of the Runway 17R/35L Rehabilitation Project at Dallas/Fort Worth International Airport (DFW), in DFW, Texas. The Cities of Dallas and Fort Worth, as owners of the airport, are the airport sponsors and proponent of the proposed airport improvements. The Proposed Action is the rehabilitation of Runway 17R/35L and associated improvements.

The Federal Aviation Administration (FAA) is the federal agency responsible for the approval of the Proposed Action analyzed in the Environmental Assessment (EA). The FAA has determined that the Proposed Action will have no significant impact to the human environment.

**2. PROPOSED FEDERAL ACTION**

The federal actions necessary for implementation of the Proposed Action include:

1. Determination under 49 U.S. Code (USC) §§40103(b) and 47107(a)(16), relating to the eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP),
2. Determination under 49 USC §40117, as implemented by 14 CFR §158.25, to impose and use passenger facility charges (PFC) collected at the airport to assist with construction of potentially eligible items shown on the Airport Layout Plan (ALP),
3. Unconditional approval of the ALP portion depicting the Proposed Action as described in the EA within Section 3.3 and Figure 1-3, and
4. Additional NAVAID related projects that may happen concurrently with the rehabilitation of Runway 17R/35L, including
  - a. Runway 17R glideslope shelter relocation,
  - b. Runway 35L glideslope shelter relocation,

- c. Runway 35L Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) replacement; and
- d. Replacement of the shelter for the Runway 35L MALSR, 17R distance measuring equipment (DME), and 17R localizer (LOC).

### **3. PURPOSE AND NEED**

Pursuant to the National Environmental Policy Act (NEPA) and FAA Orders 1050.1F, Environmental Impacts: Policies and Procedures and 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, an EA must include a description of the purpose of a proposed action and the reasons it is needed. The purpose of and the need for the Proposed Action are discussed below.

The purpose of the proposed Runway 17R/35L Rehabilitation Project is to extend the structural life of the runway, enhance the current and future functional performance, reduce operational impacts, and reduce maintenance costs.

Runway 17R/35L provides critically needed departure capacity in support of DFW's scheduled flight operations, accounting for roughly 50 percent of all aircraft departing DFW. Runway 17L/35R is one of DFW's mission critical arrival runways on the east airfield. This ADG-VI runway supports the ADG-VI cargo operations and provides the airport with the all-weather landing capacity in support of DFW's scheduled flight operations.

While the Pavement Condition Assessment from 2015 classifies the Pavement Condition Index (PCI) of Runway 17R/35L keel section as "fair," recent years have witnessed an increasing number of pavement surface and sub-surface distresses. The fair condition is for the center 50 feet of runway while the good and satisfactory pavements are for the outer 75 feet of pavement.

### **4. ALTERNATIVES**

The FAA orders require a thorough objective assessment of the Proposed Action, No Action alternative, and all "reasonable" alternatives that would achieve the stated purpose and need of the Proposed Action. The Alternatives analysis is consistent with the requirements of FAA Orders 1050.1F and 5050.4B. Alternatives that were not carried forward through the analysis are identified and reasons for their elimination are presented in Section 3 of the attached EA.

#### **4.1 No Action Alternative (NAA)**

Under the NAA, DFW would not implement the proposed Runway 17R/35L rehabilitation project. The runway would continue to deteriorate and DFW would not be able to preserve the structural integrity of its primary east airfield arrival runway. Furthermore, the potential for Foreign Object Debris (FOD) would increase which would impact safe airfield operations. The NAA does not meet the stated purpose and need for this project.



## 4.2 Proposed Action Alternative

Under the Proposed Action Alternative, the rehabilitation of Runway 17R/35L would consist of a full closure of the runway from August 1, 2023 through January 31, 2024. During the 5-month period when the runway is closed, all aircraft operations would be moved from Runway 17R/35L; this change in aircraft operations and runway utilization operations would be temporary, during the 18-month construction period only. For a detailed list of project components, see Section 3.3 in the attached EA.

## 5. ENVIRONMENTAL CONSEQUENCES

The environmental impacts, if any, of the proposed alternatives were examined in the EA according to the FAA Orders 5050.4B and 1050.1F. The environmental impacts of the No Action and the Proposed Action alternatives are presented in this section.

A number of resources will not be impacted by implementation of the Proposed Action and will not be further discussed in detail in this FONSI.

### 5.1 Air Quality

No Action Alternative: The NAA would not involve any construction activities; therefore, no construction emissions or increases in operational emissions would be associated with the NAA.

Proposed Action Alternative:

#### *Construction Emissions*

Construction emissions associated with the Proposed Action include oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC), the two primary precursors to O<sub>3</sub> formation. Table 5-3 of the attached EA demonstrates the estimated emissions associated with the construction of the Proposed Action; the emissions inventories are expressed in units of tons per year (tpy) for each pollutant. The project-related emissions shown in Table 5-3 of the attached EA do not exceed the General Conformity Rule applicability *de minimis* levels of 100 tons per year for either NO<sub>x</sub> or VOCs.

#### *Operational Emissions*

Additional operational emissions are from aircraft operations, GSE, and APU. The Proposed Action is expected to result in minimal operational emissions from aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below mixing height. Table 5-4 in the attached EA provides the operational emissions by category by year. Changes between the Proposed Action Alternative emissions are a result of the changes in taxi times due to the Proposed Action. Table 5-5 in the attached EA provides the comparison between the Future NAA and the Proposed Action operational emissions.

The results of the emission inventory prepared for the Proposed Action were compared to the results of the NAA of the same future year to disclose the potential increase in emissions caused by the Proposed Action. The emission inventory, which included an inventory of construction

and operational emissions, were used for the evaluation of General Conformity, as required under the Clean Air Act (CAA). As shown in Table 5-6 of the attached EA, the annual increase in emissions due to the construction and operation of the Proposed Action would not exceed the applicable *de minimis* thresholds of 50 tpy for NO<sub>x</sub> or VOCs. Therefore, the Proposed Action conforms to the State Implementation Plan and the CAA and would not create any new violation of the National Ambient Air Quality Standards (NAAQS), delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. As a result, no adverse impact on local or regional air quality is expected due to the Proposed Action.

## **5.2 Noise and Noise Compatible Land Use**

No Action Alternative: Under the NAA, the runway rehabilitation project would not occur and there would be no changes to the typical runway use at DFW for 2023/2024.

Proposed Action Alternative: The Proposed Action is comprised of the rehabilitation of Runway 17R/35L and its shoulders, upgrades to the electrical systems and components, and a full asphalt overlay. The Proposed Action would cause temporary changes in runway use, during construction only. The proposed runway closures would potentially result in temporary changes in aircraft noise for some communities near the airport. One Future year (2023/2024) Proposed Action Alternative was used to analyze the construction phasing schedule, in terms of noise impacts based on the anticipated runway end closures, full runway closure and overall project schedule.

The 17R/35L runway rehabilitation will be completed in four construction phases, Phases 2, 3, and 4 involve reduced length or full runway closures and are the subject of the Proposed Action Alternative. Phase 1 work is all the preparation and staging (not impacting runway operations) needed to begin Phase 2. The three construction phases span across the 2023 to 2024 calendar year period. The three phases modeled for the EA will cover a total of 13 months from April 2023 to April 2024.

- Phase 2 – Runway 35L end closure - April 2023 to June 2023 (3 months)
- Phase 3 – Full Closure - July 2023 to December 2023 (6 months)
- Phase 4 – Runway 17R end closure – January 2024 to April 2024 (4 months)

Each phase representing that portion of the rehabilitation project was modeled in Aviation Environmental Design Tool (AEDT) and then combined to generate a complete Proposed Action Alternative contour set. Table 5-17 of the attached EA provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 day-night average sound level (DNL) for the Proposed Action Alternative.

Approximately 11.48 square miles of land fall within the Proposed Action Alternative (2023/2024) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.62 square miles exposed to 65 DNL or higher, is located off-Airport (the remaining 10.86 square miles are located on DFW property). Table 5-17 of the attached EA summarizes the areas of noise exposure within each noise contour level (65 DNL, 70 DNL, and 75 DNL noise contours) for the Proposed Action Alternative.



Figure 5-7 of the attached EA displays the area south of Runway 35R where the Proposed Action Alternative 65 DNL contour extends over residential land use. This area would be exposed to levels greater than 65 DNL during the proposed project (highlighted yellow) and would exceed the FAA's threshold for significant noise impact of 1.5 decibel (dB) (noise increase within the 65 DNL is 2.4 dB). However, these increases would be temporary and limited to the construction period. The maximum noise increase is estimated to be 2.4 dB, which is expected during Phase 3 (approximately 6 months).

A significant noise impact would occur if the analysis showed that the Proposed Action would result in noise-sensitive areas experiencing an increase in noise of DNL 1.5 dB or more, at or above DNL 65 dB noise exposure when compared to the NAA for the same timeframe.

The Proposed Action Alternative results in one area with a 1.5 dB increase in the 65 DNL contour, which is considered a significant noise increase under FAA Order 1050.1F, however is temporary in nature. The area is located south of Runway 17L/35R, where the 65 DNL noise exposure contour extends over multi-family residential land uses in the City of Irving. The affected buildings are located at the Bridgeport Apartments, 4111 Polaris Dr., Irving, TX 75038. These buildings, located directly along the extended centerline of Runway 35R, would be impacted as aircraft operations are temporarily shifted during the full closure from Runway 17R/35L to Runway 17L/35R. These multi-family buildings would experience a significant, but temporary noise impact (estimated 2.4 dB) due to the Proposed Action Alternative.

A grid point evaluation covering the Noise Study Area evaluated any change between the 60 DNL to 65 DNL contours. There would be one small area where there would be a 3 dB change between the 60 DNL to 65 DNL contours. The area is located on airport property along Runway 13R/31L (+3 dB; Figure 5-8 of the attached EA).

A larger, secondary study grid to evaluate any reportable noise change (+/- 5 dB) between the 45 DNL and 60 DNL was also evaluated. There was only one area of a 5 dB increase within the 45 DNL to 60 DNL just to the northwest of Runway 13R/31L due to the Proposed Action as shown on Figure 5-9 of the attached EA. There is one area, a mobile home park in Grapevine that is within the area of a reportable change.

#### *Bridgeport Apartments Mitigation*

The elevated noise levels would be short-term and temporary, limited to during the construction period. The noise level increase would be considered significant but temporary during Phase 3 with the full closure of Runway 17R/35L. Because the Proposed Action is short-term in nature, no long-term mitigation is required. DFW plans to mitigate the temporary noise increases through meeting with community leaders, city council members, city managers, and by conducting community outreach specific to the affected residences. Notification of impacted communities will be done well in advance of the Proposed Action's start date. DFW plans to work with the apartment managers to provide letters of notification to each resident, by mail or on each door prior to the start of the Proposed Action. The letters would describe the Proposed Action, the proposed construction timeframe, and the temporary noise impacts due to the full closure of Runway 17R/35L. The affected community members will also be presented with the project information, its temporary effects on the residents, and the significant benefits this

runway reconstruction project will yield to the community. DFW Staff will request written acknowledgement from apartment residents.

## **6. AGENCY COORDINATION AND PUBLIC INVOLVEMENT**

DFW consulted with FAA, Texas Historical Commission (THC), Texas Commission on Environmental Quality (TCEQ), and Environmental Protection Agency (EPA) during the development of the EA. THC concurred with the findings and conclusions of the cultural resources report, stating that the Proposed Action would not adversely affect any historic resources. The Cultural Resources reports did not identify any historic resources eligible for listing on the National Register of Historic Places (NRHP). Additionally, DFW consulted with TCEQ and EPA to discuss the Proposed Action during the General Conformity coordination meetings for other DFW actions. DFW presented the air quality emissions modeling and analysis results showing that the emissions associated with the Proposed Action were below the *de minimis* thresholds of 50 tpy for either NO<sub>x</sub> or VOCs. Therefore, the Proposed Action would not trigger the General Conformity process nor require additional coordination with the agencies.

Because the Proposed Action is not controversial, no permanent significant adverse impacts were identified, and no special purpose laws were triggered that require public participation, it was determined that public involvement was not necessary. However, the Draft EA was posted on DFW's website from April 11-23, 2022, and provided digitally, upon request, and for hard copy viewing to interested parties at DFW Environmental Affairs Department, EAD Annex Building A, 3003 S Service Rd, Dallas, TX 75261. No requests for document review or comments were received. The Final EA and FONSI will be available digitally on the DFW Airport website and physically at the DFW Environmental Affairs Department building.

## **7. CONDITIONS AND MITIGATION**

As prescribed by 40 CFR §1505.3, the FAA shall take steps as appropriate to the action, such as through special conditions in grant agreements, property conveyance deeds, releases, airport layout plan approvals, and contract plans and specifications and shall monitor these as necessary to assure that representations made in the EA and FONSI will be carried out. Specific conditions of approval associated with this project are listed below:

- Mitigation measures shall be incorporated into the project to include use of best management practices (BMPs) during construction to minimize erosion and sedimentation; controlling runoff; and controlling waste and spoils disposal to prevent ground contamination.
- Mitigation measures shall be incorporated into the project to include use of BMPs during construction to minimize fugitive dust and to minimize mobile and stationary emissions sources.
- Mitigation for noise impacts shall be conducted in accordance with measures outlined in Section 5.2, *Bridgeport Apartments Mitigation*.



## 8. FINDINGS

Throughout the development of the airport, including the proposed improvements described above, the FAA has made every effort to adhere to the policies and purposes of NEPA, as stated in the NEPA implementing regulations. The FAA has concentrated on the truly significant issues related to the action in question. The FAA determined that the Proposed Action is in compliance with FAA Order 1050.1F 6-3.b(2). In its determination on whether to prepare an Environmental Impact Statement (EIS) or process the EA as a FONSI, the FAA weighed its decision based on an examination of the EA, and comments from Federal and state agencies, as well as all other information available to the FAA.

As required by 40 CFR 1506.5, the FAA has independently and objectively evaluated this proposed project. As described in the Final EA, the Proposed Action and the No Action Alternative were studied to determine the potential impacts and appropriate mitigation for those impacts. The FAA provided input, advice, and expertise throughout the analysis, along with administrative and legal review of the project.

The following determinations are prescribed by the statutory provisions set forth in the Airport and Airway Improvement Act of 1982, as codified in 49 U.S.C. §§ 47106 and 47107. They are preconditions of FAA's approval of airport funding applications for AIP eligible airport development.

- a. 49 U.S.C. § 47106(a)(1). The Proposed Action is reasonably consistent with existing plans of public agencies for the development of the area surrounding the airport.
- b. 49 U.S.C. § 47106(b)(2). The interests of the communities in or near which the project may be located have been given fair consideration.
- c. 49 U.S.C. § 47107(a)(10). Appropriate action, including the adoption of zoning laws, has been or will be taken to the extent reasonable to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations.

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101 of NEPA and other applicable environmental requirements and, with the required mitigation referenced above, will not significantly affect the quality of the human environment or otherwise include any condition requiring any consultation pursuant to section 102(2)(C) of NEPA. As a result, FAA has determined that preparation of an EIS is not necessary for this proposed action and is therefore issuing this FONSI.

RECOMMENDED  
FOR APPROVAL:

JOHN J  
MACFARLANE

Digitally signed by  
JOHN J MACFARLANE  
Date: 2022.05.06  
07:30:26 -05'00'

Date: \_\_\_\_\_

John MacFarlane  
Environmental Protection Specialist  
Texas Airports District Office

APPROVED:

KIMBERLY M  
BROCKMAN

Digitally signed by  
KIMBERLY M BROCKMAN  
Date: 2022.05.06  
10:19:48 -05'00'

Date: \_\_\_\_\_

Kim Brockman  
Acting Manager  
Texas Airports District Office



## **FINAL ENVIRONMENTAL ASSESSMENT**

Runway 17R/35L Rehabilitation Project  
Dallas Fort Worth International Airport  
Dallas County, Texas

### **Prepared for:**

Texas Airport Development Office [ASW-650]  
Federal Aviation Administration  
10101 Hillwood Parkway  
Fort Worth, TX 76177

### **Prepared by:**

Environmental Affairs Department  
Dallas Fort Worth International Airport  
PO Box 619428  
DFW Airport, TX 75261



This Environmental Assessment becomes a federal document when evaluated, signed, and dated by the Responsible FAA official.

**JOHN J MACFARLANE**

Digitally signed by JOHN J  
MACFARLANE

Date: 2022.04.28 09:03:43 -05'00'

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Responsible FAA Official

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Date

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## ACRONYMS AND ABBREVIATIONS

AAD	Average Annual Day	EIS	Environmental Impact Statement
AAF	Aviation Activity Forecast	EO	Executive Order
AC	Advisory Circular	ESA	Endangered Species Act
ACHP	Advisory Council on Historic Preservation	FAA	Federal Aviation Administration
ACI	Airport Council International	FINDS	Facility Index System/Facility Registry System
ACT	Antiquities Code of Texas	FOD	Foreign Object Debris
ADG	Airplane Design Group	FONSI	Finding of No Significant Impact
AEDT	Airport Environmental Design Tool	FPPA	Farmland Protection Policy Act
AGL	Aboveground Level	FR	Federal Register
AIP	Airport Improvement Program	FY	fiscal year
ALP	Airport Layout Plan	GHG	Greenhouse Gases
APE	Area of Potential Effects	GI/LID	Green Infrastructure/Low Impact Development
APU	Auxiliary Power Units	GSE	Ground Support Equipment
ARC	A.R. Consultants, Inc.	H <sub>2</sub> O	Water
ARFF	Aircraft Rescue and Fire Fighting	HFC	Hydrofluorocarbons
CAA	Clean Air Act	IHW	Industrial Hazardous Wastes
CEQ	Council on Environmental Quality	ILS	Instrument Landing System
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	IPCC	International Panel on Climate Change
CFR	Code of Federal Regulations	LPST	Leaking Petroleum Storage Tanks
CH <sub>4</sub>	methane	MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
CMP	Corrugated Metal Pipe	MSW	Municipal Solid Waste
CNG	Compressed Natural Gas	N <sub>2</sub> O	Nitrous Oxide
CO	Carbon Monoxide	NAA	No Action Alternative
CO <sub>2</sub>	Carbon Dioxide	NAAQS	National Ambient Air Quality Standards
COMP HIST	Compliance History	NAS	National Airspace System
CWA	Clean Water Act	NAVAIDS	Navigational Aids
CZM	Coastal Zone Management	NEHP	Northeast Hold Pad
dB	Decibel	NEPA	National Environmental Policy Act
DFW	Dallas Fort Worth International Airport	NHPA	National Historic Preservation Act
DNL	Day-Night Average Sound Level	NHRP	National Register of Historic Places
DOT	Department of Transportation	nmi	Nautical Miles
EA	Environmental Assessment		
EAT	End-Around Taxiway		

NO <sub>2</sub>	Nitrogen Dioxide	SADF	Spent Aircraft Deicing Fluid
NOMS	Noise and Operations Monitoring System	SAF	Sustainable Aviation Fuel
NO <sub>x</sub>	Nitrogen Oxides	SEHP	Southeast Hold Pad
NPDES	National Pollution Discharge Elimination System	SF <sub>6</sub>	Sulfur Hexafluoride
NPL	National Priorities List	SH	State Highway
NRHP	National Register of Historic Places	SHPO	State Historic Preservation Office
NRI	National River Inventory	SIP	State Implementation Plan
NSA	Noise Study Area	SMP	Sustainability Management Plan
O <sub>3</sub>	Ozone	SO <sub>2</sub>	Sulphur Dioxide
OFA	Object Free Area	SWF/LF	Permitted Solid Waste Facility/Landfill
OHWM	Ordinary High Water Mark	TAF	Terminal Area Forecast
OPSNET	FAA's Operational Network	TASA	Texas Archeological Sites Atlas
PALM	Potential Archeological Liability Map	TCEQ	Texas Commission on Environmental Quality
Pb	Lead	TDG	Taxiway Design Group
PCI	Pavement Condition Index	THC	Texas Historical Commission
PDD	Project Definition Document	THSA	Texas Historic Sites Atlas
PFC	Perfluorinated Compounds	TPDES	Texas Pollution Discharge Elimination System
PM	Particulate Matter	TPWD	Texas Parks and Wildlife Department
PM <sub>10</sub>	Particulate matter with a diameter less than 10 micrometers	TRA	Trinity River Authority
PM <sub>2.5</sub>	Particulate matter with a diameter less than 2.5 micrometers	TSA	Taxiway Safety Area
POFZ	Precision Obstacle Free Zone	TSCA	Toxic Substances Control Act
PPA	Pollution Prevention Act	TxDOT	Texas Department of Transportation
RCP	Reinforced Concrete Pipe	USACE	U.S. Army Corps of Engineers
RCRA	Resource Conservation and Recovery Act	USC	U.S. Code
RNG	Renewable Natural Gas	USEPA	U.S. Environmental Protection Agency
RSA	Runway Safety Area	USFWS	U.S. Fish and Wildlife Services
RWIS	Runway Weather Information System	USGS	U.S. Geological Survey
RWSL	Runway Status Lights	UST	Underground Storage Tank
		VOC	Volatile Organic Compounds
		WOUS	Waters of the United States



## SECTION 1.0 INTRODUCTION

### 1.1 National Environmental Policy Act (NEPA) Authority

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, and the President's Council on Environmental Quality (CEQ) regulations to implement NEPA, 40 Code of Federal Regulations (CFR) §1500 to 1508. NEPA requires federal agencies to analyze and consider alternatives to the environmental impacts of their proposed actions, to disclose and consider mitigation for those impacts, and to provide interested parties with an opportunity to participate in the environmental review process.

Under NEPA, the Federal Aviation Administration (FAA) is required to consider potential environmental impacts before funding or approving actions and projects. All airport improvement projects that are considered to be major federal actions, including through the receipt of federal funding, must be examined from an environmental standpoint, to comply with NEPA, the Airport and Airway Improvement Act of 1982, as amended, and other pertinent laws and regulations. Guidance in the FAA's consideration of environmental impacts is provided in *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures* (FAA, 2015), *FAA Order 1050.1F Desk Reference* (FAA, 2020), and *FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions* (FAA, 2006).

The purpose of this EA is to analyze the potential environmental impacts of the Runway 17R/35L Rehabilitation Project. This EA also includes public and agency coordination documents used to communicate the proposed project and results of the environmental analyses of the project, as well as to gather input from the public and regulatory agencies consulted. FAA will use the findings in the EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

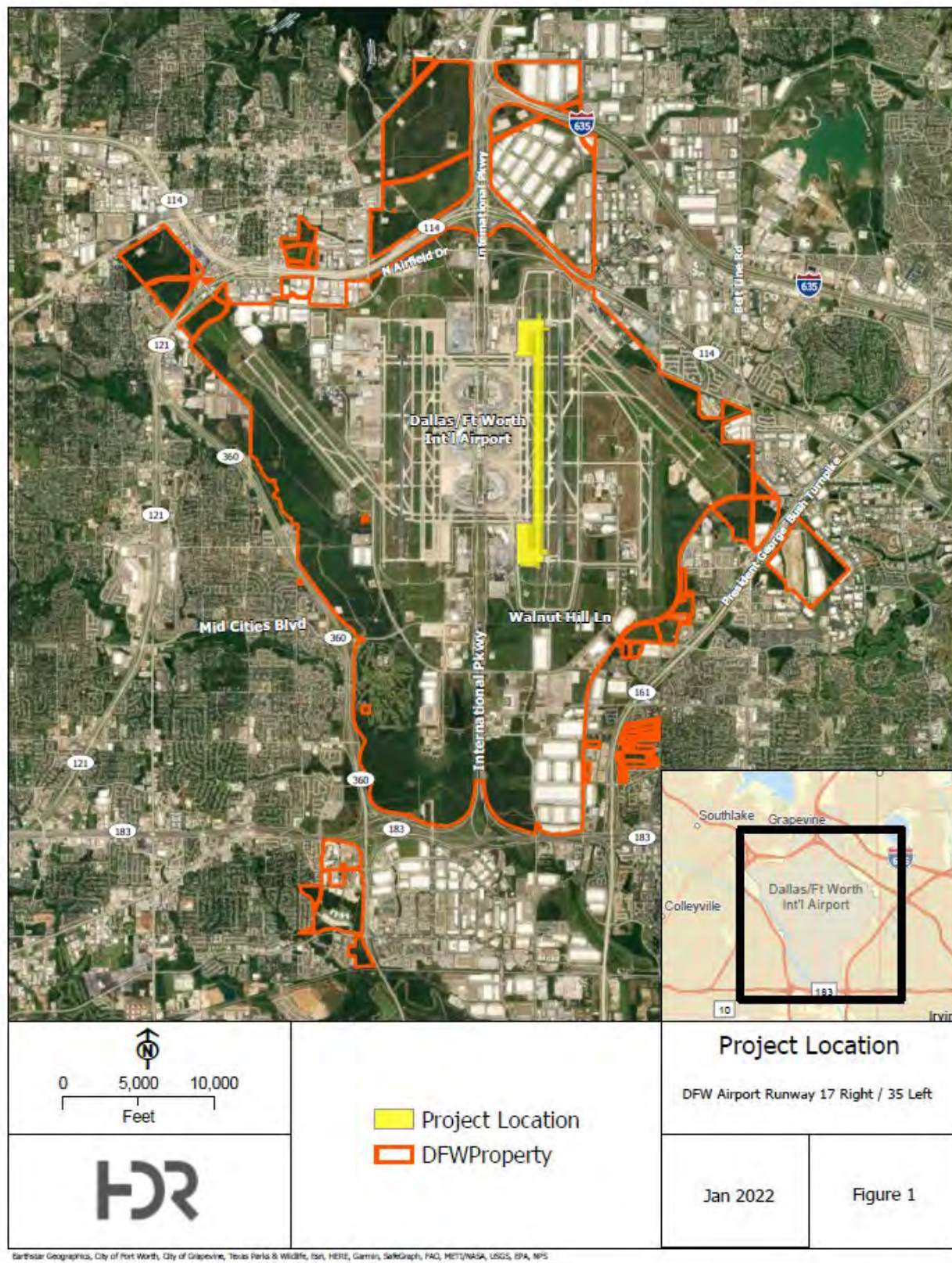
### 1.2 Project Sponsor

The Project Sponsor is Dallas Fort Worth International Airport (DFW), located in Dallas and Tarrant Counties, Texas.

### 1.3 Background

DFW is a commercial service airport that currently encompasses 17,207 acres (approximately 27 square miles) in Dallas and Tarrant Counties. **Figure 1-1** shows the general Airport location and surroundings. The DFW airfield system consists of seven runways (13L/31R, 13R/31L, 17C/35C, 17L/35R, 17R/35L, 18L/36R, and 18R/36L). DFW has five passenger terminals named Terminals A, B, C, D, and E.

Runway 17R/35L is 13,400 feet long and serves as the Airport's east airfield primary departure runway. Runway 17R/35L is 200 feet wide with 40-foot-wide asphalt shoulders and accommodates Airplane Design Group VI (ADG-VI) and serves as the primary east side departure runway for DFW. It is one of the busiest runways at DFW and is a critical asset to the daily operations. Runway 17R/35L is the eastern inboard runway closest to the Airport Terminal Complex and has been in operation since 1974. A majority of the original 1974 runway pavement and the associated connector taxiway pavements are intact and in use today (Design Report, 2021). The general airfield layout, pavement thickness, and construction dates are shown in **Figure 1-2**.



**Figure 1-1. Project Location**



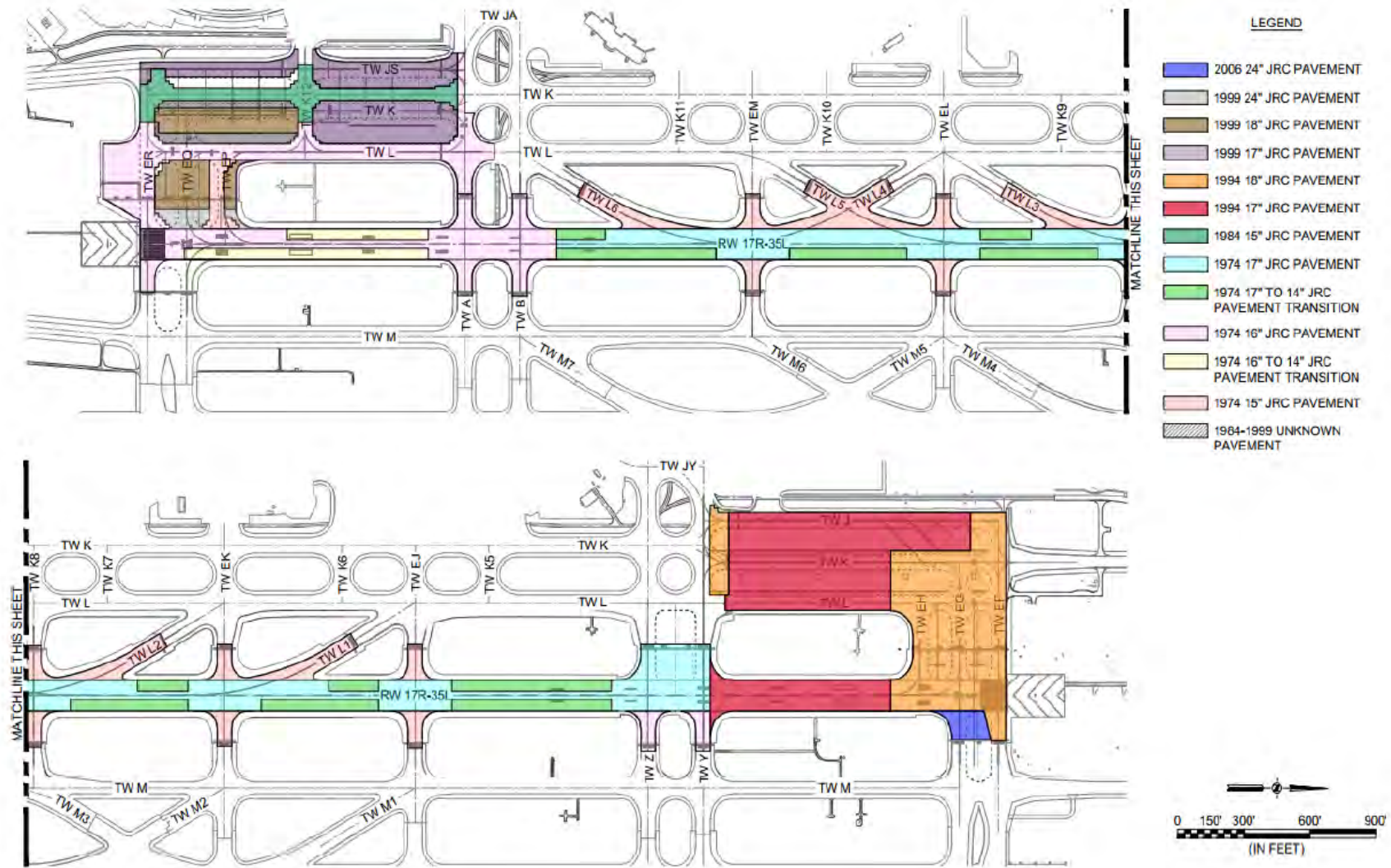


Figure 1 2. Runway and Hold Pad Construction History

The Runway 17R/35L Rehabilitation Project is part of a comprehensive runway rehabilitation program, currently underway at DFW. Rehabilitation of Runway 17C/35C began in 2018 and was completed in March 2019. Rehabilitation of Runway 18R/36L began in June 2020 and was completed in Spring 2021. Runway 17R/35L is the next runway in the rehabilitation program based on the pavement conditions described in the Project Definition Document (PDD). Additional benefits include bringing runway and connector taxiway geometry conditions up to current FAA Advisory Circular (AC) standards and improving pavement conditions adjacent to the runway, including the Southeast Hold Pad (SEHP) and Northeast Hold Pad (NEHP) areas and partial demolition of the Runway 35L run-up area. Based on the under-utilization of the Runway 35L run-up area, non-standard signage location, and location with the Precision Obstacle Free Zone (POFZ), the pavement would be demolished within the Instrument Landing System (ILS) critical area to help ensure aircraft or vehicles do not interfere with instrument operations or cause a runway incursion.

#### 1.4 Federal Action

The federal actions necessary for implementation of the Proposed Action include:

1. Determination under 49 U.S. Code (USC) §§40103(b) and 47107(a)(16), relating to the eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP),
2. Determination under 49 USC §40117, as implemented by 14 CFR §158.25, to impose and use passenger facility charges (PFC) collected at the airport to assist with construction of potentially eligible items shown on the Airport Layout Plan (ALP),
3. Unconditional approval of the ALP portion depicting the Proposed Action as described in this document within **Section 3.3** and **Figure 1-3**, and
4. Additional NAVAID related projects that may happen concurrently with the rehabilitation of Runway 17R/35L, including
  - a. Runway 17R glideslope shelter relocation,
  - b. Runway 35L glideslope shelter relocation,
  - c. Runway 35L Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) replacement; and
  - d. Replacement of the shelter for the Runway 35L MALSR, 17R distance measuring equipment (DME), and 17R localizer (LOC).

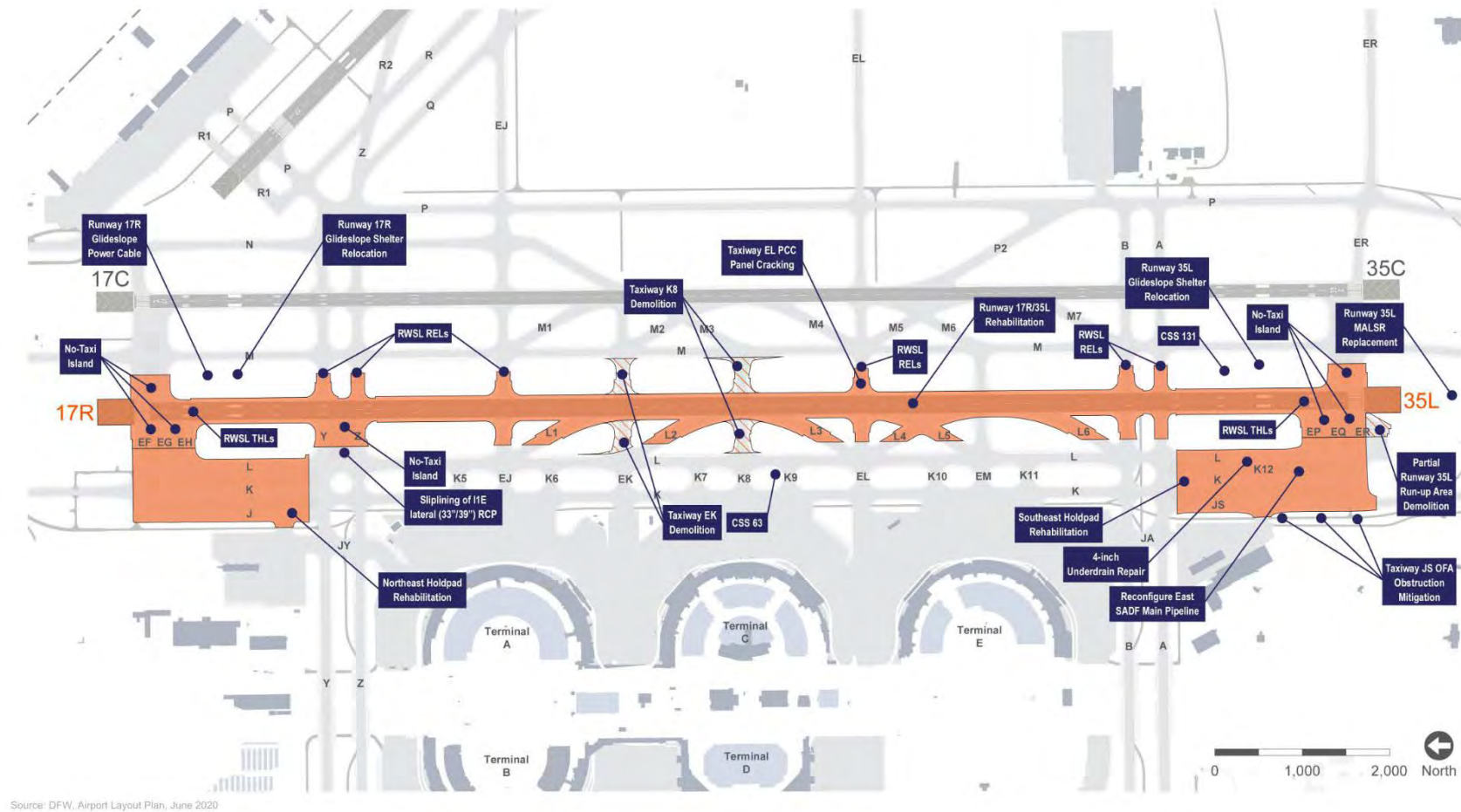


Figure 1-2. Proposed Action Elements Overview



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## SECTION 2.0 PURPOSE AND NEED

### 2.1 Purpose

Since its construction approximately 48 years ago, Runway 17R/35L has never had a major rehabilitation that addressed the full scope of deficiencies on the entire runway. Select panel replacement and routine maintenance along with shoulder repairs have kept this critical asset functioning to date; however, it is now at a point on the pavement maintenance curve along with its aging utilities, where a complete rehabilitation is required.

The purpose of the proposed Runway 17R/35L Rehabilitation Project is to extend the structural life of the runway, enhance the current and future functional performance, reduce operational impacts, and reduce maintenance costs.

### 2.2 Need

Runway 17R/35L provides critically needed departure capacity in support of DFW's scheduled flight operations, accounting for roughly 50 percent of all aircraft departing DFW. Runway 17R/35L is one of DFW's mission critical arrival runways on the east airfield. This ADG-VI runway supports the ADG-VI cargo operations and provides the airport with the all-weather landing capacity in support of DFW's scheduled flight operations.

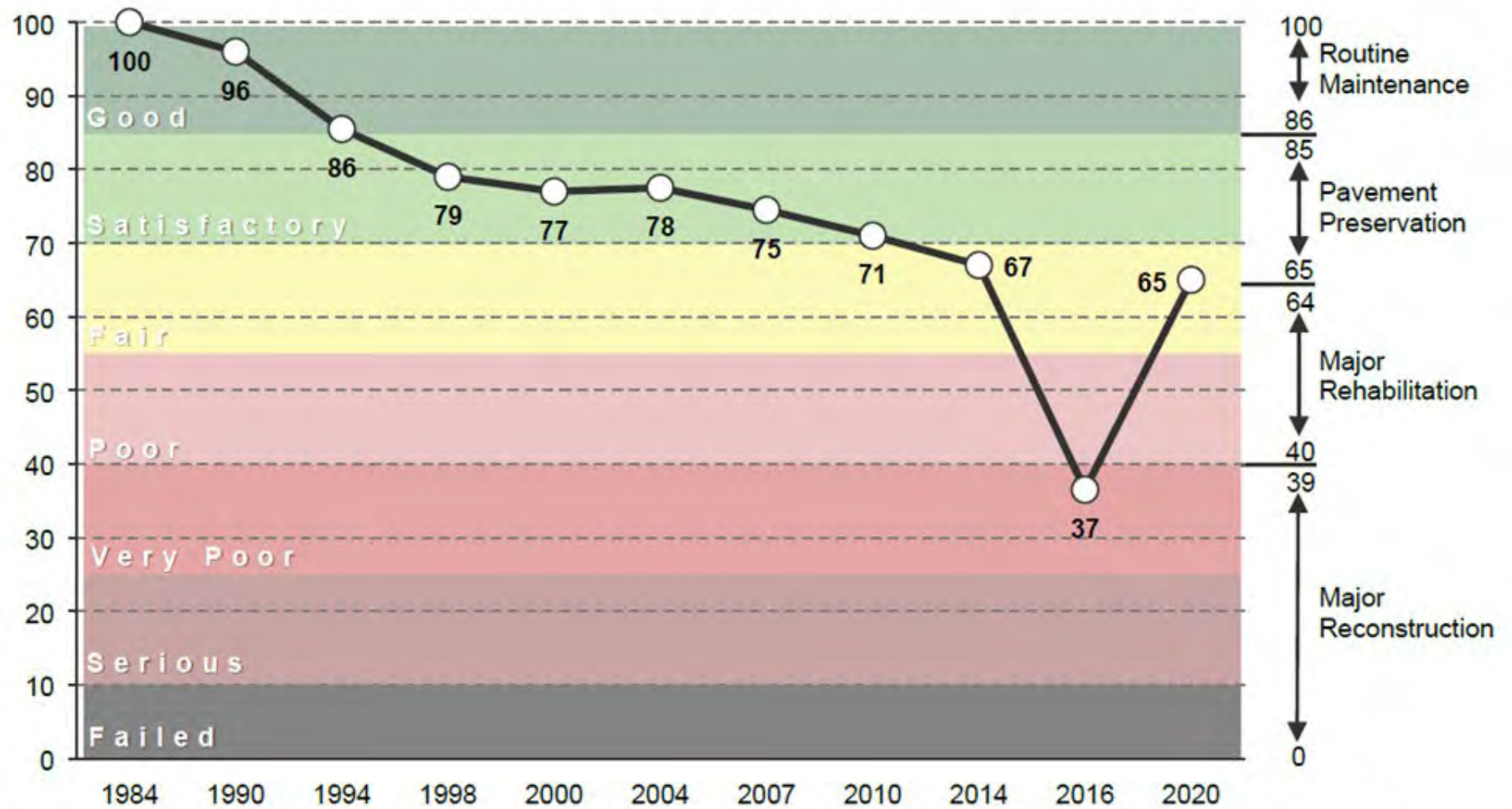
Since 2000, Runway 17R/35L averages approximately 167,000 departures annually. In 2018, Runway 17R/35L served 53 percent of all departures for over 175,000 departure operations. Runway 17R/35L experienced extended closures in 2014, 2015, and 2016 varying from 1 to 3 months. In 2016, the runway was closed from 02 August through 02 November, for limited pavement and shoulder rehabilitation, significantly limiting its availability.

While the Pavement Condition Assessment from 2015 classifies the Pavement Condition Index (PCI) of Runway 17R/35L keel section as "fair," recent years have witnessed an increasing number of pavement surface and sub-surface distresses. The fair condition is for the center 50 feet of runway while the good and satisfactory pavements are for the outer 75 feet of pavement.

The pavement condition rating for the SEHP and associated taxiways varies from fair to good, and for the NEHP and associated taxiways varies between satisfactory to good.

The predominant pavement distresses along traffic sections are longitudinal and transverse cracking, edge and corner spalls, kerf cut patches, popouts, and joint seal damage. Non-traffic areas mostly exhibit spalls and joint seal damage.

The historical PCI for the keel section of Runway 17R/35L are shown in **Figure 2-1** (PDD, 2021). The figure also illustrates the pavement condition categories using different color bands. The recommended actions for each category are provided to the right of the chart. The chart shows that the condition of the Runway 17R/35L keel section has steadily deteriorated since the runway was opened in 1974.



Source: Parsons, DFW Airfield Pavement Evaluations, February 3, 2015; Michael Baker International, Airport Pavement Condition September 2016; RS&H, Runway Pavement Evaluation Report, May 29, 2020

**Figure 2-1. Historical Pavement Condition of Runway 17R/35L Keel Section**

## SECTION 3.0 ALTERNATIVES

FAA Orders 1050.1F and 5050.4B set forth policies and procedures to be followed when assessing the environmental impacts of aviation-related projects in compliance with NEPA. The FAA orders require a thorough objective assessment of the Proposed Action, No Action Alternative (NAA), and all “reasonable” alternatives that would achieve the stated purpose and need of the Proposed Action. The Alternatives analysis presented in this section of the EA is consistent with the requirements of FAA Orders 1050.1F and 5050.4B.

The process to identify the range of initial alternatives to be considered is described in this section. Only those alternatives that would satisfy the purpose and need were carried forward in the environmental analysis. Since the Proposed Action is rehabilitation of an existing runway, there are no other prudent or feasible action alternatives. Therefore, the NAA and the preferred Proposed Action Alternative were evaluated in this EA. A comparative summary of the anticipated environmental effects of the alternatives carried forward is presented in **Section 3.4**.

### 3.1 Alternatives Evaluation Process

As indicated previously in **Section 2**, the purpose and need for the proposed action has been carefully examined and documented. This analysis of alternatives was prepared to determine which alternatives might feasibly meet the purpose and need statement.

Because the proposed project is part of a comprehensive runway rehabilitation program, Runway 17R/35L was selected as the project site. As such, the selected site is the only area that would serve the purpose and need of the proposed project. No alternative sites would suit the purpose of the proposed runway rehabilitation project. The project support locations—staging areas and batch plant sites were selected based on the area’s proximity to Runway 17R/35L. Alternatives that did not fully meet the purpose and need or would result in environmental impacts were excluded from detailed analysis in this assessment.

The two alternatives analyzed in this assessment include:

- **No Action Alternative**
- **Proposed Action Alternative 1 (18 months):**
  - Phase 1 – Enabling,
  - Phase 2 – End of Runway 35L Closure with relocated Runway 35L Threshold,
  - Phase 3 – Full Runway 17R/35L Closure, and
  - Phase 4 – End of Runway 17R Closure with relocated Runway 17R Threshold.

### 3.2 No Action Alternative

Inclusion of a NAA in the environmental analysis and documentation is required under NEPA. The NAA is used to evaluate the effects of not constructing the project, thus, providing a benchmark against which action alternatives may be evaluated. Under the NAA, DFW would not implement the proposed Runway 17R/35L rehabilitation project. The runway would continue to deteriorate and DFW would not be able to preserve the structural integrity of its primary east airfield arrival runway. Furthermore, the potential for Foreign Object Debris (FOD) would increase which would impact safe airfield operations. The NAA does not meet the stated purpose and need for this project.

To satisfy the intent of NEPA, FAA Order 1050.1F: *Environmental Impacts Policies and Procedures* and FAA Order 5050.4B: *Implementing Instructions for Airport Actions*; and other special purpose environmental laws, the NAA is carried forward in the analysis of environmental consequences.

### 3.3 Proposed Action Alternative

Under the Proposed Action Alternative, the rehabilitation of Runway 17R/35L would consist of a full closure of the runway from 01 August 2023 through 31 January 2024. During the 5-month period when the runway is closed, all aircraft operations would be moved from Runway 17R/35L; this change in aircraft operations and runway utilization operations would be temporary, during the 18-month construction period only.

#### Detailed Project Scope:

The detailed scope of work is as follows:

- Runway 17R-35L pavement and electrical rehabilitation
  - Rehabilitation of runway and taxiway pavements,
  - Rehabilitation of shoulder and blast pad pavements,
  - Rehabilitation of NEHP and SEHP,
  - Relocation and repair of the runway drainage system, as necessary,
  - Upgrading Runway Status Lights (RWSL) system, and
  - Drainage improvements along Taxiway EQ;
- Runway 35L run-up area partial demolition;
- No-taxi island installation in the following locations:
  - East of Runway 17R threshold between Taxiway EF and Taxiway EG,
  - West of Runway 17R threshold between Taxiway EF and Taxiway EG,
  - West of Runway 17R threshold between Taxiway EG and Taxiway EH,
  - East of Runway 35L threshold between Taxiway EQ and Taxiway ER,
  - West of Runway 35L threshold between Taxiway EQ and Taxiway ER,
  - West of Runway 35L threshold between Taxiway EP and Taxiway EQ, and
  - West of Runway 17R-35L between Taxiway Y and Taxiway Z;
- NEHP Rehabilitation and Taxiway Design Group (TDG) VI Fillet Modifications, including electrical upgrades;
- SEHP Rehabilitation and TDG VI Fillet Modifications, including electrical upgrades;
- Glycol Master Plan Improvements – update SEHP deicing parking positions and widen shoulder;
- Full-depth panel replacement on Taxiway EL between Taxiway M and Runway 17R-35L runway safety area (RSA);
- Full-depth panel replacement on Taxiway L south of Taxiway A to the SEHP run up area;
- Full-depth panel replacement west of Runway 17R-35L between Taxiways Y and Z;
- Existing taxiway pavement demolition of Taxiway EK between Taxiways L and M;
- Existing taxiway pavement demolition of Taxiway K8 between Taxiways L and M;
- Slip-lining of I1E Lateral (33-inch/39-inch reinforced-concrete pipe [RCP]) west of Runway 17R-35L between Taxiways Y and Z;
- Vehicle service road reconstruction/rehabilitation
- Reconfigure east spent aircraft deicing fluid (SADF) main pipeline;
- Reconfigure east SADF main pipeline – 4-inch underdrain repair;
- Taxiway JS ADG-VI Object Free Area (OFA) Obstruction Mitigation;
- Final site-area grading, topsoil, seed/sod, and other erosion controls, as necessary. Limits of grading, topsoil, and sodding to encompass areas beyond the inlets/drains to mitigate infield problem areas;
- Temporary lighting, signage, and pavement markings installation, as necessary, to support temporary taxiway routing during various phases of construction;
- Removal and replacement of obsolete runway signage and markings, as necessary;



- Temporary Gates 201 and 401 improvements, including chain link perimeter fencing, gates, and gate operators;
- Removal and reinstallation of Runway Status Lights (RWSLs);
- Runway 35L MALSR replacement;
- Runway 17R glideslope power cable replacement and shelter relocation; and
- Runway 35L glideslope shelter relocation.

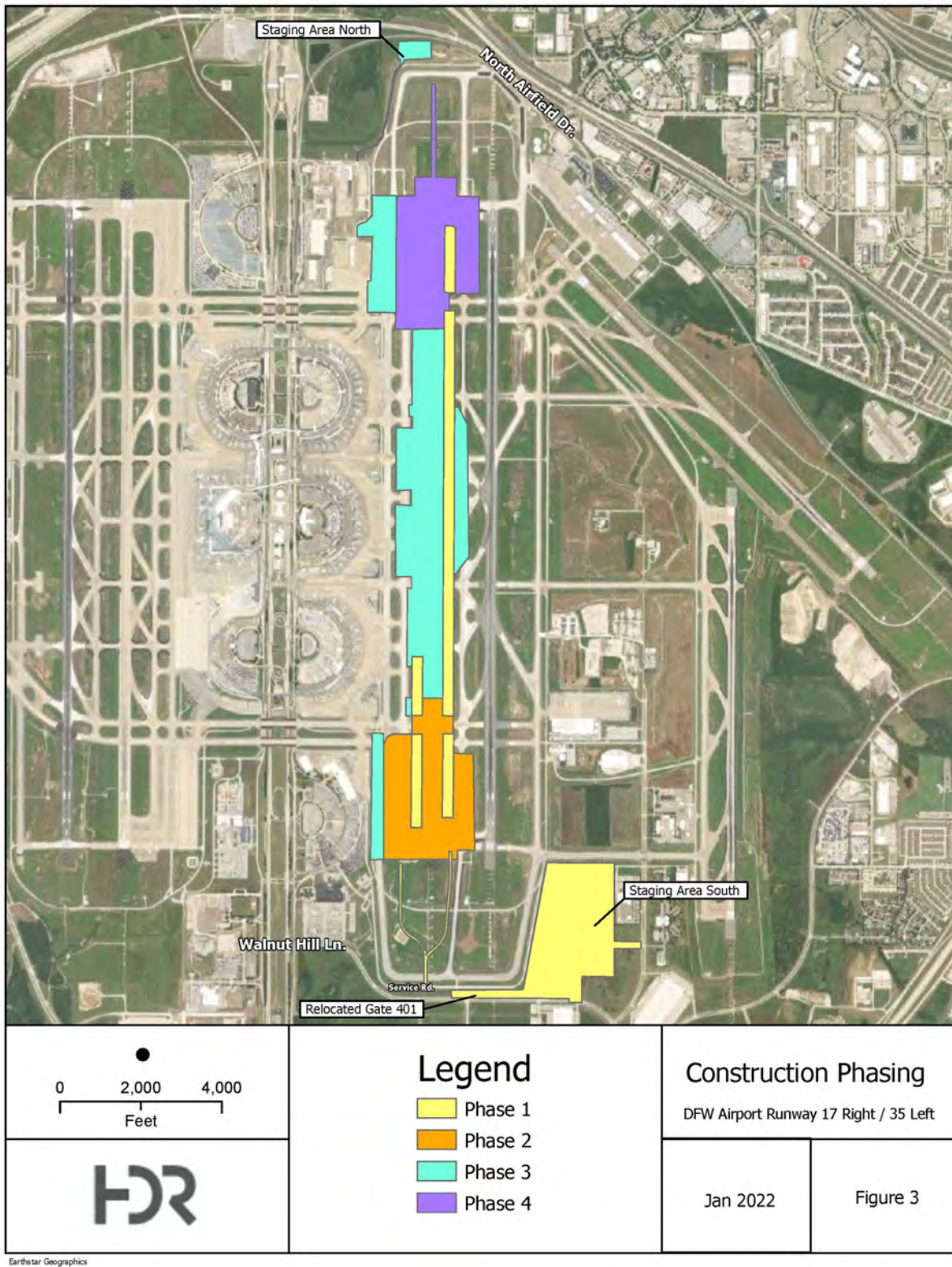
**Phase 1** would generally consist of construction of the South Contractor Staging Area, two concrete batch plants and an asphalt batch plant, and Gate 401 reconfiguration. Near the end of Phase 1, Runway 17R/35L would be closed nightly for partial depth saw cutting and would be limited to the runway south of Taxiway B. Phase 1 would be scheduled to start January 2023 and run through Spring 2023.

**Phase 2** would consist of relocating the Runway 35L threshold, rehabilitation taxiway fillet modifications, light installation, and drainage improvements. The temporary relocation of the threshold would maintain a usable runway length of approximately 9,000 feet for ADG-III operations. In the southern runway portion, approximately 5,000 feet would be closed during this phase. Runway 35L threshold would be relocated approximately 50 feet south of the Taxiway EM centerline. On the runway, the northern work area limit is the temporary RSA which extends 1,000 feet south of the relocated threshold. The runway would be open for departures but closed for arrivals. Runway 35L would be closed nightly to allow for full depth saw cutting of the Phase 3 area inside the extended RSA. Phase 2 would be scheduled to extend through Late Spring to Early Summer 2023.

**Phase 3** would consist of construction of the North Contractor Staging Area and the demolition and reconstruction of the runway and connecting taxiways. This phase would require the full closure of the runway. For South Flow, Runways 17C and 18R would serve as the two primary departure runways, and Runways 17L and 18R would be the primary arrival runways with Runway 13R providing additional arrival capacity. Increased use of Runway 13R, relative to normal operations, is anticipated to help mitigate the unavailability of Runway 17C to serve arrivals. In North Flow, Runways 36R, 35C, and 31L would serve departures, and Runways 36L, 35C, and 35R would be the arrival runways. Runway 35C is expected to serve both arrivals and departures to limit extreme imbalances in air traffic volume on the west and east airfields. It is anticipated that Runway 35C would operate in either arrival mode (during peak arrival banks) or departure mode (during peak departure banks). Phase 3 would be scheduled to start Late Summer 2023 and extend through Fall 2023.

**Phase 4** would be performed at the north end of Runway 17R and would consist of demolition and reconstruction of the runway and connecting taxiways as well as the removal and replacement of isolated taxiway panels on the NEHP. The Runway 17R threshold would be relocated to approximately 50 feet north of Taxiway EJ. Similar to Phase 2, the Phase 4 work area would be limited on the southern end by the 1,000-foot extended RSA, allowing the runway to continue to operate in a limited manner. Phase 4 has two secondary areas, one being along Taxiway L and the other being along Taxiway M. Both of these areas would have limited duration closures with most work being fillet modifications and installation of lights and signage. Phase 4 would also include lighting and signage, and drainage improvements and repairs. Phase 4 would be scheduled for January 2024 through Mid-Spring 2024.

**Figure 3-1** provides the proposed phasing of the Project and would be further developed during the 100 percent design.



**Figure 3-1. Proposed Construction Phasing**

### 3.4 Alternatives Comparison

The NAA does not meet the purpose and need statements; however, pursuant to NEPA, it has been carried forward as the baseline by which potential impacts of the action alternative can be measured. Under the NAA, Runway 17R/35L, the primary east airfield arrival runway would continue to deteriorate, which could seriously compromise aircraft safety and efficient airport operations. The NAA would result in increased maintenance costs due to the need for repairs of structural failures. The NAA would adversely impact DFW's tenants, passengers, and business partners, who depend on DFW's ability to support safe and efficient operations. The NAA would not meet the purpose and need; therefore, only the action alternative is being carried forward for detailed analysis in this EA.

Prior to design of the Proposed Action Alternative, consideration was given to the best methods of phasing the Runway 17R/35L rehabilitation and associated improvements. Closures for the northeast and southeast end around taxiways (EAT), Taxiways L and M, and full runway would be minimized to reduce impacts on operations. During the northeast and southeast EAT closures, two nearby crossing locations would be available for the north and south traffic flow patterns. Utilizing relocated thresholds would allow ADG-III departures, accounting for more than 80 percent of current operational departures.

Under the Proposed Action Alternative, four major phases of construction work would be completed during the 18-month period. Phase sequencing would reduce impacts to the airfield, airfield operations, airline partners, and the community. The sequencing will also reduce temporary work (lighting, signage, pavement installation, fencing, and gates), and allow ease in construction to minimize closure areas. **Table 3-1** provides a list of runway closures associated with the Proposed Action Alternative. The three types of closures include primary, secondary, and night. During the primary closure, major phase work areas would be closed for the duration of the specific phase. A secondary closure would include work areas within each phase that allow short term closures of critical aircraft traffic areas to minimize operational impacts during construction. For the night closure, work areas would reopen each morning after the nighttime closure for typical operation.

**Table 3-1. Estimated Runway Closures During Construction Activities**

Runway 17R/35L	Phase 1	Phase 2	Phase 3	Phase 4
<b>Estimated Schedule</b>	January 2023-Spring 2023	Spring 2023-Summer 2023	Summer 2023-Fall 2023	January 2024-Spring 2024
<b>Duration (months)</b>	3-4	3-4	5-6	3-4
<b>Closure Type</b>	Nightly closures south of Taxiway B at end of Phase I	Primary daily closures south of Taxiway EM and primary nightly closures. Partial runway closure. Relocated thresholds will allow ADG-III departures, accounting for more than 80% of current operational departures.	Primary closure	Primary daily closures north of Taxiway EJ. Partial runway closure. Relocated thresholds will allow ADG-III departures, accounting for more than 80 percent of current operational departures.

The Proposed Action Alternative meets the purpose and need described in **Section 2** and best meets the needs of DFW and the airlines. Impacts to environmental resources would be minimal; however, temporary noise impacts on nearby communities are anticipated. Detailed discussions of the noise impacts are in **Sections 4.4** and **5.4** of this EA. For any construction-related temporary noise effects due to the relocation of aircraft operations to other runways, a mitigation plan would be implemented to inform community partners and reduce the noise effects. No loss of land, habitat, waters of the United States (WOUS), or other natural resources would occur, as

the proposed action would be conducted within previously developed and disturbed areas of the airport.

### **3.5 Connected Actions**

To minimize impacts to airport operations, DFW has elected to construct selected projects that would otherwise require independent closures of Runway 17R/35L. These selected projects would include:

- Project support locations (PSLs) including temporary access roads associated with staging areas and construction access to the work sites and temporary staging areas with associated concrete and asphalt batch plants
- Repair of collapsed soil sites (CSS) 63 and 131
- Replacement of approximately 300 linear feet of corrugated metal pipe (CMP) or reinforced-concrete pipe (RCP) south of Runway 35L threshold/Aircraft Rescue and Fire Fighting (ARFF) road.
- Installation of Runway Weather Information System (RWIS),

## SECTION 4.0      **AFFECTED ENVIRONMENT**

This section describes the environmental conditions potentially affected within the project area and related regulations. Where potential impacts exist, conditions or mitigation measures to offset these impacts are detailed in **Section 5**.

### **4.1    Resources Categories Not Carried Forward for Detailed Analyses**

The CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important, or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a substantial effect on the human environment. **Table 4-1** illustrates the rationale behind the elimination of the resources/impact areas that were not included in the detailed study, in accordance with CEQ §1501.7.

### **4.2    Biological Resources**

#### *4.2.1    Regulatory Background*

The Endangered Species Act (ESA) of 1973 and the amendments of 1988 requires federal agencies to determine if projects have the potential to affect species listed or proposed as threatened or endangered or contain designated critical habitat. Also, the Texas Parks and Wildlife Code (Chapters 67 and 68) and the Texas Administrative Code (Section 65.171 – 65.184) established a state regulatory mandate for protection of state-listed threatened and endangered species.

#### *4.2.2    Existing Conditions*

Desktop protected species habitat assessments of Dallas and Tarrant Counties were performed to satisfy the requirements regarding the ESA (**Appendix A**).

Aerial photography of DFW indicates that the project site is maintained as an urban matrix vegetation community. The runways are paved with small sections of unpaved areas between runways and access lanes that are dominated by mowed turfgrasses. None of the vegetation observed would be considered unique or compose a unique vegetation type for the region. The vegetation communities described were composed of species that are not only common to grassland and forested areas, but to the Cross-Timbers and Blackland Prairie ecoregions of North Central Texas.

A comparison review between the potentially occurring species, their preferred habitats, and the existing habitats was done to determine with there would be any adverse effects. No preferred habitats are located within the project area; therefore, there would be no species effects. Species tables are located within the habitat assessment reports in **Appendix A**.



**Table 4-1. Resources/Impact Areas Not Carried Forward for Detailed Analysis**

Resource Area	Significance Threshold	Rationale for Elimination
<b>Coastal Resources</b>	A determination by a State having an approved Coastal Zone Management (CZM) program that the proposed action would not be consistent with the applicable CZM plan, which cannot be avoided, minimized, or mitigated.	No Impact. There are no coastal resources located within or adjacent to the proposed project area.
<b>Department of Transportation Act, Section 4(f)</b>	Potential for more than a minimal physical use or deemed "constructive use" substantially impairing the use of an existing Section 4(f) property.	No Impact. There are no Section 4(f) properties within or adjacent to the proposed project area.
<b>Prime or Unique Farmland</b>	Alteration of a property with a total combined score between 200 to 260 on Form AD 1006.	No Impact. According to the Part 523 – Farmland Protection Policy Act (FPPA) Manual, construction within an existing right-of-way purchased on or before 04 August 1984 is not subject to provisions of FPPA (NRCS 2012).
<b>Land Use</b>	<ul style="list-style-type: none"> <li>Existence of noise sensitive receptors adjacent to the project area.</li> <li>Potential for impacts that have land use ramifications, for example, disruption of communities or induced socioeconomic impacts.</li> </ul>	No Impact. All surrounding land uses adjacent to the proposed site are currently compatible to the proposed activities and are planned to be compatible with all reasonably foreseeable future developments in the area. Project would be developed entirely on airport property and is compatible with DFW's on-airport land use plans.
<b>Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks</b>	<ul style="list-style-type: none"> <li>Extensive relocation of residents is required, but sufficient replacement housing is unavailable.</li> <li>Extensive relocation of community businesses that would create severe economic hardship for the affected communities.</li> <li>A substantial loss in the community tax base.</li> <li>Disproportionately high and adverse human health or environmental effects on minority and low-income populations.</li> <li>Disproportionate health and safety risks to children.</li> </ul>	<p>No Impact. Implementation of the proposed action would be unlikely to substantially change the prevailing socioeconomic conditions, because there would not be any relocation of residents, relocation of businesses located within or adjacent to the project area due to the proposed action, or a substantial loss in the tax base of any community, which would not create a disproportionately high and adverse human health or environmental effect on minority or low-income populations, as such, both an analysis of the socioeconomic conditions and environmental justice are excluded from further detailed analysis.</p> <p>Additionally, implementation of the proposed action would not increase outdoor or indoor air pollutants above ambient levels, would not pollute drinking water sources adjacent to the proposed site, would not increase the level of pesticides in food crops or animals, and would not increase the level of lead contamination adjacent to areas where children are likely to be located. Also, due to restricted access, the proposed action would not pose an attractive nuisance hazard that could endanger the health and safety of local children. As a result, this issue is being excluded from detailed study.</p>
<b>Sole Source Aquifer</b>	<ul style="list-style-type: none"> <li>Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies.</li> <li>Contaminate an aquifer used for public water supply such that public health may be adversely affected.</li> </ul>	No Impact. According to the Interactive USEPA Sole Source Aquifer Map, the closest sole source aquifer, the Edward's Aquifer, is located over 100 miles south of the proposed project area.
<b>Wild and Scenic Rivers</b>	A determination that the effects on a Natural Resources Inventory (NRI) river segment are significant or would preclude inclusion in the Wild and Scenic River System or downgrade its classification.	No Impact. According to the National Wild and Scenic Rivers System (2016), there are no wild or scenic rivers or eligible rivers located within or adjacent to the proposed project area.

### **4.3 Water Resources**

#### **4.3.1 Surface Water and Stormwater Treatment**

##### ***4.3.1.1 Regulatory Background***

In 1972, the Federal Water Pollution Control Act Amendments, commonly known as the Clean Water Act (CWA), was passed. This legislation has received numerous amendments over the years with the latest being 2002 under the Great Lakes Legacy Act. Section 101 (a) describes the overall objective of the CWA to restore and maintain the chemical, physical, and biological integrity of the nation's waters.

CWA Section 401 relies on states to issue a water quality certification concurrently with other federal discharge permits, thereby certifying that the proposed discharges into state waters will not negatively affect overall water quality. CWA Section 402 is the basis for the National Pollutant Discharge Elimination System (NPDES) program which permits discharges of known pollutants into waters. CWA Sections 303(d) and 305(b) require all states to identify and characterize waters that do not meet, or are not expected to meet, water quality standards. The Texas Commission on Environmental Quality (TCEQ) 2020 Integrated Report for CWA Sections 303(d) and 305(b) characterizes the quality of Texas surface waters and identifies those waters that do not meet water quality standards on the Section 303(d) list, an inventory of impaired waters.

##### ***4.3.1.2 Existing Conditions***

DFW operates a stormwater pretreatment collection system for stormwater associated with industrial activities. The stormwater associated with industrial activities includes first-flush stormwater discharges from the aircraft parking aprons, gates, ramps, hangars, maintenance areas, the fuel farm, and vehicle parking lots. The first-flush stormwater is directed by diverter boxes to the on-site pretreatment facility. After pretreatment, stormwater is conveyed to the Trinity River Authority (TRA) Central Plant in Irving, Texas, although there is also an option to discharge to Bear Creek. No tributaries or water bodies located in or adjacent to the proposed project area are listed on the TCEQ Section 303(d) list (TCEQ 2020).

#### **4.3.2 Waters of the United States including Wetlands**

##### ***4.3.2.1 Regulatory Background***

Executive Order (EO) 11990, Department of Transportation (DOT) Order 5660.1A, the Rivers and Harbors Act of 1899, and the CWA address activities in wetlands. EO 11990 requires federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. It also assures the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects. CWA Section 404 authorizes the Secretary of the Army, acting through the U.S. Army Corps of Engineers (USACE), to issue permits for the discharge of dredged or fill material into WOUS, including wetlands. WOUS, as defined in 33 CFR Section 328.3(a), are those waters used in interstate or foreign commerce, subject to ebb and flow of tide, and all interstate waters including interstate wetlands.

##### ***4.3.2.2 Existing Conditions***

The project study area is highly disturbed and characterized by impervious surfaces and maintained/landscaped Bermudagrass (*Cynodon dactylon*). A desktop evaluation and review of aerial photographs did not show evidence of jurisdictional WOUS or wetlands within the project areas. The evaluation report is included in **Appendix B**.

## 4.4 Air Quality

### 4.4.1 Regulatory Background

The FAA 1050.1F Desk Reference defines the study area for air quality as the entire geographic area that could be either directly or indirectly affected by the proposed project. It requires the document to discuss the current National Ambient Air Quality Standards (NAAQS), state ambient air quality standards, the attainment status of the study area, a summary of recent measured air pollutant concentrations, a description of the meteorological and topographical conditions of the study area, other conditions relevant to the study area, and any permits required (FAA, 2020).

The Clean Air Act (CAA) requires that states adopt Ambient Air Quality Standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the United States Environmental Protection Agency (USEPA) established the NAAQS, which include standards for several criteria pollutants. NAAQS have been set for the following six pollutants, carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM), and sulfur dioxide (SO<sub>2</sub>) (**Table 4-2**). Based on air monitoring data and in accordance with the CAA, areas within the United States are designated with respect to their attainment status with the NAAQS. Areas that meet the NAAQS are designated as attainment, those that do not meet the standards are designated as nonattainment, and those that are in transition from nonattainment to attainment are designated as maintenance. Ozone nonattainment areas are further classified as extreme, severe, serious, moderate, and marginal by the degree of non-compliance with the NAAQS.

### 4.4.2 Existing Conditions

The Dallas-Fort Worth metropolitan area has been designated as an attainment area for all USEPA criteria pollutants except for O<sub>3</sub> based on air quality monitoring data collected by the TCEQ (TCEQ, 2021a). The Runway 17R/35L Rehabilitation Project is in Dallas and Tarrant Counties, which are part of the Dallas-Fort Worth metropolitan O<sub>3</sub> nonattainment area (**Figure 4-1**). The Dallas-Fort Worth metropolitan area is designated as a “serious” non-attainment area for the 2008 8-hour, 0.075 parts per million (ppm) O<sub>3</sub> standard, as of 23 August 2019, effective 23 September 2019. It is also designated as a “marginal” nonattainment area under the 2015 8-hour, 0.070 ppm O<sub>3</sub> standard as of 05 May 2021 with a design value of 0.076 ppm for 2018 to 2020 (USEPA, 2021a) (**Table 4-3**).

The State Implementation Plan (SIP) is the cumulative record of all air pollution control strategies, emission budgets, and timetables implemented or adopted by government agencies within Texas to bring nonattainment areas into compliance with the NAAQS by a designated deadline. The SIP focuses on reducing the two primary pollutants that lead to O<sub>3</sub> formation, volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>).

### 4.4.3 General Conformity

The General Conformity Rule established a process based on emissions analysis to determine whether a federal action conforms to the SIP. General Conformity refers to the requirements under Section 176(c) of the CAA for federal agencies to show that their actions conform to the purpose of the applicable SIP. As described in 40 CFR 51 and 93, issued by the USEPA, the General Conformity analysis evaluates both direct emissions and indirect emissions, as defined by the 40 CFR 93.152. “Direct emissions” are those that occur at the same time and place as the federal action. As stated in 40 CFR 93.152, “indirect emissions” are defined as emissions or precursors that are caused or initiated by the federal action and originate in the same nonattainment or maintenance area but occur at a different time or place from the action, are reasonably foreseeable, that the agency can practically control, and for which the agency has continuing program responsibility.



**Table 4-2. National Ambient Air Quality Standards**

Pollutant	Averaging Time	Standard	Type of Standard	Form
CO	1-hour	35 ppm	Primary	Not to be exceeded more than once annually
	8-hour	9 ppm	Primary	
Pb	Rolling quarter	0.15 µg/m <sup>3</sup>	Primary Secondary	Not to be exceeded
NO <sub>2</sub>	1-hour	100 ppb	Primary	98 <sup>th</sup> percentile of 1-hour daily maximum concentrations, averaged over 3 years
	1 year	53 ppb	Primary Secondary	Annual Mean
O <sub>3</sub>	8-hour	0.070 ppm	Primary Secondary	Annual 4 <sup>th</sup> highest daily maximum 8-hour concentration, averaged over 3 years
PM <sub>10</sub>	24-hour	150 µg/m <sup>3</sup>	Primary Secondary	Not to be exceeded more than once annually on average over 3 years
PM <sub>2.5</sub>	1 year	12.0 µg/m <sup>3</sup>	Primary	Annual mean, averaged over 3 years
	1 year	15.0 µg/m <sup>3</sup>	Secondary	Annual mean, averaged over 3 years
	24-hour	35 µg/m <sup>3</sup>	Primary Secondary	98 <sup>th</sup> percentile, averaged over 3 years
SO <sub>2</sub>	1-hour	75 ppb	Primary	99 <sup>th</sup> percentile of 1-hour daily maximum concentrations, averaged over 3 years
	3-hour	0.5 ppm	Secondary	Not to be exceeded more than once annually

**Notes:**

ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter; PM<sub>2.5</sub> = particulate matter with a diameter less than 2.5 micrometers (µm); PM<sub>10</sub> = particulate matter with a diameter less than 10 micrometers (µm)

**Primary standards** provide public health and safety protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly.

**Secondary standards** provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

**Source:** USEPA, 2021c

**Table 4-3. Recent Air Quality at Dallas-Fort Worth-Arlington, Texas**

Pollutant	Federal Standard	Design Value <sup>2</sup>	Monitoring Years	Current Status
CO	9 ppm (1-hour)	1.3 ppm	2019-2020	Attainment <sup>3</sup>
	30 ppm (8-hour)	1.8 ppm	2019-2020	Attainment
Pb	0.15 µg/m <sup>3</sup> (3-month)	0.02 µg/m <sup>3</sup>	2018-2020	Attainment
NO <sub>2</sub>	53 ppb (annual)	11 ppb	2018-2020	Attainment
	100 ppb (1-hour)	40 ppb	2018-2020	Attainment
O <sub>3</sub>	0.070 ppm (8-hour)	0.08 ppm	2014-2016	Nonattainment <sup>4</sup>
PM <sub>10</sub>	150 µg/m <sup>3</sup> (24-hour)	N.A. <sup>5</sup>	N.A.	Attainment
PM <sub>2.5</sub>	12 µg/m <sup>3</sup> (annual)	9.2 µg/m <sup>3</sup>	2017-2019	Attainment
	35 µg/m <sup>3</sup> (24h primary)	20 µg/m <sup>3</sup>	2017-2019	Attainment
SO <sub>2</sub>	75 ppb (1-hour)	7 ppb	2018-2020	Attainment
	0.5 ppm (3-hour)	N.A.	N.A.	Attainment

**Notes:**

ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter

PM<sub>2.5</sub> = particulate matter with a diameter less than 2.5 micrometers (µm); PM<sub>10</sub> = particulate matter with a diameter less than 10 micrometers (µm)

<sup>1</sup> Design values shown in the table are from available Air Quality System (AQS) sites closest to the DFW. Design values for CO and PM<sub>2.5</sub> are based on AQS site 481130069 in Dallas County; design value for Pb is based on AQS site 482570020 in Kaufman County; design value for NO<sub>2</sub> is based on AQS site 481131067 in Dallas County; design value for O<sub>3</sub> is based on AQS site 481130075 in Dallas County; design value for SO<sub>2</sub> is based on AQS site 482570005 in Kaufman County.

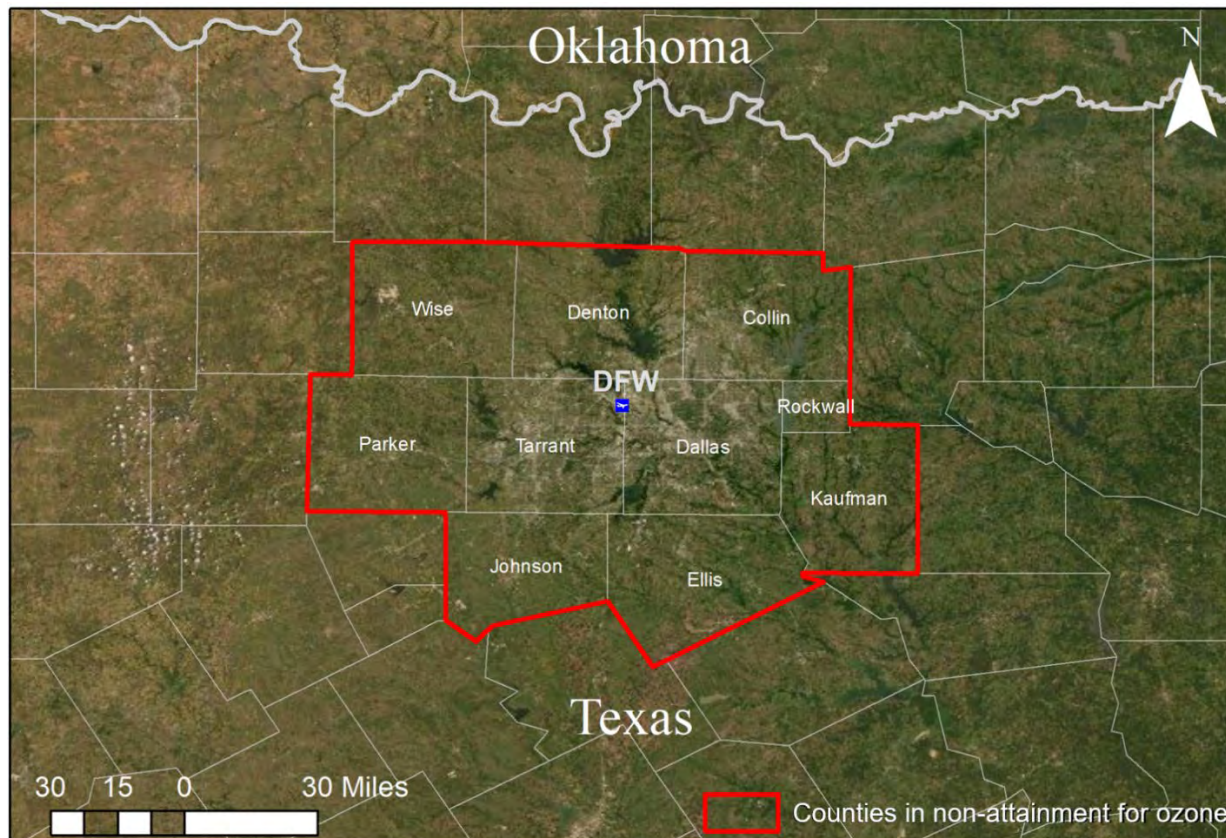
<sup>2</sup> Design values are commonly used to classify nonattainment areas and are defined as statistics that describe the air quality status of a given location relative to the level of the NAAQS.

<sup>3</sup> An attainment area is a geographic area that meets or does better than the primary standard defined in the NAAQS.

<sup>4</sup> A nonattainment area is a homogeneous geographical area (usually referred to as an air quality control region) that is in violation of one or more NAAQS and has been designated as nonattainment by the EPA.

<sup>5</sup> N.A. = Not available; no design value is available for the monitoring location. An area with no design value available is automatically in attainment since design values are used to classify non-attainment areas.

**Source:** USEPA, 2015a; USEPA, 2015b; USEPA, 2021a; USEPA, 2021b



**Figure 4-1. DFW and Air Quality Control Region (AQCR) 215 O<sub>3</sub> Non-Attainment Area**

When developing the General Conformity Rule, the USEPA recognized that many actions conducted by federal agencies do not result in substantial increases in air pollutant emissions in nonattainment and maintenance areas. Therefore, the USEPA established threshold levels (also referred to as de minimis levels) for emissions of each of the criteria pollutants. If the sum of the increases in direct and indirect emissions caused by a project is calculated to be below the de minimis levels, no further air quality analysis is needed, and the project would not require a General Conformity Determination. The Dallas-Fort Worth metroplex is currently classified as a “serious” nonattainment area under the 2008 O<sub>3</sub> standard, and the resulting de minimis level is 50 tons per year (tpy) for NO<sub>x</sub> or VOCs.

#### *4.4.4 Sources of Airport Air Emissions*

Emissions from the Runway 17R/35L Rehabilitation Project are expected to include construction emissions, including emissions from construction equipment, motor vehicles (employee commute and material delivery), and nonpoint source emissions (e.g., fugitive dust and asphalt drying), as well as operational emissions from aircraft, ground support equipment (GSE), and auxiliary power units (APU). Temporary construction emissions and operational emissions are subject to the CAA General Conformity requirements.

### **4.5 Climate**

#### *4.5.1 Regulatory Background*

The Intergovernmental Panel on Climate Change (IPCC, 2021) has concluded that it is unequivocal that human influence has warmed the atmosphere, ocean and land and that human activities have caused concentrations of greenhouse gases (GHG) to increase since mid-18<sup>th</sup>

century. The increase in well-mixed GHG concentrations has caused widespread changes in the earth's climate systems, which include, but not limited to, successively warmer global surface temperature and increasing global averaged precipitation. Research has shown that there is a direct link between fuel combustion and GHG emissions; sources that require fuel or power at an airport are key sources of GHGs. Aircraft jet engines, like many other vehicle engines, produce carbon dioxide (CO<sub>2</sub>), water (H<sub>2</sub>O) vapor, nitrous oxide (N<sub>2</sub>O), CO, oxides of sulfur, unburned or partially combusted hydrocarbons or VOCs, particulates, and other trace compounds.

There are currently no ambient air standards for GHGs as well as no significance thresholds for aviation GHG emissions (FAA, 2020). Exhibit 3-1 of the FAA 1050.1F Desk Reference (FAA, 2020) lists the general statutes and regulations related to climate. President Biden's 27 January 2021, EO on Tackling the Climate Crisis at Home and Abroad notes that it will be a United States priority to press for integration of climate considerations across a wide range of international fora that address aviation, clean energy, and related topics. On 09 September 2021, the Biden administration announced a series of sustainability initiatives in the aviation industry including scaling sustainable aviation fuel (SAF) production to 3 billion gallons per year by 2030 by supporting producers and research to improve air traffic and airport efficiency.

#### 4.5.2 Existing Conditions

Airport development has the potential to both affect climate change and to be affected by it. Changes in resource categories such as air quality, natural resources, and energy supply can potentially contribute to climate change by increasing the amount of GHGs emitted. The USEPA indicates that transportation activities accounted for the largest portion of total U.S. GHG emissions in 2019 at 28.6 percent. Commercial aviation contributed 7.2 percent of total GHG emissions in 2019, compared to 23.6 percent from freight trucks, 17.2 percent from light-duty trucks, 2.4 percent from other aircraft, and 2.2 percent from rail (USEPA, 2021d).

The characteristics of GHGs and their rapid dispersion into the global atmosphere makes GHGs different from other air pollutants evaluated in federal environmental reviews because the impacts are not localized or regional. It is difficult to isolate the GHG emissions impacts for a particular aviation project. Uncertainties are too large to accurately predict the timing, magnitude, and location of aviation's climate impacts; however, it is clear that minimizing GHG emissions and identifying potential future impacts of climate change are important for a sustainable national airspace system (FAA, 2020).

Recognizing the imperative to measure and reduce GHG emissions generated through airport operations, DFW became the first airport in North America to be carbon neutral in 2016 and achieved 4+ level in Airports Council International's (ACI) Airport Carbon Accreditation program in 2020. The new level 4+ recognizes DFW's commitment to decarbonization across operations. In 2017, DFW Airport implemented the Renewable Natural Gas Initiative, with the goal of transitioning 100 percent of DFW's compressed natural gas (CNG) vehicle fleet to renewable natural gas (RNG), waste energy recovered from a local landfill. As of December 2021, over 70 percent of the natural gas used in the DFW's vehicle fleet came from RNG. DFW's Net Zero Roadmap details strategies to eliminate the use of fossil fuels for heating, cooling, electricity, and vehicle use by continuing to improve energy efficiency while transitioning most of the heating, refrigerants and fuel to carbon-free sources. DFW completed design of a "Brute Force Electric Central Utility Plant" in December 2020. This project is the cornerstone of DFW's Net Zero Roadmap. By transitioning terminal heating from natural gas to renewable electricity (electric heat pumps and chillers), DFW's largest sources of emissions will be reduced significantly.

Sources of GHG emissions for the Runway 17R/35L Rehabilitation Project include emissions of GHG from construction operations including construction equipment, motor vehicles, and

nonpoint sources, as well as operational emissions from aircraft emissions, GSE, and APU. These sources contribute to GHGs such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, primarily due to fuel combustion. While emissions of hydrofluorocarbons (HFCs), perfluorinated compounds (PFCs), and Sulfur Hexafluoride (SF<sub>6</sub>) linked with refrigeration, air conditioning, and other coolants also occur at airports, these are at far lesser amounts (FAA, 2015) and are expected to be relatively negligible for this Proposed Action.

## **4.6 Hazardous Materials, Solid Waste, and Pollution Prevention**

### **4.6.1 Regulatory Background**

The handling and disposal of hazardous materials, chemicals, and wastes is primarily governed by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (more commonly known as “Superfund”), Pollution Prevention Act (PPA), Toxic Substances Control Act (TSCA), and Resource Conservation and Recovery Act (RCRA), as amended. RCRA governs the generation, treatment, storage, and disposal of solid and hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment. In addition to these laws, three Executive Orders have been designated to ensure federal compliance with pollution control standards, federal right-to-know laws, and Superfund implementation. FAA Orders 1050.1F and 5050.4B do not provide a specific threshold of significance for hazardous material and solid waste impacts. However, they conclude that actions involving property listed (or potentially listed) on the National Priorities List (NPL) would be considered significant.

Solid waste is generally defined in RCRA as any discarded material that is abandoned, recycled, considered inherently waste-like, or a military munition (refer to 40 CFR 261.2 for further details). The definition of a hazardous material, hazardous substance, and a hazardous waste follow:

- *Hazardous Material* – any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce (49 CFR 172, Table 172.101). This includes hazardous substances and hazardous wastes.
- *Hazardous Substance* – any element, compound mixture, solution, or substance defined as a hazardous substance under the CERCLA and listed in 40 CFR 302. If released into the environment, hazardous substances may pose substantial harm to human health or the environment.
- *Hazardous Waste* – a waste is considered hazardous if it is listed in RCRA regulations, or meets the characteristics described in 40 CFR 261, including ignitability, corrosivity, reactivity, or toxicity.

### **4.6.2 Existing Conditions**

Because the disruption of sites and facilities containing hazardous materials (including hazardous wastes, hazardous substances, environmental contamination, and other regulated substances such as fuel, waste oil, and de-icing chemicals) can potentially impact soils, surface/groundwater, and air quality, this section provides an overview of what is known about these areas located in the vicinity of the Runway 17R/35L Rehabilitation project area. This information is presented to help determine what effect, if any, the proposed project will have on these sites and vice versa.

For this analysis, the identification of sites known, suspected, or with the potential, to contain hazardous materials and/or environmental contamination was conducted by accomplishing the following: visual observations of existing conditions; consultation and discussions with DFW staff; review of current aerial photos; and an electronic database search of available regulatory agency

records. The sampling and testing of environmental media (e.g., soils, surface/groundwater, building materials, etc.) was not conducted.

#### 4.6.2.1 Hazardous Materials, Substances, and Waste

Per the USEPA's NPL database, there are no properties listed (or proposed) on the NPL in the direct Project Area. However, 34 properties are listed within the vicinity of Runway 17R/35L as listed in **Table 4-4**.

#### 4.6.2.2 Solid Waste

Solid waste in the project area is generated by various activities associated with the demolition and construction projects. DFW also has a consolidated materials recycling and reuse program that provides recycling containers and a materials management site for construction projects. DFW recycles a variety of materials including, but not limited to, construction and demolition waste, paper, cardboard, wood, metal, concrete, soil, and tires. Through the Sustainability Management Plan (SMP), DFW is committed to decreasing the generation of MSW and hazardous materials and increasing campus-wide recycling.

### 4.7 **Historical, Architectural, Archeological, and Cultural Resources**

#### 4.7.1 *Regulatory Background*

The National Historic Preservation Act (NHPA) requires federal agencies to identify significant cultural resources that may be affected by their actions and mitigate adverse effects to those resources. The NHPA (54 USC 300101), specifically Section 106 (54 USC 306108) requires the State Historic Preservation Office (SHPO), represented by the Texas Historical Commission (THC), to administer and coordinate historic preservation activities, and to review and comment on all actions licensed by the federal government that will have an effect on properties listed in or eligible for listing in the National Register of Historic Places (NRHP). NHPA Section 106 is the principal statute concerning such resources. It requires consideration of direct and indirect impacts from federal actions on historic, architectural, archaeological, and other cultural resources. The assessment of significance of a cultural resource is based on federal guidelines and regulations.

The criteria for evaluating properties for inclusion in the NRHP are codified under the authority of the NHPA, as amended (36 CFR Part 60.4 [a–d]) and the Advisory Council on Historic Preservation (ACHP) has set forth guidelines to use in determining site eligibility. Federal regulations indicate that “[t]he term ‘eligible for inclusion in the National Register’ includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria” (36 CFR §800.2[e]). Based on ACHP guidelines, any cultural resource that is included in or eligible for inclusion in the NRHP is a historic property.

As a political subdivision of the State of Texas, DFW is required to comply with the Antiquities Code of Texas (ACT) passed in 1969. The ACT requires state agencies and political subdivisions to notify the THC of ground-disturbing activities on public land that have the potential to impact archeological sites. Advance project review and coordination by the THC is required only for undertakings with more than 5 acres or 5,000 cubic yards of ground disturbance. However, if the activity occurs inside a designated historic district, affects a recorded archeological site, or requires onsite investigations, the project will need to be reviewed by the THC regardless of project size.



**Table 4-4. Federal and States Database Sites  
Located on DFW Property Near the Project Area**

Site Name	Address	Database Type
DFWEAD2017036 - Terminal C (FID#33054)	2333 N International Parkway	Asbestos
DFW Terminal C	2330 N International Parkway	Asbestos
Terminals A, B, C, E Central Utilities	Unmapped, in proximity	Asbestos
Delta Airlines Incineration Facility	Unmapped, in proximity	Permitted Solid Waste/Liquified Waste Facility (SWF/LF), Central Registry
Central Utilities Plant Upgrade	Unmapped, in proximity	Central Registry
Transportation Security Administration (TSA)	Terminal C Lower Level	Notice of Violation Listing (ENF)
TSA	Terminal C Lower Level	Compliance History Listing (COMP HIST)
DFW Terminal C 0-5	2330 N. International Parkway	Asbestos
DFWEAD2019089 – Terminal C (FID#33054)	2330 N International Parkway	Asbestos
Terminal C High Gates Demolition and Rebuild	Terminal C Gates 33-39	Central Registry
Terminal C (HP#7080)	2330 N International Parkway	Asbestos
Terminal C – High Bay Building (FID#33043)	2500 N International Parkway	Asbestos
TSA	Terminal C Lower Level	Facility Index System/Facility Registry System (FINDS)
DFW Terminal C High Gates	2400 N International Parkway	Enforcement and Compliance History (ECHO)
Terminal C FID NO.	2330 N International Parkway	Asbestos
DFW Terminal C High Gates	2400 N International Parkway	FINDS
TSA	Terminal C Lower Level	Industrial Hazardous Wastes (IHW)
Terminal C High Gates Demolition and Rebuild	Terminal C Gates 35-39	FINDS, ECHO
DFWEAD2019026 - Terminal C (FID#33054)	2330 N International Parkway	Asbestos
TSA	Terminal C Lower Level	Central Registry
TSA	Terminal C Lower Level	FINDS, ECHO
DFW	American Airlines Incineration, Terminal 3E Near Gate No. 1	SWF/LF
American Airlines	2E 3E Connector Building	Underground Storage Tank (UST), Financial Assurance
American Airlines	2W AUTOMOTIVE	Leaking Petroleum Storage Tank (LPST)
D10 Terminal Radar Approach Control	2401 N International Parkway	UST
DFW	5E Support Area	IHW
DFW	3122 E 30 <sup>th</sup> Street	LPST, IHW, IHW Corrective Actions
DFW FLQ LOC 17L	DFW Airport	UST
DFW JHZ LOC 17R	DFW Airport	UST
DFW FLQ GS 17L	DFW Airport	UST
Runway 35R ALSF 2	DFW Airport	UST
DFW	DFW Airport	UST
National Car Rental	DFW Airport North	UST, Financial Assurance
DFW VORTAC	DFW Airport	UST
DFW CIX SSALR 18L	DFW Airport	UST
DFW JHZ SSALR 17R	DFW Airport	UST
American Airlines	HANGAR II	LPST, UST, Financial Assurance
American Airlines Old Air Freight	Unmapped, in proximity	LPST
General Telephone Southwest	Unmapped, in proximity	LPST
National Car Rental Facility	Unmapped, in proximity	LPST
National Car Rental System Inc.	Unmapped, in proximity	LPST
Texaco Service Station	Unmapped, in proximity	LPST, UST, Financial Assurance

Source: EDR 2021a, b

#### 4.7.2 Existing Conditions

The Area of Potential Effects (APE) is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties” (36 CFR 800.16(d)). For purposes of Section 106, the term “historic properties” can include architectural, archeological, or cultural resources.

For this analysis, the APE for the project encompassed approximately 345 acres of the east airfield, containing all project sites within the Runway 17R/35L project area. Ground disturbances associated with the proposed project will vary but will include grading and erosion control. Depths of impacts associated with the proposed project will generally be within a few feet of the current ground surface (**Appendix C**).

##### 4.7.2.1 Architectural and Historic-Period Resources

A file search within the Texas Historic Sites Atlas (THSA) electronic database, maintained by the THC, identified that there are no previously recorded National Register properties, historical markers, or cemeteries located within the proposed APE (THSA 2022). It was determined that ground-disturbing activities have transpired within the APE related to past land use. Prior to DFW construction in the early 1970s, the APE was primarily used for agricultural and ranching purposes as early as 1942 and presumably since the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Most of the APE has been cleared of woody vegetation at various points through the 20<sup>th</sup> century, although small portions of the APE have become overgrown with secondary tree growth.

Since 1969, significant ground disturbances have transpired throughout the APE related to broad-scale surface grading and transportation development. As depicted within 1970 aerial photographs, once DFW construction began, ground disturbances associated with large-scale grading for the terminals, runways, parking lots, and a roadway system occurred centrally within DFW property, and all structures in the APE vicinity were demolished. Runway 17R/35L and adjoining taxiways within the APE were part of the original airport construction phase. APE Portions have been further disturbed by various runway and taxiway improvement projects since initial DFW construction. Based on this background research and identified past disturbances, there is a low potential for encountering historic-age resources within the APE.

##### 4.7.2.2 Archeological Resources

A file search within the Texas Archeological Sites Atlas (TASA) electronic database, maintained by the THC and the Texas Archeological Research Laboratory (TARL), identified that there are no previously recorded archeological sites, National Register properties, or cemeteries located within the proposed APE (TASA 2022).

Data presented within the Texas Department of Transportation (TxDOT) Potential Archeological Liability Map (PALM) for Dallas and Tarrant Counties indicates the entire APE featured a low potential for shallow or deeply-buried cultural materials within areas that have retained a reasonable contextual setting. In 2007 and 2008, AR Consultants, Inc. (ARC) conducted intensive pedestrian surveys of 1,210 acres of DFW and found there was a low probability for containing prehistoric sites (Shelton et al. 2008:17). THC concurred with ARC’s findings. Therefore, based on previous research and THC coordination, as well as current observations, the APE has a negligible potential to contain prehistoric archeological resources.

#### 4.8 Land Use (Permits and Construction Effects)

##### 4.8.1 Regulatory Background

Construction impacts are generally short-term and can include construction noise, dust and traffic, disposal of construction debris, and short-term impacts to air and water quality. An airport sponsor

must incorporate the construction guidance and impact minimization measures prescribed in FAA AC 150/5370-10G, *Standards for Specifying Construction at Airports*. Additionally, project sponsors must also comply with 40 CFR 122, USEPA Administered Permit Programs: the NPDES for construction activities. The USEPA has delegated the authority to implement the NPDES program at the state level. In Texas, this permit program is known as the Texas Pollution Discharge Elimination System (TPDES); it is administered by the TCEQ.

#### 4.8.2 Existing Conditions

DFW currently operates as a large-hub airport, serving approximately 73 million passengers in 2019. The airport property is characterized by terminal buildings and airport administrative buildings, operations support facilities, airfield infrastructure, roadways, and commercial development industrial buildings. Changes to resources such as air quality, water quality, surface traffic/congestion, and noise caused by construction equipment can result in temporary impacts to the resources. To reduce the effects of the on-airport construction activities, DFW implements mitigation measures such as dust control, traffic management, waste management, and storm water pollution prevention plans.

### 4.9 Natural Resources and Energy Supply

#### 4.9.1 Regulatory Background

CEQ regulations (§1502.16) require that federal agencies consider energy requirements, natural or depletable resource requirements, and the conservation potential of alternatives and mitigation measures. Consumption of natural resources (such as water, asphalt, aggregate, wood, etc.) and use of energy supplies (such as coal for electricity, natural gas for heating, and fuel for aircraft, vehicles, or other ground vehicles) may result from construction, operation, and/or maintenance of the proposed action. Under FAA policy, facility development should exemplify the highest standards of design including principles of sustainability. All elements of the transportation system should be designed with a view to their aesthetic impact, and conservation of resources, such as energy, pollution prevention, harmonization with the community environment, and sensitivity to the concerns of the traveling public.

#### 4.9.2 Existing Conditions

DFW has implemented a sustainability program to reduce energy and water consumption, reduce pollution, minimize waste and seek alternative energy sources such as wind and solar. DFW's Design Criteria Manual governs building design and development and requires green building standards; Green Infrastructure/Low Impact Development (GI/LID), a USEPA initiative to reduce and mitigate stormwater runoff.

### 4.10 Noise and Noise-Compatible Land Uses

This section presents the aircraft noise and compatible land use analysis conducted as part of this EA. The EA analysis includes summaries of the operational data used in calculating noise exposure levels, how noise is characterized and described, how people respond to it, and FAA guidance on land-use compatibility with various levels of noise exposure. **Appendix D** provides detailed information on each of these aspects of noise characterization and the impact analysis.

#### 4.10.1 Regulatory Background

It is the FAA's responsibility to analyze aviation noise impacts from federal actions. This EA follows guidance and regulations provided in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and the 1050.1F 2020 Desk Reference on how the impact assessment should occur,



as well as other federal statutes, regulations, and specific agency orders. A list of these is presented in **Appendix D**.

These laws and guidance documents specify the use of the Day-Night Average Sound Level (DNL), which is the noise metric used in most environmental impact analyses. A cumulative sound level, DNL provides a measure of total sound energy. DNL is a logarithmic average of the sound levels of multiple events at a location over a 24-hour period, with a 10-decibel (dB) weighting added to all sounds occurring during nighttime hours (between 10:00:00 p.m. and 6:59:59 a.m.). The 10 dB increase for nighttime events represents the added intrusiveness of noise that occurs during typical sleeping hours. Ambient sound levels during nighttime hours are typically about 10 dB lower than during daytime hours. Expressing a DNL implies decibels thus the “dB” nomenclature is omitted herein, e.g., “65 DNL” is expresses a DNL of 65 dB.

For a NEPA noise analysis, the FAA requires that the 24-hour analysis period represent the “average annual day” (AAD), meaning average daily aircraft operations over a 365-day period.

The aircraft noise analysis for this EA uses Aviation Environmental Design Tool (AEDT) Version 3d (released 29 March 2021). AEDT is a combined noise and emission model that uses a database of aircraft noise and performance characteristics. The AEDT predicts ground-based DNL values from user input for aircraft types, AAD aircraft operations, airport operating conditions, aircraft performance, and flight patterns. AEDT also calculates air pollutant emissions from aircraft engines for air quality analyses, enables noise and air quality calculations on a regional basis (as opposed to in the immediate airport environment only), and includes updated databases for newer aircraft models.

#### *4.10.2 Study Area*

To adequately capture the effects of aircraft noise, the Noise Study Area (NSA) must include not only the immediate airport environs, where aircraft flight paths are aligned with the runways, but also other potentially affected areas over which aircraft will fly as they follow any modified flight corridors that join the surrounding airspace. The NSA was developed to encompass an area that would contain at least the lateral extent of the estimated 60 DNL contour resulting from aircraft flight and ground operations contemplated under the Proposed Action, with an adequate buffer to accommodate potential changes in the contour between the NAA and With Project Alternatives. **Figure 4-2** displays the NSA on the land use map. The NSA is approximately 4 Nautical Miles (nmi) to the east and west and 8 nmi to the north and south.

#### *4.10.3 Noise Compatible Land Use*

Existing Land use in the study area consists of the DFW property, residential uses, commercial and industrial land uses, as shown on **Figure 4-2**. DFW is largely surrounded to the west and southeast by residential areas consisting of single-family and multi-family residences. The area to the north is primarily industrial and commercial facilities with areas of residential land use to the northeast located in Coppell. The area directly south is commercial and industrial with residential areas located further south in Grand Prairie. Additional details on the land use development can be found in **Appendix D**.

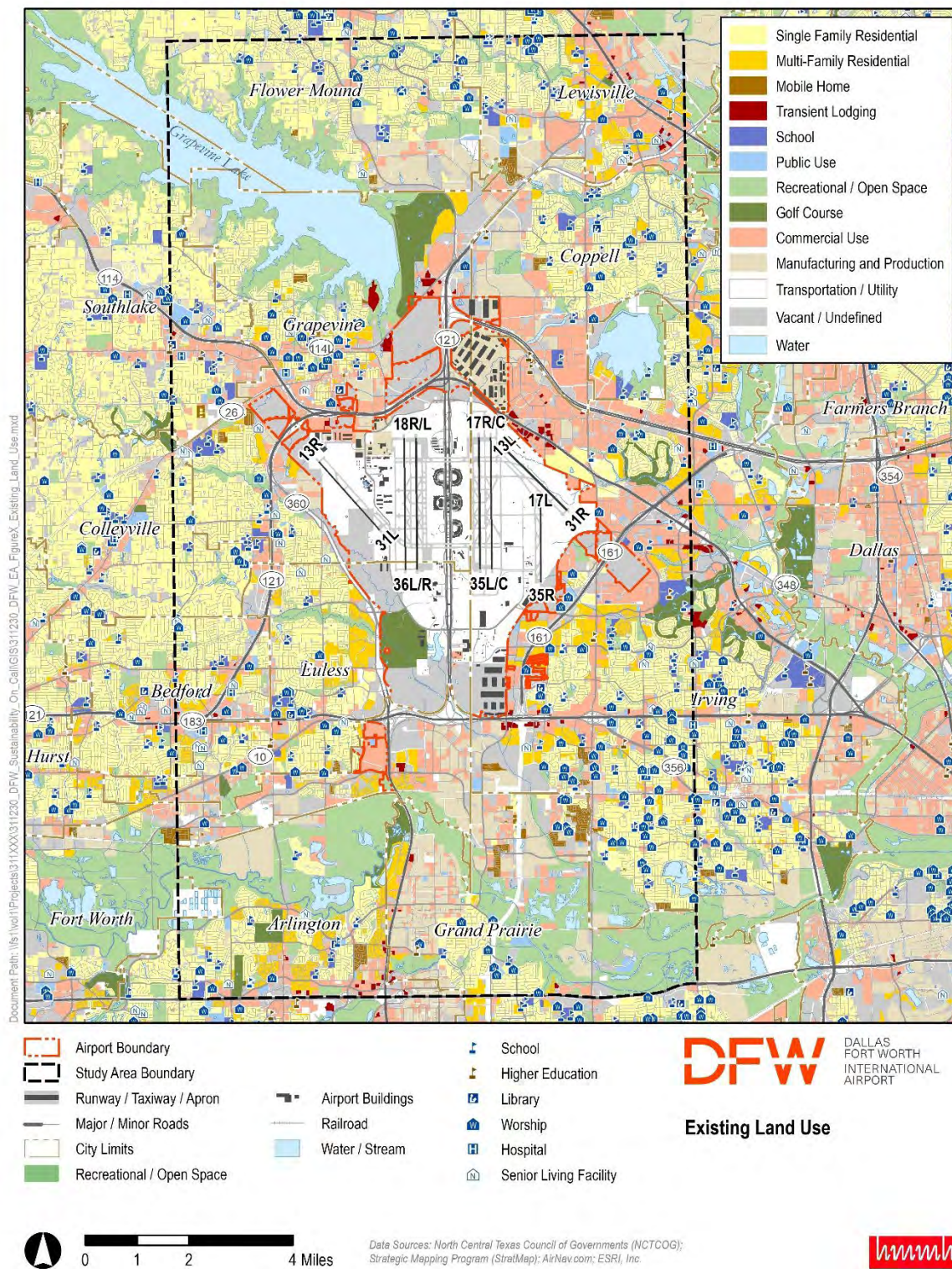


Figure 4-2. Existing Land Use and Noise Study Area



The FAA has published land use compatibility designations, as set forth in Part 150, Appendix A, Table 1 and the FAA generally considers all land uses to be compatible with aircraft-related noise below 65 DNL, including residential, hotels, retirement homes, intermediate care facilities, hospitals, nursing homes, schools, preschools, and libraries. All noise sensitive sites such as schools, nursing homes, hospitals and places of worship have been identified and are shown on **Figure 4-2**. Any potential noncompatible land use and the noise sensitive sites within the study area will be evaluated in this EA.

#### 4.10.4 Existing Conditions

This section provides the description of current noise conditions within the study area from aircraft noise. The existing conditions represent noise exposure from a 12-month period from March 2019 to March 2020 for aircraft operations for an average annual day.

##### 4.10.4.1 Operations

The existing aircraft noise environment around DFW was evaluated based upon the existing condition aircraft operations and the associated airport operational characteristics. Radar data from DFW Noise and Operations Monitoring System (NOMS) and the FAA's Operational Network (OPSNET) operational data for March 2019 to March 2020 were used to determine the existing noise conditions. The radar data provided the aircraft fleet mix and runway use. The fleet mix developed from the DFW NOMS data was grouped into FAA operational categories (Air Carrier, Air Taxi, and General Aviation) and the totals were scaled to match the tower count for that period. During the existing conditions period, 727,517 annual operations occurred at DFW. Due to the low numbers of military aircraft and the absence of dominant military aircraft types, the military operations were distributed into the Air Carrier and General Aviation categories based on an analysis of the sizes of military aircraft reported by the FAA's Traffic Flow Management System Counts (TFMSC) for the same period. Approximately 40 percent were distributed into Air Carrier operations and the remaining 60 percent were distributed into General Aviation operations. **Table 4-5** presents the annual operations modeled for the Existing Condition as well as the FAA OPSNET operations for comparison. **Table 4-6** provides the average daily operations, by aircraft type, that were used in AEDT for the existing conditions. The average daily number of aircraft arrivals and departures for the March 2019 to March 2020 Noise Contour are calculated by determining the total annual operations and dividing by 365 (days in a year). The existing conditions annual average day included 1,988 total operations, 10.5 percent of which occurred during the DNL nighttime hours of 10:00 p.m. to 6:59 a.m.

**Table 4-5. Existing Condition Operations (16 March 2019 to 15 March 2020)**

Category	Air Carrier	Air Taxi	General Aviation	Military	Total
FAA OPSNET	632,468	89,163	5,681	205	727,517
Existing Condition	632,549	89,163	5,805	0	727,517

Note: Military data was split between Air Carrier and General Aviation  
Totals may not match exactly due to rounding

Source: FAA OPSNET, FAA TFMS, HMMH 2022.

##### 4.10.4.2 Runway Utilization

DFW has two main runway complexes: the east side and west side, comprised of seven runways; four to the east and three to the west. Aircraft typically arrive on the outermost main north/south runways as well as some of the outboards and depart on the innermost runways main north/south runways (inboards). DFW typically uses its north/south runways for most arrivals and departures. Historic data shows that DFW is operated in one of two main operating configurations—south flow (departing to the south and arriving from the north) approximately 70 percent and north flow

**Table 4-6. DFW Modeled Average Daily Itinerant Aircraft Operations for Existing Conditions - (March 2019 to March 2020)**

Operations for Existing Conditions (March 2016 to March 2020)									
Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	Jet	7478	<1	<1	2	<1	<1	2	3
		717200	2	<1	2	2	<1	2	5
		737700	14	1	15	15	<1	15	31
		737800*	225	20	245	226	19	245	489
		747400	2	1	3	1	2	3	6
		767300	1	<1	1	<1	<1	1	3
		777200	11	3	14	13	<1	14	28
		777300	<1	1	2	<1	1	2	4
		757PW	<1	3	3	<1	3	3	6
		757RR	16	4	20	15	5	20	40
		7673ER	3	3	6	3	2	6	11
		767CF6	1	<1	2	1	<1	2	4
		7773ER	5	1	6	6	<1	6	12
		7878R	13	3	16	15	<1	16	32
		A300-622R	3	2	5	2	2	5	9
		A319-131	57	6	64	59	5	64	127
		A320-211	10	2	12	9	2	12	24
		A320-232	16	5	20	18	3	20	41
		A320-271N	<1	<1	<1	<1	<1	<1	1
		A321-232	104	17	121	104	17	121	242
		A350-941	<1	0	<1	<1	0	<1	1
		A380-841	<1	<1	<1	<1	<1	<1	2
		DC1010	<1	<1	1	<1	<1	1	2
		EMB190	2	<1	2	2	<1	2	3
		MD11GE	<1	<1	2	<1	<1	2	3
		MD11PW	2	2	3	2	1	3	7
		MD83	27	1	28	26	2	28	55
	Regional Jet	CRJ9-ER	147	10	156	144	13	156	313
		EMB170	89	7	96	88	7	96	192
		EMB175	14	2	16	14	3	16	33
	Subtotal			767	97	864	770	94	864
Air Taxi	Regional Jet	CL600	4	<1	5	4	<1	5	9
		EMB14L	104	7	110	104	7	110	220
	Non-jet	1900D	2	<1	2	<1	1	2	4
		CNA208	3	<1	4	3	1	4	8
		DHC6	1	<1	1	<1	<1	1	2
	Subtotal			114	8	122	111	10	122
General Aviation	Jet	CL600	<1	0	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1
		CNA750	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	0	<1	<1	0	<1	<1	<1
		GV	<1	0	<1	<1	0	<1	<1
	Non-jet	LEAR35	<1	<1	<1	<1	<1	<1	<1
		CNA208	6	<1	6	6	<1	6	12
		DHC6	1	<1	1	1	<1	1	2
Subtotal			8	<1	8	8	<1	8	16
Grand Total			889	105	994	890	104	994	1,988

**Note:** Totals may not match exactly due to rounding. \*ANP Type 737800 represents both B738 and B739 operations, which account for 98 percent and 2 percent, respectively.

Source: DFW NOMS, HMMH, 2022

(departing to the north and arriving from the south) approximately 30 percent. Aircraft normally will take off and land into the wind. However, runway end utilization can also be affected by aircraft type, type of activity, and if applicable any airport runway use plans.

Although calendar year 2020 runway utilization data was available, March 2019 to March 2020 data was used to represent the existing conditions because in 2020 after 15 March 2020 DFW operations declined dramatically due to the COVID-19 pandemic. **Table 4-7** summarizes the percentage developed from the DFW NOMS radar data that each runway was used for departures and arrivals from 16 March 2019 to 15 March 2020; this data was used to model the existing conditions and generate the Existing Conditions Noise Contour. **Table 4-7** provides the breakdown by time of day for arrivals and departures.

**Table 4-7. DFW Runway Utilization Summary – Existing Conditions**

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0	0.0	0.0	<0.1	0.0	<0.1
13R	3.0	<0.1	2.7	<0.1	0.0	<0.1
17C	24.2	24.6	24.2	0.5	1.8	0.6
17L	12.8	1.3	11.6	0.0	<0.1	<0.1
17R	0.3	11.9	1.5	39.1	30.1	38.1
18L	0.8	6.9	1.4	30.7	31.4	30.8
18R	29.1	24.6	28.7	0.2	6.5	0.9
31L	0.0	0.0	0.0	0.2	0.2	0.2
31R	0.8	<0.1	0.7	<0.1	0.0	<0.1
35C	8.1	11.3	8.5	0.1	0.6	0.2
35L	<0.1	3.8	0.4	15.1	13.1	14.9
35R	7.7	1.1	7.0	<0.1	0.0	<0.1
36L	12.6	11.1	12.5	<0.1	2.3	0.3
36R	0.4	3.3	0.7	14.0	14.1	14.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: DFW NOMS, HMMH, 2022.

#### 4.10.4.3 Flight Tracks

The FAA has established routes for aircraft arriving and departing from DFW. For the noise analysis, model flight tracks were developed representing the path along the ground over which aircraft generally fly. Flight tracks modeled for the existing conditions are shown in **Figures 4-3** (Arrival Tracks) and **4-4** (Departure Tracks); also see **Appendix D**.

#### 4.10.4.4 Aircraft Stage Length and Operational Profiles

Within the AEDT database, aircraft departure profiles are defined by a range of trip distances identified as “stage lengths.” Higher stage lengths (longer trip distances) are associated with heavier aircraft due to the increase in fuel requirements for the flight. For example, a departure aircraft with a trip distance less than 500 nmi would be assigned a stage length value of one, where a departure aircraft with a trip distance of 3,000 nmi would be assigned a stage length value of five. **Table 4-8** provides the stage length classifications by their associated trip distances. The stage lengths flown from DFW are based on the radar data operations.

**Table 4-8. AEDT Stage Length Categories**

Category	Stage Length (nmi)
1	0-500
2	500-1000
3	1000-1500
4	1500-2500
5	2500-3500
6	3500-4500
7	4500-5500
8	5500-6500
9	6500+

Source: AEDT 3d User Guide, 2021.

Note: Stage Length is defined as the distance an aircraft travels from takeoff to landing

#### 4.10.4.5 Existing Noise Exposure Contours

**Table 4-9** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the Existing Condition. Approximately 11.92 square miles of land fall within the Existing Condition (March 2019 to March 2020) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.51 square mile exposed to 65 DNL or higher, is located off-Airport (the remaining 11.41 square miles are located on DFW property). **Figure 4-5** shows the annual noise exposure pattern at DFW for the existing conditions. Noise contours are presented for the 65 DNL, 70 DNL, and 75 DNL. DNL contours are a graphic representation of how the noise from DFW's annual average daily aircraft operations is distributed over the surrounding area. The size and shape of the noise exposure contours are reflective of the south and north flow at DFW. Noise contour patterns extend from DFW along each extended runway centerline, reflective of the flight tracks used by all aircraft. The relative distance of a contour from DFW along each route is a function of the frequency of use of each runway end for total aircraft arrivals and departures, and the type of aircraft assigned to the respective runways.

**Table 4-9. Estimated Land Area  
within Existing (March 2019 to March 2020) Noise Exposure Contour**

Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
DNL 65-70 dB	6.96	0.46	7.42
DNL 70-75 dB	2.16	0.05	2.21
DNL 75+ dB	2.29	0.00	2.29
<b>Total</b>	<b>11.41</b>	<b>0.51</b>	<b>11.92</b>

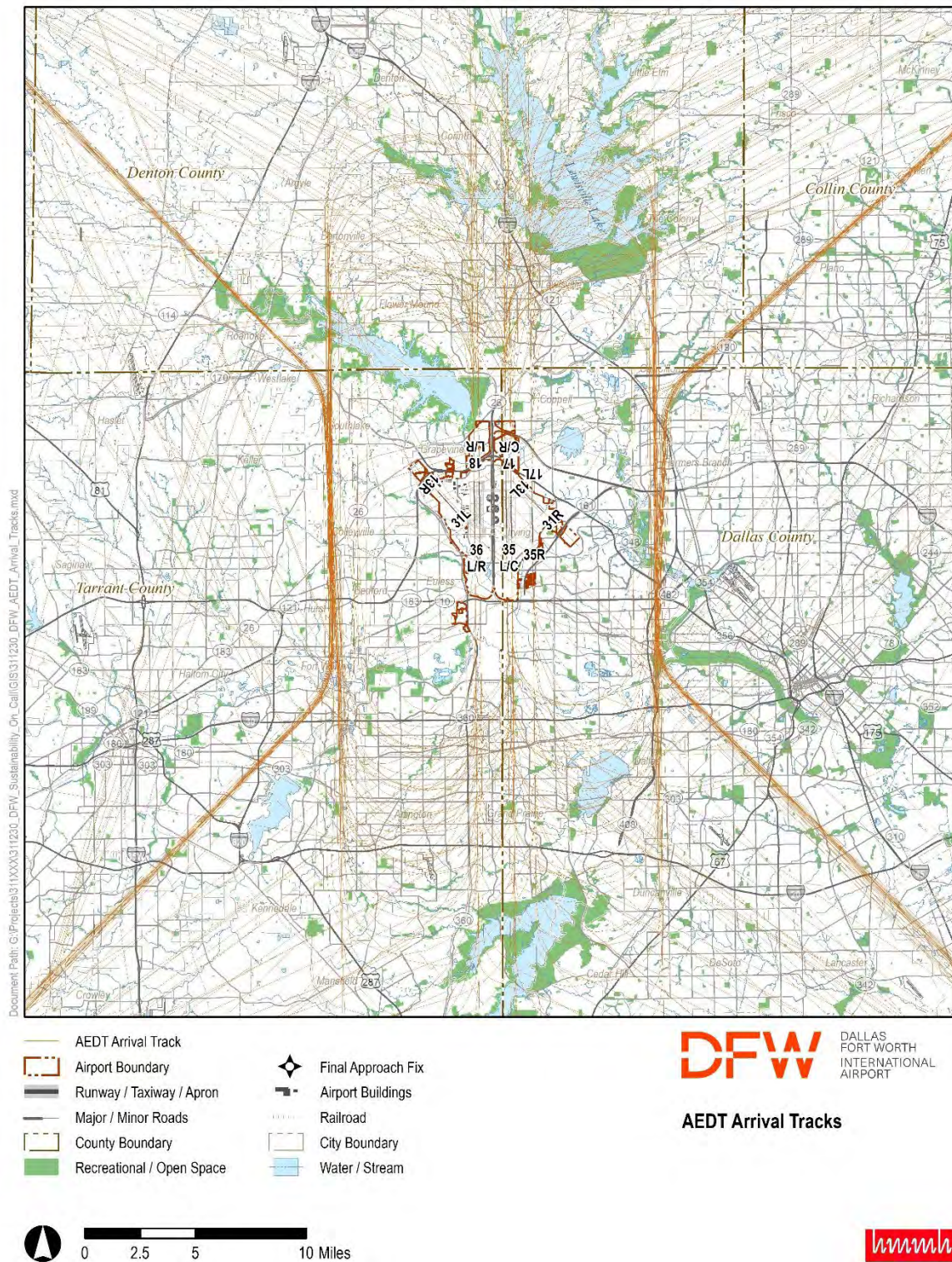
Source: HMMH, 2022

**Figure 4-6** provides the resultant DNL contours for the Existing Condition, March 2019 to March 2020.

#### 4.10.4.6 Noise Compatible Land Use

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the contours. Furthermore, there no single family, multifamily, or manufactured housing within any of the March 2019 to March 2020 existing condition noise contours (**Figure 4-6**).





**Figure 4-3. All Arrival AEDT Flights Tracks**



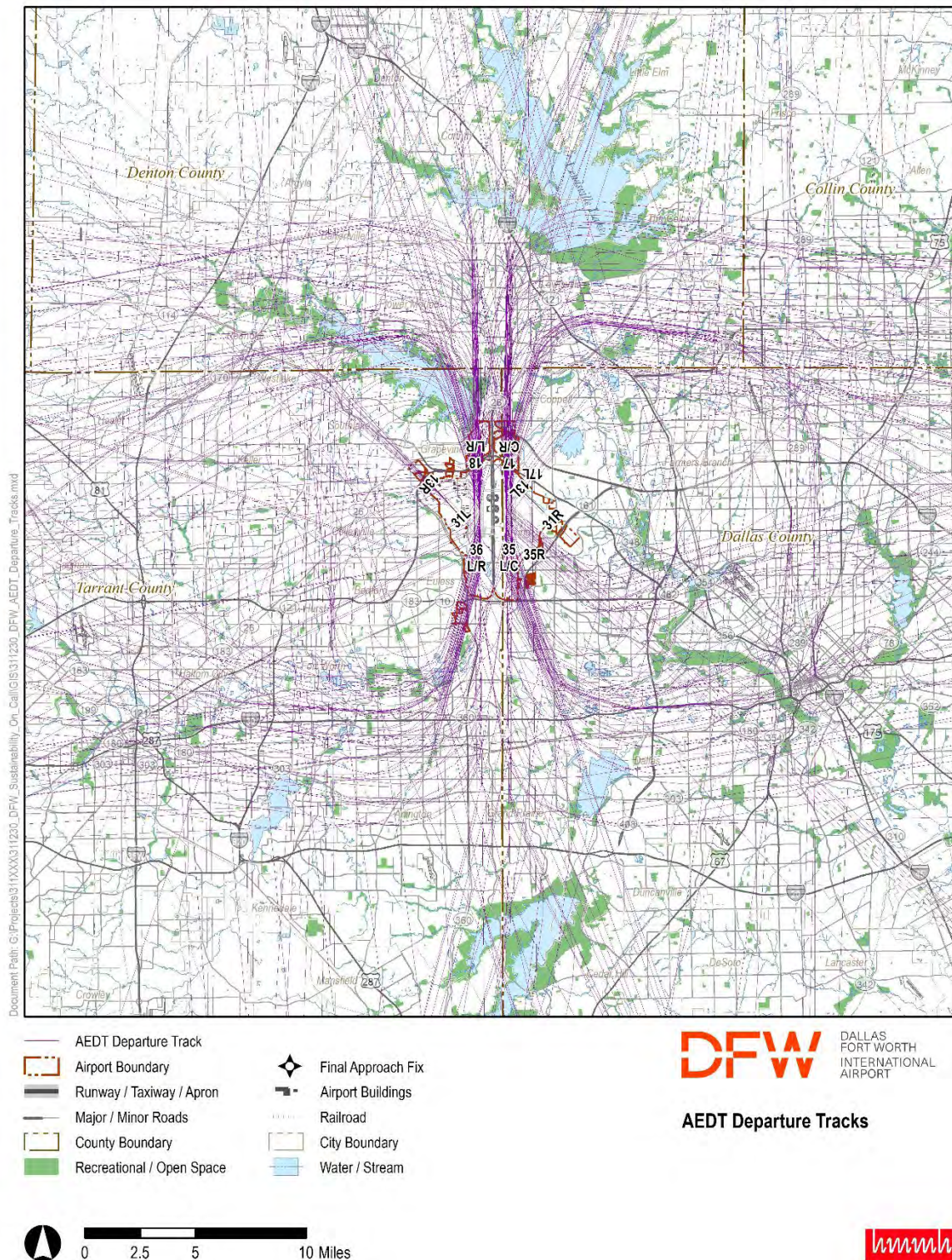
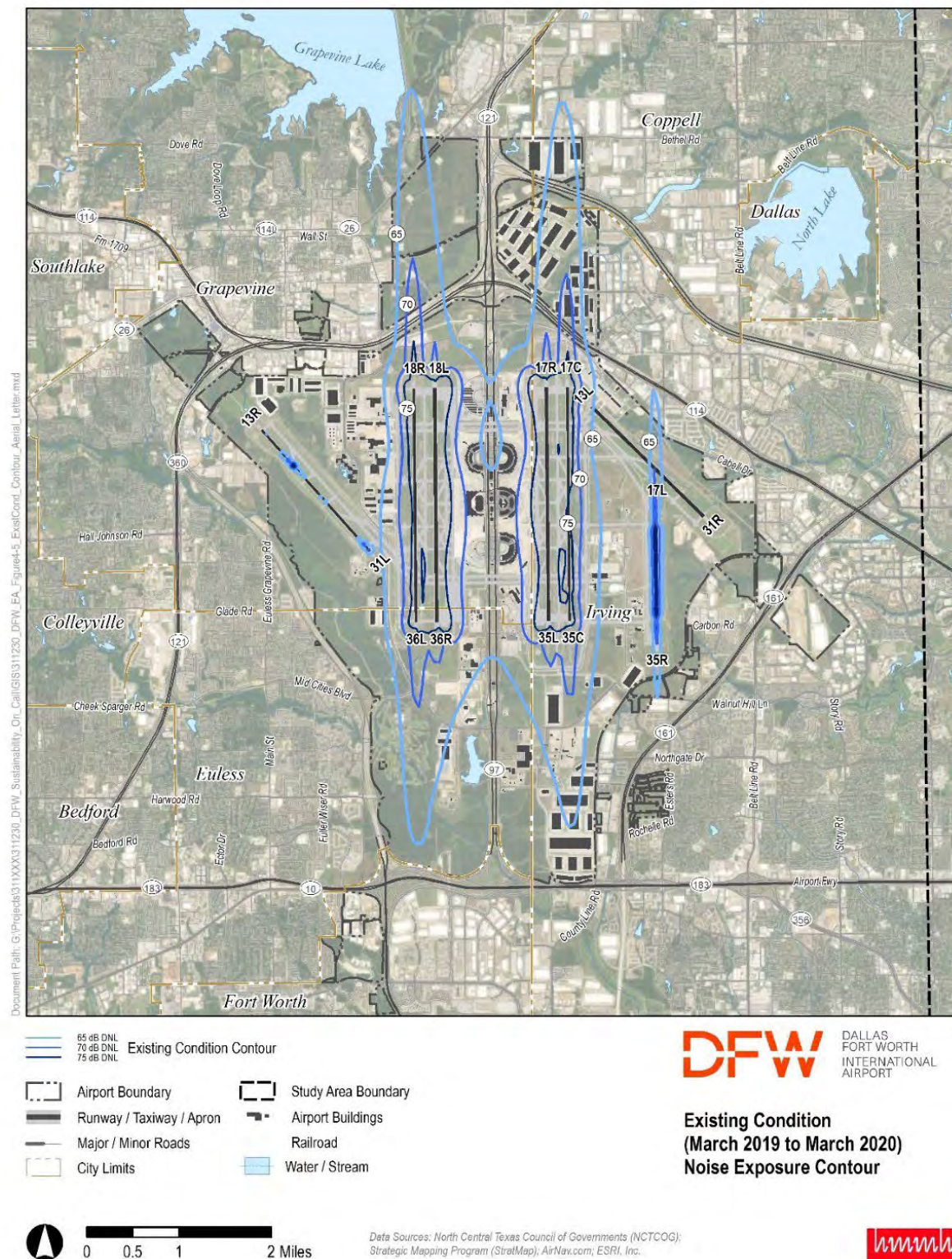


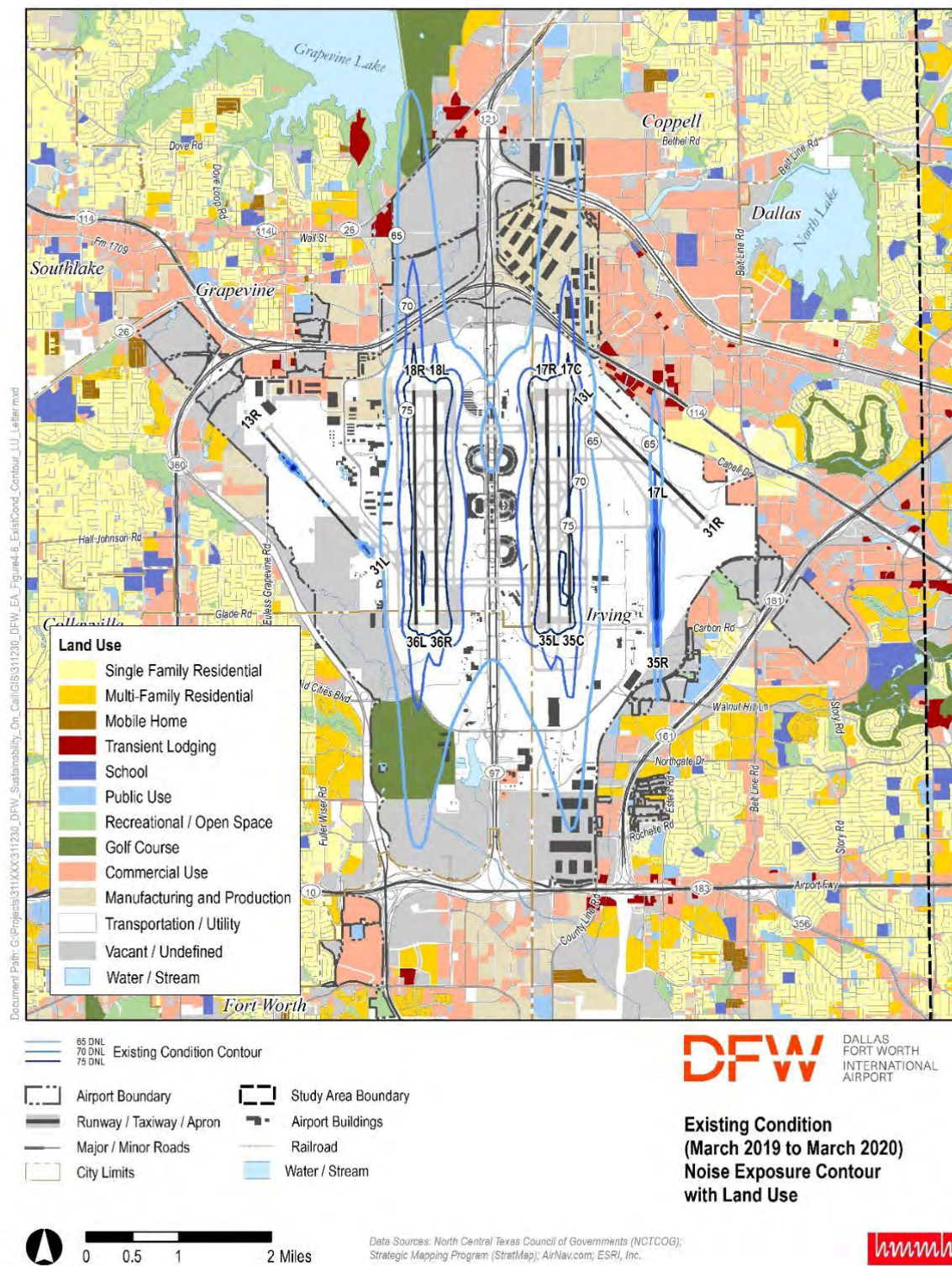
Figure 4-4. All Departure AEDT Flight Tracks





**Figure 4-5. Existing Condition (March 2019 to March 2020) Noise Exposure Contour**





**Figure 4-6. Existing Condition (March 2019 to March 2020) Noise Exposure Contour with Land Use**

## **4.11 Visual Effects, Including Light Emissions**

### *4.11.1 Background*

The FAA encourages Airport Sponsors to consider the effects of light emissions and visual effects on sensitive areas in the vicinity of an airport development project. Although there are no significance thresholds established by the FAA for light emissions and visual effects, the agency recommends the following topics be considered during the analysis:

- If light emissions create an annoyance or interfere with normal activities; and
- If local, state, or federal agencies determine that visual effects are objectionable due to their contrast with existing environments.

### *4.11.2 Existing Conditions*

Light emissions sources on DFW include the runway, taxiways, terminals, NAVAIDS surface parking areas, hotels, office buildings, warehouses, and other structures. Mobile light sources include ground access vehicles utilizing airport roadways, aircraft, and aviation support vehicles. Light sources which may also affect the area include lighting on roadways and highways on and adjacent to the airport, as well as the surrounding urban and commercial development.

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## SECTION 5.0 ENVIRONMENTAL CONSEQUENCES

The potential environmental impacts resulting from the construction and operation of the reasonable alternatives and measures taken for mitigation of these effects are presented in this section. The following alternative scenarios are examined:

<u>Alternative</u>	<u>Description</u>
No Action	The NAA assumes the proposed project would not be implemented at DFW.
Proposed Action	The Proposed Action Alternative, the sponsor's preferred alternative, includes the project as identified in <b>Sections 2.0 Purpose and Need</b> and <b>3.2 Proposed Action</b> . This project consists of the proposed Runway 17R/35L rehabilitation and associated enabling projects.

### 5.1 Summary of Environmental Consequences

Potential environmental effects resulting from the construction and operation of the Proposed Action and measures taken for mitigation of these effects are presented and evaluated in this EA. A summary of evaluated environmental effects on each applicable resource category are summarized in the following table.

**Table 5-1. Summary of Environmental Consequences**

Impact Area	Significance Threshold	No Action Alternative	Proposed Action Alternative	Connected Actions
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>Pollutant concentrations to exceed one or more of the NAAQS for any of the time periods analyzed</li> <li>Increase the frequency or severity of any such existing violations.</li> </ul>	No construction emissions would be associated with this alternative. Operational emissions would remain consistent with the existing condition.	Construction-related activities and equipment would cause a short-term increase in air emissions. Similarly, operational emissions will increase above existing conditions based on changes in taxi times in the short term.	Operational emissions would not be changed due to the construction of the proposed connected actions. Temporary increases in air emissions would occur as a result of constructing the connected actions.
<b>Biological Resources</b>	<ul style="list-style-type: none"> <li>The USFWS or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally-listed or endangered species, or would result in the destruction or adverse modification of federally-designed critical habitat.</li> <li>The FAA has not established a significant threshold for non-listed species.</li> </ul>	No impact, as no construction or other activities would occur.	No impact as there is no habitat within any of the project area that would support the use by protected species. No impacts to federal and state listed species are anticipated. Overall, the proposed project area offers little habitat value for most species of wildlife. As such, the Proposed Project would have no effect on biotic communities.	No impact, as the locations dedicated to the proposed connected actions offer little habitat value for most species of wildlife. No critical or specialized habitat for federally listed, threatened, or endangered species would be affected. As such, the connected actions would have no significant

Impact Area	Significance Threshold	No Action Alternative	Proposed Action Alternative	Connected Actions
				impact on biotic communities.
<b>Climate</b>	There are no significance thresholds for aviation or commercial space launch GHG emissions.	No impact. There would be no further impacts to climate change, as no construction or other activities resulting in air emissions would occur.	The Proposed Action would result in short-term increase in construction and operational emissions, which includes emissions from GHG and precursors. The change would be minor and short-term.	No impact. Emissions of GHGs are not projected to significantly increase as a result of the construction and utilization of the connected actions.
<b>Hazardous Materials</b>	There are no significance thresholds for hazardous materials, solid waste, or pollution prevention.	No impact, as no construction or other activities would occur.	No impact. A database review revealed there are no known hazardous materials sites or sites of potential releases of hazardous substances, pollutants, or contaminants into to the environment (near or in the project area?). There are no reported landfills or related facilities at the airport. Known areas of ACM will be remediated and disposed of in accordance with all federal, state, and local regulations.	No impact. Because the existing areas of known subsurface contamination at DFW are confined to existing developed areas and leaseholds, no potential impacts to existing sites, facilities, or operations involving hazardous materials or environmental contamination are anticipated.
<b>Solid Waste</b>	There are no significance thresholds for solid waste.	No impact. The NAA would not generate solid waste impacts or increase the amount of waste generated beyond that expected from airport activity levels.	No impact. Since the project is not expected to induce activity, the generation of MSW attributable to the project is not expected to be materially different from the NAA. No impacts from construction and demolition wastes are expected.	No impacts from construction and demolition of the connected actions are anticipated.
<b>Historical Architectural, Archeological, and Cultural Resources</b>	There are no significance thresholds for historical, architectural, archeological, or cultural resources.	No impact, as no construction or other activities would occur that could potentially disturb cultural resources.	No impact. Based on research, field observation, and coordination with the THC/SHPO, no impacts to cultural resources are anticipated under the Proposed Action.	No impact. A background review revealed that the connected actions will impact APE portions that have been heavily disturbed by previous activities at DFW. As such, no cultural resources are anticipated to be affected by the connected actions.



Impact Area	Significance Threshold	No Action Alternative	Proposed Action Alternative	Connected Actions
<b>Natural Resources and Energy Supply</b>	There are no significance thresholds for natural resources and energy supply.	No impact. There would be no additional energy demand as no construction or other activities would occur.	No impact. Although, there would be an increase in energy demand from additional lighting systems and signage, the local distribution infrastructure is expected to accommodate the increased demand. No significant fuel supply impacts are expected. During construction of the Proposed Action, a temporary increase in fuel consumption is expected.	No impact. Although additional lighting systems and signage would increase energy use and construction activities would cause a temporary increase in fuel consumption and, the demand would not exceed the regional supply of energy or convertible natural resources.
<b>Noise</b>	The action would increase noise by DNL 1.5dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65dB level due to a DNL 1.5dB or greater increase, when compared to the no action alternative for the same timeframe.	No impacts, as no construction would occur and there would be no impacts to noise levels; aircraft operations would grow at the forecast pace and aircraft ground movements would continue the existing movement patterns.	Short-term temporary significant impact. Due to the temporary runway closures and changes in runway utilization during construction activities, it was determined through modeling that there will be a short-term temporary significant impact to neighboring multi-family buildings. Anticipated construction and operational noise impacts will be at an increase of 1.5 dB or greater.	No impact. As there will be no modifications to runway utilization or daily aircraft operations as a result of the connected actions, no significant noise impacts are anticipated. Temporary noise impacts would occur from construction and/or demolition activities of each project and the operation of the batch plants and staging areas.
<b>Light Emissions</b>	There are no significance thresholds for visual effects.	No impact. No substantial effects from light emissions would result since there would be no new construction.	The amount of light emissions within the project area would increase as a result of the installation of new lighting systems. Along with an overall increase in light emissions through the increased development of DFW, the combined increase would only be minimal as compared to existing light emissions.	The connected actions would result in the installation of new approach surface lighting systems, which would increase the amount of light emissions within the project area. However, along with an overall increase in light emissions through the increased development of DFW, the combined increase would only be minimal as compared to existing light emissions.

Impact Area	Significance Threshold	No Action Alternative	Proposed Action Alternative	Connected Actions
<b>Surface Water and Stormwater Treatment</b>	<ul style="list-style-type: none"> <li>Exceed water quality standards established by federal, state, local, and tribal regulatory agencies</li> <li>Contaminate public drinking water supply such that public health may be adversely affected</li> </ul>	No impact. There would be no impacts on water quality, as no construction or other activities would occur.	Potential impacts to surface water quality are associated with soil erosion during the construction phase and the added volume of stormwater runoff from new impervious surfaces following project completion.	Potential impacts to surface water quality are associated with soil erosion during the construction phase and the added volume of stormwater runoff induced by new impervious surfaces after project completion.
<b>Waters of the United States Including Wetlands</b>	<ul style="list-style-type: none"> <li>Adversely affects a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers</li> <li>Substantially alters the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected</li> <li>Substantially reduces the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare; adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands</li> <li>Promotes development of secondary activities or services that would cause the circumstances listed above to occur</li> <li>Inconsistent with applicable state wetland strategies.</li> </ul>	No impact. There would be no impacts to the WOUS including wetlands, as no construction or other activities would occur.	No impact. There would be no impacts to the WOUS, including wetlands.	No impact. The connected actions will be outside the area of any WOUS and wetlands.

## 5.2 Air Quality

As identified in FAA Order 1050.1F, the threshold for significance for air quality impacts is defined as when “the action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the USEPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.”

If the air quality assessment for the Proposed Action were to show that any of the Federal *de minimis* thresholds established under the CAA were equaled or exceeded, more detailed analyses to demonstrate conformity with the SIP would be required. This more detailed analysis process is known as a General Conformity Determination. Conversely, if the analysis were to show that none of the relevant thresholds were equaled or exceeded, the Proposed Action at DFW would be presumed to conform to the applicable SIP and no further analysis would be required under NEPA and the CAA.

### 5.1.1 No Action Alternative

The NAA would not involve any construction activities; therefore, no construction emissions would be associated with the NAA. Because there would be no construction related emissions, there would be no additional air quality effects, other than those currently produced through existing operational emissions (**Table 5.2**).

**Table 5-2. Estimated Total Operational Emissions Inventory for Future NAA**

Year	Operational Category	NO <sub>x</sub> (tpy)	CO (tpy)	VOC (tpy)
<b>2023</b>	Aircraft	2,951	2,770	354
	GSE Landing-Take Off (LTO) cycle	41	411	15
	APU	92	90	7
	<b>Total</b>	<b>3,084</b>	<b>3,271</b>	<b>377</b>
<b>2024</b>	Aircraft	1,299	1,219	156
	GSE LTO-cycle	18	181	7
	APU	41	39	3
	<b>Total</b>	<b>1,357</b>	<b>1,439</b>	<b>166</b>

Note: Estimated emissions shown in Table 5-2 are based on 9-months of operations in 2023 and 4-months of operations 2024

Source: Ramboll 2022

### 5.2.1 Proposed Action Alternative

#### 5.2.1.1 Construction-Related Emissions

The Proposed Action construction emissions were analyzed for anticipated construction years 2023 and 2024 (**Appendix E**). The Proposed Action would result in temporary air quality effects during the demolition and construction activities. An air quality analysis was completed to determine the Proposed Action’s potential emissions-related impacts. The methodology used to prepare the DFW emissions inventories is consistent with the requirements outlined in the latest FAA Air Quality Handbook and Guidance Document, which provides both regulatory context and technical direction for completing airport-related air quality impact assessments.

The Proposed Action would generate criteria air pollutant (CAP) emissions from heavy-duty off-road construction equipment, truck haul trips, and construction worker and vendor truck trips to and from the project areas. Construction emissions include both on-road mobile and off-road source categories.

Mobile source exhaust and fugitive dust emissions would be generated from on-road vehicles and construction equipment, including but not limited to dump trucks, mixers, passenger vehicles, flatbed trucks, and tractor trailers. Fugitive VOC emissions would be generated by asphalt drying. CAP emissions and O<sub>3</sub> precursors include emissions of NO<sub>x</sub>, CO, SO<sub>2</sub>, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub>. Of these, NO<sub>x</sub> and VOC are the two primary precursors to O<sub>3</sub> formation.

Construction equipment usage would cause a short-term increase in air emissions. The estimated construction emissions from diesel-powered on-road vehicles and off-road construction equipment were modeled using the TCEQ Texas NONROAD version 2 (TexN2.2) and USEPA Motor Vehicles Emissions Simulator, version 3 (MOVES3). The TexN2 model is used to estimate Texas-specific (at the county level) emissions from nonroad mobile sources, excluding commercial marine vessels, locomotives, drilling rigs, and aircraft. TexN2.2 uses USEPA's MOVES2014b Nonroad model. MOVES is required by the USEPA for developing nonroad emissions estimates for state implementation plan revisions, national emissions inventories, and reasonable further progress analyses. Emissions were calculated using the activity estimates for each project component combined with the most recent emission factors from the USEPA MOVES3 and USEPA AP-42 guidance.

**Table 5-3** shows the estimated construction emissions of NO<sub>x</sub> and VOC. Proposed Action construction is anticipated from January 2023 through mid-Spring 2024. The Proposed Action-related construction emissions are well below the de minimis levels of 50 tpy for NO<sub>x</sub> or VOC. Additionally, construction activities would require the operation of three batch plants—two for concrete and one for hot mix asphalt (HMA). Batch plants are stationary sources of air emissions permitted through the Texas Commission on Environmental Quality (TCEQ) New Source Review (NSR) permit program. The NSR permitting process is on-going and would be completed and approved before construction begins. The batch plants are not expected to produce significant air emissions. Furthermore, emissions from batch plant stationary sources permitted through the NSR and Standard Permit (SP) programs are accounted for in the State Implementation Plan (SIP) and would not adversely impact the state's ability to comply with NAAQS.

**Table 5-3. Summary of Estimated Construction Emissions for Proposed Action**

YEAR	Source of Project Emissions	NO <sub>x</sub> (tpy)	VOC (tpy)
2023	On-road vehicle	10.63	1.68
	Non-road vehicle emissions	6.94	0.53
	Fugitive emissions	0.00	7.58
	<b>2023 TOTAL</b>	<b>17.57</b>	<b>9.79</b>
2024	On-road vehicle	4.23	0.63
	Non-road vehicle emissions	6.88	0.53
	Fugitive emissions	0.00	1.75
	<b>2024 TOTAL</b>	<b>11.11</b>	<b>2.91</b>

Note: Estimated emissions shown in **Table 5-2** are based on 9-months of operations in 2023 and 4-months of operations 2024  
Includes emissions associated with vehicles supporting the batch plant operations.

Source: Table 10. AQTS, Ramboll 2022

#### 5.2.1.2 Operational-Related Emissions

Additional operational emissions are from aircraft operations, GSE, and APU. The Proposed Action is expected to result in minimal operational emissions from aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below mixing height. **Table 5-4** provides the operational emissions by category by year. Changes between the Proposed Action Alternative emission in **Table 5-4** and the NAA in **Table 5-2** are a result of the changes in taxi times due to the Proposed Action. **Table 5-5** provides the comparison between the Future NAA and the Proposed Action operational emissions.

**Table 5-4. Estimated Future Total Operational Emissions (Inclusive of Proposed Action)**

Year	Operational Category	Pollutant (tpy)		
		NO <sub>x</sub>	CO	VOC
2023	Aircraft	2,972	2,867	363
	GSE LTO	41	411	15
	APU	92	90	7
	<b>Total</b>	<b>3,106</b>	<b>3,368</b>	<b>386</b>
2024	Aircraft	1,298	1,215	155
	GSE LTO	18	181	7
	APU	41	39	3
	<b>Total</b>	<b>1,356</b>	<b>1,436</b>	<b>165</b>

Note: These emissions are based on the same aircraft operations as the NAA (see Table 5-2) only with changes in taxi times and runway use during the Proposed Action.  
Source: Ramboll 2022

**Table 5-5. Estimated Change in Operational Emissions due to Proposed Action**

Year	Operational Category	Pollutant (tpy)		
		NO <sub>x</sub>	CO	VOC
2023	Aircraft	21.30	97.24	9.29
	GSE LTO	0.00	0.00	0.00
	APU	0.00	0.00	0.00
	<b>Total</b>	<b>21.30</b>	<b>97.24</b>	<b>9.29</b>
2024	Aircraft	-0.69	-3.55	-0.34
	GSE LTO	0.00	0.00	0.00
	APU	0.00	0.00	0.00
	<b>Total</b>	<b>-0.69</b>	<b>-3.55</b>	<b>-0.34</b>

Note: <sup>1/</sup>Table 5-5 results are the difference between the NAA total operational emissions and the Proposed Action total operational emissions (i.e., data from Table 5-4 minus data from Table 5-2).

<sup>2/</sup> Operational emissions in 2024 are expected to decrease due to changes in runway use and increased availability of aircraft entry points and increased use of the northeast and southeast end around taxiways, which helps reduce overall taxi times.

Source: Ramboll 2022

### 5.2.1.3 Total Emissions

Total emissions fall below the *de minimis* threshold of 50 tpy (Table 5-6). Construction and operational activities would contribute 38.9 tpy NO<sub>x</sub> and 19.1 tpy VOC in 2023 and 10.4 tpy NO<sub>x</sub> 2.6 tpy VOC in 2024. As such, the Proposed Action would not create a substantial adverse effect to air quality.

**Table 5-6. Estimated Proposed Action Construction and Operational Emissions**

Year	Emissions Category	NO <sub>x</sub> (tpy)	VOC (tpy)
2023	On-Road	10.63	1.68
	Non-Road	6.94	0.53
	Fugitives	0.00	7.58
	Aircraft	21.30	9.29
	GSE LTO	0.00	0.00
	APU	0.00	0.00
	<b>Total</b>	<b>38.87</b>	<b>19.08</b>
2024	On-Road	4.23	0.63
	Non-Road	6.88	0.53
	Fugitives	0.00	1.75
	Aircraft	-0.69	-0.34
	GSE LTO	0.00	0.00
	APU	0.00	0.00
	<b>Total</b>	<b>10.42</b>	<b>2.57</b>

Note: Numbers in Table 5-6 are rounded off to one decimal point.

Includes emissions associated with vehicles supporting the batch plant operations.

<sup>2/</sup> Operational emissions in 2024 are expected to decrease due to changes in runway use and increased availability of aircraft entry points and increased use of the northeast and southeast end around taxiways, which helps reduce overall taxi times.

Source: HMMH and Ramboll, 2022

### 5.2.2 Mitigation

Construction and additional operational emissions from the Proposed Action do not exceed the General Conformity Rule applicability *de minimis* levels of 50 tpy for either NO<sub>x</sub> or VOC. Thus, the Proposed Action does not exceed the significance threshold for air quality and mitigation measures for the pollutants VOC and NO<sub>x</sub> (as precursors to O<sub>3</sub> formation) would not be necessary.

The Proposed Action will include construction activities that will result in temporary air quality effects due to tailpipe emissions and fugitive dust. Standard applicable engineering controls and best management practices (BMP) would be implemented to reduce air quality effects. All construction activities would be conducted consistent with all pertinent federal, state, and local laws, regulations, and standards as appropriate and/or adopted by DFW. On-airport construction activities should adhere to the FAA AC 150/5370-10H Standards for Specifying Construction of Airports. Mitigation and control measures are available and would be implemented, as needed, to mitigate construction air quality impacts.

## 5.3 Biological Resources

A significant impact to biological resources would occur when: the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally-listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat. The FAA has not established a significance threshold for non-listed species.

### 5.3.1 No Action Alternative

Under the NAA, there would be no impacts on the biotic communities and wildlife, as no construction or activities would occur.

### 5.3.2 Proposed Action Alternative

Desktop protected species habitat assessments were performed for Runway 17R-35L in Dallas and Tarrant Counties (**Appendix A**). Under the Proposed Action Alternative, no habitat for any of the federally listed species and state-listed species was present within the proposed project area. Therefore, no impacts to the federally- or state-listed threatened or endangered species are anticipated to occur.

### 5.3.3 Mitigation

No mitigation is required for the Proposed Action. Overall, the proposed project area offers little habitat value for most species of wildlife. DFW and contractors will comply with all federal and state regulations regarding protected species.

## 5.4 Climate

According to the 1050.1F Desk Reference (July 2015), the FAA has not determined a specific set of thresholds associated with aviation or commercial space launch GHG emissions and has not determined specific factors in making the significance determination for GHG emissions. The CEQ indicates in the Draft Guidance, *Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* (2010), that, “it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and understand.”



#### 5.4.1 No Action Alternative

With the NAA, the existing conditions at DFW would remain in place. Therefore, there would be no climate impacts not already occurring or expected to occur.

#### 5.4.2 Proposed Action Alternative

A GHG emission inventory was prepared for the Proposed Action; since CO<sub>2</sub> is one of the most potent GHGs, AEDT was used to determine CO<sub>2</sub> emissions from the construction equipment required to support the Proposed Action. **Table 5-7** shows the annual CO<sub>2</sub> emissions summary in metric tons per year, **Appendix E**.

#### 5.4.3 Mitigation

This estimate is provided for informational purposes only; FAA has not identified specific factors to consider in making a significance determination for GHG emissions. There are currently no accepted methods for determining significance applicable to aviation or commercial space launch projects given the small amount of emissions they contribute. Therefore, no mitigation measures are required to mitigate the GHGs attributed to the Proposed Action. DFW will continue to ensure that the Airport and its tenants are operating in an environmentally responsible and sustainable way.

### 5.5 Hazardous Materials, Solid Waste, and Pollution Prevention

According to the FAA Order 1050.1F (February 2020), the FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. Order 1050.1F provides additional factors to consider, such does the action violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials or solid waste management.

#### 5.5.1 No Action Alternative

No impacts from hazardous materials and solid waste are expected as a result of the NAA, as no construction activities would occur. Therefore, there would be no hazardous materials or solid waste impacts not already occurring or expected to occur.

#### 5.5.2 Proposed Action Alternative

##### 5.5.2.1 Hazardous Materials

Construction activities associated with the Proposed Action are expected to include the short-term use of hazardous and non-hazardous materials and generation waste common to construction including reclaimed concrete, concrete wash-out liquids, petroleum hydrocarbon-based fuels, lubricants, oils, paints, and cleaning solvents. These materials would be handled and stored in accordance with all applicable federal, state, or local regulations. DFW will comply with all Federal, State, and local requirements with regard to generation, handling, and disposing of any waste produced during construction. As part of the DFW construction permitting process, DFW will require all contractors to submit detailed waste management reports and abide by those plans along with all applicable regulatory requirements. DFW maintains a Contaminated Media Management Plan (CMMP) that provides information and guidance on potential environmental concerns that may be encountered during the disturbance, excavation and relocation of soils. All activities that involve disturbing or excavating soils will be performed in accordance with the CMMP and other applicable requirements.

**Table 5-7. Estimated Construction GHG Emissions**

Project Type	Project Year	Emissions (tons/year)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	2023	0.03	0.01	1,229	1,235
Airfield Lighting	2023	0.00	0.00	89	90
Drainage System	2023	0.00	0.00	112	113
Fencing	2023	0.01	0.00	322	324
Landscaping	2023	0.00	0.00	132	133
NAVAIDS	2023	0.00	0.00	-	-
Parking Lot	2023	0.06	0.02	2,655	2,667
Rehabilitate Runway	2023	0.03	0.02	1,537	1,544
Runway Drains	2023	0.00	0.00	162	163
Runway Markings	2023	0.00	0.01	166	168
Runway Safety Area	2023	0.00	0.00	-	-
Service Road	2023	0.03	0.01	1,001	1,006
Taxiways	2023	0.02	0.01	787	791
Taxiway Exit	2023	0.03	0.01	926	931
Site Work – 10,000 SF	2023	0.00	0.00	26	26
Demolition - Asphalt	2023	0.01	0.00	489	491
Demolition - Concrete	2023	0.00	0.00	171	171
General Use	2023	0.00	0.00	31	31
Asphalt Plant	2023	0.01	0.01	602	606
Concrete Plant	2023	0.02	0.02	1,204	1,212
<b>2023 Emission Totals</b>		<b>0.28</b>	<b>0.13</b>	<b>11,642</b>	<b>11,701</b>
Access Road	2024	0.00	0.00	76	77
Airfield Lighting	2024	0.00	0.00	64	64
Drainage System	2024	0.01	0.00	214	215
Fencing	2024	0.00	0.00	3	3
Landscaping	2024	0.01	0.00	248	249
NAVAIDS	2024	0.01	0.00	477	479
Parking Lot	2024	0.00	0.01	244	247
Rehabilitate Runway	2024	0.02	0.01	832	837
Runway Drains	2024	0.00	0.00	92	92
Runway Markings	2024	0.00	0.01	216	219
Runway Safety Area	2024	0.01	0.00	431	433
Service Road	2024	0.00	0.00	20	20
Taxiways	2024	0.02	0.01	700	703
Taxiway Exit	2024	0.01	0.00	242	243
Site Work – 10,000 SF	2024	0.00	0.00	25	25
Demolition - Asphalt	2024	0.00	0.00	140	141
Demolition - Concrete	2024	0.00	0.00	69	69
General Use	2024	0.00	0.00	19	19
Asphalt Plant	2024	0.01	0.01	533	536
Concrete Plant	2024	0.02	0.02	1,065	1,073
<b>2024 Emission Totals</b>		<b>0.12</b>	<b>0.10</b>	<b>5,710</b>	<b>5,746</b>

Source: Runway Rehabilitation 17R/35L, Ramboll Emission Inventory Summary, February 2022

#### 5.5.2.2 Solid Waste:

Solid waste would be generated from construction and demolition debris associated with the proposed runway rehabilitation project. The Proposed Action would neither generate an unmanageable volume of solid waste nor affect DFW's existing solid waste management program. This solid waste would be disposed of in compliance with all applicable regulations. Waste management and disposal facilities are available in the Dallas Fort Worth area to accommodate the proper disposal of solid waste. There are several active, permitted landfills near DFW. Recycling of materials from demolition activities would be utilized to the extent possible.

#### 5.5.2.3 Pollution Prevention:

A Spill Prevention, Control, and Countermeasures (SPCC) Plan would be developed to document the measures that will be taken to prevent accidental release of any hazardous or regulated substances to the environment. In the event of a release, the SPCC would also include the corrective actions that would be deployed to minimize the environmental impact. Furthermore, appropriate materials management measures would be followed to prevent pollution and to minimize the use and manage disposal of hazardous and non-hazardous substances. With these measures, no significant impacts related to hazardous materials would occur as a result of the Proposed Action.

#### 5.5.3 Mitigation

No significant impacts related to hazardous materials or solid waste would occur as a result of the Proposed Action because the Proposed Action would not have the potential to 1) violate applicable laws and regulations; (2) the Proposed Action does not involve a site listed on the National Priorities List; (3) the Proposed Action does not produce an appreciably different quantity or type of hazardous waste; (4) generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would not exceed local capacity; or (5) adversely affect human health and the environment.

DFW will comply with all federal, state, and local requirements with regard to generation, handling, and disposing of any waste produced during the construction of the proposed project. As part of the DFW Airport construction permitting process, DFW Airport will require all contractors to submit detailed soil management and waste management plans and abide by those plans along with all applicable regulatory requirements. The contractor will develop a waste management plan and any contaminated media encountered during the construction of Proposed Action will be handled in accordance with the CMMP. All activities that involve disturbing or excavating soils will be performed in accordance with all federal, state, and local regulations.

If deemed necessary, asbestos abatement activities will be monitored by an Asbestos Inspector licensed by the Texas Department of State Health Services (DSHS) to aid identification methods and procedures. The construction contractor would take appropriate measures to prevent, minimize, and control spills and release of hazardous materials in the construction staging yards and throughout the project area. Special provisions and contingency language would be included in the project's construction plans and specifications to manage hazardous materials and/or petroleum contaminated media according to applicable Federal, state, and local regulations.

The Proposed Action would not have a significant impact on solid waste collection, landfill capacity, and waste disposal operations; therefore, mitigation is not required.

## **5.6 Historical, Architectural, Archeological, and Cultural Resources**

According to the FAA Order 1050.1F (February 2020), the FAA has not established a significance threshold for historical, architectural, archeological, and cultural resources. Another factor to consider would be a result of an Adverse Effects finding through the NHPA Section 106 process; this does not necessarily involve the preparation of an EIS.

### **5.6.1 No Action Alternative**

Under the NAA, no impacts would occur to cultural resources because no construction or other activities would occur to potentially disturb cultural resources.

### **5.6.2 Proposed Action Alternative**

A cultural resources desktop analysis was completed for the Proposed Action (**Appendix C**). Based on the results of this desktop analysis and previous investigations, the proposed project area has been exposed to previous ground disturbance and contains a low potential for containing either prehistoric or historic-age cultural resources. Currently, findings of this analysis are under THC review.

### **5.6.3 Mitigation**

No mitigation measures are proposed for historic or archeological resources. If any cultural resources are unearthed during construction, the operators should immediately stop construction activities in that area. The project environmental consultant should then be contacted to initiate further consultation with THC prior to resuming construction activities.

## **5.7 Natural Resources and Energy Supply**

In accordance with FAA Order 1050.1F Desktop Reference (February 2020), the proposed action alternatives and connected actions were examined to identify any resulting measurable effects on local supplies of natural resources or energy. FAA Order 1050.1F (July 2015) does not establish any significance thresholds for natural resources or energy supply. The Order requires that the Proposed Action and any connected actions be evaluated to identify any major changes that would have measurable effect on local supplies of natural resources or energy. However, the Order states that the use of natural resources other than for fuel, be examined, only if the action involves the need for unusual materials or those that are in short supply. The Order further states that for most actions, changes in energy demands or other natural resource consumption, will not result in significant impacts.

### **5.7.1 No Action Alternative**

Under the NAA, there would be no additional energy demand as no construction or other activities would occur.

### **5.7.2 Proposed Action Alternative**

Under the Proposed Action Alternative, there would be an increase in energy demand. The proposed Runway 17R/35L improvements would include additional lighting systems and signage, which would increase electric power usage. However, there is sufficient capacity, and the local distribution infrastructure is expected to accommodate the increased demand. DFW Airport is a carbon neutral airport and uses 100 percent renewable energy for all its energy needs; thus, the increase in energy demand would not affect the state's electric grid nor put a burden on energy resource at DFW. No significant energy supply impacts are expected. In addition, no impacts to the existing energy infrastructure are anticipated.

During construction of the Proposed Action, a temporary increase in fuel consumption is expected. However, no significant fuel supply impacts are expected.

### 5.7.3 Mitigation

No significant energy or natural resource impacts area are anticipated. DFW will continue energy efficient and sustainable designs during the design of project.

## 5.8 Noise and Noise Compatible Land Uses

According to FAA guidelines from the FAA Order 1050.1F (February 2020), the significance threshold for noise is presented in the following statement:

*The action would increase noise by DNL 1.5dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65dB level due to a DNL 1.5dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB. The determination of significance must be obtained through the use of noise contours and/or grid point analysis along with local land use information and general guidance contained in Appendix A of 14 CFR Part 150. Compatible or non-compatible land use is determined by comparing aircraft DNL value at the site to the values in the FAA Part 150 land use compatibility guidelines.*

### 5.8.1 Noise Analysis

The Proposed Action the rehabilitation of Runway 17R/35L and its shoulders, upgrades to the electrical systems and components, and a full asphalt overlay. A noise exposure analysis was conducted to determine the noise effects of the Proposed Action. Noise contours and a grid point analysis were used to determine average annual DNL at locations around DFW.

The noise analysis compares the NAA and Proposed Action using FAA's thresholds of significance. When an action (compared to the NAA for the same timeframe) would cause noise-sensitive areas to have a DNL greater than or equal to 65 dB and experience a noise increase of at least 1.5 dB, the impact is considered significant. For example, an increase from the NAA 65.5 DNL to the Proposed Action 67 DNL is considered a significant impact, as is an increase from the NAA 63.5 DNL to the Proposed Action 65 DNL.

Aircraft noise levels were evaluated and compared between the future construction period NAA and Proposed Action (2023 and 2024) to determine the effect of the shift in runway utilization, during the closure. The noise analysis was prepared using existing and forecast operational data for DFW and AEDT Version 3d in compliance with FAA Order 1050.1F and FAA Order 5050.4B.

#### 5.8.1.1 Forecast

The Runway 17R/35L Rehabilitation will be completed in four construction phases, Phases 2, 3, and 4 involve reduced length or full runway closures and are the subject of the noise analysis. Phase 1 work is all the preparation and staging (not impacting runway operations) needed to begin Phase 2. The three construction phases span across the 2023 to 2024 calendar year period. The three phases modeled for the EA will cover 13 months from April 2023 to April 2024.

- Phase 2 – Runway 35L end closure - April 2023 to June 2023 (3 months)
- Phase 3 – Full Closure - July 2023 to December 2023 (6 months)
- Phase 4 – Runway 17R end closure – January 2024 to April 2024 (4 months)

The study team obtained the FAA 2020 Terminal Area Forecast (TAF) released in May 2021 for DFW and the DFW Aviation Activity Forecast (AAF) published in June 2019. The FAA TAF includes the effects of the COVID-19 pandemic and the AAF does not as it was released prior to the pandemic. Therefore, this EA compares the FAA TAF and the DFW's AAF published in June 2019 for existing and future study years. The comparison demonstrated that existing operations for DFW ending 30 September 2021 were over 17 percent higher than the FAA TAF for FY2021

but 16 percent below the AAF FY2021 forecast. The TAF includes a slower return to pre-COVID levels for DFW, whereas the AAF continues to forecast an increase in operations from the FY 2021 levels. Due to the faster return to operation levels at DFW and the uncertainty in future schedules due to COVID-19 the forecast for this EA will use the TAF forecast with an increase of 5 percent for the Commercial Operations (Air Carrier and Air Taxi) in the TAF. Further details on the forecast development can be found in **Appendix D**.

The NAA and Proposed Action for the EA will have the same level of operations for both conditions. Using the TAF data which are based on a Fiscal Year (FY), DFW developed a forecast to cover the 13-month period of this EA. Phase 2 and 3 months of Phase 3 occur in FY 2023 and the remaining 3 months of Phase 3 and Phase 4 occur in FY 2024. **Table 5-9** provides the proposed level of operations to be modeled for this EA. The 13-month construction period operations were derived by dividing the fiscal year total by 12 months and then combining 6 months (April – September) of the 2023 fiscal year and 7 months (October – April) of the 2024 fiscal year. For the EA, an annualized set of data is required by FAA, the 13-month data was then annualized by dividing the total by 13 months and then multiplying by 12 months, as shown following and in **Table 5-9**.

$$(13\text{-month total} / 13) * 12 = 12\text{-month annualized total}$$

**Table 5-8. Forecast NAA and Proposed Action Alternative Operations**

Period	Air Carrier	Air Taxi	Total Commercial	General Aviation	Military	Total
FY 2023 – 6 months	307,835	14,021	321,856	3,393	106	325,355
FY 2024 – 7 months	388,465	13,779	402,245	3,971	124	406,339
13-month Total	696,300	27,801	724,101	7,364	230	731,694
12-month Annualized Total	642,739	25,662	668,401	6,797	212	675,410

Source: FAA OPSNET, FAA 2020 TAF, HMMH

#### 5.8.1.2 Aircraft Fleet Mix and Operations by Time of Day

The 675,410 annual operations translate to 1,845 average annual day (AAD)<sup>1</sup> operations to be modeled for the 2023/2024 NAA and Proposed Action noise analysis. **Table 5-10** provide representative aircraft and engine combinations and the number of average daily operations that were modeled in AEDT for the Future (2023/2024) NAA and Proposed Action Alternative. The future fleet mix includes a reduction in Air Taxi fleet operations (reduction in 50 seat and smaller regional jets) compared to the existing conditions and changes in the Air Carrier fleet mix (the retirement of the older louder MD83 and introduction of the quieter 737 MAX aircraft).

The future AAD includes 1,845 total operations, 10.8 percent of which occurred during the DNL nighttime hours of 10:00 p.m. to 6:59 a.m. See **Appendix D** for the detailed assumptions and methodology used to complete the noise modeling.

#### 5.8.2 No Action Alternative

Under the NAA, the runway rehabilitation project would not occur and there would be no changes to the typical runway use at DFW for 2023/2024.

##### 5.8.2.1 Aircraft Activity Levels and Fleet Mix:

The number of operations and fleet mix for the Future No Action Alternative are the same as shown in **Table 5-10**.

<sup>1</sup> February 2024 is a leap year so the total operations are divided by 366 days to get an average annual day.



**Table 5-9. DFW Modeled AAD Aircraft Operations  
for NAA and Proposed Action Alternative (2023/2024)**

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	Jet	717200	2	<1	2	2	<1	2	5
		737700	14	1	16	15	<1	16	32
		737800*	159	16	175	159	16	175	350
		7378MAX	2	<1	2	2	<1	2	4
		747400	2	1	3	1	2	3	6
		7478	<1	<1	2	<1	<1	2	3
		757PW	<1	3	3	<1	3	3	6
		757RR	<1	2	3	<1	3	3	6
		767300	1	<1	1	<1	<1	1	3
		7673ER	3	3	6	4	2	6	12
		767CF6	1	<1	2	1	<1	2	4
		777200	11	3	14	13	<1	14	29
		777300	<1	1	2	1	1	2	4
		7773ER	5	1	6	6	<1	6	12
		7878R	13	3	16	15	<1	16	32
		A300-622R	3	2	5	2	2	5	10
		A319-131	89	10	99	89	10	99	198
		A320-211	23	4	26	23	4	26	53
		A320-232	30	6	36	32	4	36	73
		A320-271N	<1	<1	<1	<1	<1	<1	1
		A321-232	157	18	175	157	17	175	349
		A350-941	<1	0	<1	<1	0	<1	1
		A380-841	<1	<1	<1	<1	<1	<1	2
		DC1010	<1	<1	1	<1	<1	1	2
		EMB190	2	<1	2	2	<1	2	3
		MD11GE	<1	<1	2	1	<1	2	3
		MD11PW	2	2	3	2	1	3	7
	Regional Jet	CRJ9-ER	149	10	160	147	13	160	319
		EMB170	91	7	98	90	8	98	195
		EMB175	15	2	17	14	3	17	33
	Subtotal			779	99	878	783	95	878
Air Taxi	Regional Jet	CL600	1	<1	1	1	<1	1	3
		EMB14L	30	2	32	30	2	32	63
	Non-jet	1900D	<1	<1	<1	<1	<1	<1	1
		CNA208	<1	<1	1	<1	<1	1	2
		DHC6	<1	<1	<1	<1	<1	<1	<1
	Subtotal			33	2	35	32	3	35
General Aviation	Jet	CL600	<1	0	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1
		CNA750	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	0	<1	<1	0	<1	<1	<1
		GV	<1	0	<1	<1	0	<1	<1
		LEAR35	<1	<1	<1	<1	<1	<1	<1
	Non-jet	CNA208	7	<1	7	7	<1	7	14
		DHC6	1	<1	1	1	<1	1	3
Subtotal			9	<1	9	9	<1	9	19
Grand Total			822	101	923	824	99	923	1,845

Note: Totals may not match exactly due to rounding. \*ANP Type 737800 represents both B738 and B739 operations, which account for 98 percent and 2 percent, respectively.

Source: FAA TAF, HMMH, 2022

### 5.8.2.2 Runway Utilization

DFW has two main runway complexes: the east side and west side, comprised of seven runways; four to the east and three to the west. Aircraft typically arrive on the outermost main north/south runways as well as some of the outboards and depart on the innermost runways main north/south runways (inboards). DFW typically uses its north/south runways for most arrivals and departures. Historic data shows that DFW is operated in one of two main operating configurations—south flow (departing to the south and arriving from the north) approximately 70 percent and north flow (departing to the north and arriving from the south) approximately 30 percent. Runway end utilization for the Future (2023/2024) NAA is like the existing conditions (see **Table 4-7**) except the overall use was adjusted to be 70 percent south flow and 30 percent north flow. Arrivals to Runway 17C/35C were increased, arrivals to 17L/35R were decreased, and departures from 31L was increased to reflect historical use of those runways.

At DFW the outboard runways (Runways 17L/35R, 13R/31L and 13L/31R) were open until 11.00 p.m. The runway percentage use for day and night includes the assumption that the outboard runways (Runway 17L/35R, 13L/31R and 13R/31L) are not typically used after 10 p.m. or before 6 a.m. Nighttime operations (per FAA, nighttime operations are defined as 10:00 p.m. to 6:59 a.m.) runway utilization includes the predominant use of the main runways for arrivals and departures. **Table 5-11** provides the breakdown by time of day for arrivals and departures. Detailed runway utilization by aircraft type is available in **Appendix D**.

### 5.8.2.3 Flight Tracks

Flight track locations and percent utilization for the Future (2023/2024) NAA would be expected to be the same as the Existing Conditions (see **Section 4.10.4.3**).

### 5.8.2.4 Aircraft Stage Length and Operational Profiles

The trip lengths flown from DFW for the Future (2023/2024) NAA is not expected to change from existing conditions (see **Section 4.10.4.4**).

**Table 5-10. DFW Runway Utilization Summary - NAA**

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	2.9%	<0.1%	2.6%	<0.1%	0.0%	<0.1%
17C	28.1%	25.0%	27.8%	0.5%	1.8%	0.6%
17L	9.1%	0.9%	8.2%	0.0%	<0.1%	<0.1%
17R	0.3%	11.6%	1.5%	39.0%	30.5%	38.1%
18L	0.8%	6.9%	1.4%	30.5%	31.1%	30.6%
18R	28.9%	24.7%	28.4%	0.2%	5.8%	0.8%
31L	<0.1%	0.0%	<0.1%	0.6%	<0.1%	0.5%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	8.3%	11.4%	8.6%	0.2%	0.6%	0.2%
35L	<0.1%	3.9%	0.5%	15.3%	13.5%	15.1%
35R	7.7%	1.1%	7.0%	<0.1%	0.0%	<0.1%
36L	12.6%	11.1%	12.4%	<0.1%	2.3%	0.3%
36R	0.4%	3.3%	0.7%	13.7%	14.3%	13.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: DFW NOMS, HMMH, 2022.

#### 5.8.2.5 Future (2023/2024) NAA Noise Exposure Contours

**Table 5-12** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the NAA. Approximately 11.25 square miles of land fall within the NAA (2023/2024) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.47 square miles exposed to 65 DNL or higher, is located off-DFW (the remaining 10.78 square miles are located on DFW property). **Table 5-12** summarizes the areas of noise exposure within each noise contour level (65 DNL, 70 DNL and 75 DNL noise contours) for the NAA. **Figure 5-1** shows the annual noise exposure pattern at DFW for the NAA (also refer to **Appendix D**). Noise contours are presented for the 65 DNL, 70DNL, and 75 DNL.

**Table 5-11. Estimated Land Area within NAA (2023/2024) Noise Exposure Contour**

Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
DNL 65-70 dB	6.52	0.42	6.94
DNL 70-75 dB	2.10	0.05	2.15
DNL 75+ dB	2.16	0.00	2.16
<b>Total</b>	<b>10.78</b>	<b>0.47</b>	<b>11.25</b>

Source: HMMH, 2022

Similar to existing conditions, the size and shape of the noise exposure contours are reflective of the south and north flow at DFW. Noise contour patterns extend from DFW along each extended runway centerline, reflective of the flight tracks used by all aircraft. The relative distance of a contour from DFW along each route is a function of the frequency of use of each runway end for total aircraft arrivals and departures, and the type of aircraft assigned to the respective runways.

**Figure 5-1** provides the resultant DNL contours for the Future NAA. In the Future NAA, the DNL contours extend away from DFW on the northside in two main lobes along the extended centerline of the outboard parallel runway extending off DFW property to just north of Bethel Road, and on the southside in two main lobes along the extended centerline of the outboard parallel runway but remaining on DFW property. The 70 DNL contour for the Future NAA includes no noise sensitive land use and does not leave DFW property.

#### 5.8.2.6 Noise Compatible Land Use

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the contours. Furthermore, there no single family, multi-family, or manufactured housing within any of the Future NAA (2023/2024) noise contours (**Figure 5-2**).

#### 5.8.3 Proposed Action Alternative

The Proposed Action is comprised of the rehabilitation of Runway 17R/35L and its shoulders, upgrades to the electrical systems and components, and a full asphalt overlay. The Proposed Action would cause temporary changes in runway use, during construction only. The proposed runway closures would potentially result in temporary changes in aircraft noise for some communities near the airport. One Future year (2023/2024) Proposed Action Alternative was used to analyze the construction phasing schedule, in terms of noise impacts based on the anticipated runway end closures, full runway closure and overall project schedule.



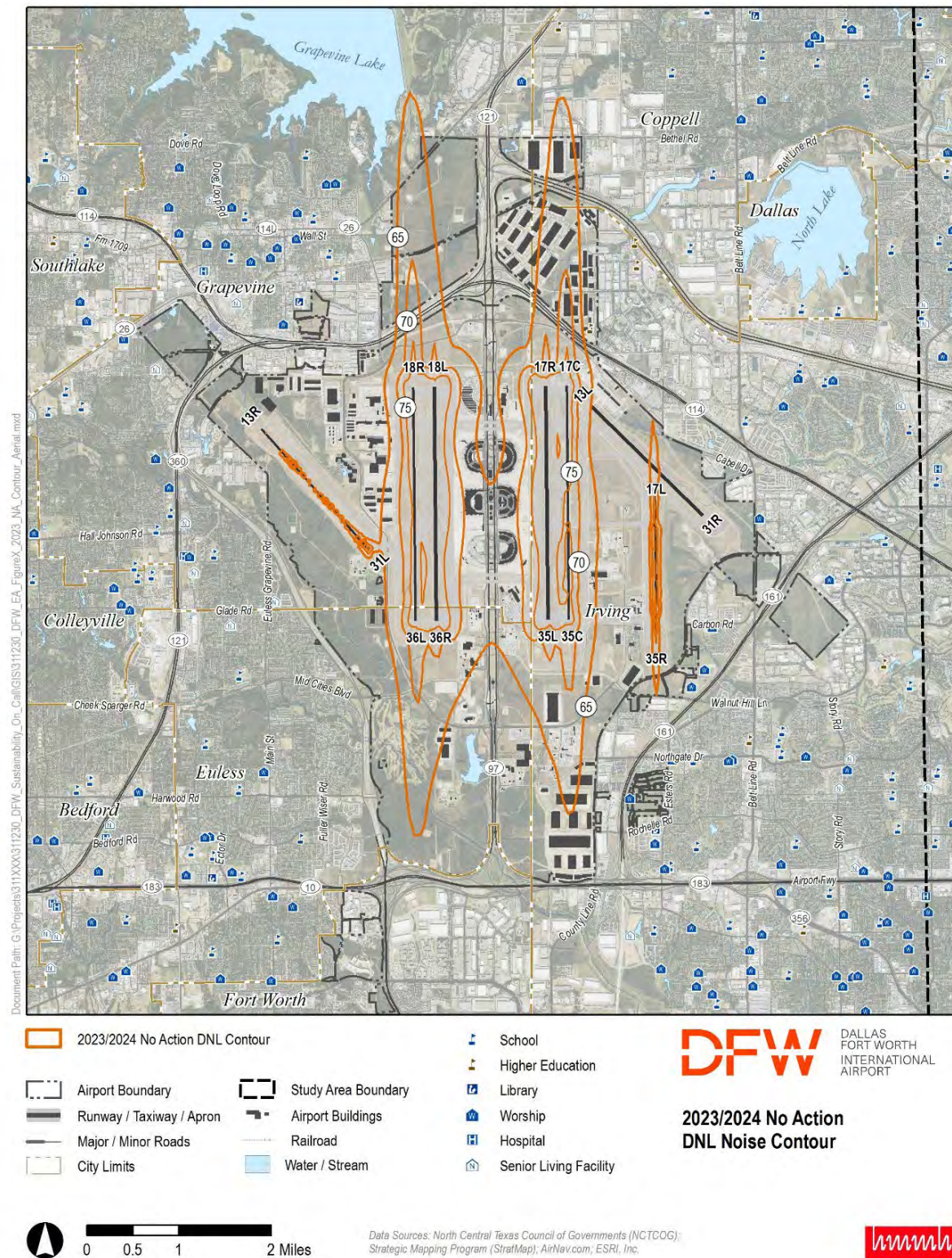
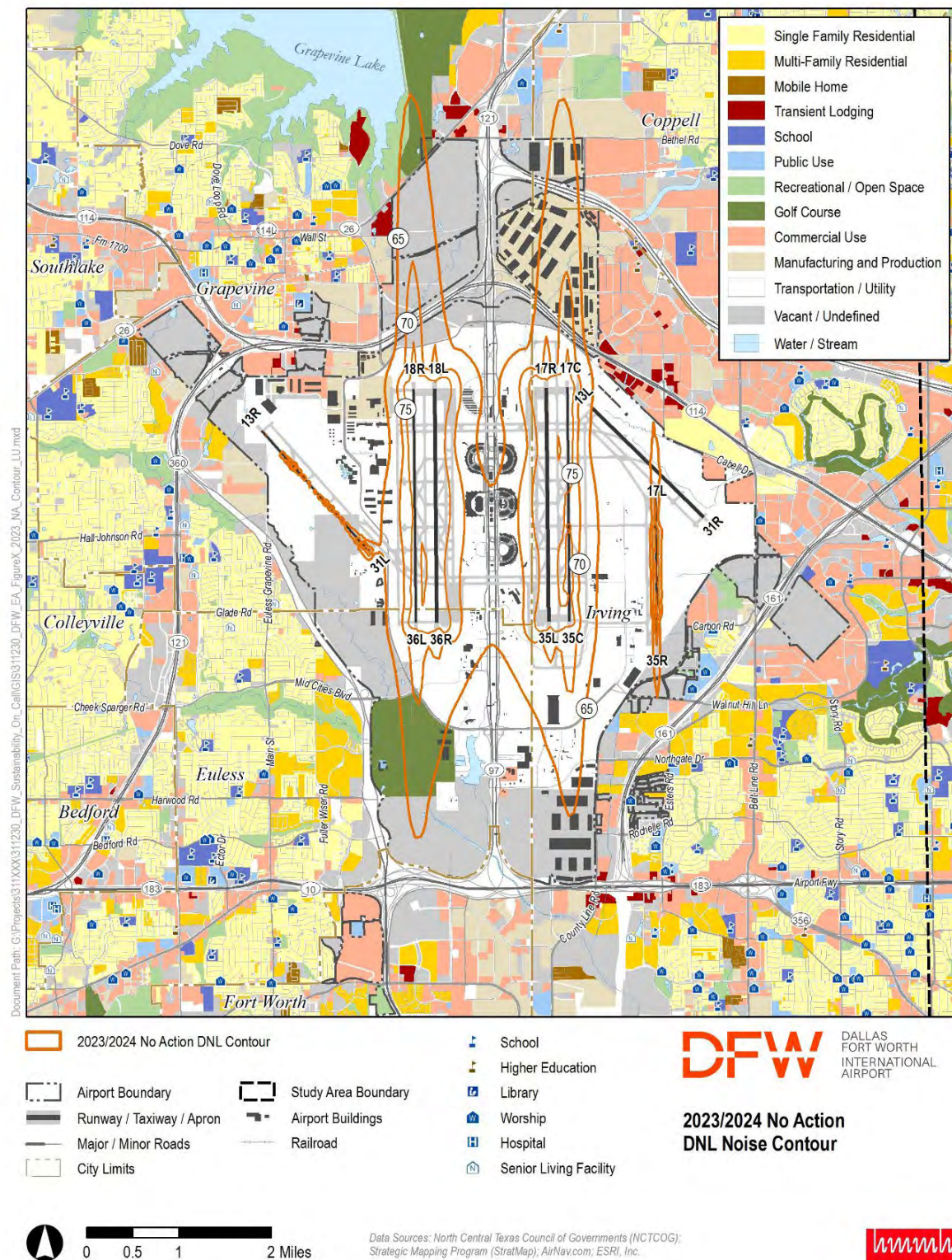


Figure 5-1. NAA (2023/2024) Noise Exposure Contours





**Figure 5-2. NAA (2023/2024) Noise Exposure Contour with Land Use**



The 17R/35L runway rehabilitation will be completed in four construction phases, Phases 2, 3, and 4 involve reduced length or full runway closures and are the subject of the Proposed Action Alternative. Phase 1 work is all the preparation and staging (not impacting runway operations) needed to begin Phase 2. The three construction phases span across the 2023 to 2024 calendar year period. The three phases modeled for the EA will cover a total of 13 months from April 2023 to April 2024.

- Phase 2 – Runway 35L end closure - April 2023 to June 2023 (3 months)
- Phase 3 – Full Closure - July 2023 to December 2023 (6 months)
- Phase 4 – Runway 17R end closure – January 2024 to April 2024 (4 months)

During Phase 2, the Runway 35L end will be closed reducing the length of the runway from 13,400 feet to 9,276 feet and during Phase 4 the Runway 17R end will be closed reducing the length of the runway from 13,400 feet to 9,426 feet.

#### 5.8.3.1 Aircraft Activity Levels and Fleet Mix

No change to the number of aircraft operations or fleet mix would occur as a result of the Proposed Action. Therefore, the number of operations and fleet mix for the Proposed Action Alternative would be the same as the NAA.

#### 5.8.3.2 Runway Utilization

While Runway 17R/35L would experience a partial or full closure for rehabilitation, the Future (2023/2024) Proposed Action Alternative would have the same runway definitions as discussed for the existing conditions, except during Phases 2 and 4 where the runway length will be reduced. It is anticipated that the runway end utilization would change during the period of implementing the Proposed Action. The NAA runway use was adjusted for each construction phase for the Proposed Action.

Phase 2 will close the Runway 35L end of the runway resulting in a reduced runway length of 9,276 feet. Any heavy aircraft that would normally depart from Runway 17R/35L will use Runway 17C/35C instead. To account for this, narrowbody departures will increase on Runway 17R/35L resulting in the same usage as the No Action Alternative. Arrivals to Runway 35L will not be permitted during this period and will use Runway 35C instead. **Table 5-14** provides the breakdown by time of day for arrivals and departures for Phase 2 of the Proposed Action Alternative.

**Table 5-12. DFW Runway Utilization Summary Phase 2 Proposed Action Alternative**

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	2.9%	<0.1%	2.6%	<0.1%	0.0%	<0.1%
17C	28.0%	26.1%	27.8%	1.0%	5.7%	1.5%
17L	9.1%	0.9%	8.2%	0.0%	<0.1%	<0.1%
17R	0.3%	12.1%	1.6%	39.1%	29.3%	38.1%
18L	0.8%	7.0%	1.4%	29.9%	29.1%	29.8%
18R	28.7%	25.3%	28.4%	0.2%	5.1%	0.7%
31L	0.0%	0.0%	0.0%	0.6%	<0.1%	0.6%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	8.7%	12.6%	9.2%	0.3%	2.4%	0.5%
35L	0.0%	0.0%	0.0%	15.3%	13.0%	15.1%
35R	7.7%	1.1%	7.0%	<0.1%	0.0%	<0.1%
36L	12.5%	11.4%	12.4%	<0.1%	1.9%	0.2%
36R	0.4%	3.4%	0.7%	13.5%	13.4%	13.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: DFW NOMS, HMMH, 2022.

Phase 3 will close the Runway 17R/35L completely resulting in operations being shifted to other runways. All departures from Runway 17R/35L will use Runway 17C/35C instead. To account for this, arrivals to Runway 17C/35C will shift to other runways. **Table 5-15** provides the breakdown by time of day for arrivals and departures for Phase 3 of the Proposed Action Alternative.

**Table 5-13. DFW Runway Utilization Summary Phase 3 Proposed Action Alternative**

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	5.8%	0.2%	5.2%	<0.1%	0.0%	<0.1%
17C	0.0%	0.0%	0.0%	39.5%	32.3%	38.7%
17L	17.7%	11.9%	17.0%	0.0%	<0.1%	<0.1%
17R	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
18L	0.8%	6.9%	1.4%	30.5%	31.1%	30.6%
18R	45.9%	46.6%	46.0%	0.2%	5.8%	0.8%
31L	<0.01%	0.0%	<0.01%	2.8%	2.0%	2.8%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	4.2%	7.6%	4.6%	9.3%	8.7%	9.3%
35L	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
35R	11.9%	8.7%	11.5%	<0.1%	0.0%	<0.1%
36L	12.6%	11.1%	12.4%	<0.1%	2.3%	0.3%
36R	0.4%	3.3%	0.7%	17.6%	17.7%	17.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: DFW NOMS, HMMH, 2022.

Phase 4 will close the Runway 17R end of the runway resulting in a reduced runway length of 9,426 feet. Any heavy aircraft that would normally depart from Runway 17R/35L will use Runway 17C/35C instead. To account for this, narrowbody departures will increase on Runway 17R/35L resulting in the same usage as the No Action Alternative. Arrivals to Runway 17R will not be permitted during this period and will use Runway 17C instead. **Table 5-16** provides the breakdown by time of day for arrivals and departures for Phase 4 of the Proposed Action Alternative. Detailed runway utilization by aircraft type is available in **Appendix D**.

**Table 5-14. DFW Runway Utilization Phase 4 Proposed Action Alternative**

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	2.9%	<0.1%	2.6%	<0.1%	0.0%	<0.1%
17C	28.4%	36.5%	29.3%	2.4%	4.0%	2.6%
17L	9.1%	0.9%	8.2%	0.0%	<0.1%	<0.1%
17R	0.0%	0.0%	0.0%	39.1%	30.3%	38.1%
18L	0.8%	6.9%	1.4%	28.6%	29.2%	28.6%
18R	28.9%	24.7%	28.4%	0.2%	5.8%	0.8%
31L	<0.01%	0.0%	<0.01%	0.6%	<0.1%	0.5%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	8.3%	11.4%	8.6%	0.9%	1.8%	1.0%
35L	<0.1%	3.9%	0.5%	15.3%	13.2%	15.1%
35R	7.7%	1.1%	7.0%	<0.1%	0.0%	<0.1%
36L	12.6%	11.1%	12.4%	<0.1%	2.3%	0.3%
36R	0.4%	3.3%	0.7%	12.8%	13.5%	12.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: DFW NOMS, HMMH, 2022.

#### 5.8.3.3 Flight Tracks

Flight track locations and percent utilization for the Future (2023/2024) Proposed Action Alternative would be expected to be the same as the existing conditions (see **Section 4.10.4.3**).

#### 5.8.3.4 Aircraft Stage Length and Operational Profiles

The trip lengths flown from DFW for the Future (2023/2024) Proposed Action Alternative is not expected to change from Existing Conditions (see **Section 4.10.4.4**).

### 5.8.3.5 Future (2023/2024) Proposed Action Alternative Noise Exposure Contours

Each phase representing that portion of the rehabilitation project was modeled in AEDT and then combined to generate a complete Proposed Action Alternative contour set. **Table 5-17** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the Proposed Action Alternative. Approximately 11.48 square miles of land fall within the Proposed Action Alternative (2023/2024) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.62 square miles exposed to 65 DNL or higher, is located off-Airport (the remaining 10.86 square miles are located on DFW property). **Table 5-17** summarizes the areas of noise exposure within each noise contour level (65 DNL, 70 DNL, and 75 DNL noise contours) for the Proposed Action Alternative.

**Table 5-15. Estimated Land Area within the Proposed Action Alternative (2023/2024) Noise Exposure Contours**

Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
DNL 65-70 dB	6.37	0.57	6.94
DNL 70-75 dB	2.18	0.05	2.23
DNL 75+ dB	2.31	0.00	2.31
Total	<b>10.86</b>	<b>0.62</b>	<b>11.48</b>

Source: HMMH, 2022

Similar to existing conditions, the size and shape of the noise exposure contours are reflective of the south and north flow at DFW. Noise contour patterns extend from DFW along each extended runway centerline, reflective of the flight tracks used by all aircraft. The relative distance of a contour from DFW along each route is a function of the frequency of use of each runway end for total aircraft arrivals and departures, and the type of aircraft assigned to the respective runways.

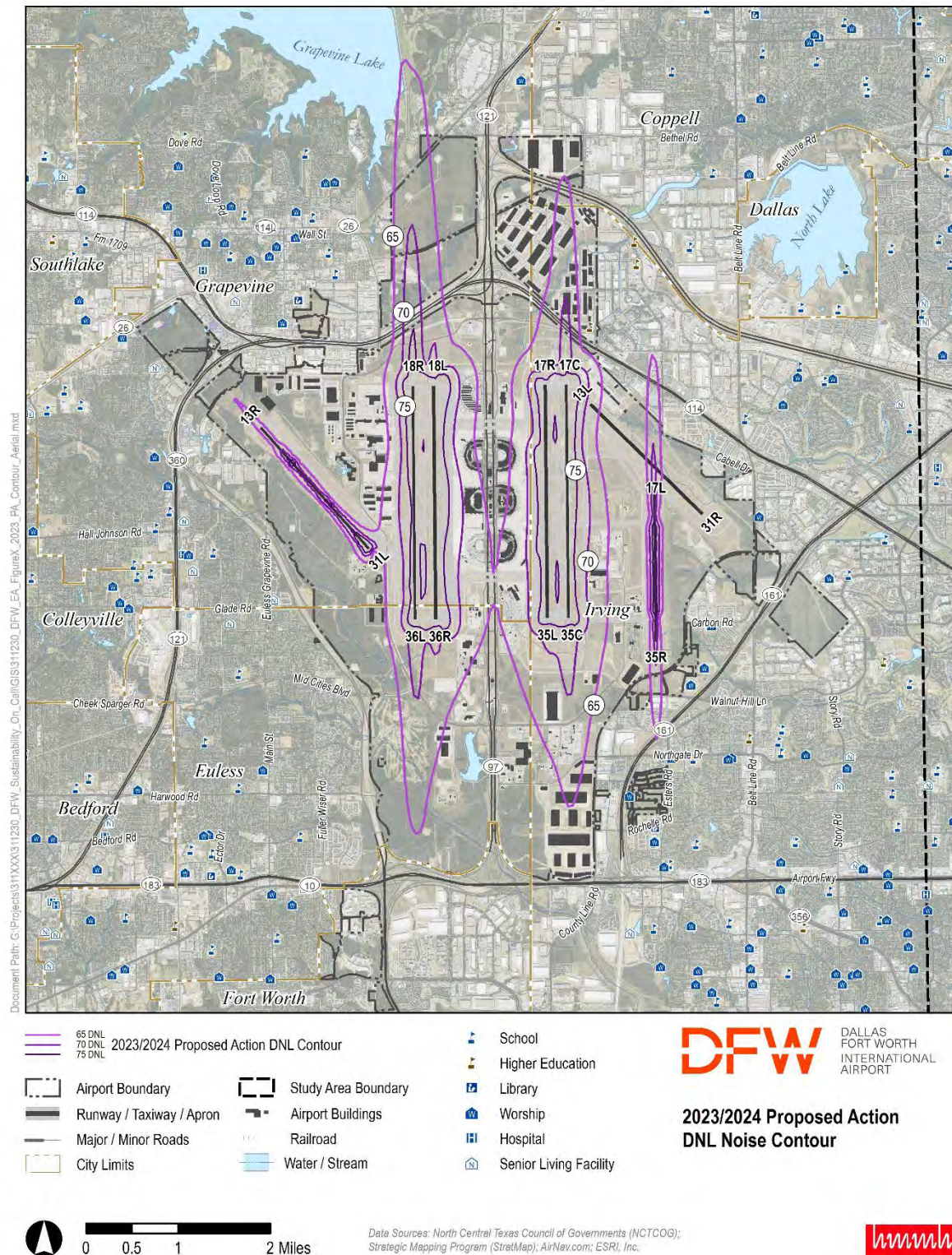
**Figure 5-3** shows the annual noise exposure pattern at DFW for the Proposed Action Alternative (also refer to **Appendix D**). Noise contours are presented for the 65 DNL, 70 DNL, and 75 DNL. In the Proposed Action Alternative, the DNL contours extend away from DFW on the north side in two main lobes along the extended centerline of the outboard parallel runway extending off airport on the west side to Grapevine Lake and on the east side to just past Interstate Highway 635. On the south side, the contour extends in two main lobes along the extended centerline of the outboard parallel runways but remains on airport property. The 65 DNL does extend off airport property north of Runway 17L over compatible land use and south of Runway 35R over multi-family residential land use. The 70 DNL contour for the Proposed Action Alternative does not include noise sensitive land use and does not leave airport property.

### 5.8.3.6 Noise Compatible Land Use

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the contours. Furthermore, there no single family, or manufactured housing within any of the Proposed Action Alternative (2023/2024) noise contours. There is one area south of Runway 17L/35R where the 65 DNL extends off airport property and over residential (multi-family) land use. This results in 221 housing units (with 401<sup>2</sup> people) exposed to 65 DNL or higher due to the Proposed Action (**Figure 5-4**). The increase in noise over this residential area is 2.4 dB and is considered a temporary significant impact. This area would be exposed to the higher DNL levels for approximately 6 months during the full runway closure portion of the project (Phase 3).

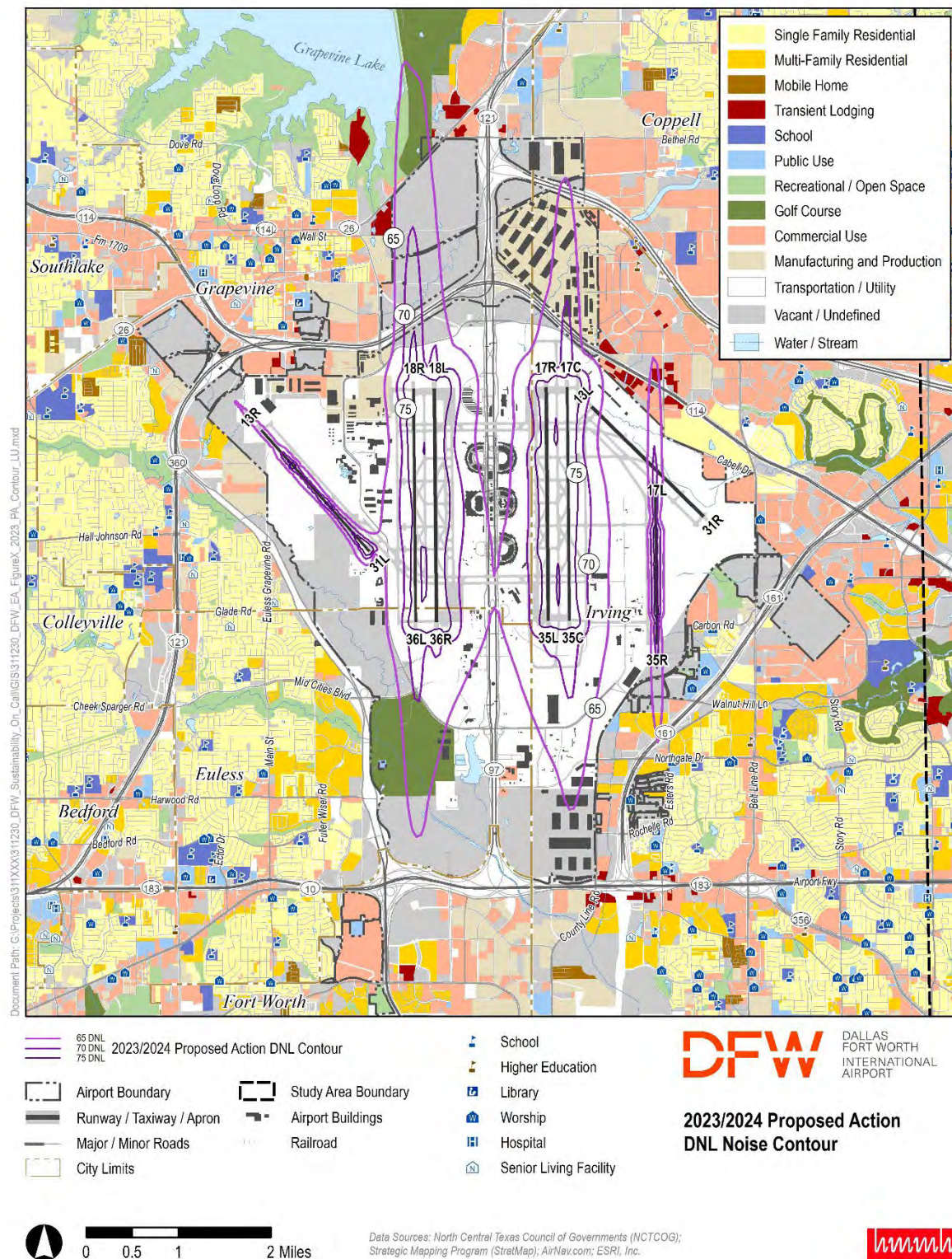
<sup>2</sup> The total number of people is based on census block data stating that the occupancy for this block is 1.81 persons per unit.





**Figure 5-3. Proposed Action Alternative (2023/2024) Noise Exposure Contours**





**Figure 5-4. Proposed Action Alternative  
(2023/2024) Noise Exposure Contours with Land Use**



**Table 5-18** summarizes the residential population and housing units affected by noise levels exceeding 65 DNL for the Proposed Action Alternative (2023/2024) noise exposure contours.

**Table 5-16. Non-Compatible Land Use  
Housing and Population -Proposed Action Alternative (2023/2024)**

Category	Type	DNL 65-70 dB	DNL 70-75 dB	DNL 75+ dB	DNL 65+ dB
Housing	Single-Family Residential	0	0	0	0
	Multi-Family Residential	221	0	0	221
	Manufactured Housing	0	0	0	0
	Total Housing Units	221	0	0	221
Population	Single-Family Residential	0	0	0	0
	Multi-Family Residential	401	0	0	401
	Manufactured Housing	0	0	0	0
	Total Population	401	0	0	401

NOTE: Population numbers are estimates based on the 2020 United States Census block data (1.81 person per unit).

Source: HMMH, 2022

#### 5.8.4 Comparison Between the NAA and Proposed Action Alternative

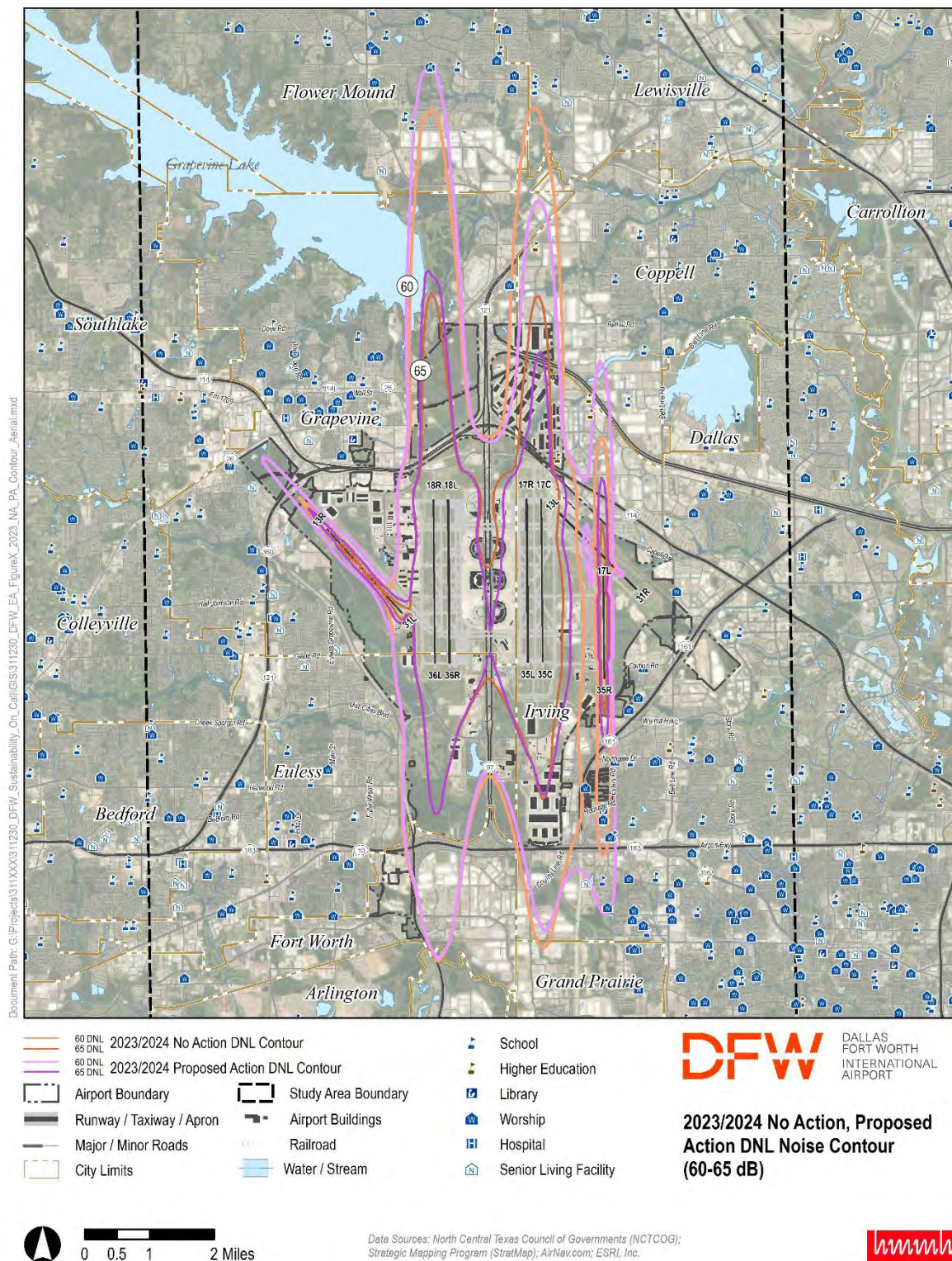
**Table 5-19** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the NAA and Proposed Action Alternatives. The noise exposure analysis results showed a slight increase in the estimated on and off-airport land area; this was due to the changes in runway utilization during the Proposed Action. The noise analysis results showed that the Proposed Action would increase the estimated land area within the DNL 65+ dB noise exposure contour as compared to the NAA.

**Table 5-17. Estimated Land Area within  
Future (2023/2024) Noise Exposure Contour Alternatives**

Alternative	Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
No Action	DNL 65-70 dB	6.52	0.42	6.94
	DNL 70-75 dB	2.10	0.05	2.15
	DNL 75+ dB	2.16	0.00	2.16
	Total	10.78	0.47	11.25
Proposed Action	DNL 65-70 dB	6.37	0.57	6.94
	DNL 70-75 dB	2.18	0.05	2.23
	DNL 75+ dB	2.31	0.00	2.31
	Total	10.86	0.62	11.48
Difference (Proposed Action – NAA)	DNL 65-70 dB	-0.15	0.15	0.00
	DNL 70-75 dB	0.08	0.00	0.08
	DNL 75+ dB	0.15	0.00	0.15
	Total	0.08	0.15	0.23

Source: HMMH, 2022

**Figure 5-5** shows the comparison between the Future NAA and Proposed Action Alternative (also refer to **Appendix D**). Noise contours are presented for the 60 DNL, 65 DNL, 70DNL, and 75 DNL. The 60 DNL contours are provided for informational purposes only. North of Runway 18R,



**Figure 5-5. NAA and Proposed Action Alternative (2023/2024) Noise Exposure Contours**

the contour extends further to the north due to increased arrivals to Runway 18R during the construction period whereas the contour north of Runway 17C decreases due to the reduction in arrivals to Runway 17C and the shifting of departures from Runway 35L to Runway 35C during the construction period. The contour north of Runway 17L extends further north than the No Action due to increased arrivals to Runway 17L during the construction period. The contour extends to the northwest of Runway 13R but does not leave airport property due to increased departures from Runway 31L during the construction period.

To the south of the airport, the contour south of Runway 36L remains the same during the construction period. The area south of Runway 35C along the extended runway centerline decreases due to the reduction in arrivals to the runway during the construction period. However, the area between Runways 35C and 35R increases due to the increase in departures from Runway 17C during the construction period. The area south of Runway 35R along the extended runway centerline is larger due to the increase in arrivals to the runway during the construction period. There would be temporary noise impacts to multiple apartment buildings to the south of Runway 17L/35R during the project with the largest increase during Phase 3 (approximately 6 months). These buildings, located directly along the extended centerline of Runway 35R, would be impacted as aircraft operations are temporarily shifted during the closure of Runway 17R/35L. The analysis concluded that there are 221 multi-family residential units, with an estimated population of 401, that would be exposed to higher noise levels, within the 65-70 dB contour. Comparisons of the residential population and housing units affected by noise levels exceeding DNL 65 dB for the Future (2023/2024) NAA and Proposed Action Alternative Noise Exposure Contours are provided in **Table 5-20**.

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the 65 DNL or greater contours.

#### 5.8.4.1 Analysis of 1.5 dB Change Within the 65 DNL or Greater Noise Contour

As shown in **Figure 5-6**, the analysis concluded that the Proposed Action Alternative would result in one noise-sensitive area south of Runway 35R experiencing a temporary significant increase in noise of DNL 1.5 dB or more, at or above DNL 65 dB noise exposure when compared to the NAA for the same timeframe.

A grid point analysis of the entire NSA was completed to determine changes in noise levels between the NAA and Proposed Action Alternative (**Figures 5-6** and **5-7**). The Proposed Action Alternative has slightly increased in the total land area within the noise contours as compared to the Future NAA. This was due to the change in runway use and the shifting of operations during the full closure under the Proposed Action Alternative.

**Figure 5-7** displays the area south of Runway 35R where the Proposed Action Alternative 65 DNL contour extends over residential land use. This area would be exposed to levels greater than 65 DNL during the proposed project (highlighted yellow) and would exceed the FAA's threshold for significant noise impact of 1.5 dB (noise increase within the 65 DNL is 2.4 dB). However, these increases would be temporary and limited to the construction period. The maximum noise increase is estimated to be 2.4 dB, which is expected during Phase 3 (approximately 6 months). Apartment buildings to the west of the significant impact area, are estimated to experience a temporary noise increase greater than 1.5 dB; however, the NAA and Proposed Action Alternative DNL is less than 65 dB in this area.

The area north of Runway 17R and Runway 17C, which is all compatible land use, would experience a decrease in noise of 1.5 dB or more within the 65 DNL. The area north of Runway 17L, which is all compatible land use, would experience an increase in noise of 1.5 dB.



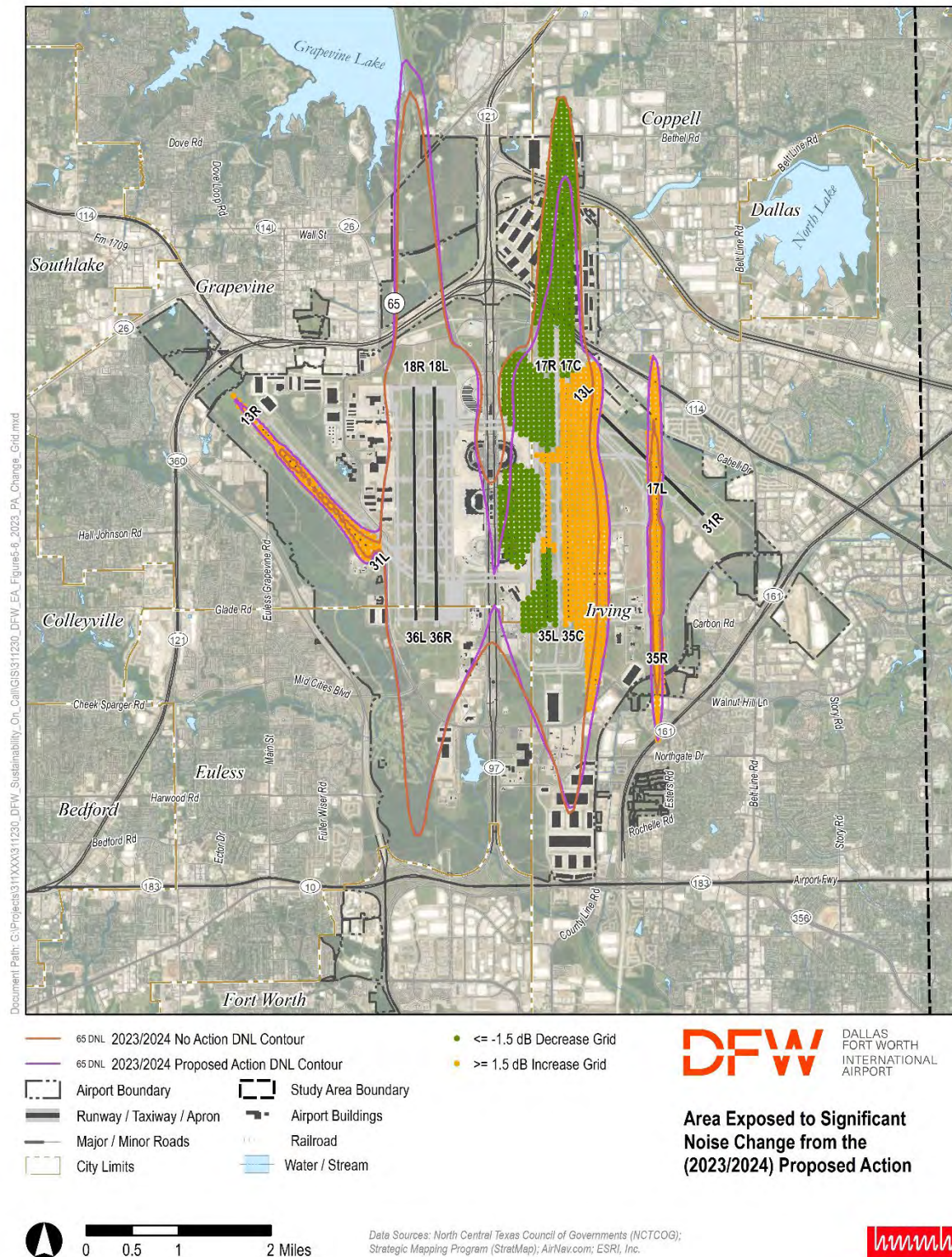
**Table 5-18. Non-Compatible Land Use  
Housing and Population – Proposed Action Alternative (2023/2024)**

Alternative	Category	Type	DNL 65-70 dB	DNL 70-75 dB	DNL 75+ dB	DNL 65+ dB
No Action	Housing	Single-Family Residential	0	0	0	0
		Multi-Family Residential	0	0	0	0
		Manufactured Housing	0	0	0	0
		Total Housing Units	0	0	0	0
Proposed Action		Single-Family Residential	0	0	0	0
		Multi-Family Residential	221	0	0	221
		Manufactured Housing	0	0	0	0
		Total Housing Units	221	0	0	221
Difference (Proposed Action – NAA)		Single-Family Residential	0	0	0	0
		Multi-Family Residential	221	0	0	221
		Manufactured Housing	0	0	0	0
		Total Housing Units	221	0	0	221
No Action	Population	Single-Family Residential	0	0	0	0
		Multi-Family Residential	0	0	0	0
		Manufactured Housing	0	0	0	0
		Total Population	0	0	0	0
Proposed Action		Single-Family Residential	0	0	0	0
		Multi-Family Residential	401	0	0	401
		Manufactured Housing	0	0	0	0
		Total Population	401	0	0	401
Difference (Proposed Action – NAA)		Single-Family Residential	0	0	0	0
		Multi-Family Residential	401	0	0	401
		Manufactured Housing	0	0	0	0
		Total Population	401	0	0	401

Notes: Population numbers are estimates based on the 2020 United States Census block data (1.81 persons per unit).

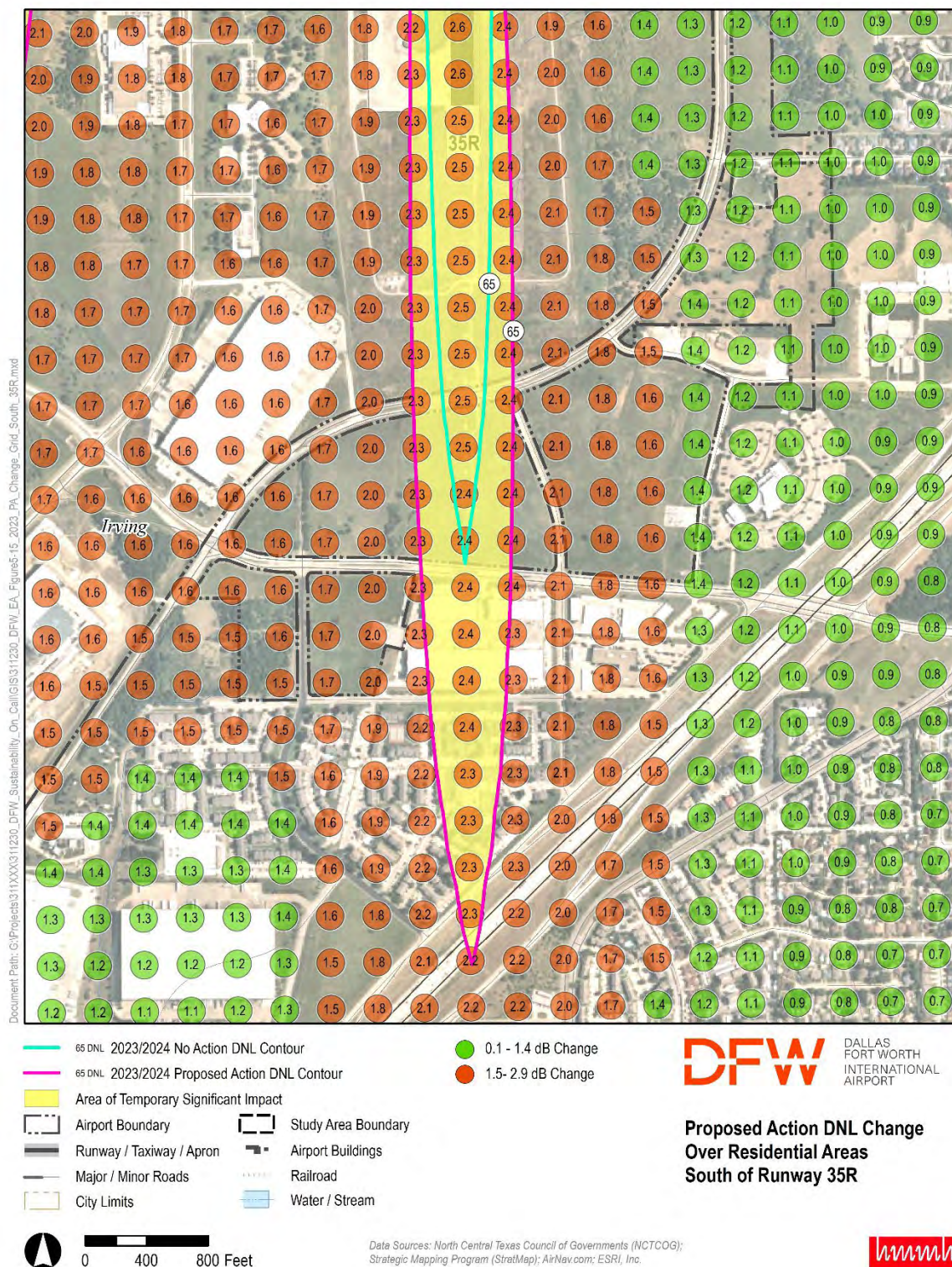
Source: HMMH, 2022





**Figure 5-6. Area Exposed to Significant Noise Changes from the Proposed Action Alternative (2023/2024)**





**Figure 5-7. Non-Compatible Land Use Area (Off-DFW) Exposed to Significant Noise Impact from the Proposed Action Alternative (2023/2024)**

#### 5.8.4.2 Future Alternatives Grid Point Evaluation

A grid point evaluation covering the NSA evaluated any change between the 60 DNL to 65 DNL contours. There would be only one small area where there would be a 3 dB change between the 60 DNL to 65 DNL contours. The area is located on airport property along Runway 13R/31L (+3 dB; **Figure 5-8**).

A larger, secondary study grid to evaluate any reportable noise change (+/- 5 dB) between the 45 DNL and 60 DNL was also evaluated. There was only one area of a 5 dB increase within the 45 DNL to 60 DNL just to the northwest of Runway 13R/31L due to the Proposed Action as shown on **Figure 5-9**. There is one area, a mobile home park in Grapevine that is within the area of a reportable change.

**Figure 5-10** shows a zoomed in view of the residential properties to the north of the west airfield runway (north of 18R/36L and 18L/36R) that would experience a minor change in noise exposure due to the construction of the Proposed Action; the changes would be well below the FAA significance and reportable thresholds and **Figure 5-10** is included for disclosure and informational purposes.

**Figure 5-11** shows a zoomed in view of the housing units south of Runway 35R that would experience changes in noise exposure during the construction of the Proposed Action. Some of the multi-family residential buildings shown in **Figure 5-11** would experience a decrease in noise exposure, while others would experience a minor increase. Based on the AEDT modeling results, the temporary increased in noise levels would be well below the FAA's significance and reportable thresholds; similarly, **Figure 5-11** is only included for disclosure and informational purposes.

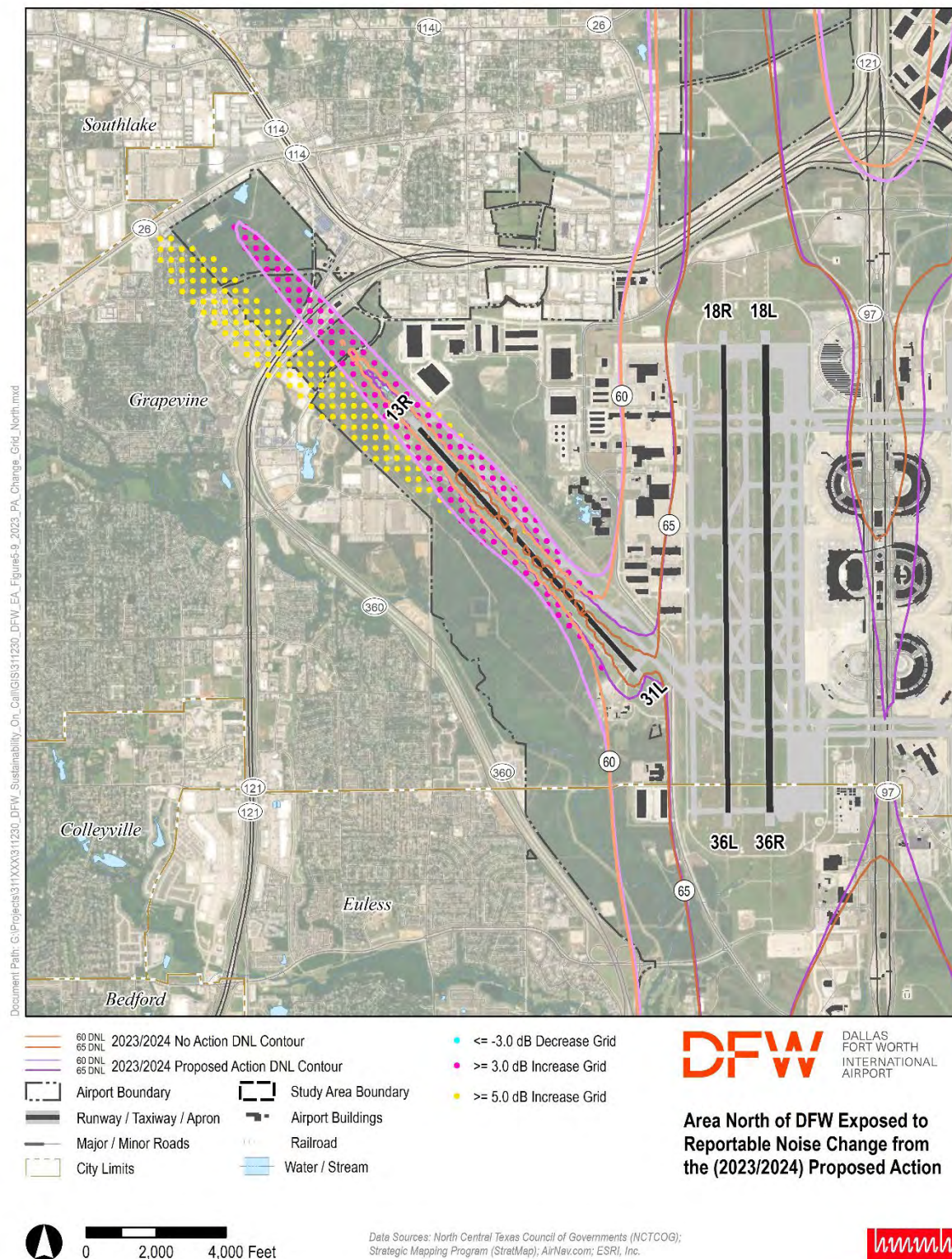
#### 5.8.5 Mitigation and Minimization

A significant noise impact would occur if the analysis showed that the Proposed Action would result in noise-sensitive areas experiencing an increase in noise of DNL 1.5 dB or more, at or above DNL 65 dB noise exposure when compared to the NAA for the same timeframe.

The Proposed Action Alternative results in two areas of significant noise increase, the first area north of Runway 17L/35R is compatible land use so it is not considered significantly exposed. The second area where is a significant noise increase would be experienced is located south of Runway 17L/35R, where the 65 DNL noise exposure contour extends over multi-family residential land uses in the City of Irving. The affected buildings are located at the Bridgeport Apartments. These buildings, located directly along the extended centerline of Runway 35R, would be impacted as aircraft operations are temporarily shifted during the full closure of Runway 17R/35L. These multi-family buildings would experience a temporary significant noise impact (estimated 2.4 dB) due to the Proposed Action Alternative.

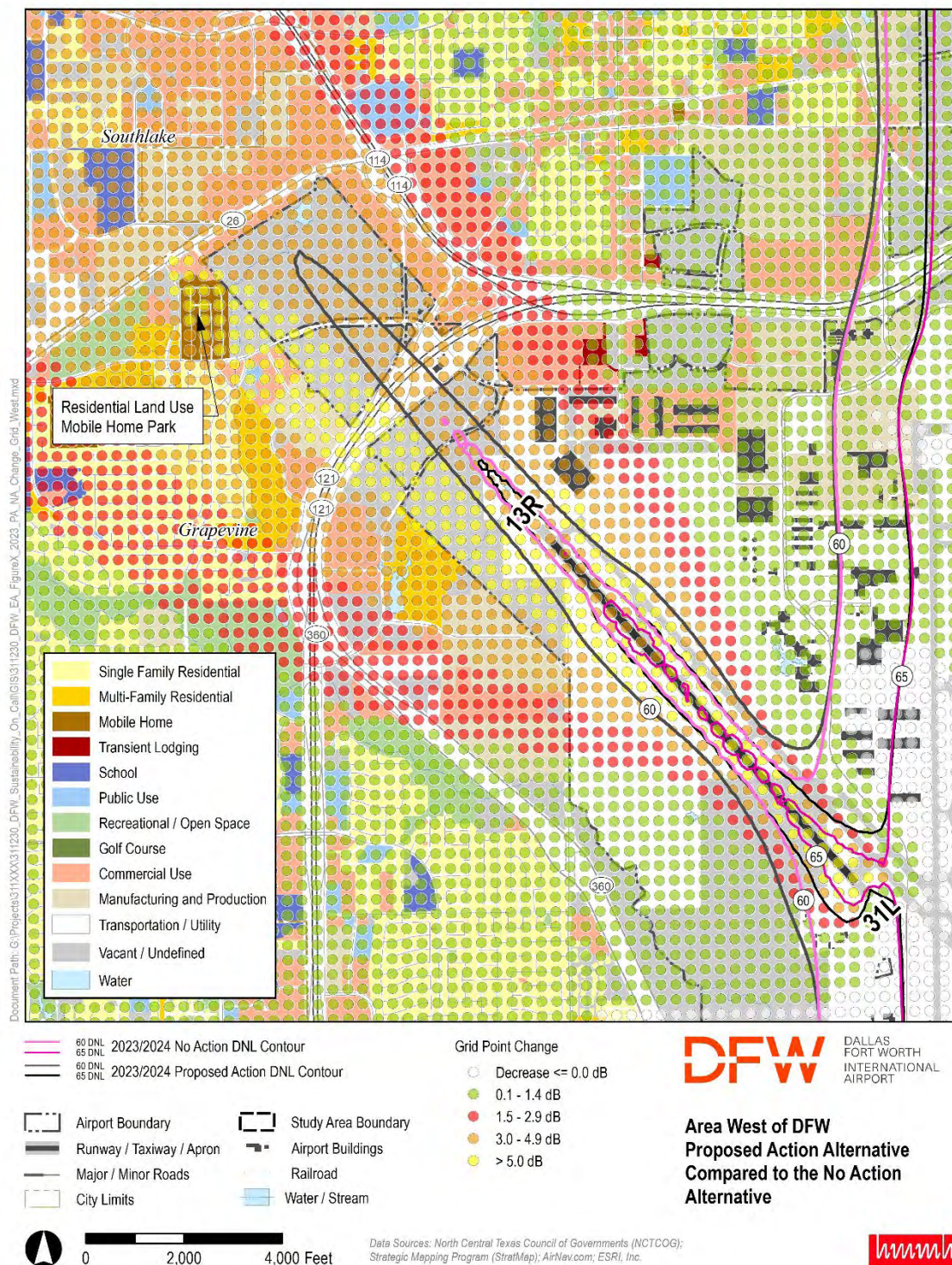
The elevated noise levels would be short-term and temporary, limited to during the construction period. The noise level increase would be considered significant but temporary during Phase 3 with the full closure of Runway 17R/35L. Because the Proposed Action is short-term in nature, no long-term mitigation is required. DFW plans to mitigate the temporary noise increases through meeting with community leaders, city council members, city managers, and by conducting community outreach specific to the residences affected. Notification of impacted communities will be done well in advance of the Proposed Action's start date. DFW plans to work with the apartment managers to provide letters of notification to each resident, by mail or on each door prior to the start of the Proposed Action. The letters would describe the Proposed Action, the proposed construction timeframe, and the temporary noise impacts due to the full closure of Runway 17R/35L. The affected community members will also be presented with the project





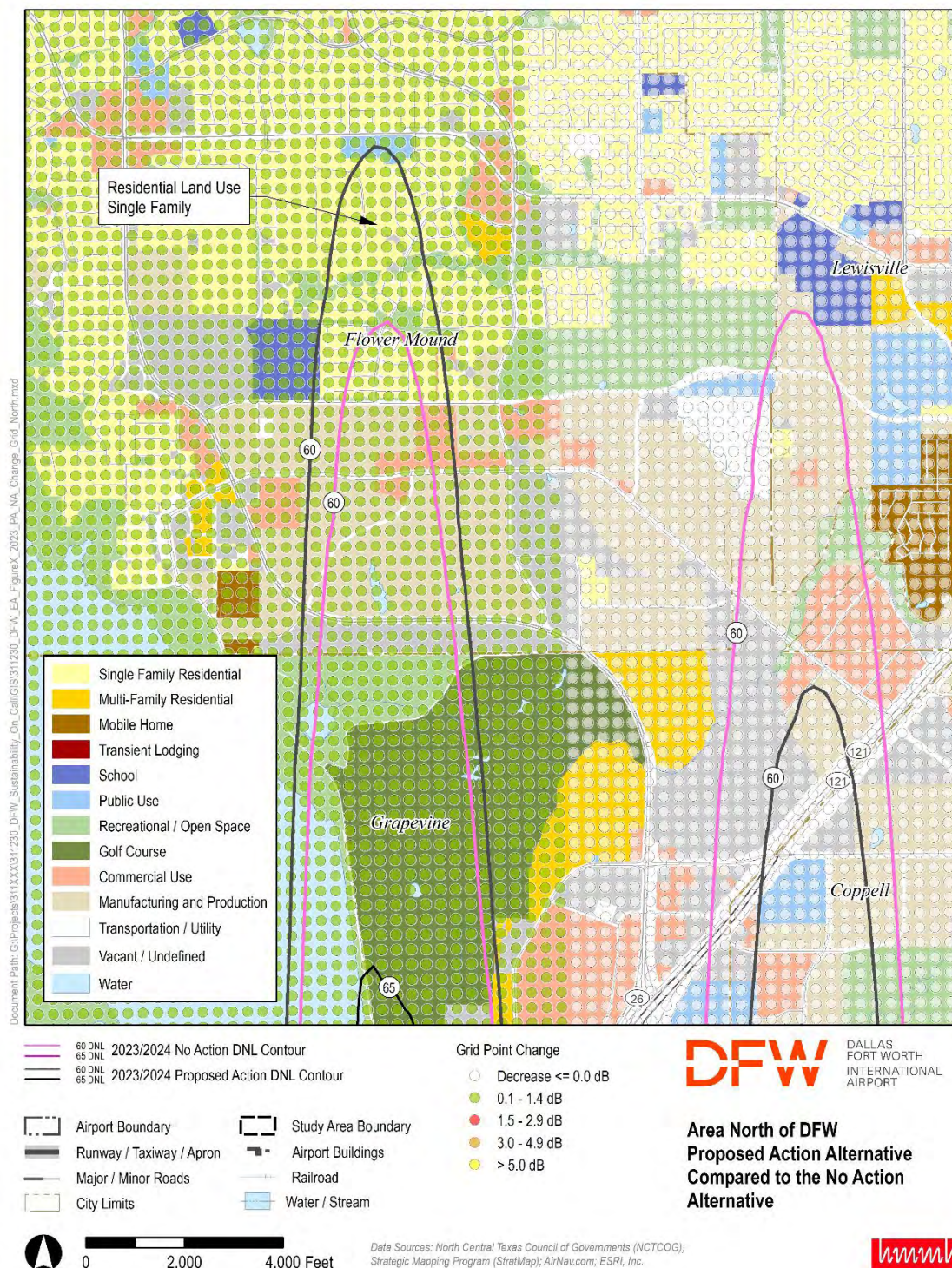
**Figure 5-8. Areas Exposed to Reportable Noise Changes (+/-3 dB) due to the Proposed Action Alternative (2023/2024)**





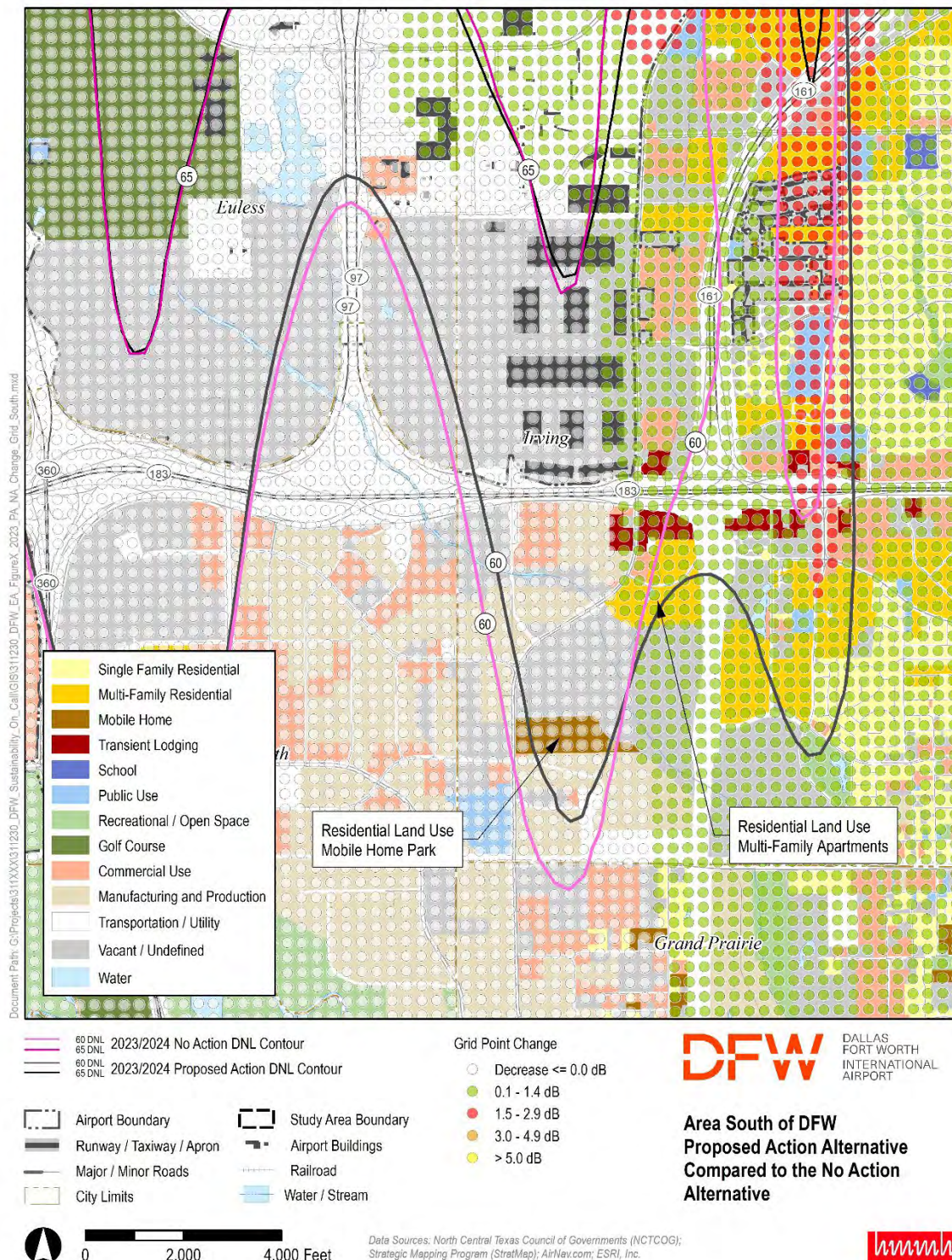
**Figure 5-9. West Areas Exposed to a Reportable Noise Change due to the Proposed Action Alternative (2023/2024)**





**Figure 5-10. North Area (off-airport) Exposed to a Minor Noise Change due to Construction Phases of the Proposed Action Alternative (2023/2024).  
Changes are below the significance or reportable thresholds.**





**Figure 5-11. South Area (off-airport) Exposed to a Minor Noise Change due to Construction Phases of the Proposed Action Alternative (2023/2024). Changes are below the significance or reportable thresholds.**

information, its temporary effects on the residents, and the significant benefits this runway reconstruction project will yield to the community. DFW Staff will request written acknowledgement from apartment residents.

DFW Airport is both a technical stakeholder due to its role in the long-term planning for infrastructure improvements and a non-technical stakeholder due to its role as a community partner. DFW Airport will ensure that community members are informed of the temporary noise impacts well in advance of any project work or changes caused by the runway closure. DFW will maintain transparency in its dissemination of information related to the proposed runway closure. Additionally, the DFW Noise Compatibility personnel will provide project updates/briefings to the communities. Construction noise increases will be reduced by the implementation of standard applicable engineering controls and BMP.

## **5.9 Visual Effects, Including Light Emissions**

According to the FAA Order 1050.1F (February 2020), the FAA has not established a significance threshold for light emissions, visual resources, or visual character, all combined into visual effects. FAA has indicated that factors that should be taken into consideration include annoyance or interference of normal activities associated with light emissions or the affects to the visual character due to light emission, including importance, uniqueness, and aesthetic value. Other factors include blocking or obstructing the views of visual resources, the contrast of the proposed actions with the visual resources within the study area, and the proposed action effects on the visual character, importance, uniqueness, and aesthetic value of the visual resource.

### **5.9.1 No Action Alternative**

Under the NAA, no new substantial effects from light emissions would result since no new construction would be undertaken.

### **5.9.2 Proposed Action Alternative**

Light emissions include any light that emanates from a light source into the surrounding environment. Sources of light emissions within the existing DFW project area include NAVAIDS and visual aids. The DFW's NAVAIDS facilities are comprised of multiple lighting systems, including the Approach Lighting System with Sequence Flashing Lights (ALSF-II). Visual aids located on runways and taxiways include high intensity runway edge lights, runway centerline lights, runway touchdown zone lights, runway status lights, runway end identifier lights, taxiway lead-on and lead-off lights, precision approach path indicators, taxiway edge lights and reflectors, taxiway centerline lights, and runway guard lights. Additional NAVAID-related projects may happen concurrently with the rehabilitation of Runway 17R/35L. These would include Runway 17R glideslope shelter relocation, Runway 35L glideslope shelter relocation, and Runway 35L MALSR replacement.

The Proposed Action would be illuminated by the same basic types of lighting currently used on the existing airfield. Therefore, lighting from the Proposed Action when compared to the NAA would not significantly increase the overall light emissions due to their type, intensity, and distance from any residential areas. There are no residential or light sensitive areas within or adjacent to the project area. The location of the new lighting systems would not negatively affect aircraft or vehicles on runways, taxiways, or cargo roads. Implementing the proposed action in relation to other foreseeable development would not create cumulative substantial effects from light emissions due to the current size and level of light emissions within the immediate and regional area.



### 5.9.3 Mitigation

Light emissions created by the Proposed Action would not be significant enough to cause substantial annoyance for people in the vicinity nor interfere with normal airport activities. Therefore, no mitigation measures are recommended for light emissions.

## 5.10 Waters Resources

### 5.10.1 Surface and Stormwater Treatment

Consistent with FAA guidelines from the FAA Order 1050.1F (July 2015) and FAA Order 1050.1F Desk Reference (February 2020), this assessment was conducted with the primary aim of identifying the principal sources of water pollution and/or consumption connected with the construction and operation of the Proposed Projects (FAA, 1985).

The FAA's significance threshold for surface water is presented in the following statement:

*A significant impact exists if the action would: exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or contaminate public drinking water supply such that public health may be adversely affected. In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider when evaluating the context and intensity of potential environmental impacts for surface waters, including where there is potential to adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values; adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or present difficulties based on water quality impacts when obtaining a permit or authorization.*

#### 5.10.1.1 No Action Alternative

Under the NAA, there would be no impacts on water quality, as no construction activities would occur. As a result, the quantity and quality of stormwater runoff, impacts to groundwater, and production of wastewater would remain largely unaffected. Therefore, there would be no impacts to stormwater treatment, as no construction or other activities would occur.

#### 5.10.1.2 Proposed Action Alternative

The greatest potential impacts to surface water quality connected to the Proposed Action are associated with soil erosion, materials staging, and batch plant operations during the construction phase. Short-term impacts to surface waters can result from construction activities creating increases in sedimentation and turbidity levels downstream of the disturbed project areas. These construction activities may include pavement demolition, grading, and excavation of subsurface utilities.

Most of the proposed project area is an impervious area, the remaining area is characterized by maintained mixed-grass cover. This pervious area would be largely remained in their existing pervious state. Since the proposed area is characterized by an existing runway and associated airfield pavement, the construction of the Proposed Action would not be expected to result in a material change in the stormwater runoff rates, discharge volumes, and pollutant characteristics of the stormwater runoff. DFW's existing stormwater treatment facilities (the first flush stormwater pre-treatment system) would be able to accommodate the stormwater runoff quantities. Further, the proposed relocation and reconstruction of the stormwater pipe and the rehabilitation of the underdrain system would improve the existing system's capacity and improve overall stormwater conveyance and drainage.

The construction and operation of the Proposed Action will involve the continued use of fuel and other petroleum-based products within the airfield area, DFW maintains spill response plans in

case of a release, spill, or accidental discharge to protect water quality and environmental resources.

Construction activities associated with the Proposed Action could result in minor temporary impacts surface water quality, due to erosion and siltation from soil disturbance activities. To minimize the potential for impacts to water quality, DFW and its selected contractors would develop and implement a Storm Water Pollution Prevention Plan (SWPPP)<sup>0</sup>, with best management practices (BMPs), and structural controls, in compliance with the Clean Water Act (CWA) Texas Pollutant Discharge Elimination System (TPDES) permit requirements as well as any other Federal state, and local requirements. Therefore, no significant adverse impacts would occur relative to surface waters.

The drainage system for the runway would be connected to the existing first-flush stormwater treatment system prior to discharging to the storm water sewer system. The Proposed Action will comply with the guidelines and recommendations contained in the FAA Advisory Circular for Surface Drainage Design (FAA AC 150/5320-5D). Maintenance activities would include controls to clean pavement surface from any leaked fluids to reduce contamination of storm water. The Proposed Action would have no impacts to water quality, wetlands and/or Waters of the US because the proposed reconstruction and rehabilitation would take place on the existing airfield and will use the existing storm water management system that was designed to accommodate Runway 17R/35L.

#### 5.10.2 *Waters of the United States, Including Wetlands*

According to FAA guidelines from the FAA Order 1050.1F (July 2015), the significance threshold for wetlands is presented in the following statement:

*A significant impact would occur when the action would: adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers; substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected; substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public); adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands; promote development of secondary activities or services that would cause the circumstances listed above to occur; or be inconsistent with applicable state wetland strategies.*

##### 5.10.2.1 No Action Alternative

With the NAA, the existing conditions at DFW would remain in place. Therefore, there would be no impacts to wetlands or WOUS not already occurring or expected to occur.

##### 5.10.2.2 Proposed Action Alternative

No aquatic features were identified within the project area. Therefore, the Proposed Action will not impact wetlands or WOUS and mitigation would not be required.

#### 5.10.3 *Mitigation*

At DFW, construction-related surface water quality impacts from stormwater runoff are minimized through the use of BMP as required by DFW's Design Criteria Manual (DFW, 2017). These BMPs are designed to minimize soil erosion and the transport of debris and sediment in stormwater runoff. Implemented BMP include silts fences, rock check dams, settling ponds, and good general housekeeping practices. In addition, all stormwater discharges from construction activities at DFW that result in the disturbance of one or more acres must comply with the TPDES permit conditions

already established for the airport. A construction general permit (CGP) SWP3, and all associated requirements would be implemented for the proposed project. Because of these water resource management policies and programs that are already in place at DFW, impacts to surface waters associated with the Proposed Project would not be expected to be significant; therefore, no mitigation would be required.

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## **SECTION 6.0      AGENCY COORDINATION**

The development of this EA included coordination with affected federal and state agencies. This coordination process informs the public and agencies and allows an opportunity to identify any possible environmental concerns during the EA process.

### **6.1    Agency Coordination**

DFW consulted with FAA, THC, TCEQ, and USEPA during the development of the EA. THC concurred with the findings and conclusions of the cultural resources report, stating that the Proposed Action would not adversely affect any historic resources. The Cultural Resources reports did not identify any historic resources eligible for listing on the NRHP. Additionally, DFW consulted with TCEQ and USEPA to discuss the Proposed Action during the General Conformity coordination meetings for other DFW actions. DFW presented the air quality emissions modeling and analysis results showing that the emissions associated with the Proposed Action were below the *de minimis* thresholds of 50 tpy for either NO<sub>x</sub> or VOCs. Therefore, the Proposed Action would not trigger the General Conformity process or require additional coordination with the agencies.

### **6.2    Public Involvement**

Because the Proposed Action is not controversial, no significant adverse impacts were identified, and no special purpose laws were triggered that require public participation, it was determined that public involvement was not necessary. The Draft EA was posted on DFW's website from 11 to 23 April 2022, and provided digitally, upon request, and for hard copy viewing to interested parties at DFW Environmental Affairs Department, EAD Annex Building A, 3003 S Service Rd, Dallas, TX 75261. No requests for document review or comments were received. The Final EA and FONSI will be available digitally on the DFW Airport website and physically at the DFW Environmental Affairs Department building.

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## **SECTION 7.0       PREPARERS**

As required by FAA Order 5050.4A, paragraph 77, the names and qualifications of the principal persons contributing information to this EA are identified. It should be noted, in accordance with CEQ regulations (Section 1502.06), the efforts of an interdisciplinary team, consisting of technicians and experts in various fields were required to accomplish this study. Specialists involved in this EA included those in such fields as airport planning; noise assessment and abatement; land use planning; air quality; biology; historic, architectural, and archaeological resources; and other disciplines. It should also be noted, while an interdisciplinary approach has been used, all decisions made regarding the content and scope of this EA are those of DFW.

### **DFW INTERNATIONAL AIRPORT – AIRPORT SPONSOR**

Sandra Lancaster, NEPA & Noise Program Manager,  
Samuel Tan, Noise & Community Outreach Project Manager

### **RAMBOLL**

Megan Neiderhiser, Principal In Charge  
Krish Vijayaraghavan, NEPA & Air Quality Principal Advisor  
Amy Malick, Project Advisor  
John Grant, Project Manager  
Akshay Ashok, Secondary Project Manager  
Jean Guo, Data Compilation Lead  
Anthony Gerigk, Air Emission Expert

### **HMMH**

Scott Polzin, Project Manager  
Scott McIntosh, Noise Analysis  
Robert Mentzer, Noise Lead  
Sara Kaplan, NEPA Specialist

### **INTEGRATED ENVIRONMENTAL SOLUTIONS (IES)**

Rae Lynn Schneider, Public Engagement & NEPA Support

### **HDR Engineering**

Kristine Lloyd, NEPA Support  
Margot Greer, NEPA Support  
Esther Chitsinde, NEPA Support

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## SECTION 8.0 REFERENCES

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## **APPENDIX A – PROTECTED SPECIES HABITAT ASSESSMENTS**

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14 January 2022

Ms. Sandy Lancaster  
Dallas Fort Worth International Airport  
3003 South Service Road, Annex Building A  
DFW Airport, Texas 75261-9428

Re: Runway 17R-35L – Desktop Protected Species Habitat Assessment  
Runway 17R-35L at Dallas Fort Worth International Airport, DFW Airport, Dallas County, Texas

Dear Ms. Lancaster,

Integrated Environmental Solutions, LLC (IES) performed a desktop protected species habitat assessment on the Runway 17R-35L at Dallas Fort Worth International Airport, DFW Airport, Dallas County, Texas (**Attachment A, Figure 1**). This habitat assessment was performed to satisfy the requirements regarding the Endangered Species Act (ESA). The following report is a list of the federal and state-listed protected species for Dallas County and their preferred vegetation assemblages, a summary of the vegetation communities identified on the site, an evaluation of whether the communities present on the site could support a protected species, and whether or not future proposed actions would affect listed species.

## INTRODUCTION

### Protected Species

#### *Federal*

The ESA of 1973 (Public Law [P.L.] 93-205) and the amendments of 1988 (P.L. 100-578) were enacted to provide a program of preservation for endangered and threatened species and to provide protection for ecosystems upon which these species depend for their survival. The ESA requires all federal agencies to implement protection programs for designated species and to use their authorities to further the purposes of the Act. Responsibility for the listing of an endangered or threatened species and for the development of recovery plans lies with the Secretary of Interior and Secretary of Commerce. The U.S. Fish and Wildlife Service (USFWS) is responsible for implementing the ESA within the United States.

An endangered species is a species, which is in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the near future throughout all or a significant portion of its range. Proposed species are those, which have been formally submitted to Congress for official listing as endangered or threatened.

In addition, the USFWS has identified species, which are candidates for possible addition to the list of Endangered and Threatened Wildlife and Plants (50 Code of Federal Regulations [CFR] 17.11 and 17.12) under the ESA. The USFWS maintains a candidate list to: (1) provide advance knowledge of potential listings that could affect land planning decisions, (2) solicit input to identify candidates not requiring protection or additional species that may require protection under the ESA, and (3) solicit information needed to prioritize the order in which species will be proposed for listing. Candidate species have no legal protection under the ESA.

The Migratory Bird Treaty Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance with the Act's policies and regulations. However, in a recent decision the U.S. Court of Appeals for the Fifth Circuit found that for an unlawful “taking” to occur, a “deliberate act done directly and intentionally to migratory birds” would need to occur. (United States v. CITGO Petroleum Corp., No. 14-40128 [5th Cir. Sept. 4, 2015]).

#### State

The Texas Parks and Wildlife Department (TPWD) Wildlife Diversity Program (WDP) maintains computerized records of state-listed threatened and endangered species by county. The State of Texas does not list threatened and endangered species using the same criteria as the federal government. When the USFWS lists a plant species, the State of Texas then lists that plant. Thus, the list of threatened and endangered plants in Texas is the same as the Federal list. The state has separate laws governing the listing of animal species as threatened or endangered. Threatened and endangered animal species in Texas are those species so designated according to Chapters 67 and 68 of the Texas Parks and Wildlife Code and Section 65.171 - 65.184 of Title 31 of the Texas Administrative Code. Species that are not currently listed by the Federal government may be listed as threatened or endangered by the TPWD.

### METHODOLOGY

The list of Endangered and Threatened Wildlife and Plants under the ESA was obtained through the USFWS Information, Planning, and Conservation System (IPaC) and from the TPWD WDP and the Texas Natural Diversity Database (TXNDD). The vegetation communities used by each species was obtained and is detailed below. During the desktop evaluation, vegetation composition within and adjacent to the project site were noted to determine whether there was any potential for protected species habitat.

### RESULTS

#### Literature Review

According to the USFWS, four species, Golden-cheeked Warbler (*Dendroica chrysoparia*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), and Whooping Crane (*Grus americana*) are listed as federally protected (i.e., threatened or endangered) with the potential to occur within Dallas County. Two of these species are conditionally listed as threatened within Dallas County on the basis that the proposed project is for wind energy production, Red Knot and Piping Plover. No federally listed critical habitat for these species is located within the vicinity of the survey area. The TPWD lists 14 state protected species that could occur within Dallas County. Five are also federally listed avian species; however, the Black Rail (*Laterallus jamaicensis*) is only listed by TPWD for Dallas County. The review of the TXNDD files did not indicate any unique vegetation communities, parks or natural/managed areas within the survey area.

**Attachment C** identifies the state and federally protected species that could potentially occur within Dallas County from the IPaC and Rare and Threatened Endangered Species of Texas (RTEST) lists.

#### Desktop Survey

Aerial photography indicates that the project site is maintained as an **urban matrix** vegetation community. The runways are paved with small sections of unpaved areas between runways and access lanes that are dominated by mowed turfgrasses.

### CONCLUSIONS

#### Preferred Habitat for Federally Protected Species

**Table 1** provides a summary of the federally and state-listed species that could potentially occur within Dallas County, as well as a brief description of their habitat, whether this habitat is present within the survey area, and whether the proposed project would potentially affect the listed species.

**Table 1. Federally- and State- listed Threatened and Endangered Species Occurring or Potentially Occurring in Dallas County, Texas**

Species	State Status	Federal Status	Description of Habitat	Habitat Present <sup>1</sup>	Species Effect <sup>2</sup>
BIRDS					
Black Rail ( <i>Laterallus jamaicensis</i> )	T	LT	Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of <i>Salicornia</i> .	No	No
Golden-cheeked Warbler ( <i>Setophaga chrysoparia</i> )	E	LE	Ashe juniper in mixed stands with various oaks ( <i>Quercus</i> spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.	No	No
Piping Plover ( <i>Charadrius melodus</i> )	T	LT	Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e., north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.	No	No
Rufa Red Knot ( <i>Calidris canutus rufa</i> )	T	LT	The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam ( <i>Donax</i> spp.) on beaches and dwarf surf clam ( <i>Mulinia lateralis</i> ) in bays, at least in the Laguna Madre. Wintering Range includes- Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.	No	No
White-faced ibis ( <i>Plegadis chihi</i> )	T	---	Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	No	No
Whooping Crane ( <i>Grus americana</i> )	E	LE	Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	No	No
Wood stork ( <i>Mycteria americana</i> )	T	---	Prefers to nest in large tracts of baldcypress ( <i>Taxodium distichum</i> ) or red mangrove ( <i>Rhizophora mangle</i> ); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e., active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.	No	No
MOLLUSK					
Louisiana pigtoe ( <i>Pleurobema riddellii</i> )	T	---	Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019].	No	No

Species	State Status	Federal Status	Description of Habitat	Habitat Present <sup>1</sup>	Species Effect <sup>2</sup>
Sandbank pocketbook ( <i>Lamprolaima</i> <i>satura</i> )	T	---	Occurs in small streams to large rivers in slow to moderate current in sandy mud to sand and gravel substrate. Can occur in a variety of habitats but most common in littoral habitats such as banks or backwaters or in protected areas along point bars (Randklev et al. 2013b; Randklev et al. 2014a; Troia et al. 2015). [Mussels of Texas 2019].	No	No
Texas fansfoot ( <i>Truncilla</i> <i>macrodon</i> )	T	---	Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010a; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]	No	No
Texas heelsplitter ( <i>Potamilus</i> <i>amphichaenus</i> )	T	---	Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019].	No	No
Trinity pigtoe ( <i>Fusconaia</i> <i>chunii</i> )	T	---	Found in a variety of habitats but most common in riffles. Inhabits various substrates though most often sand, gravel, and cobble (species was recently split from Texas Pigtoe and occurs in similar habitats; Howells 2010a; Randklev et al. 2013b; Randklev et al. 2014a; Troia et al 2015). [Mussels of Texas 2019].	No	No
INSECTS					
Monarch Butterfly ( <i>Danaus</i> <i>plexippus</i> )	---	C	Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily <i>Asclepias</i> spp.), and larvae emerge after 2 to 5 days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately 2 to 5 weeks; overwintering adults enter into reproductive diapause (suspended reproduction) and live 6 to 9 months. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites.	No	No
REPTILES					
Alligator snapping turtle ( <i>Macrochelys</i> <i>temminckii</i> )	T	---	Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. <b>Females emerge to lay eggs close to the water's edge.</b>	No	No
Texas horned lizard ( <i>Phrynosoma</i> <i>cornutum</i> )	T	---	Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.	No	No

LE – Federally Listed Endangered, LT – Federally Listed Threatened, DL – Federally Delisted, PT – Federally Proposed Threatened, E – State Listed Endangered, T - State Listed Threatened

<sup>1</sup>Habitat Present? – Do the vegetation communities located within the survey area match the requirements for that particular protected species?

<sup>2</sup>Species Effect? – Will the proposed project potentially affect a protected species?

Data Sources: USFWS IPaC (Published and accessed 28 September 2021), TPWD (Published 22 June 2021, accessed 28 September 2021), and field survey of the survey area

Regarding federally listed threatened and endangered species, Golden-cheeked Warbler, Red Knot, Piping Plover, and Whooping Crane were listed for Dallas County. As this project will not be related to wind energy, the Red Knot and Piping Plover will not be affected.

- The Golden-cheeked Warbler requires a habitat that includes forested areas dominated by Ashe juniper (*Juniperus ashei*) in mixed stands with various oaks (*Quercus* spp.). This unique vegetation community is not present within the survey area.



- Whooping Cranes utilize estuaries, prairie marshes, moist grasslands, croplands, and will use large shallow wetland areas associated with lakes for roosting and feeding. The survey area did not contain these types of vegetation communities.

As such, the habitats present within the survey area were not suitable for any of the federally listed threatened or endangered species. Nor were the habitats suitable for nesting, feeding, or stopover migration habitat for these species.

#### Preferred Habitat for State Protected Species

There were 14 state-listed threatened and endangered species for Dallas County, which includes all the federally listed avian species. Any occurrence of the Least Tern (*Sternula antillarum athalassos*), Piping Plover, and White-faced Ibis (*Plegadis chihi*) would be in relation to stopover during migration; however, no suitable stopover or nesting habitat was observed within the survey area. Whooping Crane, Black Rail, and Wood Stork (*Mycteria americana*) would be unlikely to utilize the survey area, as their preferred habitat type were not present.

Black Rails utilize freshwater marshes and grassy swamps with dense emergent vegetation. While emergent vegetation was observed within the wetland, the size and location would indicate the survey area would not be suitable habitat. While this site contained a freshwater wetland, this community did not meet the parameters of the Wood Stork for roosting with no tall snags, red mangrove (*Rhizophora mangle*) dominated areas, or bald cypress (*Taxodium distichum*) dominated areas. Wood Storks utilize flooded fields and marsh habitats with shallow standing water for feeding areas, but none were observed. As such, foraging habitat potentially suitable for the Wood Stork was not present within the survey area.

The mollusks, including the Louisiana pigtoe (*Pleurobema riddellii*), sandbank pocketbook (*Lampsilis satura*), Texas fawnsfoot (*Truncilla macrodon*), Texas heelsplitter (*Potamilus amphichaenus*), and Trinity pigtoe (*Fusconaia chunii*), as well as the alligator snapping turtle (*Macrochelys temminckii*), all require various forms of aquatic habitat that include inundated waters. As no such areas were observed, the habitat for these species would not be present within the survey area. Similarly, as the Texas horned lizard (*Phrynosoma cornutum*) requires open areas with sparse groundcover mixed with patch grasses and only maintained turf was observed, the habitat for the Texas horned lizard is also not present.

#### Vegetation Communities

None of the vegetation observed within the survey area on aerial photography would be considered unique or compose a unique vegetation type for the region. The vegetation communities described were composed of species that are not only common to grassland and forested areas, but to the Blackland Prairie eco-region of North Central Texas. It is IES' professional opinion that the proposed project will not have any effect on any unique vegetation, vegetation communities, or habitat types.

#### Potential to Affect Protected Species

As previously noted, habitat for any of the federally listed species and state listed species was not present within the survey area. As such, the proposed project is not expected to have any impacts on the federally or state-listed threatened or endangered species.

IES appreciates the opportunity to work with you and the Dallas Fort Worth International Airport Environmental Affairs Department on this project and hope we may be of assistance to you in the future. If you have any comments, questions, or concerns, please do not hesitate to contact me at 972-562-7672 or by email at [skipp@intenvsol.com](mailto:skipp@intenvsol.com) or [reinecke@intenvsol.com](mailto:reinecke@intenvsol.com).

Sincerely,

Integrated Environmental Solutions, LLC.

A handwritten signature in black ink, appearing to read 'Shae Kipp', is positioned above the printed name.

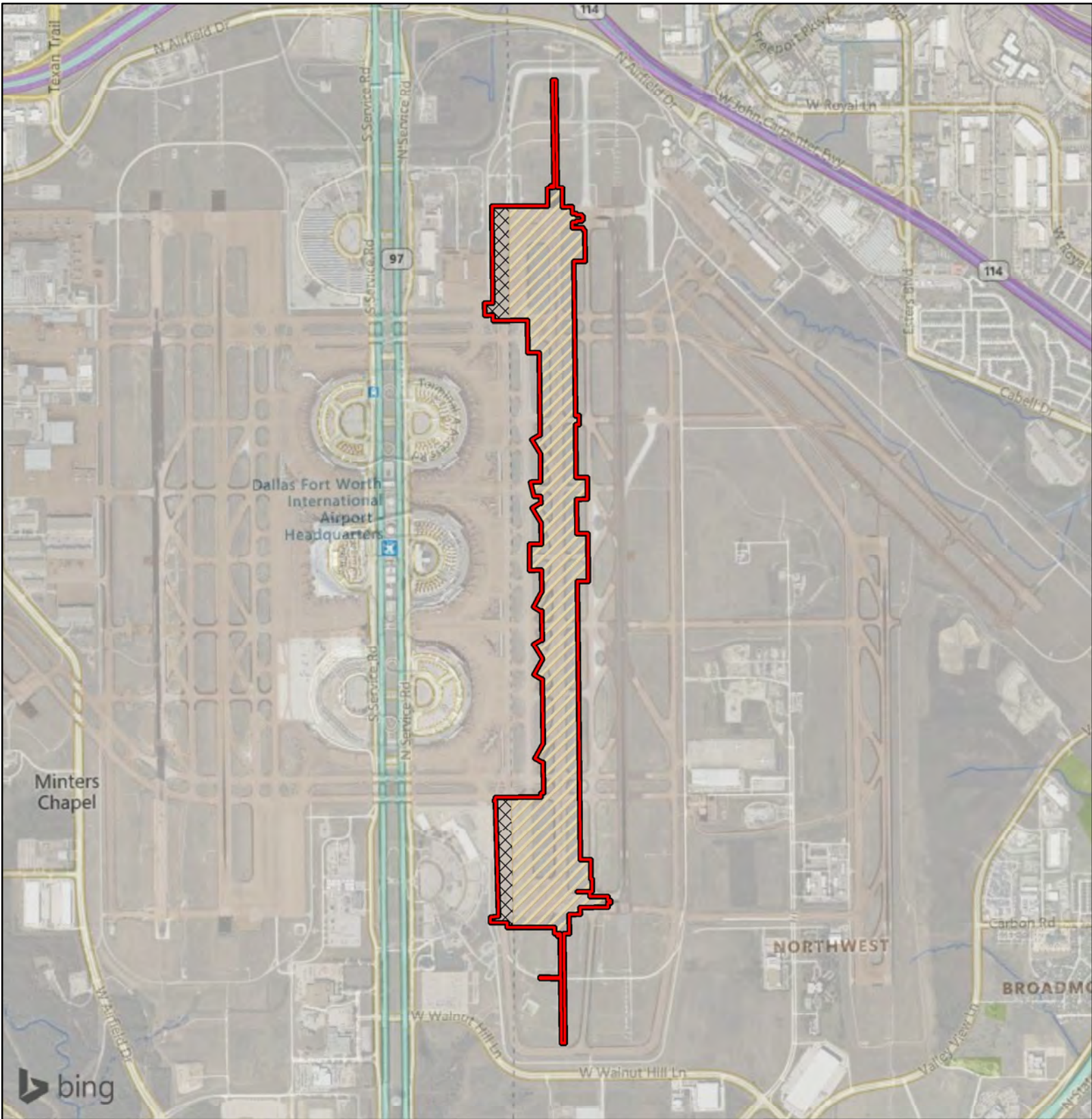
Mr. Shae Kipp  
Ecologist

Attachments

File ref: 03.006.097

## **ATTACHMENT A**

Figures



**Figure 1.**  
**General Location Map**




Runway 17R-35L  
DFW International Airport  
Dallas County, Texas

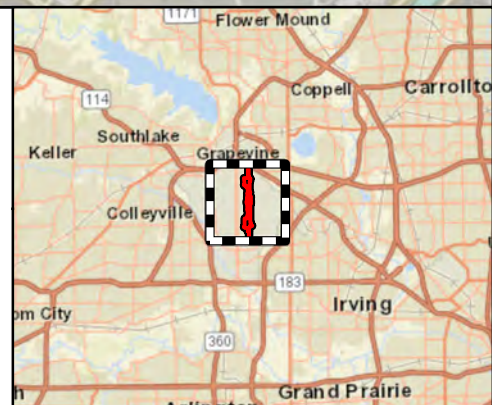
1 in = 2,500 feet

Feet  
0 2,500



File Ref. 03.006.097  
Date: 1/14/2022

-  Survey Area
-  Dallas County within Survey Area
-  Tarrant County within Survey Area



**Area of Detail** Scale: 1 inch equals 10 miles





**ATTACHMENT B**

Protected

Species Lists



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Arlington Ecological Services Field Office  
2005 Ne Green Oaks Blvd  
Suite 140

Arlington, TX 76006-6247

Phone: (817) 277-1100 Fax: (817) 277-1129

<http://www.fws.gov/southwest/es/arlingtontexas/>

<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>

In Reply Refer To:

January 14, 2022

Consultation Code: 02ETAR00-2022-SLI-0887

Event Code: 02ETAR00-2022-E-02078

Project Name: Runway 17R-35L (Dallas County)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, which may occur within the boundary of your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under section 7(a)(1) of the Act, Federal agencies are directed to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Under and 7(a)(2) and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether their actions may affect threatened and endangered species and/or designated critical habitat. A Federal action is an activity or program authorized, funded, or carried out, in whole or in part, by a Federal agency (50 CFR 402.02).

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For Federal actions other than major construction activities, the Service suggests that a biological evaluation (similar to a Biological Assessment) be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.



After evaluating the potential effects of a proposed action on federally listed species, one of the following determinations should be made by the Federal agency:

1. *No effect* - the appropriate determination when a project, as proposed, is anticipated to have no effects to listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, the action agency should maintain a complete record of their evaluation, including the steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information.
2. *May affect, but is not likely to adversely affect* - the appropriate determination when a proposed action's anticipated effects to listed species or critical habitat are insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where "take" of a listed species occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur. This determination requires written concurrence from the Service. A biological evaluation or other supporting information justifying this determination should be submitted with a request for written concurrence.
3. *May affect, is likely to adversely affect* - the appropriate determination if any adverse effect to listed species or critical habitat may occur as a consequence of the proposed action, and the effect is not discountable or insignificant. This determination requires formal section 7 consultation.

The Service has performed up-front analysis for certain project types and species in your project area. These analyses have been compiled into *determination keys*, which allows an action agency, or its designated non-federal representative, to initiate a streamlined process for determining a proposed project's potential effects on federally listed species. The determination keys can be accessed through IPaC.

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

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Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (<https://www.fws.gov/birds/management/managed-species/eagle-management.php>). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php>.

For additional information concerning migratory birds and eagle conservation plans, please contact the Service's Migratory Bird Office at 505-248-7882.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Arlington Ecological Services Field Office**

2005 Ne Green Oaks Blvd

Suite 140

Arlington, TX 76006-6247

(817) 277-1100

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## Project Summary

Consultation Code: 02ETAR00-2022-SLI-0887

Event Code: Some(02ETAR00-2022-E-02078)

Project Name: Runway 17R-35L (Dallas County)

Project Type: DEVELOPMENT

Project Description: Update runways

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.8972759,-97.02997192091199,14z>



Counties: Dallas County, Texas

## Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Birds

NAME	STATUS
Golden-cheeked Warbler (=wood) <i>Dendroica chrysoparia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/33">https://ecos.fws.gov/ecp/species/33</a>	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Endangered

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## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Last Update: 10/1/2021

## DALLAS COUNTY

### AMPHIBIANS

**Eastern Tiger Salamander** *Ambystoma tigrinum*

Terrestrial adults generally occur under cover objects or in burrows surrounding a variety of lentic freshwater habitats, such as ponds, lakes, bottomland wetlands, or upland ephemeral pools. The specific terrestrial habitats are also varied and the occurrence of this species seems to be more closely associated with sandy, loamy or other soils which have easy burrowing properties, rather than any particular ecological system type. Requires fishless breeding pools for successful reproduction.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**spotted dusky salamander** *Desmognathus conanti*

This species occurs in association with aquatic habitats in forested areas. Small, clear, spring fed streams with sandy substrate bordered with ferns and moss as well as murky, stagnant water bodies in cypress swamps, baygalls, and flood plains in bottomland forests support populations of this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1

**Strecker's chorus frog** *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Woodhouse's toad** *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

### BIRDS

**bald eagle** *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

**Black Rail** *Laterallus jamaicensis*

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

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## DALLAS COUNTY

### BIRDS

**black-capped vireo** *Vireo atricapilla*

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3B

**Chestnut-collared Longspur** *Calcarius ornatus*

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Franklin's gull** *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

**golden-cheeked warbler** *Setophaga chrysoparia*

Ashe juniper in mixed stands with various oaks (*Quercus* spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2S3B

**interior least tern** *Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G4T3Q	State Rank: S1B

**piping plover** *Charadrius melodus*

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## DALLAS COUNTY

### BIRDS

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

#### **Rufa Red Knot** *Calidris canutus rufa*

Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

#### **western burrowing owl** *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

#### **white-faced ibis** *Plegadis chihi*

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

#### **whooping crane** *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

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## DALLAS COUNTY

### BIRDS

**wood stork** *Mycteria americana*

Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

### CRUSTACEANS

**a cave obligate isopod** *Caecidotea bilineata*

Spring obligate. *Caecidotea bilineata* is known only from non-cave groundwater habitats in deposits of Cretaceous age. It is presumably a phreatobite. Fine scale habitat requirements unknown.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S1

### FISH

**american eel** *Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habitats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

**Mississippi silvery minnow** *Hybognathus nuchalis*

Found in eastern Texas streams, from the Brazos River eastward and northward to the Red River; found in moderate current; silty, muddy, or rocky substrate. In Texas, adults likely to inhabit smaller tributary streams.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5	State Rank: S4

### INSECTS

**American bumblebee** *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

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## DALLAS COUNTY

### INSECTS

**Comanche harvester ant** *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

**No accepted common name** *Arethaea ambulator*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

### MAMMALS

**big brown bat** *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**cave myotis bat** *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2S3

**eastern red bat** *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**eastern spotted skunk** *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

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## DALLAS COUNTY

### MAMMALS

**hoary bat** *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**long-tailed weasel** *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**mountain lion** *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

**Muskrat** *Ondatra zibethicus*

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**southeastern myotis bat** *Myotis austroriparius*

Caves are rare in Texas portion of range; buildings, hollow trees are probably important. Historically, lowland pine and hardwood forests with large hollow trees; associated with ecological communities near water. Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3?

**swamp rabbit** *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**tricolored bat** *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

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## DALLAS COUNTY

### MAMMALS

**western hog-nosed skunk** *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

### MOLLUSKS

**Louisiana Pigtoe** *Pleurobema riddellii*

Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G2	State Rank: S1

**Sandbank Pocketbook** *Lampsilis satura*

Occurs in small streams to large rivers in slow to moderate current in sandy mud to sand and gravel substrate. Can occur in a variety of habitats but most common in littoral habitats such as banks or backwaters or in protected areas along point bars (Randklev et al. 2013b; Randklev et al. 2014a; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic:	Global Rank: G2?	State Rank: S1

**Texas Fawnsfoot** *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: PT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

**Texas Heelsplitter** *Potamilus amphichaenus*

Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G3	State Rank: S1

**Trinity Pigtoe** *Fusconaia chunii*

Found in a variety of habitats but most common in riffles. Inhabits various substrates though most often sand, gravel, and cobble (species was recently split from Texas Pigtoe and occurs in similar habitats; Howells 2010a; Randklev et al. 2013b; Randklev et al. 2014a; Troia et al 2015). [Mussels of Texas 2020]

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: S1

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## DALLAS COUNTY

### REPTILES

**alligator snapping turtle** *Macrochelys temminckii*

Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

**common garter snake** *Thamnophis sirtalis*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: N
Endemic:	Global Rank: G5	State Rank: S2

**eastern box turtle** *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Pigmy Rattlesnake** *Sistrurus miliarius*

The pygmy rattlesnake occurs in a variety of wooded habitats from bottomland coastal hardwood forests to upland savannas. The species is frequently found in association with standing water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

**Prairie Skink** *Plestiodon septentrionalis*

The prairie skink can occur in any native grassland habitat across the Rolling Plains, Blackland Prairie, Post Oak Savanna and Pineywoods ecoregions.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**slender glass lizard** *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

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## DALLAS COUNTY

### REPTILES

**Texas garter snake** *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

**Texas horned lizard** *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

**timber (canebrake) rattlesnake** *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

**western box turtle** *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**western chicken turtle** *Deirochelys reticularia miaria*

Aquatic and terrestrial: This species uses aquatic habitats in the late winter, spring and early summer and then terrestrial habitats the remainder of the year. Preferred aquatic habitats seem to be highly vegetated shallow wetlands with gentle slopes. Specific terrestrial habitats are not well known.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T5	State Rank: S2S3

**western massasauga** *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

### PLANTS

**Engelmann's bladderpod** *Physaria engelmannii*

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## DALLAS COUNTY

### PLANTS

Grasslands and calcareous rock outcrops in a band along the eastern edge of the Edwards Plateau, ranging as far north as the Red River (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

**glandular gay-feather**      *Liatrix glandulosa*

Occurs in herbaceous vegetation on limestone outcrops (Carr 2015)

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

**Glass Mountains coral-root**      *Hexalectris nitida*

Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under *Juniperus ashei* in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

**Glen Rose yucca**      *Yucca necopina*

Grasslands on sandy soils and limestone outcrops; flowering April-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S3

**Hall's prairie clover**      *Dalea hallii*

In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

**Oklahoma phlox**      *Phlox oklahomensis*

Known from a 1958 collection from an oak woodland four miles east of Garland, Texas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: SH

**Osage Plains false foxglove**      *Agalinis densiflora*

Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

#### DISCLAIMER

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*

## DALLAS COUNTY

### PLANTS

**plateau milkvine** *Matelea edwardsensis*

Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

**Sutherland hawthorn** *Crataegus viridis* var. *glabriuscula*

In mesic soils of woods or on edge of woods, treeline/fenceline, or thicket. Above/near creeks and draws, in river bottoms. Flowering Mar-Apr; fruiting May-Oct.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3T4	State Rank: S3

**Texas milk vetch** *Astragalus reflexus*

Grasslands, prairies, and roadsides on calcareous and clay substrates; Annual; Flowering Feb-June; Fruiting April-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

**tree dodder** *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

**Warnock's coral-root** *Hexalectris warnockii*

In leaf litter and humus in oak-juniper woodlands on shaded slopes and intermittent, rocky creekbeds in canyons; in the Trans Pecos in oak-pinyon-juniper woodlands in higher mesic canyons (to 2000 m [6550 ft]), primarily on igneous substrates; in Terrell County under Quercus fusiformis mottes on terraces of spring-fed perennial streams, draining an otherwise rather xeric limestone landscape; on the Callahan Divide (Taylor County), the White Rock Escarpment (Dallas County), and the Edwards Plateau in oak-juniper woodlands on limestone slopes; in Gillespie County on igneous substrates of the Llano Uplift; flowering June-September; individual plants do not usually bloom in successive years

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

### DISCLAIMER

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14 January 2022

Ms. Sandy Lancaster  
Dallas Fort Worth International Airport  
3003 South Service Road, Annex Building A  
DFW Airport, Texas 75261-9428

Re: Runway 17R-35L – Desktop Protected Species Habitat Assessment  
Runway 17R-35L at Dallas Fort Worth International Airport, DFW Airport, Tarrant County, Texas

Dear Ms. Lancaster,

Integrated Environmental Solutions, LLC (IES) performed a desktop protected species habitat assessment on the Runway 17R/35L at Dallas Fort Worth International Airport, DFW Airport, Tarrant County, Texas (**Attachment A, Figure 1**). This habitat assessment was performed to satisfy the requirements regarding the Endangered Species Act (ESA). The following report is a list of the federal and state-listed protected species for Tarrant County and their preferred vegetation assemblages, a summary of the vegetation communities identified on the site, an evaluation of whether the communities present on the site could support a protected species, and whether or not future proposed actions would affect listed species.

## INTRODUCTION

### Protected Species

#### *Federal*

The ESA of 1973 (Public Law [P.L.] 93-205) and the amendments of 1988 (P.L. 100-578) were enacted to provide a program of preservation for endangered and threatened species and to provide protection for ecosystems upon which these species depend for their survival. The ESA requires all federal agencies to implement protection programs for designated species and to use their authorities to further the purposes of the Act. Responsibility for the listing of an endangered or threatened species and for the development of recovery plans lies with the Secretary of Interior and Secretary of Commerce. The U.S. Fish and Wildlife Service (USFWS) is responsible for implementing the ESA within the United States.

An endangered species is a species, which is in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the near future throughout all or a significant portion of its range. Proposed species are those, which have been formally submitted to Congress for official listing as endangered or threatened.

In addition, the USFWS has identified species, which are candidates for possible addition to the list of Endangered and Threatened Wildlife and Plants (50 Code of Federal Regulations [CFR] 17.11 and 17.12) under the ESA. The USFWS maintains a candidate list to: (1) provide advance knowledge of potential listings that could affect land planning decisions, (2) solicit input to identify candidates not requiring protection or additional species that may require protection under the ESA, and (3) solicit information needed to prioritize the order in which species will be proposed for listing. Candidate species have no legal protection under the ESA.

Integrated Environmental Solutions, LLC. | 610 Elm Street, Suite 300  
McKinney, Texas 75069 | [www.intenvsol.com](http://www.intenvsol.com)

**Telephone: 972.562.7672**

The Migratory Bird Treaty Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance with the Act's policies and regulations. However, in a recent decision the U.S. Court of Appeals for the Fifth Circuit found that for an unlawful "taking" to occur, a "deliberate act done directly and intentionally to migratory birds" would need to occur. (United States v. CITGO Petroleum Corp., No. 14-40128 [5th Cir. Sept. 4, 2015]).

#### *State*

The Texas Parks and Wildlife Department (TPWD) Wildlife Diversity Program (WDP) maintains computerized records of state-listed threatened and endangered species by county. The State of Texas does not list threatened and endangered species using the same criteria as the federal government. When the USFWS lists a plant species, the State of Texas then lists that plant. Thus, the list of threatened and endangered plants in Texas is the same as the Federal list. The state has separate laws governing the listing of animal species as threatened or endangered. Threatened and endangered animal species in Texas are those species so designated according to Chapters 67 and 68 of the Texas Parks and Wildlife Code and Section 65.171 - 65.184 of Title 31 of the Texas Administrative Code. Species that are not currently listed by the Federal government may be listed as threatened or endangered by the TPWD.

### **METHODOLOGY**

The list of Endangered and Threatened Wildlife and Plants under the ESA was obtained through the USFWS Information, Planning, and Conservation System (IPaC) and from the TPWD WDP and the Texas Natural Diversity Database (TXNDD). The vegetation communities used by each species was obtained and is detailed below. During the desktop evaluation, vegetation composition within and adjacent to the project site were noted to determine whether there was any potential for protected species habitat.

### **RESULTS**

#### Literature Review

According to the USFWS, three species, Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), and Whooping Crane (*Grus americana*) are listed as federally protected (i.e., threatened or endangered) with the potential to occur within Tarrant County. Two of these species are conditionally listed as threatened within Tarrant County on the basis that the proposed project is for wind energy production, Red Knot, and Piping Plover. No federally listed critical habitat for these species is located within the vicinity of the survey area. The TPWD lists 11 state protected species that could occur within Tarrant County. Four are also federally listed avian species; however, the Black Rail (*Laterallus jamaicensis*) is only listed by TPWD for Tarrant County. The review of the TXNDD files did not indicate any unique vegetation communities, parks or natural/managed areas within the survey area.

**Attachment C** identifies the state and federally protected species that could potentially occur within Tarrant County from the IPaC and Rare and Threatened Endangered Species of Texas (RTEST) lists.

#### Desktop Survey

Aerial photography indicates that the project site is maintained as an **urban matrix** vegetation community. The runways are paved with small sections of unpaved areas between runways and access lanes that are dominated by mowed turfgrasses.

### **CONCLUSIONS**

#### Preferred Habitat for Federally Protected Species

**Table 1** provides a summary of the federally and state-listed species that could potentially occur within Tarrant County, as well as a brief description of their habitat, whether this habitat is present within the survey area, and whether the proposed project would potentially affect the listed species.

**Table 1. Federally- and State- listed Threatened and Endangered Species Occurring or Potentially Occurring in Tarrant County, Texas**

Species	State Status	Federal Status	Description of Habitat	Habitat Present <sup>1</sup>	Species Effect <sup>2</sup>
BIRDS					
Black Rail ( <i>Laterallus jamaicensis</i> )	T	LT	Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of <i>Salicornia</i> .	No	No
Piping Plover ( <i>Charadrius melodus</i> )	T	LT	Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e., north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.	No	No
Rufa Red Knot ( <i>Calidris canutus rufa</i> )	T	LT	The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam ( <i>Donax</i> spp.) on beaches and dwarf surf clam ( <i>Mulinia lateralis</i> ) in bays, at least in the Laguna Madre. Wintering Range includes- Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.	No	No
White-faced ibis ( <i>Plegadis chihi</i> )	T	---	Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	No	No
Whooping Crane ( <i>Grus americana</i> )	E	LE	Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	No	No
MAMMALS					
Black Bear ( <i>Ursus americanus</i> )	T	---	Historically prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat.	No	No
MOLLUSKS					
Louisiana pigtoe ( <i>Pleurobema riddellii</i> )	T	---	Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019].	No	No
Sandbank pocketbook ( <i>Lamellis satura</i> )	T	---	Occurs in small streams to large rivers in slow to moderate current in sandy mud to sand and gravel substrate. Can occur in a variety of habitats but most common in littoral habitats such as banks or backwaters or in protected areas along point bars (Randklev et al. 2013b; Randklev et al. 2014a; Troia et al. 2015). [Mussels of Texas 2019].	No	No
Texas heelsplitter ( <i>Potamilus amphichaenus</i> )	T	---	Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019].	No	No
INSECTS					
Monarch Butterfly ( <i>Danaus plexippus</i> )	---	C	Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily <i>Asclepias</i> spp.), and larvae emerge after 2 to 5 days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately 2 to 5 weeks; overwintering adults enter into reproductive diapause (suspended reproduction) and live 6 to 9 months. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites.	No	No

Species	State Status	Federal Status	Description of Habitat	Habitat Present <sup>1</sup>	Species Effect <sup>2</sup>
REPTILES					
Alligator snapping turtle ( <i>Macrochelys temminckii</i> )	T	---	Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the water's edge.	No	No
Texas horned lizard ( <i>Phrynosoma cornutum</i> )	T	---	Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.	No	No

LE – Federally Listed Endangered, LT – Federally Listed Threatened, DL – Federally Delisted, PT – Federally Proposed Threatened, E – State Listed Endangered, T - State Listed Threatened  
C - Candidate

<sup>1</sup>Habitat Present? – Do the vegetation communities located within the survey area match the requirements for that particular protected species?

<sup>2</sup>Species Effect? – Will the proposed project potentially affect a protected species?

Data Sources: USFWS IPaC (Published and accessed 28 September 2021), TPWD (Published 22 June 2021, accessed 28 September 2021), and field survey of the survey area

Regarding federally listed threatened and endangered species, Red Knot, Piping Plover, and Whooping Crane were listed for Tarrant County. As these projects will not be related to wind energy, the Red Knot and Piping Plover will not be affected.

- Whooping Cranes utilize estuaries, prairie marshes, moist grasslands, croplands, and will use large shallow wetland areas associated with lakes for roosting and feeding. The survey area did not contain this type of vegetation communities within.

As such, the habitats present within the survey area were not suitable for any of the federally listed threatened and endangered species. Nor were the habitats suitable for nesting, feeding, or stopover migration habitat for these species.

#### Preferred Habitat for State Protected Species

There were 11 state-listed threatened and endangered species for Tarrant County, which includes all the federally listed avian species. Any occurrence of the Least Tern (*Sterna antillarum athalassos*), Piping Plover, and White-faced Ibis (*Plegadis chihi*) would be in relation to stopover during migration; however, no suitable stopover or nesting habitat was observed within the survey area. Whooping Crane and Black Rail would be unlikely to utilize the survey area, as their preferred habitat type were not present.

#### Vegetation Communities

None of the vegetation observed within the survey area on aerial photography would be considered unique or compose a unique vegetation type for the region. The vegetation communities described were composed of species that are not only common to grassland and forested areas, but to the Cross-Timbers and Blackland Prairie eco-regions of North Central Texas. It is IES' professional opinion that the proposed project will not have any effect on any unique vegetation, vegetation communities, or habitat types.

#### Potential to Affect Protected Species

As previously noted, habitat for any of the federally listed species and state listed species was not present within the survey area. As such, the proposed project is not expected to have any impacts on the federally or state-listed threatened or endangered species.

IES appreciates the opportunity to work with you and the Dallas Fort Worth International Airport Environmental Affairs Department on this project and hope we may be of assistance to you in the future. If you have any comments, questions, or concerns, please do not hesitate to contact me at 972-562-7672 or by email at [skipp@intenvsol.com](mailto:skipp@intenvsol.com) or [rreinecke@intenvsol.com](mailto:rreinecke@intenvsol.com).

Sincerely,

Integrated Environmental Solutions, LLC.

A handwritten signature in black ink, appearing to read 'Shae Kipp', with a stylized flourish at the end.

Mr. Shae Kipp  
Ecologist

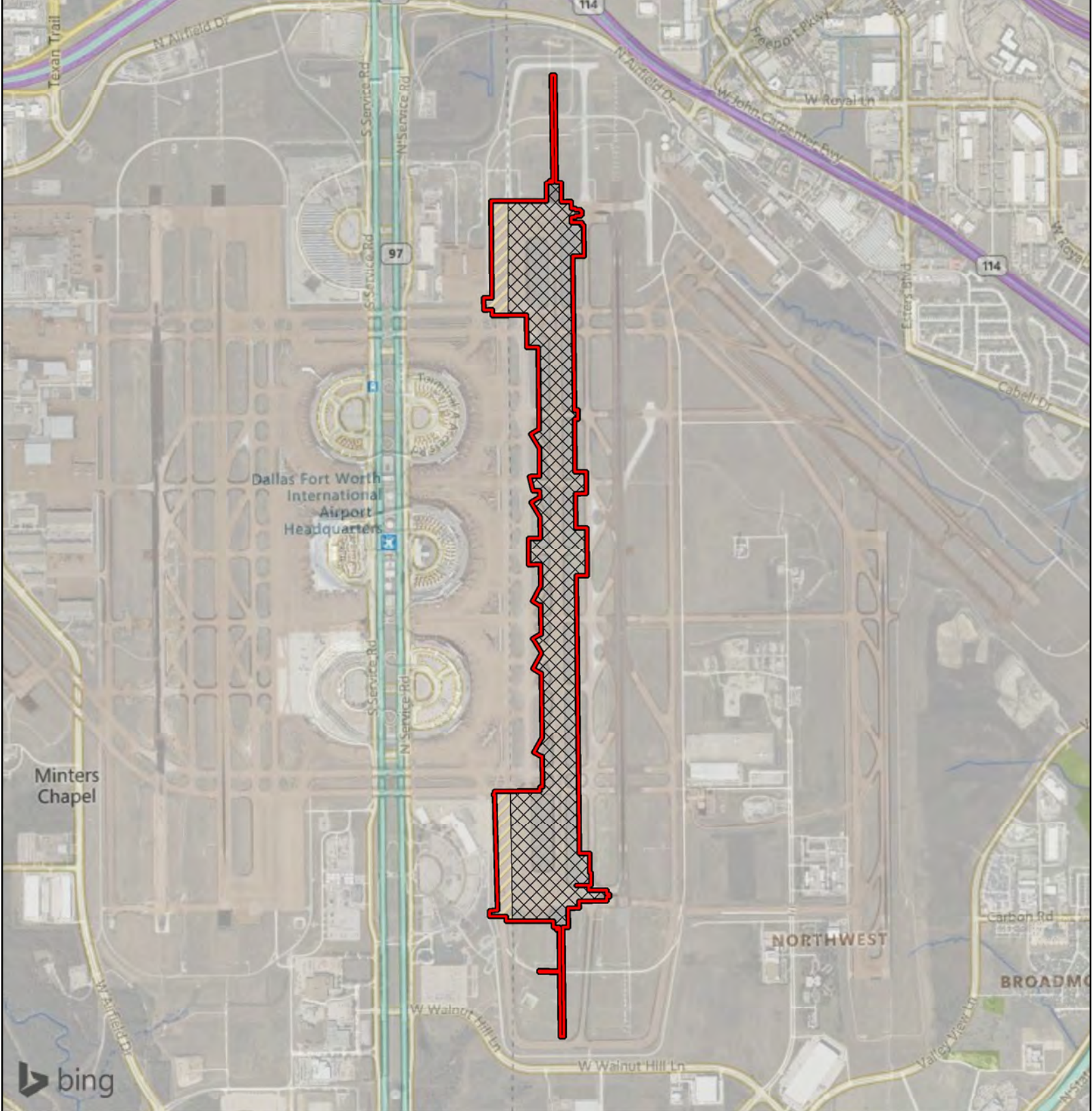
Attachments

File ref: 03.006.097



## **ATTACHMENT A**

Figures



**Figure 1.**  
**General Location Map**

Runway 17R-35L  
DFW International Airport  
Tarrant County, Texas

1 in = 2,500 feet

Feet  
0 2,500

N  
W E  
S

File Ref. 03.006.097  
Date: 1/14/2022

Survey Area

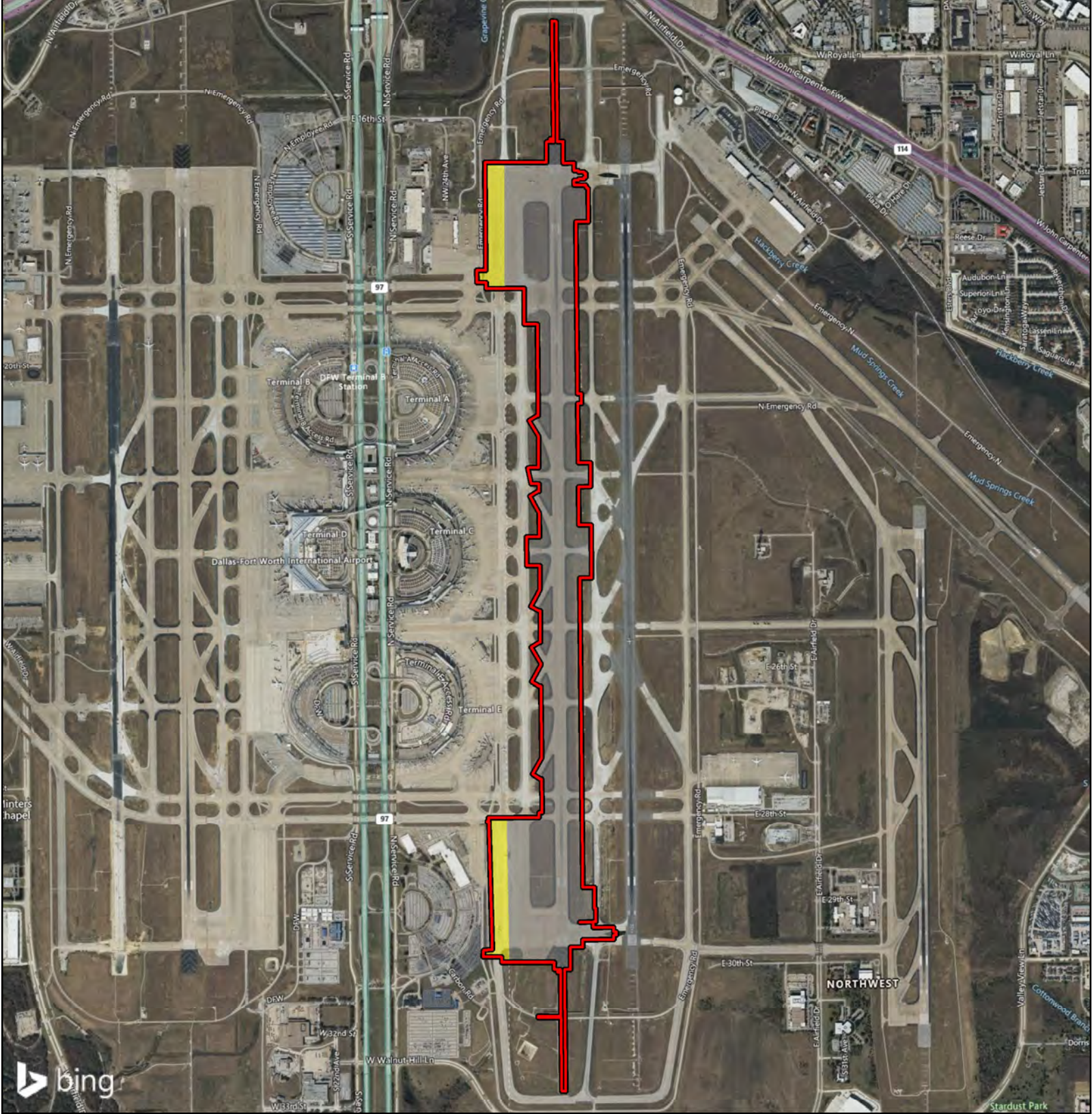
Dallas County within Survey Area

Tarrant County within Survey Area

Area of Detail

Scale: 1 inch equals 10 miles





**Figure 2.**  
**Vegetation Communities Identified**  
**within the Survey Area**

Runway 17R-35L  
 DFW International Airport  
 Tarrant County, Texas

1 in = 2,250 feet

Feet  
 0 2,250

File Ref. 03.006.097  
 Date: 1/14/2022

**Legend**

Survey Area

Areas within the Survey area in Dallas County

**Vegetation Communities**

Urban Matrix

**ATTACHMENT B**

Protected

Species Lists



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Arlington Ecological Services Field Office  
2005 Ne Green Oaks Blvd  
Suite 140

Arlington, TX 76006-6247

Phone: (817) 277-1100 Fax: (817) 277-1129

<http://www.fws.gov/southwest/es/arlingtontexas/>

<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>

In Reply Refer To:

January 14, 2022

Consultation Code: 02ETAR00-2022-SLI-0893

Event Code: 02ETAR00-2022-E-02090

Project Name: Runway 17R-35L (Tarrant)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, which may occur within the boundary of your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under section 7(a)(1) of the Act, Federal agencies are directed to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Under and 7(a)(2) and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether their actions may affect threatened and endangered species and/or designated critical habitat. A Federal action is an activity or program authorized, funded, or carried out, in whole or in part, by a Federal agency (50 CFR 402.02).

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For Federal actions other than major construction activities, the Service suggests that a biological evaluation (similar to a Biological Assessment) be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.



After evaluating the potential effects of a proposed action on federally listed species, one of the following determinations should be made by the Federal agency:

1. *No effect* - the appropriate determination when a project, as proposed, is anticipated to have no effects to listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, the action agency should maintain a complete record of their evaluation, including the steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information.
2. *May affect, but is not likely to adversely affect* - the appropriate determination when a proposed action's anticipated effects to listed species or critical habitat are insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where "take" of a listed species occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur. This determination requires written concurrence from the Service. A biological evaluation or other supporting information justifying this determination should be submitted with a request for written concurrence.
3. *May affect, is likely to adversely affect* - the appropriate determination if any adverse effect to listed species or critical habitat may occur as a consequence of the proposed action, and the effect is not discountable or insignificant. This determination requires formal section 7 consultation.

The Service has performed up-front analysis for certain project types and species in your project area. These analyses have been compiled into *determination keys*, which allows an action agency, or its designated non-federal representative, to initiate a streamlined process for determining a proposed project's potential effects on federally listed species. The determination keys can be accessed through IPaC.

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

---

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (<https://www.fws.gov/birds/management/managed-species/eagle-management.php>). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php>.

For additional information concerning migratory birds and eagle conservation plans, please contact the Service's Migratory Bird Office at 505-248-7882.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Arlington Ecological Services Field Office**

2005 Ne Green Oaks Blvd

Suite 140

Arlington, TX 76006-6247

(817) 277-1100

---

## Project Summary

Consultation Code: 02ETAR00-2022-SLI-0893

Event Code: Some(02ETAR00-2022-E-02090)

Project Name: Runway 17R-35L (Tarrant)

Project Type: DEVELOPMENT

Project Description: Runway updates

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.9129079,-97.03330541874212,14z>



Counties: Dallas and Tarrant counties, Texas

---

## Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Birds

NAME	STATUS
Golden-cheeked Warbler (=wood) <i>Dendroica chrysoparia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/33">https://ecos.fws.gov/ecp/species/33</a>	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Endangered

---



## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Last Update: 10/1/2021

## TARRANT COUNTY

### AMPHIBIANS

**Strecker's chorus frog** *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Woodhouse's toad** *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

### BIRDS

**bald eagle** *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

**Black Rail** *Laterallus jamaicensis*

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

**Chestnut-collared Longspur** *Calcarius ornatus*

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Franklin's gull** *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

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## TARRANT COUNTY

### BIRDS

#### interior least tern

*Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status:

State Status:

SGCN: N

Endemic: N

Global Rank: G4T3Q

State Rank: S1B

#### Lark Bunting

*Calamospiza melanocorys*

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (*Koeleria*), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4B

#### mountain plover

*Charadrius montanus*

Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S2

#### piping plover

*Charadrius melodus*

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S2N

#### Rufa Red Knot

*Calidris canutus rufa*

Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4T2

State Rank: S2N

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## TARRANT COUNTY

### BIRDS

**western burrowing owl** *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

**white-faced ibis** *Plegadis chihi*

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

**whooping crane** *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

### FISH

**Mississippi silvery minnow** *Hybognathus nuchalis*

Found in eastern Texas streams, from the Brazos River eastward and northward to the Red River; found in moderate current; silty, muddy, or rocky substrate. In Texas, adults likely to inhabit smaller tributary streams.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5	State Rank: S4

### INSECTS

**American bumblebee** *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

**Comanche harvester ant** *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

### MAMMALS

**big brown bat** *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
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## TARRANT COUNTY

### MAMMALS

Endemic: N                      Global Rank: G5                      State Rank: S5

**big free-tailed bat**                      *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G5                      State Rank: S3

**black bear**                      *Ursus americanus*

Generalist. Historically found throughout Texas. In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. luteolus, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status:                      State Status: T                      SGCN: Y  
Endemic: N                      Global Rank: G5                      State Rank: S3

**black-tailed prairie dog**                      *Cynomys ludovicianus*

Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G4                      State Rank: S3

**cave myotis bat**                      *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G4G5                      State Rank: S2S3

**eastern red bat**                      *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G3G4                      State Rank: S4

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## TARRANT COUNTY

### MAMMALS

**eastern spotted skunk** *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

**hoary bat** *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**long-tailed weasel** *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**mountain lion** *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

**Muskrat** *Ondatra zibethicus*

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**swamp rabbit** *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**tricolored bat** *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

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## TARRANT COUNTY

### MAMMALS

**western hog-nosed skunk** *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

### MOLLUSKS

**Louisiana Pigtoe** *Pleurobema riddellii*

Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G2	State Rank: S1

**Sandbank Pocketbook** *Lampsilis satura*

Occurs in small streams to large rivers in slow to moderate current in sandy mud to sand and gravel substrate. Can occur in a variety of habitats but most common in littoral habitats such as banks or backwaters or in protected areas along point bars (Randklev et al. 2013b; Randklev et al. 2014a; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic:	Global Rank: G2?	State Rank: S1

**Texas Heelsplitter** *Potamilus amphichaenus*

Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G3	State Rank: S1

### REPTILES

**alligator snapping turtle** *Macrochelys temminckii*

Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

**common garter snake** *Thamnophis sirtalis*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: N
Endemic:	Global Rank: G5	State Rank: S2

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## TARRANT COUNTY

### REPTILES

**eastern box turtle** *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Prairie Skink** *Plestiodon septentrionalis*

The prairie skink can occur in any native grassland habitat across the Rolling Plains, Blackland Prairie, Post Oak Savanna and Pineywoods ecoregions.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**slender glass lizard** *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**smooth softshell** *Apalone mutica*

Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Texas garter snake** *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

**Texas horned lizard** *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

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## TARRANT COUNTY

### REPTILES

**timber (canebrake) rattlesnake** *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

**western box turtle** *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**western chicken turtle** *Deirochelys reticularia miaria*

Aquatic and terrestrial: This species uses aquatic habitats in the late winter, spring and early summer and then terrestrial habitats the remainder of the year. Preferred aquatic habitats seem to be highly vegetated shallow wetlands with gentle slopes. Specific terrestrial habitats are not well known.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T5	State Rank: S2S3

**western massasauga** *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

### PLANTS

**earleaf false foxglove** *Agalinis auriculata*

Known in Texas from one late nineteenth century specimen record labeled -Benbrook-; in Oklahoma, degraded prairies, floodplains, fallow fields, and borders of upland sterile woods; in Arkansas, blackland prairie; Annual; Flowering August - October

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: SH

**Engelmann's bladderpod** *Physaria engelmannii*

Grasslands and calcareous rock outcrops in a band along the eastern edge of the Edwards Plateau, ranging as far north as the Red River (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

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## TARRANT COUNTY

### PLANTS

<b>Glen Rose yucca</b>	<i>Yucca necopina</i>	
Grasslands on sandy soils and limestone outcrops; flowering April-June		
Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S3
<b>Hall's prairie clover</b>	<i>Dalea hallii</i>	
In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept		
Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2
<b>Osage Plains false foxglove</b>	<i>Agalinis densiflora</i>	
Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2
<b>Reverchon's scurfpea</b>	<i>Pedimelum reverchonii</i>	
Mostly in prairies on shallow rocky calcareous substrates and limestone outcrops; Perennial; Flowering Jun-Sept; Fruiting June-July		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3
<b>Shinner's sedge</b>	<i>Carex shimmersii</i>	
Occurs in ditches and swales in prairie landscapes (Carr 2015).		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2
<b>Sutherland hawthorn</b>	<i>Crataegus viridis</i> var. <i>glabriuscula</i>	
In mesic soils of woods or on edge of woods, treeline/fenceline, or thicket. Above/near creeks and draws, in river bottoms. Flowering Mar-Apr; fruiting May-Oct.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3T4	State Rank: S3
<b>Texas milk vetch</b>	<i>Astragalus reflexus</i>	
Grasslands, prairies, and roadsides on calcareous and clay substrates; Annual; Flowering Feb-June; Fruiting April-June		
Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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## TARRANT COUNTY

### PLANTS

**Topeka purple-coneflower**

*Echinacea atrorubens*

Occurring mostly in tallgrass prairie of the southern Great Plains, in blackland prairies but also in a variety of other sites like limestone hillsides;  
Perennial; Flowering Jan-June; Fruiting Jan-May

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

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## **APPENDIX B: WATERS OF THE UNITED STATES DELINEATION REPORT**

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14 January 2022

Ms. Sandy Lancaster  
Dallas Fort Worth International Airport  
3003 South Service Road, Annex Building A  
DFW Airport, Texas 75261-9428

Re: Runway 17R-35L – Waters of the United States Desktop Evaluation  
Runway 17R-35L at Dallas Fort Worth International Airport, DFW Airport, Dallas and Tarrant Counties, Texas

Dear Ms. Lancaster,

Integrated Environmental Solutions, LLC (IES) performed a desktop review to identify any aquatic features that meet a definition of a water of the United States on the Runway 17R-35L at Dallas Fort Worth International Airport, DFW Airport, Dallas and Tarrant Counties, Texas (**Attachment A, Figure 1**). This report will ultimately assess aerial photographs to interpret potentially jurisdictional aquatic features to ensure compliance with Clean Water Act (CWA) Sections 401 and 404.

## INTRODUCTION

Waters of the United States are protected under guidelines outlined in CWA Sections 401 and 404, in Executive Order (EO) 11990 (Protection of Wetlands), and by the review process of the Texas Commission on Environmental Quality (TCEQ). Agencies that regulate impacts to the nation's water resources within Texas include the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (USEPA), the U.S. Fish and Wildlife Service (USFWS), and the TCEQ. The USACE has the primary regulatory authority for enforcing CWA Section 404 requirements for waters of the United States.

The decision for whether a CWA Section 404 permit is required on a property is determined if there are waters of the United States present and the extent of losses of those features. The USACE and USEPA have gone through rulemaking to define what is a water of the United States, independently and jointly, several times since the initial CWA. The longest standing definitions of waters of the United States were those published in 1986; however, these definitions were challenged in 2001 and 2007 U.S. Supreme Court decisions. Since then, both the Obama and Trump administration completed rulemaking to modify the definitions of waters of the United States in the Clean Water Rule in 2016 and the Navigable Water Protection Rule (NWPR) in 2020. A recent federal district court decision in Arizona struck down the NWPR but was silent on which definitions of waters of the United States would replace it. As of the date of this letter report, the USACE Fort Worth District has provided verbal guidance that the USACE will be utilizing the pre-2015 definitions (i.e., 1986 definitions combined with the *Rapanos* and *Carabell* U.S. Supreme Court decisions) to define waters of the United States. USEPA has indicated that the pre-2015 definitions will be in place until new definitions have been developed as part of the new definitions rulemaking process that was started in June 2021, prior to the Arizona court decision.

### *1986 Waters of the United States Definitions and Rapanos Decision*

The definition of waters of the United States, in 33 Code of Federal Regulations (CFR) 328.3, includes waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, wetlands, sloughs, wet meadows, or natural ponds and all impoundments of waters otherwise defined as waters of the United States. Also included are wetlands adjacent to waters (other than waters that are themselves wetlands). The term *adjacent* is defined as bordering, contiguous, or neighboring. Jurisdictional wetlands are a category of waters of the United States and have been defined by the USACE as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Waters of the United States are defined in 33 CFR 328.3 (a), 13 November 1986, as:

1. *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
2. *All interstate waters including interstate wetlands;*
3. *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:*
  - i. *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
  - ii. *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
  - iii. *Which are used or could be used for industrial purposes by industries in interstate commerce;*
4. *All impoundments of waters otherwise defined as waters of the United States under the definition;*
5. *Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;*
6. *The territorial seas;*
7. *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.*

On 05 June 2007, the USACE and the USEPA issued joint guidance on delineation of waters on the United States based on the U.S. Supreme Court decisions in *Rapanos* and *Carabell*. Under this guidance, potential waters of the United States have been classified as traditional navigable waters (TNW), relatively permanent waters (RPW) (i.e., having flow most of the year or at least seasonally), or non-RPWs. This guidance states that TNWs and RPWs and contiguous or adjacent wetlands to these aquatic features are waters of the United States. Wetlands that are bordering, contiguous, or neighboring another water of the United States is considered adjacent. Additionally, wetlands that are within the 100-year floodplain of another water of the United States are also considered adjacent. Non-RPWs, wetlands contiguous or adjacent to non-RPWs, and isolated wetlands must undergo a “significant nexus” test on a case-by-case basis to determine the jurisdictional nature of these aquatic features. Under the “significant nexus” test a water feature must have substantial connection to a TNW by direct flow, or by indirect biological, hydrologic, or chemical connection. Under the “significant nexus” test the USACE District Engineer must submit the jurisdictional determination (JD) to the regional USEPA office, which makes the decision whether to move the JD to Headquarters USACE to make the final determination.

This guidance does not void the January 2001 decision of the U.S. Supreme Court in *Solid Waste Agency of Northern Cook County (SWANCC) v. USACE* which disallowed regulation of isolated wetlands under the CWA through the “Migratory Bird Rule.” Previously, the USACE assumed jurisdiction over isolated waters of the United States based on its 1986 preamble stating that migratory birds used these habitats. The “Migratory Bird Rule” provided the nexus to interstate commerce and thus protection under the CWA. However, the new guidance does require that the “significant nexus” test be performed in addition to an analysis of other potential interstate commerce uses for isolated waters.



## METHODOLOGY

In conducting the desktop evaluation, the U.S. Geological Survey (USGS) topographic map (**Attachment A, Figures 2A and 2B**), the *Soil Survey of Dallas County, Texas*, the *Soil Survey of Tarrant County, Texas* and the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) digital soil database for Dallas and Tarrant Counties (**Attachment A, Figure 3**), the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (**Attachment A, Figure 4**), and recent and historic aerial photographs of the proposed survey area were studied to identify possible aquatic features that could meet the definition of waters of the United States and areas prone to wetland development. While this assessment is valid for preliminary planning purposes, the results are adapted from an aerial photograph interpretation that is not an approved USACE delineation methodology for CWA Section 404 permitting.

## RESULTS

### *Background Review*

#### Topographic Setting

The USGS topographic maps (Grapevine 7.5' Quadrangle 1959, revised 1981; Euless 7.5' Quadrangle 1959, revised 1981) illustrate one man-made ditch as a purple linear feature at the southern end (see **Attachment A, Figure 2A**). The 2019 version of the Grapevine and Euless 7.5' Quadrangle maps illustrate the purple line as a blue line feature with a slightly modified orientation from the east (see **Attachment A, Figure 2B**). The overall site is oriented on a ridge with slopes from the central portion oriented to the north and south as well as to the east. The overall topography of the site was illustrated with slopes oriented northwest-to-southeast. The elevation of the property was between approximately 560 feet (ft) and 590 ft above mean sea level (amsl).

#### Soils

The USDA NRCS Web Soil Survey identified six soil map units within the survey area, Houston Black-Urban land complex, 1 to 4 percent slopes; Urban land; Heiden clay, 1 to 3 percent slopes; Houston Black clay, 0 to 1 percent slopes; Houston Black clay, 1 to 3 percent slopes; and Houston Black-Urban land complex, 0 to 4 percent slopes. None of these soil map units were listed as a hydric soil on the Hydric Soils of Texas list prepared by the National Technical Committee for Hydric Soils (accessed 14 January 2022, Dallas and Tarrant Counties, Texas) (see **Attachment A, Figure 3**). Hydric soils are described as those soils that are sufficiently wet in the upper part to develop anaerobic conditions during the growing season.

#### FEMA FIRM

The FEMA FIRM map panels (Dallas County Map Panels 48113C0145K, effective 07 July 2014; 48443C0285L, effective 21 March 2019; Tarrant County Map Panels 48439C0120K, effective 25 September 2009; 48439C0235L, effective 21 March 2019) shows the entirety of the survey area to be within Zone X (Areas determined to be outside the 0.2 percent annual chance floodplain) (see **Attachment A, Figure 4**).

#### Desktop Evaluation – National Hydrology Dataset and Aerial Photograph Interpretation

The National Hydrography Dataset (NHD), recent and historic aerial photography were utilized to determine the possible presence of aquatic features within the survey area. The entirety of the survey area has been completely developed with stormwater control systems that drain rainfall and sheet flow immediately into a subterranean drainage system. Though a blue line feature was illustrated on the USGS topographic map along the southern tip, this area was significantly changed as a result of another expansion project between 2005 and 2007 which altered the surface hydrology of this portion of the site and removed any form of visible swale or channel. As such, no aquatic features were identified (**Attachment A, Figure 5**).

## CONCLUSIONS

To summarize the desktop assessment, no aquatic features were identified within the survey area.

This delineation is based on professional experience in photograph interpretation and assessing the desktop resources and from experience with the USACE Fort Worth District regulators; however, this assessment does not

constitute a delineation or a jurisdictional determination of waters of the United States. This assessment has been based on the professional experience of IES staff and our interpretation of USACE regulations at 33 CFR 328.3, IES' interpretation of the NWPR, current judicial reviews, and the Regulatory Guidance Letter (RGL) 08-02. While IES believes our assessment to be accurate based on the information reviewed, results may be refined or changed based on field observations and final authority to interpret the regulations lies solely with the USACE and USEPA. The USACE Headquarters in association with the USEPA often issue guidance that changes the interpretation of published regulations. USACE/USEPA guidance issued after the date of this report has the potential to invalidate the report conclusions and/or recommendations, which may create the need to reevaluate the report conclusions. IES has no regulatory authority, as such, proceeding based solely upon this report does not protect the Client from potential sanction or fines from the USACE/USEPA. The Client acknowledges that they have the opportunity to submit this report to the USACE for a preliminary jurisdictional determination for concurrence prior to proceeding with any work within aquatic features located on the survey area. If the Client elects not to do so, then the Client proceeds at their sole risk.

IES appreciates the opportunity to work with you and Dallas Fort Worth International Airport on this project, and we hope we may be of assistance to you in the future. If you have any comments, questions, or concerns, please do not hesitate to contact us. We can be reached at 972-562-7672 or by email at [skipp@intenvsol.com](mailto:skipp@intenvsol.com) or [reinecke@intenvsol.com](mailto:reinecke@intenvsol.com).

Sincerely,

Integrated Environmental Solutions, LLC.

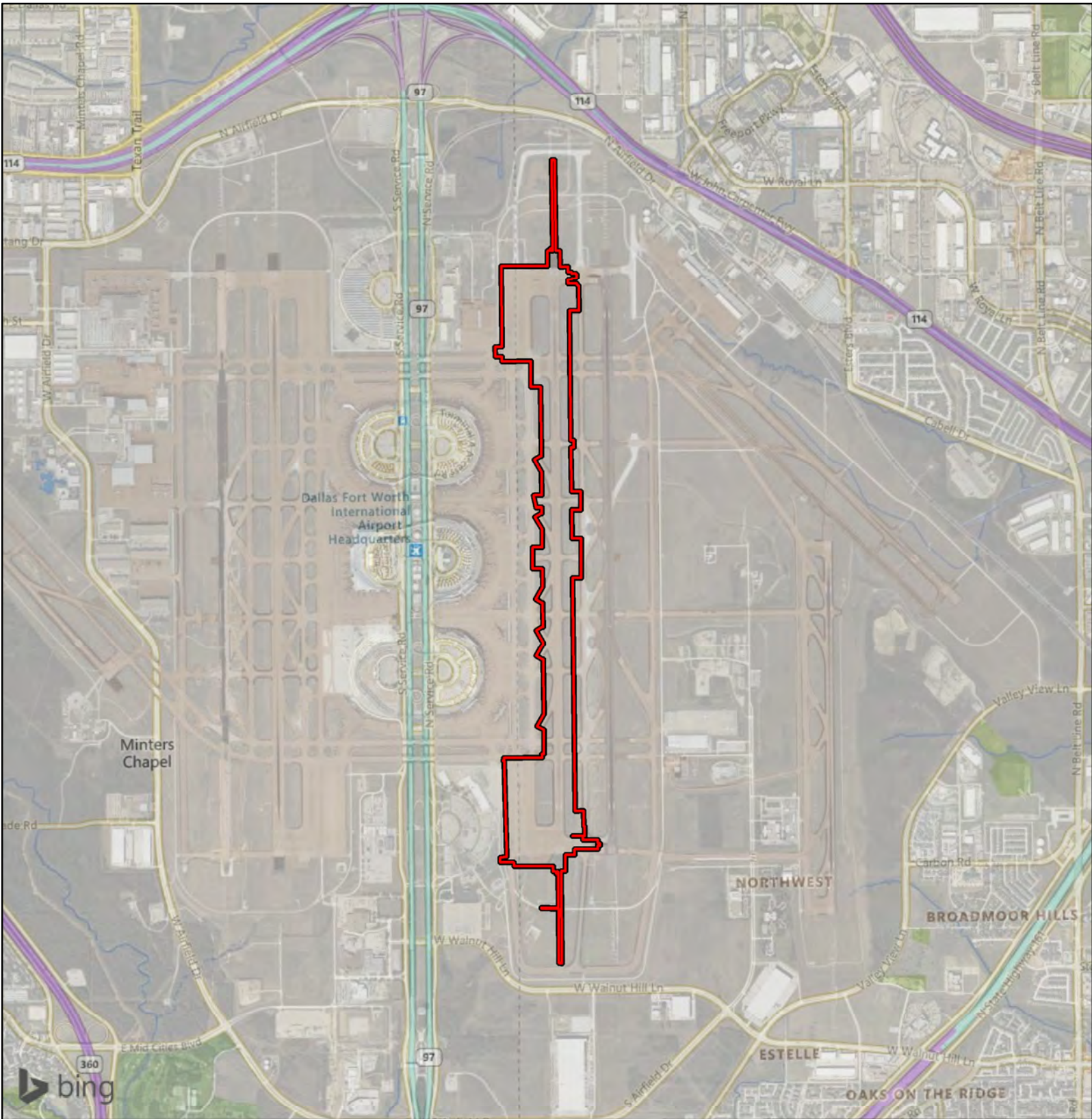


Mr. Shae Kipp  
Ecologist

Attachments

File ref: 03.006.097


**ATTACHMENT A**  
Figures



**Figure 1.**  
**General Location Map**

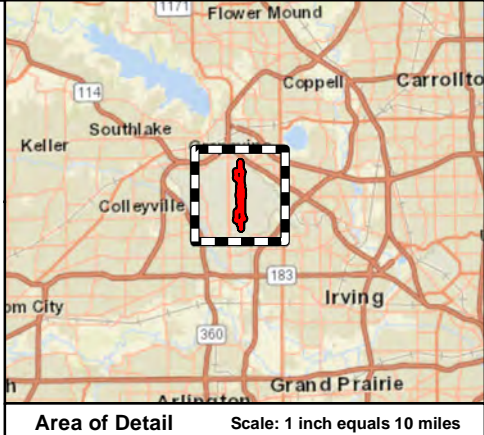
 Survey Area

Runway 17R-35L  
DFW International Airport  
Dallas & Tarrant Counties, Texas

1 in = 3,000 feet 

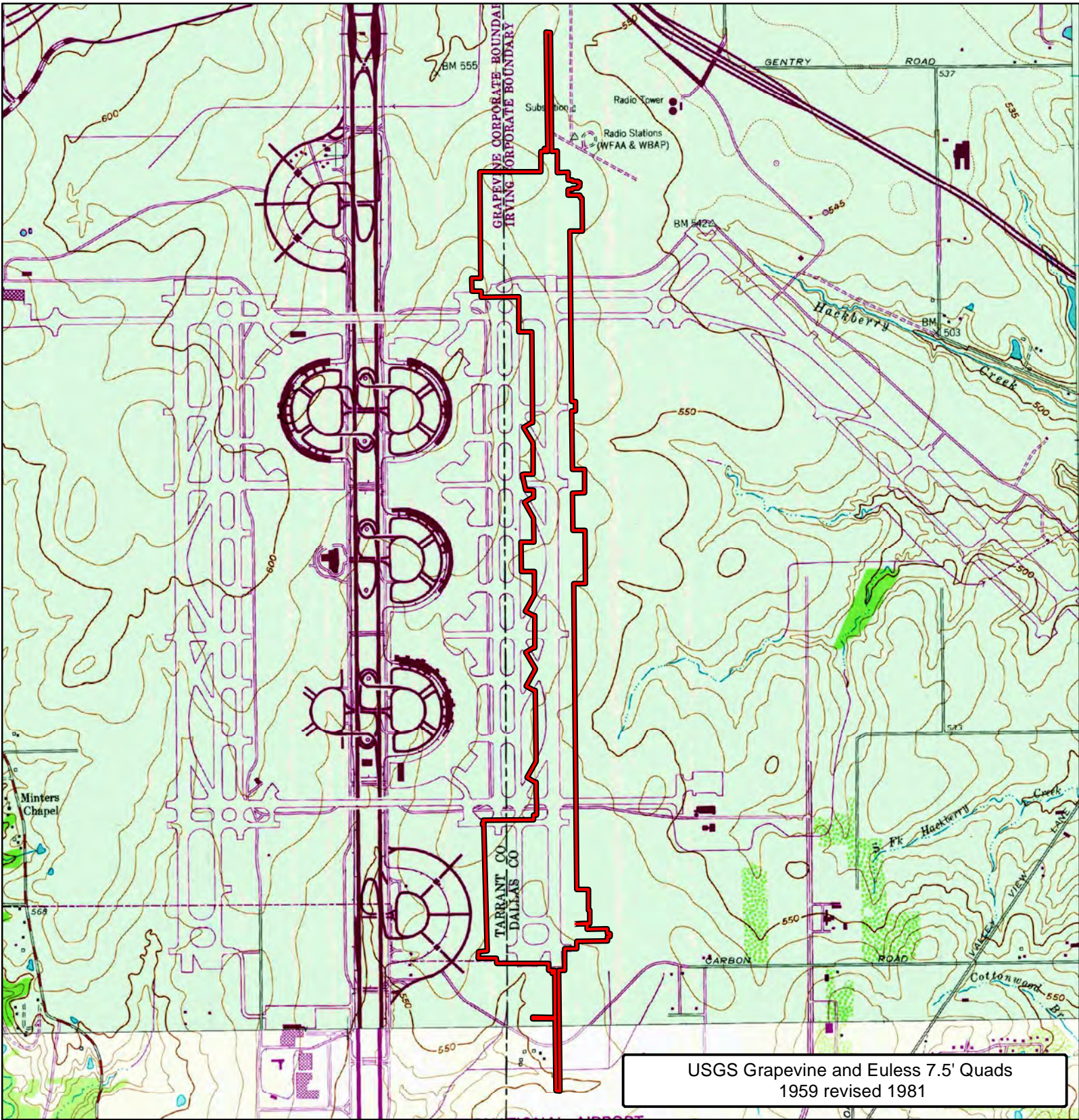


File Ref. 03.006.097  
Date: 1/14/2022



**Area of Detail** Scale: 1 inch equals 10 miles






**Figure 2A.  
Topographic Setting**

Runway 17R-35L  
DFW International Airport  
Dallas & Tarrant Counties, Texas

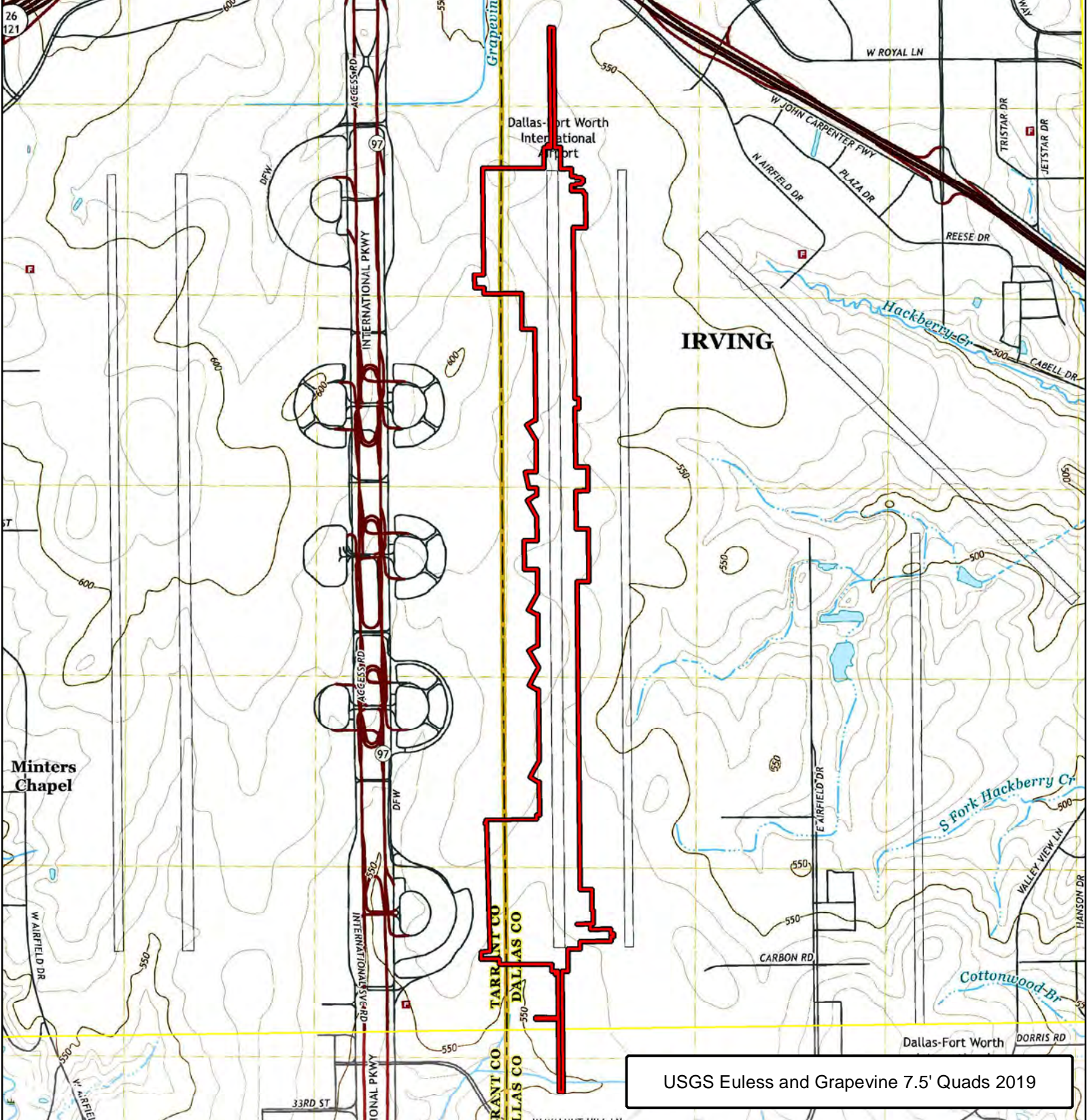
1 in = 2,250 feet  
0 2,250

File Ref. 03.006.097  
Date: 1/14/2022



 Survey Area





**Figure 2B.**  
**Topographic Setting**

Runway 17R-35L  
DFW International Airport  
Dallas & Tarrant Counties, Texas

1 in = 2,250 feet

0 2,000

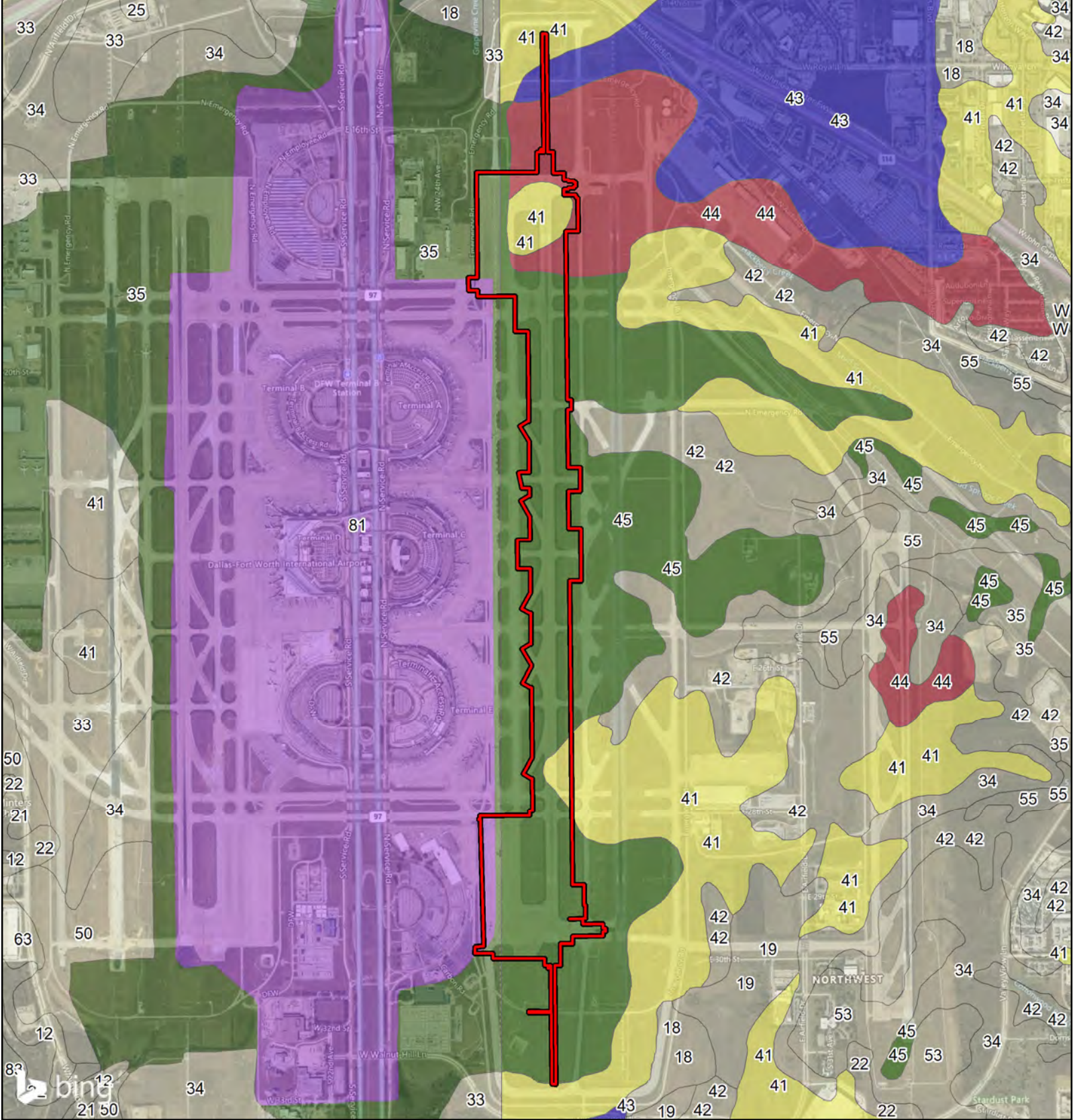
File Ref. 03.006.097  
Date: 1/14/2022

N  
W E  
S

USGS Euleless and Grapevine 7.5' Quads 2019

 Survey Area





**Figure 3.  
Soils Map**

Runway 17R-35L  
DFW International Airport  
Dallas & Tarrant Counties, Texas

1 in = 2,250 feet

0 2,250

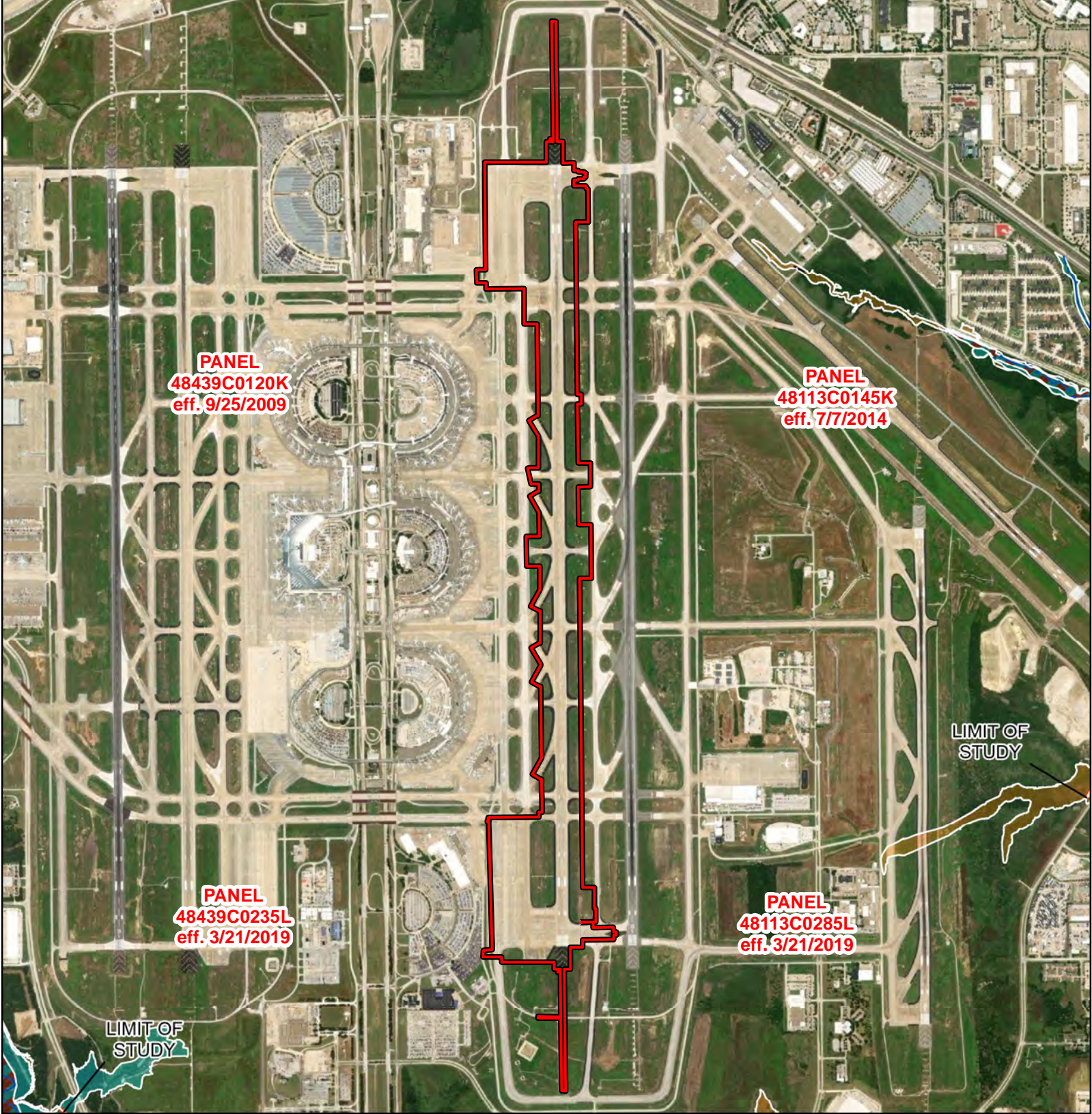
Feet

N  
W E  
S

File Ref. 03.006.097  
Date: 1/14/2022

- Survey Area**
- Survey Area
  - Soil map units outside the survey area
- Soil Map Units**
- 35 - Houston Black-Urban land complex, 1 to 4 percent slopes
  - 81 - Urban land
  - 41 - Heiden clay, 1 to 3 percent slopes
  - 43 - Houston Black clay, 0 to 1 percent slopes
  - 44 - Houston Black clay, 1 to 3 percent slopes
  - 45 - Houston Black-Urban land complex, 0 to 4 percent slopes





**Figure 4.**  
**Federal Emergency**  
**Management Agency**  
**Flood Insurance Rate Map**

Runway 17R-35L  
 DFW International Airport  
 Dallas & Tarrant Counties, Texas



File Ref. 03.006.097  
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Survey Area

**FEMA FIRM Zone Descriptions**

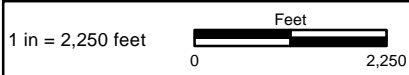
- Zone X - Areas determined to be outside the 0.2% annual chance floodplain
- Zone X - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood
- Zone A - Special Flood Hazard Areas subject to inundation by the 1% annual chance flood; No base flood elevations determined
- Zone AE - Special Flood Hazard Areas subject to inundation by the 1% annual chance flood; Base flood elevations determined
- Zone AE - Floodway areas in Zone AE






**Figure 5.**  
**Aquatic Resources Identified**  
**within the Survey Area**

Runway 17R-35L  
DFW International Airport  
Dallas & Tarrant Counties, Texas



File Ref. 03.006.097  
Date: 1/14/2022



**Legend**  
 Survey Area

\* No aquatic features were identified in the desktop evaluation

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## **APPENDIX C: CULTURAL RESOURCES REPORT AND THC/SHPO COORDINATION**

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24 January 2022

Mr. Mark Wolfe  
Texas Historical Commission  
1511 Colorado Street  
Austin, Texas 78701

RE: Cultural Resources Desktop Analysis for the Dallas Fort Worth International Airport Runway 17R-35L Rehabilitation Project, DFW International Airport, Dallas and Tarrant Counties, Texas

## **INTRODUCTION**

Integrated Environmental Solutions, LLC (IES), has been contracted by Dallas Fort Worth International Airport (DFW) to conduct the cultural resources review and agency coordination for the proposed DFW Runway 17R-35L Rehabilitation Project on DFW property. The proposed project area or Area of Potential Effects (APE) encompasses 345 acres (ac) on DFW property in Dallas and Tarrant counties (**Attachment A, Figure 1**). Approval from the Federal Aviation Administration (FAA) will be required to modify the Airport Layout Plan (ALP) to reflect the permanent alterations on the DFW property. Since the ALP is considered a federal action, the project will require compliance with the National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) Section 106. Additionally, as the DFW is a political subdivision of the State of Texas, the project will be subjected to the provisions of the Antiquities Code of Texas (ACT).

## **PERTINENT REGULATIONS**

### *Antiquities Code of Texas*

As the DFW is considered a political subdivision of the State of Texas under Section 52, Article III, or Section 59, Article XVI, of the Texas Constitution, DFW is required to comply with the ACT. The ACT, as outlined in the Texas Administrative Code (TAC) Title 13 Part II and the Texas Natural Resource Code (TNRC) Title 9 Chapter 191, requires that political subdivisions notify the Texas Historical Commission (THC) at least 30 days in advance prior to any project that may affect potential or designated archeological sites. While advance project review by the THC is required for undertakings with more than 5 ac or 5,000 cubic yards of ground disturbance, the THC can still request project information and/or an archeological survey in advance of more minor ground disturbances since all publicly sponsored projects must comply with the ACT. If the activity occurs inside a designated historic district, affects a recorded archeological site, or requires on-site investigations, the project will need to be reviewed by the THC, regardless of project size.

### *National Historical Preservation Act Section 106*

The NHPA (54 U.S. Code [USC] 306101), specifically Section 106 (54 USC 306108), requires the State Historic Preservation Officer (SHPO), represented by the THC, to administer and coordinate historic preservation activities, and to review and comment on all actions licensed by the federal government that will have an effect on properties listed in the National Register of Historic Places (NRHP), or eligibility for such listing. Per 36 Code of Federal Regulations (CFR) Part 800, the federal agency responsible for overseeing the action must make a reasonable and good faith effort to identify cultural resources. Federal actions include, but are not limited to, construction, rehabilitation, repair projects, demolition, licenses, permits, loans, loan guarantees, grants, and federal property transfers. Approval will be required from the FAA to modify the ALP that will reflect the permanent alterations to the DFW property. Since this is considered a federal action, the project will consequently require compliance with the NEPA and NHPA Section 106.

## **AREA OF POTENTIAL EFFECTS**

The APE for the project encompasses approximately 345 ac of the east airfield. Current project plans call for the rehabilitation of Runway 17R-35L, which has been in operation since 1974. The proposed project will include improvements to the runway, taxiways, shoulders, pad pavements, runway drainage system, and electric system. In addition, the lighting system for the runway will be upgraded at this time. Ground disturbances associated with the proposed project will vary but will include grading and erosion control. Depths of impacts associated with the proposed project will generally be within a few feet (ft) of the current ground surface.

## **METHODOLOGY**

### *Background Research*

During the background review, a variety of literature and online sources were referenced to determine if potential archeological resources were located within the APE. These sources included U.S. Geological Survey (USGS) topographic maps, the *Soil Survey of Dallas County, Texas*, the *Soil Survey of Tarrant County, Texas*, the Geologic Atlas of Texas (Dallas Sheet), the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) digital soil databases for Dallas and Tarrant counties, the 1936 State Highway Maps of Dallas and Tarrant counties, the Texas Historic Overlay georeferenced map database, the Texas Department of Transportation (TxDOT) Potential Archeological Liability Map (PALM), and both past and current aerial photographs of the proposed project area. Additionally, a file search of the Texas Archeological Site Atlas (TASA) and Texas Historical Sites Atlas (THSA) was performed for the proposed location and surrounding areas. This review was performed by Principal Investigator Anne Gibson on 10 January 2022.

The TxDOT PALM examines “the character and classification of the soils and assesses the shallow and deep geoarcheological potential or the likelihood that soil could contain buried cultural materials in reasonable context (i.e., historic/recent disturbances, landscape setting, and soils data) for each soil series” (Abbott 2011:161). The TxDOT PALM model identifies where sites are likely to be preserved in a reasonable context versus indicating where sites are likely to exist (Abbott 2001:154, 2011:179). “The resolution of the PALM is appropriate to the scale of landform mapping (1:24,000)” (Abbott 2011:175). Any analysis of the data beyond the scale of mapping can result in a misunderstanding of the detail of mapping (Abbott 2011). Due to the more detailed evaluation required to accurately evaluate cultural resources potential for field methodology development (typically 1:7,000 or less), the cultural resources potential evaluation, presented in this document, includes an assessment of the PALM results at a more detailed level to determine if the project area has retained a reasonable degree of contextual integrity, as assumed by the PALM model. A reasonable context is evaluated through a review of historical and modern aerial photographs to evaluate the level of previous ground disturbance that has transpired within a given area.

## **BACKGROUND REVIEW**

### *Topography, Geology, and Soils*

The Euless and Grapevine 7.5-minute USGS topographic quadrangle maps illustrate that the APE is situated within a broad, gently undulating upland ridge that encompasses the majority of the DFW property and separates the Bear Creek and Hackberry Creek watersheds. However, due to land improvements associated with the construction of DFW, the natural rolling topography was graded with minimal slope (**Attachment A, Figure 2**). Elevations within the APE range from 548 to 571 ft (167 to 174 meters [m]) above modern sea level (amsl).

The APE is located within the Northern Blackland Prairie of the Texas Blackland Prairie ecoregion. The Northern Blackland Prairie is distinguished from surrounding regions by gently rolling hills and dark, fine-textured soils that primarily support prairie vegetation (Griffith et al. 2007). Historical vegetation included little bluestem, big bluestem, yellow Indiangrass, and tall dropseed. Most of the native prairie has been converted to cropland, non-native pasture, and expanding urban uses around Dallas, Waco, Austin, and San Antonio. Vertisols dominate the Blackland Prairie ecoregion and consist of high clay content soils with significant shrink and swell potential (Ressel 1981). The APE is underlain by the Cretaceous-age Eagle Ford Formation (Kef), which is comprised of shale, sandstone, and limestone (McGowen et al. 1987; USGS 2022; **Attachment A, Figure 3**).

As shown by the *Soil Survey of Dallas County, Texas* and *Soil Survey of Tarrant County, Texas*, there are six soil map units within the APE (Coffee et al. 1980; Ressel 1981; **Table 1; Attachment A, Figure 4**). The entire APE contains soils typically found within upland settings in the Northern Blackland Prairie. Soil data was viewed from the USDA NRCS Web Soil Survey (USDA 2022).

### *Texas Archeological Sites Atlas Review*

A file search within the TASA and the THSA electronic databases, maintained by the THC and the Texas Archeological Research Laboratory (TARL), identified that there are no previously recorded archeological sites, National Register properties, historical markers, or cemeteries located within the proposed APE (TASA 2022; THSA 2022). The TASA database indicated seven archeological surveys have been previously conducted within 1 mile (mi) of the APE (**Table 2; Attachment A, Figure 5**). In addition, TASA records identified eight previously recorded archeological sites located within 1 mi of the APE (**Table 3**). These sites were primarily associated with historic-age farmsteads that dotted the landscape before airport development in the late 1960s.



**Table 1: Soil Map Units Located Within the APE**

Soil Map Unit Description	Percentage of the APE
<b>Dallas County Soils</b>	
<b>41- Heiden clay, 1 to 3 percent slopes</b> - This component is described as clay located on ridges. Typical Bk subsoil horizon depth is 18 to 58 inches (in; 46 to 91 centimeters [cm]). Depth to a root restrictive layer or bedrock is 40 to 65 in (102 to 165 cm) to densic material. The natural drainage class is well drained.	10.3
<b>43 - Houston Black clay, 0 to 1 percent slopes</b> - This component is described as clay located on plains. Typical Bk subsoil horizon depth is 6 to 70 in (15 to 178 cm). The soil has a depth to a root restrictive layer or bedrock of greater than 80 in (203 cm). The natural drainage class is moderately well drained.	0.3
<b>44 - Houston Black clay, 1 to 3 percent slopes</b> - This component is described as clay located on ridges. Typical Bk subsoil horizon depth is 6 to 70 in (15 to 178 cm). The soil has a depth to a root restrictive layer or bedrock of greater than 80 in (203 cm). The natural drainage class is moderately well drained.	6.2
<b>45 - Houston Black-Urban land complex</b> - This component is described as clay located along upland ridges. The soil has a depth to a root restrictive layer or bedrock of greater than 80 in (203 cm). The natural drainage class is moderately well drained.	71.7
<b>Tarrant County Soils</b>	
<b>35 - Houston Black-Urban land complex, 1 to 4 percent slopes</b> - This component is described as clay located along upland ridges. The soil has a depth to a root restrictive layer or bedrock of greater than 80 in (203 cm). The natural drainage class is moderately well drained.	7.1
<b>81 - Urban land, 0 to 16 percent slopes</b> - This component is described as built-up areas where 75 percent or more of the surface is covered by urban land development.	4.5

**Table 2: Previously Conducted Archeological Surveys within 1 Mile of the APE**

Agency	ACT Permit No.	Firm/Institution	Date	Survey Type	Location (Approximate)
TxDOT	3427	Parson Brinkerhoff Quade and Douglas, Inc.	2004	Area	0.56 mi east of APE
TxDOT	3561	Geo-Marine Inc. (GMI)	2004	Area	0.5 mi east of APE
FTA, Tarrant County	4775	URS Corporation (URS)	2013	Area	0.42 mi west of APE
DFW	7373	IES	2015	Area	0.15 mi south, 0.4 mi east, and 0.13 mi west of APE
DFW	7650	IES	2016	Area	0.7 mi west of APE
Dallas Area Rapid Transit (DART)	7996	AmaTerra Environmental, Inc.	2017	Area	0.46 mi west of APE
DFW, FAA	9343	IES	2020	Area	0.9 mi southeast of APE

#### *Disturbance Analysis*

During the background review, it was determined that ground-disturbing activities have transpired within the APE related to past land use. Prior to DFW construction in the early 1970s, the APE was primarily used for agricultural and ranching purposes as early as 1942 and presumably since the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. The majority of the APE has been cleared of woody vegetation at various points through the 20<sup>th</sup> century, although small portions of the APE have become overgrown with secondary tree growth.

Since 1969, significant ground disturbances have transpired throughout the APE related to broad-scale surface grading and transportation development. As depicted within 1970 aerial photographs, once DFW construction began, ground disturbances associated with large-scale grading for the terminals, runways, parking lots, and roadway system occurred within the center of DFW property and all structures in the vicinity of the APE were demolished. Runway 17R-35L and adjoining taxiways within the APE were part of the original airport construction phase. Portions of the APE were further disturbed by various runway and taxiway improvement projects since initial construction of the airfield.

#### *Cultural Resource Potential*

##### Prehistoric Resources

Data presented within the PALM for Dallas and Tarrant counties indicates the entire APE features a low potential for shallow or deeply-buried cultural materials within areas that have retained a reasonable contextual setting. Similar conclusions were reported by AR Consultants, Inc. (ARC) in 2007 and 2008. ARC conducted intensive pedestrian surveys of 1,210 acres on the DFW property under Texas Antiquities Permit Number 4491 and published their results in the report *An Archaeological Survey for Chesapeake Energy Corporation at DFW International Airport, Dallas and Tarrant Counties, Texas* (Shelton et al. 2008). Through this study, three environmental zones were identified within the DFW that contain varying amounts of cultural resources probability. The current APE will have ground disturbances within Zone 1 (**Attachment A, Figure 6**).

**Table 3: Previously Recorded Archeological Sites within 1 Mile of the APE**

Site Trinomial	Time Period	Site Type	Site Size	Depth Extent	Cultural Materials	Topographic Setting	NRHP Eligibility	Location
41DL397	Historic	Farmstead	180 x 100 m	0-40	Foundation slabs and walls, water tank, concrete sidewalk, outbuilding, well house, septic tank, trailer, farm machinery, machine parts, oil cans, metal pipes, tools, wire nails, glass, wire, tile, brick fragments	Upland	Ineligible	0.87 mi N
41DL398	Historic	Farmstead	260 x 140 m	0-40	Standing buildings, septic tanks, water valves, concrete sidewalks, foundation slabs, construction debris, bone, wire nails, metal fragments	Upland	Ineligible	0.66 mi N
41DL403	Historic	Farmstead	90 x 95 m	20-40	Concrete and brick fragments, miscellaneous metal, whiteware, glass, wire nails, charcoal	Upland	Ineligible	0.47 mi N
41DL521	Historic	Community	825 x 350 ft	0-30	Building foundations, water tower posts, historic road, wooden posts, tin cans, brick fragments, metal fragments, glass bottles, metal pails, asphalt	Upland	Ineligible	0.98 mi SE
41DL523	Historic	Farmstead	375 by 240 ft	0-30	Nails, glass shards, plastic fragments, and asphalt	Upland	Ineligible	0.47 mi S
41DL524	Historic	Farmstead	375 x 240	0-30	Windmill foundation, nails, glass shards, plastic fragments, and asphalt	Upland	Ineligible	0.66 mi S
41DL525	Historic	Farmstead	205 x 620	0-30	Wells, culverts, fence line, irises, tin cans, glass bottle fragments and shards, metal pails, plastic fragments, whiteware sherds, and metal fragments	Upland	Ineligible	0.6 mi SE
41DL526	Historic	Farmstead	205x620 ft	30	Bottle glass, metal pipe, plastic fragments, cement slabs, an oil drum, brick fragments, tin cans, and whiteware and earthenware ceramic	Upland Terrace	Ineligible	0.83 mi SE

Zone 1 is comprised of the Blackland Prairie Uplands ecoregion, which consists of mostly level clay or clay loam soils over limestone bedrock. Water permeates very slowly to the water table causing surface run-off and high shrink and swell potential. This setting has a low biotic diversity and is dominated by short grasses. Due to the limited resources available within the area, it has a low probability for containing prehistoric sites (Shelton et al. 2008). In summary, based on past research and the results of this analysis, it was determined that the APE contains a low potential to contain prehistoric resources.

#### Historic-Period Resources

Historic-period resources within North-Central Texas are primarily related to farmsteads, houses, and associated outbuildings and structures that date from the mid-19<sup>th</sup> to the mid-20<sup>th</sup> centuries. Typically, these types of resources are located along old roadways, but also can be located along railroads, streams, and open pastures. Although determining the presence of the earliest buildings and structures are problematic, maps depicting these features are available post-1895.

Historical aerial photographs indicate that the APE was used for agricultural and ranching activities until groundbreaking for the construction of DFW in 1970. The 1920 USDA Soils Map of Dallas County illustrates a north-south oriented road (County Line Road) was located east of the county line within the APE. Eight structures were depicted along this roadway. As shown on the 1931 Grapevine USGS topographic quadrangle map, the number of buildings had been reduced to five. Historical maps and aerial photographs from the mid-1960s indicate only two farmsteads were left before development of the airport began. Both farmsteads and County Line Road were demolished for construction of the runways and taxiways. Based on this background research and identified past disturbances, there is a low potential for encountering historic-age resources within the APE.

#### CONCLUSIONS

Based on the results of this desktop analysis and previous IES investigations, the proposed project area has been exposed to previous ground disturbance and contains a low potential for containing either prehistoric or historic-age cultural resources. For these reasons, IES recommends that this project be allowed to proceed without the need for additional cultural resource investigations. However, if any archeological resources are encountered during construction, the operators should immediately stop construction activities in the area of the inadvertent discovery. The project cultural resources consultant should then be contacted to initiate further consultation with the THC prior to resuming construction activities.

If you have questions, please contact me by telephone at (972) 562-7672 or via email at [kstone@intenvsol.com](mailto:kstone@intenvsol.com).

Sincerely,

Integrated Environmental Solutions, LLC

A handwritten signature in black ink, appearing to read 'K Stone', with a stylized, overlapping 'S' and 't'.

Kevin Stone, MA, RPA  
Vice President – Cultural Resources Director

*IES Reference Number: 03.006.097*

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**ATTACHMENT A**

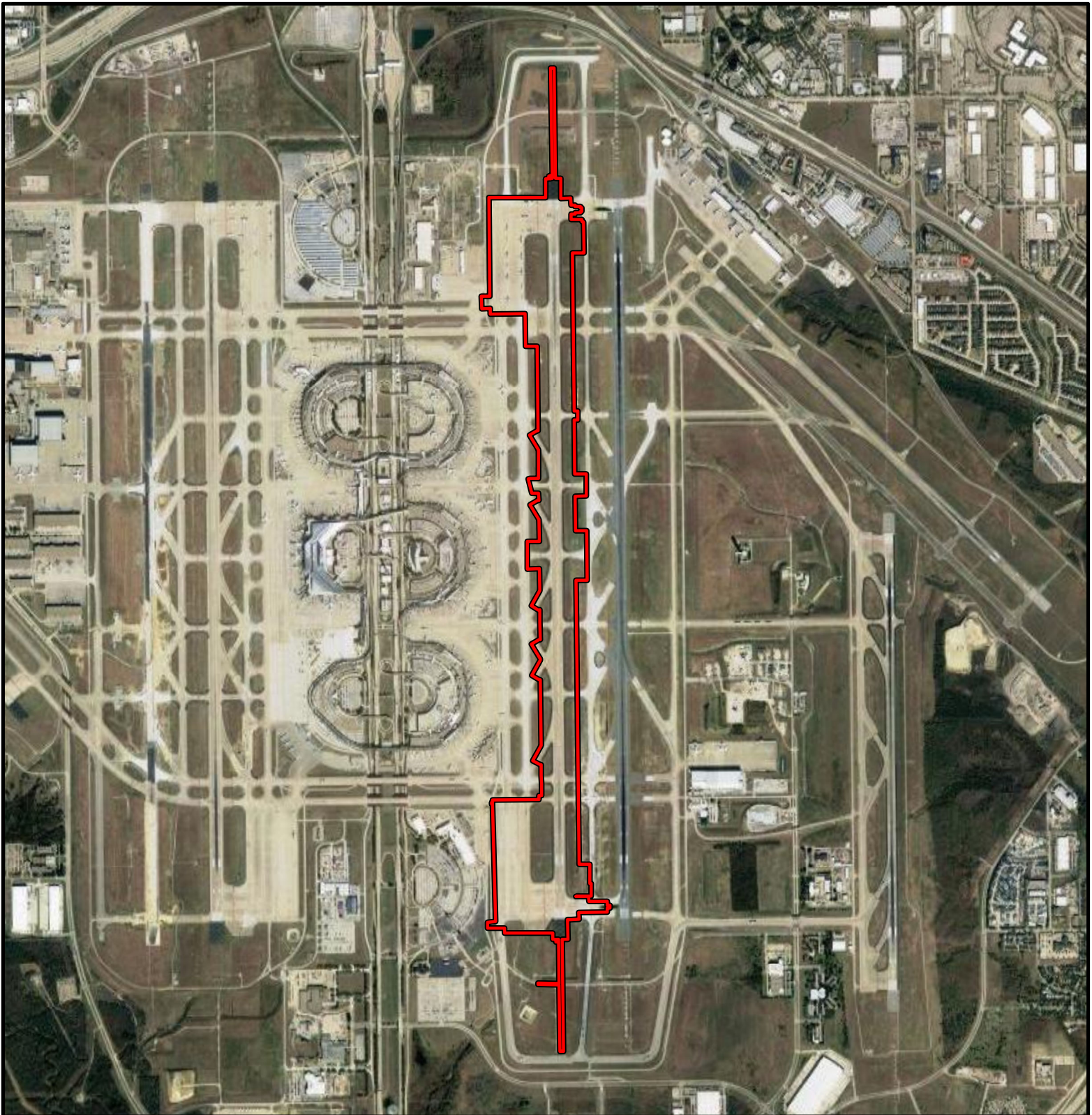


Figure 1  
General Location Map

 Area of Potential Effects

County: Tarrant, Dallas  
State: Texas  
Date map created: 1/7/2022  
Source: (c) 2009 Microsoft Corporation  
and its data suppliers; ESRI  
Streetmap  
IES Project Ref: 03.006.097



0 3,000 6,000 ft  
0 900 1,800 m





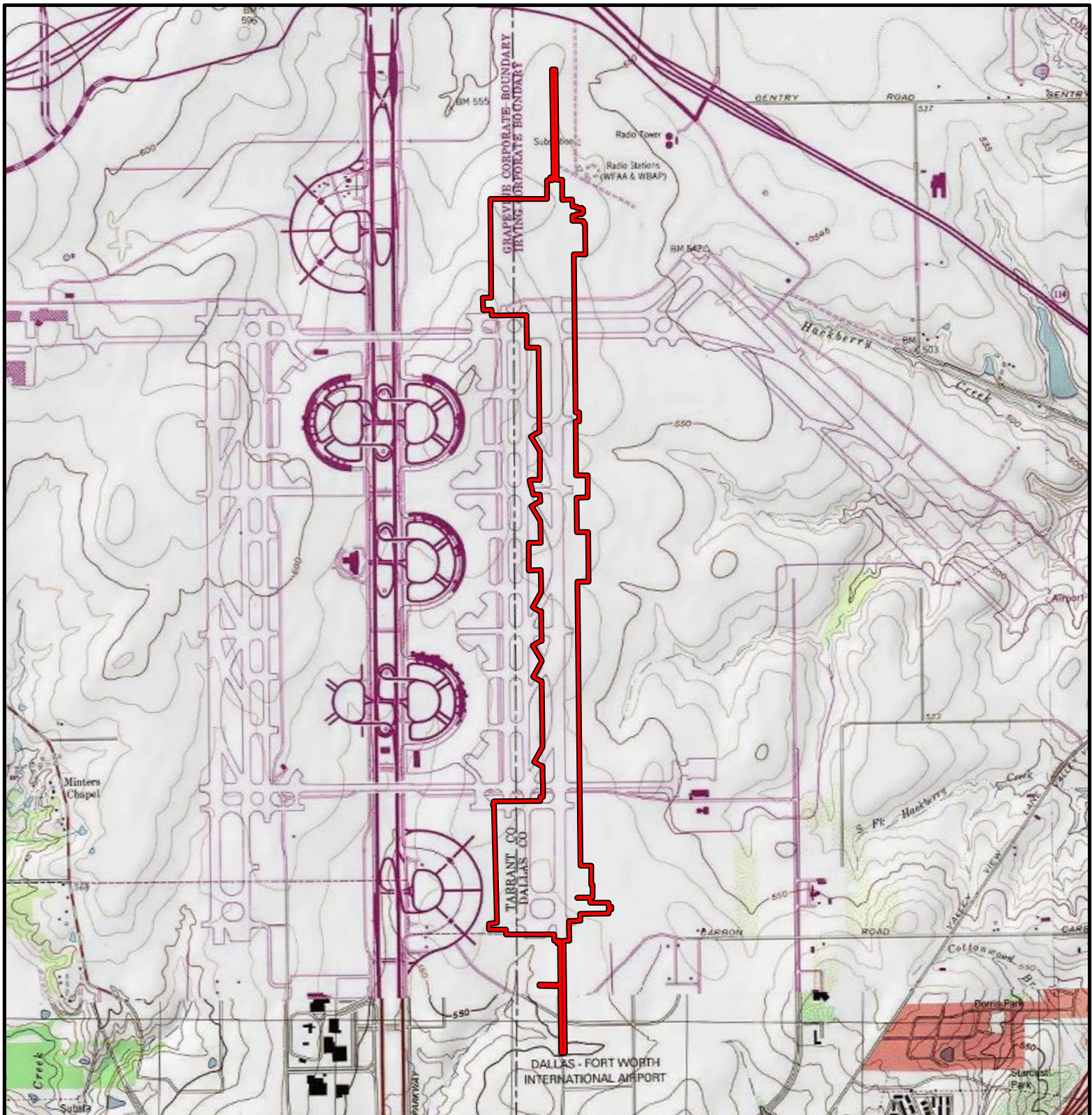


Figure 2  
Topographic Setting

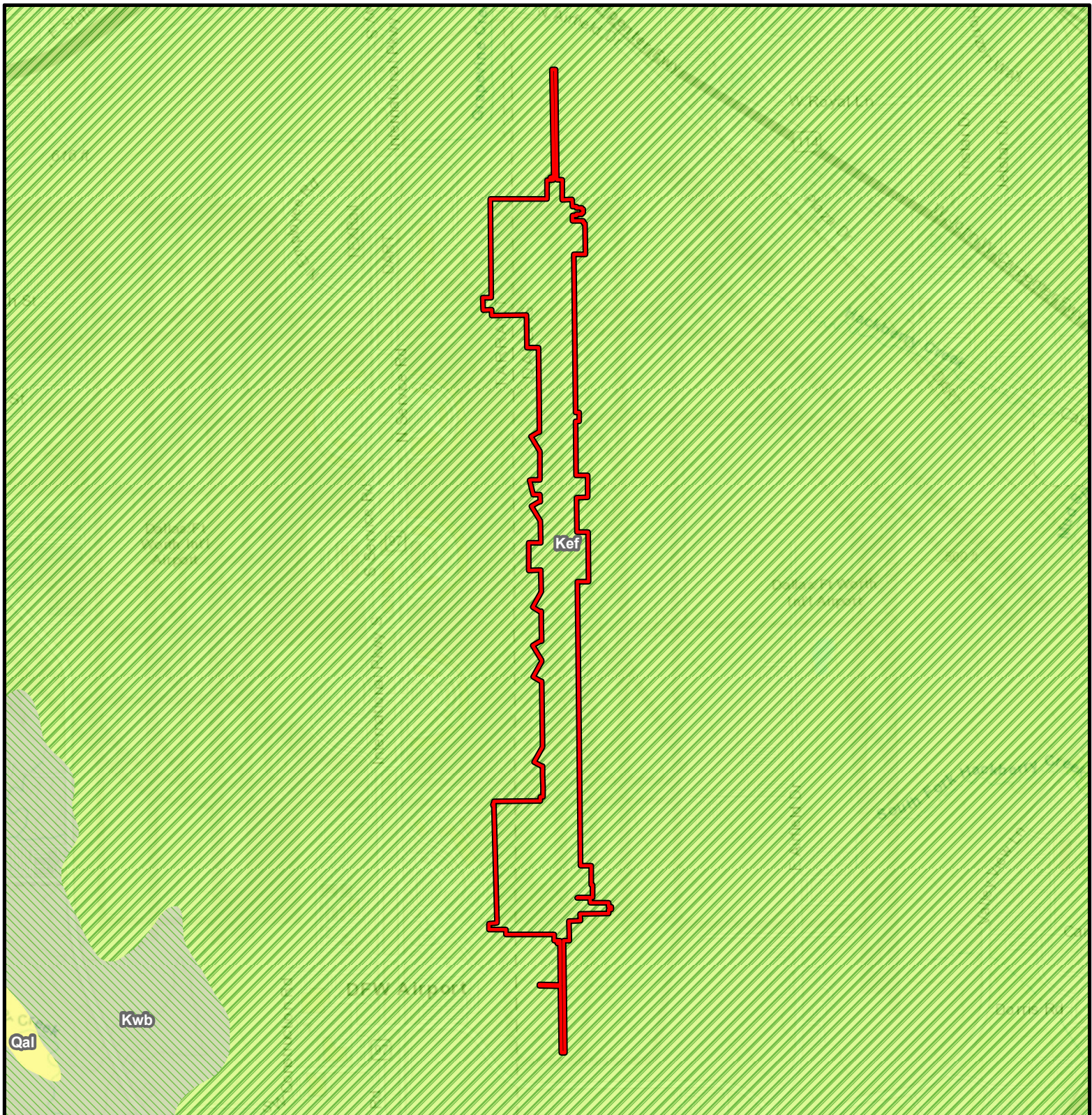
Area of Potential Effects

County: Tarrant, Dallas  
State: Texas  
Date map created: 1/7/2022  
Source: USGS Topographic Map  
7.5' Quadrangle  
Grapevine (1982), Euless (1982)  
IES Project Ref: 03.006.097



0 3,000 6,000 ft  
0 900 1,800 m





**Figure 3**  
**Geologic Setting**

County: Tarrant, Dallas  
 State: Texas  
 Date map created: 1/8/2022  
 Source: TNRIS Geologic Atlas  
 of Texas; Dallas Sheet  
 IES Project Ref: 03.006.097



Area of Potential Effects

**Geologic Formation**



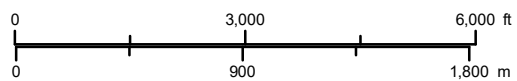
Kef - Eagle Ford Formation



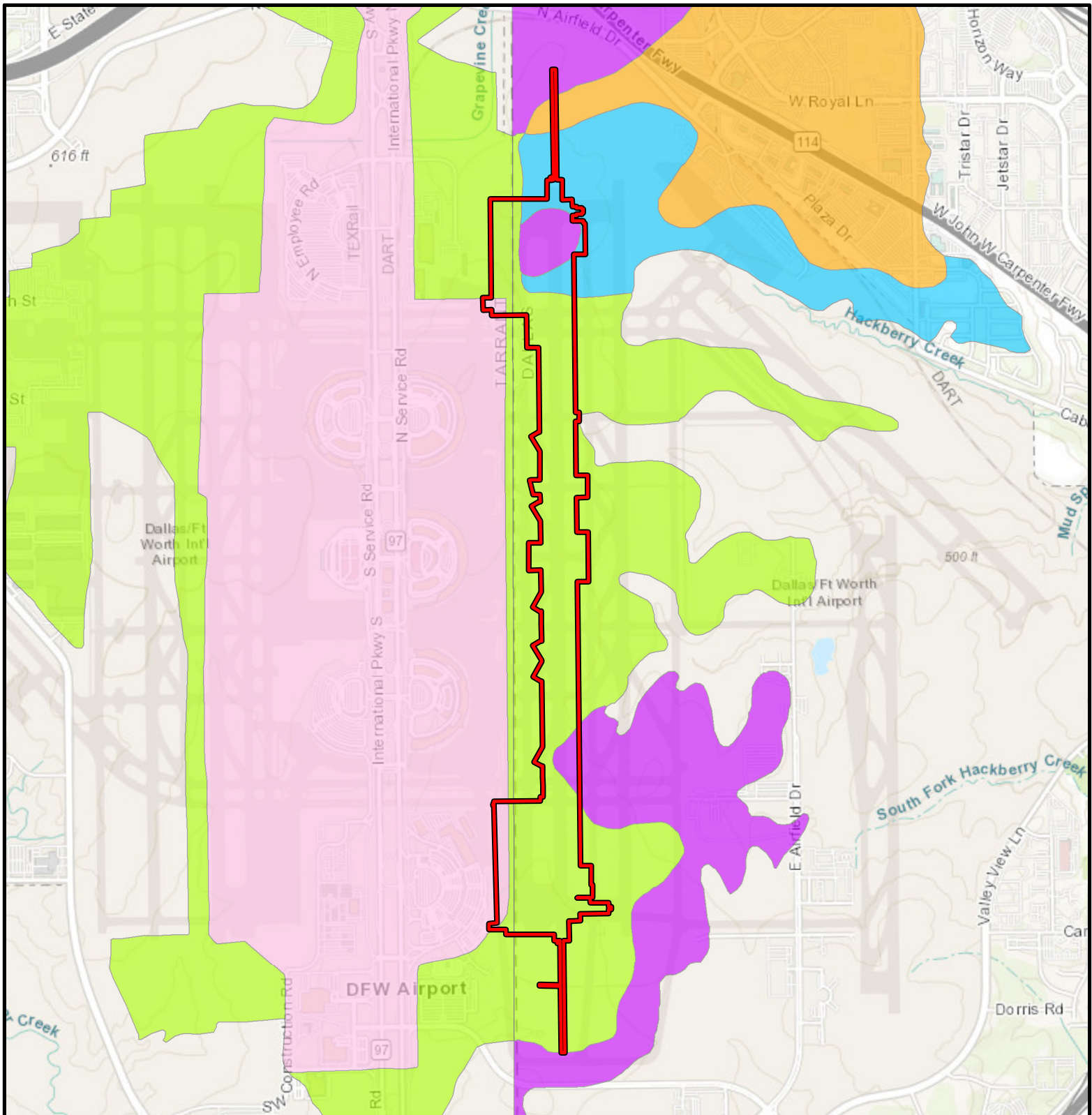
Kwb - Woodbine Formation



Qal - Alluvium







**Figure 4**  
Soil Map Units Located Within and Adjacent to the Project Area

County: Tarrant, Dallas  
State: Texas  
Date map created: 1/8/2022  
Source: 2007 USDA  
NRCS Digital Soils Database  
IES Project Ref: 03.006.097



**Area of Potential Effects**

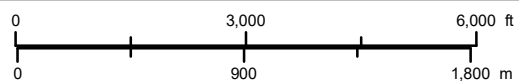
**Soil Map Unit** (see Table 1)

**Dallas County Soils**

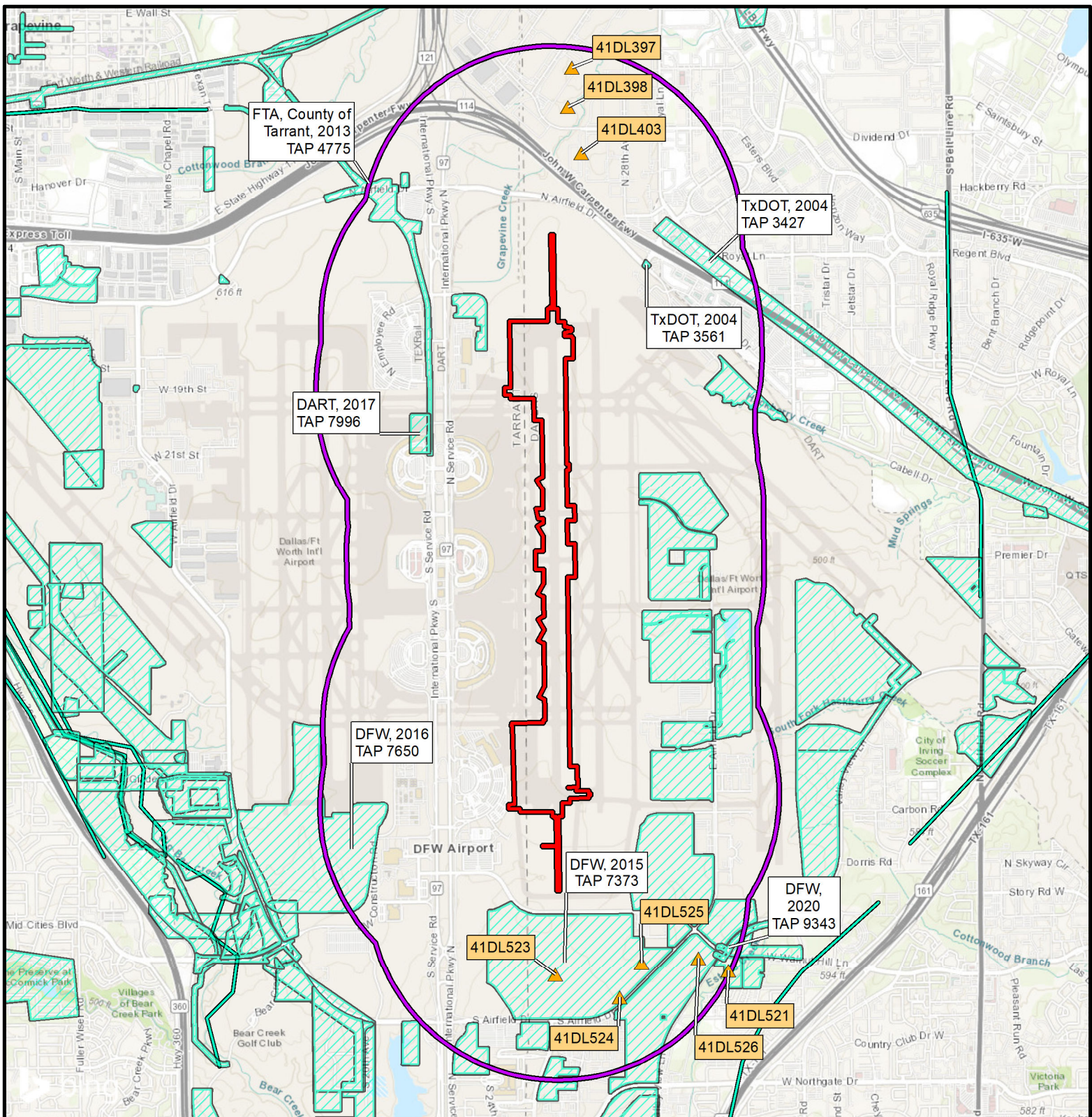
- 41
- 43
- 44
- 45

**Tarrant County Soils**

- 35
- 81







**Figure 5**  
Previous Investigations Within  
1 Mile of the Project Area

County: Tarrant, Dallas  
State: Texas  
Date map created: 1/10/2022  
Source: (c) 2009 Microsoft Corporation  
and its data suppliers; ESRI; TASA  
IES Project Ref: 03.006.097

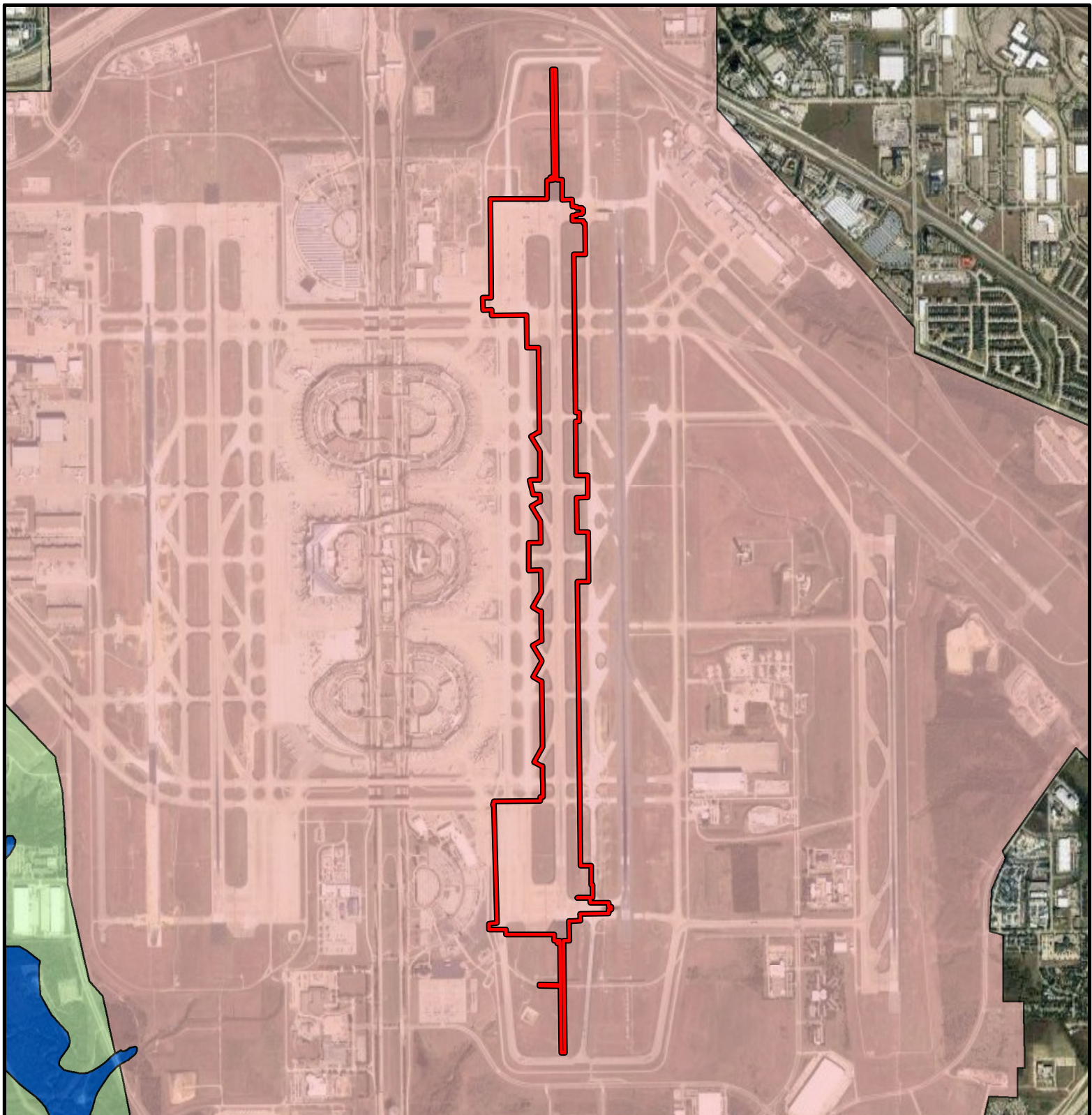


0 4,800 9,600 ft  
0 1,450 2,900 m

- Area of Potential Effects
- Area of Potential Effects - 1 Mile Buffer
- Previous Archeological Survey - Area
- Previous Archeological Survey - Line
- ▲ Archeological Site

**NOT FOR PUBLIC DISTRIBUTION**  
Map contains archeological site  
locational information





**Figure 6**  
**Archeological-Environmental**  
**Zone Map**

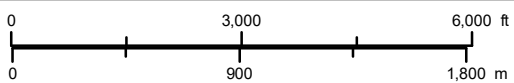
County: Tarrant, Dallas  
 State: Texas  
 Date map created: 1/10/2022  
 Source: (c) 2009 Microsoft Corporation  
 and its data suppliers; ESRI  
 Streetmap  
 IES Project Ref: 03.006.097



**Area of Potential Effects**

**Archeological Environmental Zone**

- ZONE 1 - Blackland Prairies Uplands
- ZONE 2 - Eastern Cross Timbers
- ZONE 3 - Bear Creek Floodplain



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## CRM

---

**From:** noreply@thc.state.tx.us  
**Sent:** Thursday, February 17, 2022 10:28 AM  
**To:** CRM; reviews@thc.state.tx.us  
**Subject:** [External] Section 106 Submission

*NOTICE: This message was sent from an external organization.*



**TEXAS HISTORICAL COMMISSION**  
*real places telling real stories*

**Re:** Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas  
**THC Tracking #202205864**  
**Date:** 02/17/2022  
Dallas Fort Worth International Airport Runway 17R-35L Rehabilitation Project  
DFW International Airport

**Description:** Cultural resources desktop analysis for 345 acres on DFW property. Based on a review of various resources, the project has a low potential for cultural resources.

Dear CRM@intenvsol.com:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz and Rebecca Shelton, has completed its review and has made the following determinations based on the information submitted for review:

### **Above-Ground Resources**

- THC/SHPO concurs with information provided.
- No historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

### **Archeology Comments**

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: [justin.kockritz@thc.texas.gov](mailto:justin.kockritz@thc.texas.gov), [rebecca.shelton@thc.texas.gov](mailto:rebecca.shelton@thc.texas.gov).

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Shelton".

for Mark Wolfe, State Historic Preservation Officer  
Executive Director, Texas Historical Commission

**Please do not respond to this email.**



## **APPENDIX D: NOISE ANALYSIS REPORT**

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# DFW Runway 17R/35L Runway Rehabilitation EA

## Final Noise Technical Report

HMMH Report 311230.004

April 27, 2022

Prepared for:

**Dallas-Fort Worth International Airport**

DFW Airport, Texas 75261

Prepared by:

Robert Mentzer Jr

Scott McIntosh

Will Fraser



**HMMH**

700 District Avenue, Suite 800

Burlington, MA 01803

T 781.229.0707





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# 1 Introduction

The cities of Dallas and Fort Worth, the owners of Dallas Fort Worth International Airport (DFW or Airport), propose a project to rehabilitate Runway 17R/35L. DFW's airfield is over 40 years old. In order to maintain safe and efficient airfield operations periodic runway closures to address pavement issues are required. The proposed project is comprised of the rehabilitation of Runway 17R/35L and its shoulders, upgrades to the electrical systems and components, and a full asphalt overlay. The proposed changes to Runway 17R/35L are expected to change the operations of aircraft with respect to runway use and flight tracks during construction only. A primary concern related to the runway closure during rehabilitation of the runway relates to the change in runway use that could change potential aircraft noise impacts to noise-sensitive land uses. Because the proposed project would impact flight operations, a detailed noise analysis is required per FAA Orders 5050.4B and 1050.1F, which specify the procedures for evaluating aircraft noise impacts.

The purpose of this Noise Technical Report is to provide analyses and documentation to support the Environmental Affairs Department's (EAD) development of an Environmental Assessment (EA) for the Runway 17R/35L Rehabilitation project. The focus of this document is to present the findings of the existing conditions and any future impacts associated with the Proposed Action.

## 2 Background

### 2.1 Introduction to Noise Terminology

Information presented in this document relies upon a reader's understanding of the characteristics of noise (unwanted sound), the effects noise has on persons and communities, and the metrics or descriptors commonly used to quantify noise. The properties, measurement, and presentation of noise involve specialized terminology that can be difficult to understand. This section presents an overview and **Appendix A** contains more information on noise metrics.

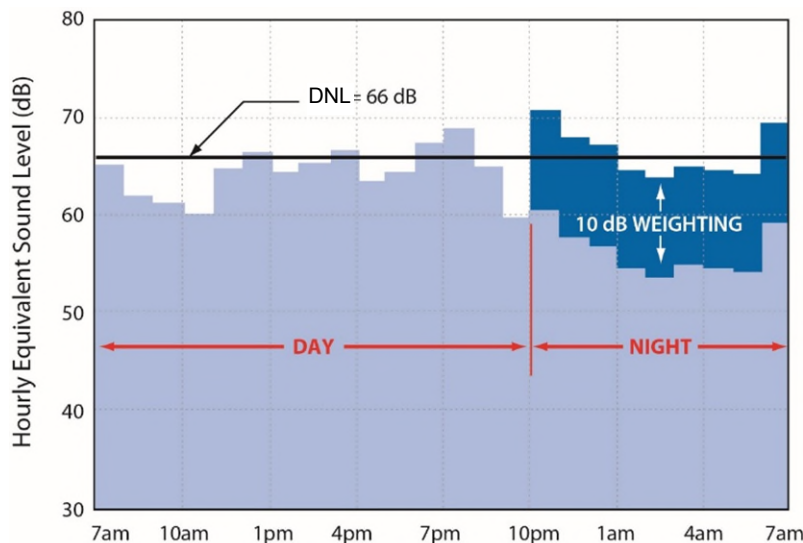
**Sound** is a physical phenomenon consisting of minute vibrations (waveforms) that travel through a medium such as air or water. **Noise** is sound that is unwelcome because of its undesirable effects on persons (e.g., speech interference, sleep disturbance) or on entire communities (annoyance).

Noise metrics may be thought of as measures of noise 'dose.' There are two main types, describing (1) single noise events (single-event noise metrics) and (2) total noise experienced over longer time periods (cumulative noise metrics). Single-event metrics indicate the intrusiveness, loudness, or noisiness of individual aircraft noises. Cumulative metrics, used to measure long-term noise, indicate community annoyance. Unless otherwise noted, all noise metrics presented in the EA documentation are reported in terms of the A-weighted decibel or dB.

Annoyance is greater when an intrusive sound occurs at night. As is implied in its name, the Day-Night Average Sound Level (DNL) represents the noise energy present during a daily period. However, for purposes of the National Environmental Policy Act (NEPA), it normally is calculated through use of aircraft operations data from a longer period, such as a year, to smooth out fluctuations occurring in

day-to-day operations. The DNL reported in NEPA documentation is often referred to as the annual-average DNL.

DNL<sup>1</sup> represents noise as it occurs over a 24-hour period, treating noise events occurring at night (10 p.m. to 7 a.m.) with a 10 dB weighting. This 10 dB weighting is applied to account for greater sensitivity to nighttime noise and the fact that events at night are often perceived to be more intrusive than daytime (see **Figure 1**). An alternative way of describing this adjustment is that each event occurring during the nighttime period is calculated as if it were equivalent to 10 daytime events.



**Figure 1 Example of a Day-Night Average Sound Level Calculation**  
Source: HMMH

### 3 Regulatory Setting

The analysis of aviation noise impacts from federal actions is the FAA's responsibility. Federal statutes, FAA regulations, and FAA guidance related to the consideration of noise impacts include:

- 14 CFR Part 36 Noise Standards: Aircraft Type and Airworthiness Certification

FAA's FAR Part 36<sup>2</sup> sets noise limits for aircraft certification and the procedures by which aircraft noise emission levels must be measured to determine compliance. The regulation defines noise emission limits for turbojets, turboprops, and helicopters, classifying turbojets into categories referred to as stages based on noise levels at each of three locations: takeoff, landing, and to the side of the runway during takeoff (sideline). The categories are:

<sup>1</sup> For the regulatory definition of DNL see 14CFR Part 150 §150.7 Definitions. <http://www.ecfr.gov/cgi-bin/text-idx?SID=f8e6df268e3dad2edb848f61b9a0fb51&mc=true&node=pt14.3.150&rgn=div5>

<sup>2</sup> <https://www.ecfr.gov/current/title-14/part-36>

- Stage 1 aircraft are the oldest and usually have the loudest operations, having preceded the existence of any noise emission regulation. Rare examples include old, restored civil or military aircraft. There are no Stage 1 aircraft operating at DFW.
- Stage 2 aircraft are less old and less noisy than Stage 1; they were the first aircraft types required to meet a noise limit. Subsequent regulation prohibits the operation of a Stage 2 aircraft in the continental U.S. There are no Stage 2 aircraft operating at DFW.
- Stage 3 aircraft were certified for service before 2006 and have relatively quiet jets, although some are Stage 2 aircraft that have been re-engined, or have been fitted with hushkits, enabling them to meet Stage 3 noise limits. Most of these, typically Boeing 727, 737-200, and McDonald Douglas DC9's no longer operate in the U.S.
- Stage 4 aircraft are required to operate with a cumulative noise level at least 10 dB quieter than Stage 3 aircraft at the three prescribed measurement points. Jet aircraft certificated between January 1, 2006, and December 31, 2017, must meet the Stage 4 limits.
- Stage 5 aircraft are the newest and quietest aircraft. All aircraft certificated after January 1, 2018, must meet Stage 5 limits, which are a cumulative 7 dB below Stage 4 and 17 dB below Stage 3 aircraft. The Boeing 737MAX, 787, 747-8, and Airbus A220, A320 NEO, A350, and A380 are examples of aircraft that meet these limits.
- 49 U.S.C. 44715, The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1968, as amended

The Control and Abatement of Aircraft Noise and Sonic Boom Act<sup>3</sup> authorizes the FAA to prescribe standards for the measurement of aircraft noise and establish regulations to abate noise.

- 49 U.S.C. 4901-4918, The Noise Control Act of 1972

The Noise Control Act amends The Control and Abatement of Aircraft Noise Sonic Boom Act of 1968 to add consideration of the protection of public health and welfare and to add the EPA to the rulemaking process for aircraft noise and sonic boom standards.

- Federal Aviation Noise Abatement Policy

In 1976, the Secretary of Transportation and the Administrator of the FAA issued the Aviation Noise Abatement Policy (ANAP), the first comprehensive aviation noise abatement policy in the U.S. In defining the "aircraft noise problem," this policy characterized aircraft noise exposure of DNL 65 to 75 dBA in residential areas as "significant" and DNL 75 dBA or more as "severe," and related these noise exposure levels to previously used interpretations of expected community actions based on case studies. The ANAP also identified DNL 65 dBA as the noise exposure level

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<sup>3</sup> <https://www.govinfo.gov/content/pkg/USCODE-2020-title49/pdf/USCODE-2020-title49-subtitleVII-partA-subpartiii-chap447-sec44715.pdf>

above which aircraft noise "create[s] a significant annoyance for most residents," but it did not provide any additional information supporting this characterization.

- 49 U.S.C. 47501 et seq., The Aviation Safety and Noise Abatement Act of 1979, as amended

The Aviation Safety and Noise Abatement Act of 1979 (ASNA) was enacted in February 1980 to provide assistance to encourage airport operators to prepare and carry out noise compatibility programs, among other purposes. ASNA required the FAA to promulgate regulations to meet three key requirements:

- Establish a single, uniform, repeatable system for considering aviation noise around airport communities.
- Establish a single system for determining noise exposure from aircraft, which takes into account noise intensity, duration of exposure, frequency of operations, and time of occurrence.
- Identify land uses which are normally compatible with various exposures of individuals to noise.

To implement the requirements established under ASNA, the FAA then published 14 Code of Federal Regulations (CFR) Part 150, more commonly known as "Part 150."

- 49 U.S.C. 47101 et seq., The Airport and Airway Improvement Act of 1982, as amended

The Airport and Airway Improvement Act authorizes funding for noise mitigation and noise compatibility planning and projects, and establishes certain requirements related to noise-compatible land use for federally-funded airport development projects.

- 49 U.S.C. 47521-47534, The Airport Noise and Capacity Act of 1990

The Airport Noise and Capacity Act of 1990 (ANCA) directed the U.S. Secretary of Transportation to undertake three key noise-related actions:

- Establish a schedule for a phase out of Part 36 Stage 2 aircraft by the year 2000.
- Establish a program for FAA review of all new airport noise and access restrictions limiting operations of Stage 2 aircraft.
- Establish a program for FAA review and approval of any restriction that limits operations of Stage 3 aircraft, including public notice requirements.

FAA addressed these requirements through amendment of existing federal regulation and establishment of a new regulation, "Part 161."



- 14 CFR Part 150, Airport Noise Compatibility Planning

First implemented in February 1981, FAR Part 150<sup>4</sup> defines procedures that an airport operator must follow if it chooses to conduct and implement an airport noise and land use compatibility plan. Part 150 Noise Compatibility studies require the use of DNL to evaluate the airport noise environment. FAR Part 150 identifies noise compatibility guidelines for different land uses depending on their sensitivity. Key values include a DNL of 75 dB, above which no residences, schools, hospitals, or churches are considered compatible, and a DNL of 65 dB, above which those land uses are considered compatible only if they are sound insulated.

- 14 CFR Part 161, Notice and Approval of Airport Noise and Access Restrictions

FAA implemented the ANCA requirements related to notice, analysis, and approval of use restrictions affecting Stage 2 and Stage 3 aircraft through the establishment of a new regulation, 14 CFR Part 161<sup>5</sup>. In simple terms, Part 161 requires an airport operator that proposes to implement a restriction on Stage 2 or Stage 3 aircraft operations to undertake, document, and publicize certain benefit-cost analyses, comparing the noise benefits of the restriction to its economic costs. Operators must obtain specific FAA approvals of the analysis, documentation, and notice processes, and – for Stage 3 restrictions – approval of the restriction itself.

Part 161 and ANCA define more demanding requirements and explicit guidance for Stage 3 restrictions. To implement a Stage 3 restriction, formal FAA approval is required. FAA's role for Stage 2 restrictions is limited to commenting on compliance with Part 161 notice and analysis procedural requirements. ANCA and Part 161 specifically exempt Stage 3 use restrictions that were effective on or before October 1, 1990, and Stage 2 restrictions that were proposed before that date.

- 49 U.S.C. 47534, Prohibition on Operating Certain Aircraft weighing 75,000 Pounds or Less Not Complying with Stage 3 Noise Levels [section 506 of the FAA Modernization and Reform Act of 2012]

After December 31, 2015, a person may not operate a civil subsonic jet airplane with a maximum weight of 75,000 pounds or less unless the Secretary of Transportation finds that the aircraft complies with Stage 3 noise levels.

- FAA Order 1050.1F, Environmental Impacts: Policies and Procedures

This Order serves as the Federal Aviation Administration's (FAA) policy and procedures for compliance with NEPA and implementing regulations issued by the Council on Environmental Quality (CEQ). The provisions of this Order and the CEQ Regulations apply to actions directly undertaken by the FAA and to actions undertaken by a non-Federal entity where the FAA has authority to condition a permit, license, or other approval. The requirements in this Order apply to, but are not limited to, the following actions: grants, loans, contracts, leases, construction and installation actions, procedural actions, research activities, rulemaking and regulatory actions,

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<sup>4</sup> <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150>

<sup>5</sup> <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-161>

certifications, licensing, permits, plans submitted to the FAA by state and local agencies for approval, and legislation proposed by the FAA. Order 1050.1F provides the specific requirements for this EA.

- FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions

The Federal Aviation Administration's Office of Airports (ARP) is responsible for identifying major Federal actions involving the Nation's public-use airports. After determining that an airport sponsor is proposing a major Federal action such as this EA, ARP is responsible for analyzing the environmental effects of that action and its alternatives. Order 5050.4B provides instruction on evaluating those environmental effects. Order 5050.4B supplements FAA Order 1050.1F, "Environmental Impacts: Policies and Procedures."

These laws and guidance documents specify the use of DNL—the Day-Night Average Sound Level—as the noise metric used in all FAA aviation noise studies in airport communities. DNL, a cumulative sound level, provides a measure of total sound energy. DNL is a logarithmic average of the sound levels of multiple events at one location over a 24-hour period. A 10-decibel (dB) penalty is added to all sounds occurring during nighttime hours (between 10:00 p.m. and 6:59 a.m.). The 10 dB increase for nighttime events accounts for the added intrusiveness of noise during typical sleeping hours as ambient sound levels during nighttime hours are typically about 10 dB lower than during daytime hours.

For a NEPA noise analysis, the FAA requires that the 24-hour analysis period represent the average annual day (AAD). The AAD reflects the daily aircraft operations averaged over a 365-day period. Further details on noise metrics, including DNL, can be found in Appendix A.

Estimates of noise effects resulting from aircraft operations can be interpreted in terms of the probable effects on human activities that typically occur within specific land uses. The FAA has adopted guidelines for evaluating land-use compatibility with noise exposure. In general, most land uses are considered compatible with DNL less than 65 dB, but only certain uses are compatible with DNL greater than or equal to 65 dB. **Chapter 4** contains further details on land use compatibility.

The noise analysis compares the No Action and Proposed Action Alternative for the future year using the FAA's thresholds of significance. **Table 1** defines the significance threshold for changes in noise in accordance with FAA Order 1050.1F. When an action (compared to the No Action Alternative for the same timeframe) would cause noise-sensitive areas to have a DNL greater than or equal to 65 dB and experience a change in noise of at least 1.5 dB, the impact is considered significant. For example, an increase from No Action 65.5 DNL to Proposed Action 67 DNL is considered a significant impact, as is an increase from No Action 63.5 DNL to Proposed Action 65 DNL. **Table 1** also lists FAA-defined reportable changes of noise levels.

**Table 1 Aircraft DNL Thresholds and Impact Categories**

Source: FAA Order 1050.1F<sup>6</sup> and the 1050.1F 2020 Desk Reference<sup>7</sup>

	65 DNL or Greater	Greater than or equal to 60 DNL but less than 65 DNL	Greater than or equal to 45 DNL but less than 60 DNL
Minimum Change in DNL when compared to the higher of the Proposed Action or No Action Alternative DNL	1.5 dB	3.0 dB	5.0 dB
Level of Change	Significant	Reportable	Reportable

## 4 Noise Compatible Land Use

NEPA requires the review of land uses located in the airport environs to understand the relationship between those land uses and the noise exposure associated with arriving and departing aircraft. This includes delineation of land uses within the 65 DNL and higher aircraft noise exposure contours on the noise contour exhibits and identification of noise sensitive uses that may be noncompatible with that level of noise exposure. Identification of a noise sensitive use within the 65 DNL contour does not necessarily mean that the use is either considered noncompatible or that it is eligible for mitigation. Rather, identification merely indicates that the use is generally considered noncompatible but requires further investigation. Factors that influence compatibility and/or eligibility may include but are not limited to previous sound reduction treatments, current interior noise levels, structure condition, ambient and self-generated noise levels, whether a given use is considered temporary or permanent, and the timeframe within which a given structure was constructed.

This chapter provides a description of recommended land uses that are deemed generally compatible under Appendix A of Part 150.

### 4.1 Land Use Compatibility Guidelines

The objective of airport noise compatibility planning is to promote compatible land use in communities surrounding airports. NEPA requires the review of land uses surrounding an airport to determine land use compatibility associated with aircraft activity at the airport.

The FAA has published land use compatibility designations, as set forth in Part 150, Appendix A, Table 1<sup>8</sup> (reproduced here as **Table 2**). As the table indicates, the FAA generally considers all land uses to be compatible with aircraft-related DNL below 65 dB, including residential, hotels, retirement homes,

<sup>6</sup> [https://www.faa.gov/documentLibrary/media/Order/FAA\\_Order\\_1050\\_1F.pdf](https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf)

<sup>7</sup> [https://www.faa.gov/sites/faa.gov/files/about/office\\_org/headquarters\\_offices/apl/desk-ref.pdf](https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/desk-ref.pdf)

<sup>8</sup> Appendix A, Part 150 Table 1 can be found in 14 CFR Part 150, Airport Noise Compatibility Planning <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150/appendix-Appendix%20A%20to%20Part%20150?msclid=cba3d6bfa60d11ec83ea1e9ed3e3b966>

intermediate care facilities, hospitals, nursing homes, schools, preschools, and libraries. These categories are referenced throughout the EA. Institutional or Public land use land use consists of schools, hospitals, nursing homes, churches, auditoriums, concert halls, governmental services, transportation, and parking. While all these uses are compatible with aircraft-related DNL below 65 dB, schools are not compatible above 65 DNL without mitigation and are listed separately in the EA.

**Table 2 Part 150 Land Use Compatibility with Yearly Day-Night Average Sound Levels**

Source: FAA Part 150, Appendix A, Table 1, 2007

Land Use	Yearly Day-Night Average Sound Level [DNL] In Decibels (Key and notes on following page)					
	<65	65-70	70-75	75-80	80-85	>85
<b>Residential Use</b>						
Residential other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home park	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
<b>Public Use</b>						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
<b>Commercial Use</b>						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail—building materials, hardware, and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade—general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
<b>Manufacturing and Production</b>						
Manufacturing general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
<b>Recreational</b>						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N
Sources: FAA Part 150, Appendix A, Table 1, 2007						



**SLUCM: Standard Land Use Coding Manual.**

- Y(Yes): Land use and related structures compatible without restrictions.  
N(No): Land use and related structures are not compatible and should be prohibited.  
NLR: Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.  
25, 30, or 35: Land use and related structures generally compatible; measures to achieve NLR of 25 dBA, 30 dBA, or 35 dBA must be incorporated into design and construction of structure.

**Notes for Table 2**

The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

- (1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dBA and 30 dBA should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dBA, thus, the reduction requirements are often stated as 5 dBA, 10 dBA, or 15 dBA over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- (2) Measures to achieve NLR of 25 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (3) Measures to achieve NLR of 30 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
- (4) Measures to achieve NLR of 35 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (5) Land use compatible provided special sound reinforcement systems are installed.
- (6) Residential buildings require an NLR of 25 dBA
- (7) Residential buildings require an NLR of 30 dBA
- (8) Residential buildings not permitted

## 4.2 Study Area

To adequately capture the effects of aircraft noise, the noise study area (NSA) must include not only the immediate airport environs, where aircraft flight paths are aligned with the runways, but also other potentially affected areas over which aircraft would fly as they follow any modified flight corridors that join the surrounding airspace. The NSA was developed to encompass an area that would contain at least the lateral extent of the estimated 60 DNL contour resulting from aircraft flight and ground operations contemplated under the Proposed Action, with an adequate buffer to accommodate potential changes in the contour between the NAA and With Project Alternatives. **Figure 2** displays the NSA on the land use map. The NSA is approximately 4 Nautical Miles (nmi) to the east and west and 8 nmi to the north and south.

### 4.3 Existing Land Use

DFW is located on over 17,200 acres between the cities of Dallas and Fort Worth, Texas and is partially located in both Dallas and Tarrant Counties. DFW is located north of Texas State Highway (SH) 183 and south of SH 114.

Existing land use in the study area consists of the DFW property, residential uses, commercial, and industrial land uses, as shown on **Figure 2**. DFW is surrounded to the west and southeast by residential areas consisting of single-family and multi-family residences. The area to the north is primarily industrial and commercial facilities with areas of residential land use to the northeast located in Coppell. The area directly south is commercial and industrial with residential areas located further south in Grand Prairie.

All noise sensitive sites such as schools, nursing homes, hospitals and places of worship have been identified and are shown on **Figure 2**. Any potential noncompatible land use and the noise sensitive sites within the study area are evaluated in the EA.

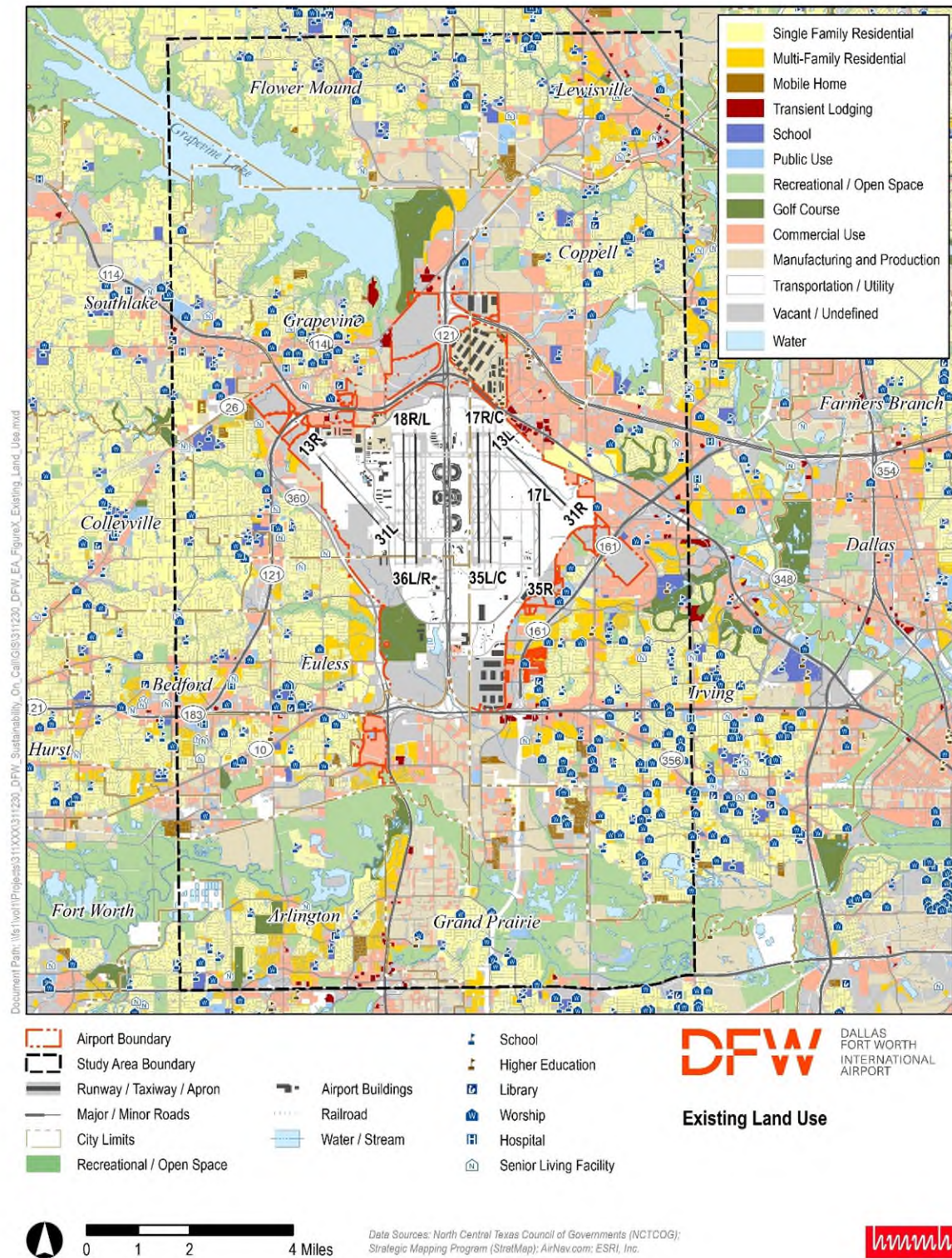


Figure 2 Land Use and Noise Study Area

## 5 Modeling Methodology

The following sections present the modeling methodology for the noise analysis for the existing, future no action, and future proposed action alternatives.

### 5.1 Aviation Environmental Design Tool (AEDT)

For an action occurring on, or in the vicinity of a single airport, or as part of an air traffic action, FAA directs the use of the latest version of the Aviation Environmental Design Tool (AEDT) for detailed noise modeling or another model, as approved by FAA. The model must be used to produce 65 DNL, 70 DNL, and 75 DNL contours, and others as needed.

The aircraft noise analysis for the EA uses AEDT Version 3d (released 29 March 2021). All AEDT modeling conducted for this study adheres to *“Guidance on Using the AEDT to Conduct Environmental modeling for FAA Actions Subject to NEPA”* (FAA 2017). AEDT is a combined noise and emission model that uses a database of aircraft noise and performance characteristics. The AEDT predicts ground based DNL values from user input for aircraft types, AAD aircraft operations, airport operating conditions, aircraft performance, and flight patterns. AEDT also calculates air pollutant emissions from aircraft engines for air quality analyses, enables noise and air quality calculations on a regional basis (as opposed to in the immediate airport environment only), and includes updated databases for newer aircraft models.

The noise pattern calculated by the AEDT for an airport is a function of several factors, including: the number of aircraft operations during the period evaluated, the types of aircraft flown, the time of day when they are flown, the way they are flown, how frequently each runway is used for landing and takeoff, and the routes of flight used to and from the runways. Substantial variations in any one of these factors may, when extended over a long period of time, cause marked changes to the noise pattern.

The primary data input categories for the AEDT are:

- Airfield layout, which includes the coordinates of each runway centerline endpoint, runway widths, approach threshold crossing heights, and runway end elevations.
- Meteorological data, which refers to weather conditions affecting sound propagation and aircraft performance. AEDT’s database of airports was accessed to obtain annual average daily DFW weather conditions. AEDT’s airport database contains 10-year average meteorological data (from 2011 to 2020), which AEDT uses to adjust aircraft performance and sound propagation parameters from standard day conditions.
  - Temperature: 66.77° F
  - Station Pressure: 994.60 mbar
  - Sea Level Pressure: 1015.65 mbar
  - Dew point: 52.58° F
  - Relative humidity: 60.4%
- Terrain data, which refers to ground elevations. AEDT uses terrain data to adjust the aircraft-to-ground path length, which is the distance between the modeled location on the ground and the aircraft in flight, making the ground closer to or farther from the aircraft relative to flat-earth conditions. AEDT does not use terrain data to account for shielding or reflective effects of terrain.



- Specific aircraft types in DFW's fleet mix, defined by airframe and engine type combinations. All aircraft types evaluated for the DFW modeling are either in the AEDT database or have approved substitutions within the model.
- Aircraft flight operations, which are numbers of AAD aircraft operations by DNL time periods and by aircraft type. Daytime is defined as 7:00 a.m. to 9:59 p.m. and nighttime is defined as 10:00 p.m. to 6:59 a.m. Departures and arrivals were the two types of flight operations modeled for the EA. Touch-and-go or circuit operations are not conducted at DFW.
- Aircraft noise and performance characteristics. The AEDT database contains noise and performance data for more than 300 different aircraft types. AEDT accesses the noise and performance data for takeoff, landing, and pattern operations by those aircraft. The database provides single-event noise levels for slant distances from 200 feet to 25,000 feet for several thrust or power settings for each aircraft type. Performance data includes thrust, speed, and altitude profiles for takeoffs and landings. For those aircraft types operating at DFW which are not directly represented in the AEDT database, the AEDT contains FAA-approved substitutions for noise modeling.
- Stage length, which is a surrogate for an aircraft's weight that varies according to its fuel load. Stage length is assigned according to each departure's trip distance to its destination, using city-pair information provided in the operations forecast. The assigned stage length then determines the appropriate flight performance profile from the AEDT database.
- Flight profiles, which are based on standard flight procedures for each aircraft type contained in the AEDT database. Information in the flight profiles describe the sequence of altitudes, thrust/power settings, and airspeeds for departure and arrival operations.
- Runway use, which is the allocation of flight operations to each runway, on an AAD basis, by DNL time periods, operation type, and aircraft type.
- Flight tracks and their usage. A flight track is the two-dimensional projection of the aircraft's three-dimensional flight path onto the ground. A modeled flight track represents one or more actual flight tracks. Modeled flight tracks for a given flight corridor typically consist of a backbone track and sub-tracks which represent the average location and dispersion of the actual flights in the corridor. Each backbone flight track typically represents a general heading for departures or originating point for arrivals. As each runway usually has multiple headings and originating points, the distribution of operations, or track use, on an AAD basis, must be specified. Operations are further spread on backbone tracks and sub-tracks via distribution percentages on an AAD basis.

## 5.2 Noise Exposure Contours

Noise contours (i.e., lines of equal noise exposure, usually expressed in terms of DNL) are typically used to illustrate average daily noise exposure around an airport. Noise contours are conceptually similar to topographic contour maps. A set of concentric contours, representing successively lower DNL, usually extends away from the airport's runways. DNL contours are typically presented in 5 dB increments on a base map, with each successive contour representing a 5 dB decrease in noise exposure on an AAD basis. Contours developed for the EA represent 60 DNL, 65 DNL, 70 DNL, and 75 DNL. The 60 DNL is provided for informational purposes.

For purposes of the EA, the noise contours (see **Section 6.5** for the Existing Condition contours) show areas exposed to each DNL level. It is important to recognize that a line drawn on a map does not imply that a particular noise condition exists on one side of the line and not the other. For further information on noise and its effects on people, please refer to **Appendix A**.

### 5.3 Grid Point Noise Calculations

Besides noise contours, the AEDT provides another way to show noise levels in the airport environs. DNL (or other metrics supported by the AEDT) can be calculated for specific locations, defined as grid points, and can be presented in a number of formats. Grid point analyses can show the change in noise levels over specific locations and are helpful in determining where significant or reportable noise changes may occur.

For the EA, noise levels are developed for two area-wide grid sets. The NSA grid points are defined to cover the complete NSA area; an outer set of points (the Secondary Study Grid) is defined to generally capture areas that would be exposed to levels in the range of 45 DNL to 60 DNL for one or more of the analyzed alternatives. The NSA grid consists of a rectangle with points spaced 0.05 nmi (303 feet) apart, extending approximately 4 nmi to the east and west and 8 nmi to the north and south from the Airport Reference Point (which is near the geographic center of DFW's runways). The Secondary Study Grid consists of a rectangle with points spaced 0.1 nmi (608 feet) apart, extending approximately 10 nmi to the east and west and 20 nmi to the north and south from the Airport Reference Point (which is near the geographic center of DFW's runways).

## 6 Existing Conditions

This section provides the description of current noise conditions within the study area from aircraft noise. Typically, a recent calendar year data is utilized to develop the existing conditions information, however due to ongoing runway rehabilitation projects at DFW and the COVID-19 pandemic, an earlier 12-month representative period is being used for the EA. The following periods to avoid have been identified:

- Runway 17C/35C Rehabilitation - May 2018 to March 10, 2019, full and partial closures
- COVID-19 pandemic – Significant drop in operations – started March 21, 2020
- Runway 18R/36L Rehabilitation - June 2020 to May 2021, full and partial closures

A 12-month period spanning March 16, 2019, through March 15, 2020, was identified as the baseline year and level of operations to develop the existing conditions data. The Existing Condition represents noise exposure for an AAD within the 12-month period from March 2019 to March 2020 for aircraft operations.

### 6.1 Aircraft Activity Levels and Fleet Mix

The existing aircraft noise environment around DFW was evaluated based upon the existing condition aircraft operations and the associated airport operational characteristics. Radar data from DFW Noise and Operations Monitoring System (NOMS) and the FAA's Operational Network (OPSNET) operational

data for March 2019 to March 2020 were used to determine the existing noise conditions. The radar data provided the aircraft fleet mix and runway use. The fleet mix developed from the DFW NOMS data was grouped into FAA operational categories (Air Carrier, Air Taxi, and General Aviation) and the totals were scaled to match the tower count for that period. During the existing conditions period 727,517 annual operations occurred at DFW. Due to the low numbers of military aircraft and the absence of dominant military aircraft types, the military operations were distributed into the Air Carrier and General Aviation categories based on an analysis of the sizes of military aircraft reported by the FAA's Traffic Flow Management System Counts (TFMSC) for the same period. Approximately 40 percent were distributed into Air Carrier operations and the remaining 60 percent were distributed into General Aviation operations. **Table 3** presents the annual operations modeled for the Existing Condition as well as the FAA OPSNET operations for comparison. Further details on the existing level of operations can be found in **Appendix C**.

**Table 3 Existing Condition Operations**

Source: FAA OPSNET

Modeling Scenario	Air Carrier	Air Taxi	General Aviation	Military	Total
FAA OPSNET (3/16/2019 – 3/15/2020)	632,468	89,163	5,681	205	727,517
Existing Conditions (3/16/2019 – 3/15/2020)	632,549	89,163	5,805	0	727,517
Note: Military data was split between Air Carrier and General Aviation Totals may not match exactly due to rounding					

**Table 4** provides the average daily operations, by aircraft type, that were used in AEDT for the existing conditions. The average daily number of aircraft arrivals and departures for the March 2019 to March 2020 Noise Contour are calculated by determining the total annual operations and dividing by 365 (days in a year). The existing conditions annual average day included 1,988 total operations, 10.5 percent of which occurred during the DNL nighttime hours of 10:00 p.m. to 6:59 a.m.

**Table 4 DFW Modeled Average Daily Itinerant Aircraft Operations for Existing Conditions - (March 2019 to March 2020)**

Source: DFW NOMS, FAA OPSNET, HMMH 2022

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	Jet	7478	<1	<1	2	<1	<1	2	3
		717200	2	<1	2	2	<1	2	5
		737700	14	1	15	15	<1	15	31
		737800*	225	20	245	226	19	245	489
		747400	2	1	3	1	2	3	6
		767300	1	<1	1	<1	<1	1	3
		777200	11	3	14	13	<1	14	28
		777300	<1	1	2	<1	1	2	4
		757PW	<1	3	3	<1	3	3	6
		757RR	16	4	20	15	5	20	40
		7673ER	3	3	6	3	2	6	11
		767CF6	1	<1	2	1	<1	2	4
		7773ER	5	1	6	6	<1	6	12
		7878R	13	3	16	15	<1	16	32
		A300-622R	3	2	5	2	2	5	9

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
		A319-131	57	6	64	59	5	64	127
		A320-211	10	2	12	9	2	12	24
		A320-232	16	5	20	18	3	20	41
		A320-271N	<1	<1	<1	<1	<1	<1	1
		A321-232	104	17	121	104	17	121	242
		A350-941	<1	0	<1	<1	0	<1	1
		A380-841	<1	<1	<1	<1	<1	<1	2
		DC1010	<1	<1	1	<1	<1	1	2
		EMB190	2	<1	2	2	<1	2	3
		MD11GE	<1	<1	2	<1	<1	2	3
		MD11PW	2	2	3	2	1	3	7
		MD83	27	1	28	26	2	28	55
	Regional Jet	CRJ9-ER	147	10	156	144	13	156	313
		EMB170	89	7	96	88	7	96	192
		EMB175	14	2	16	14	3	16	33
	Subtotal			767	97	864	770	94	864
Air Taxi	Regional Jet	CL600	4	<1	5	4	<1	5	9
		EMB14L	104	7	110	104	7	110	220
	Non-jet	1900D	2	<1	2	<1	1	2	4
		CNA208	3	<1	4	3	1	4	8
		DHC6	1	<1	1	<1	<1	1	2
	Subtotal			114	8	122	111	10	122
General Aviation	Jet	CL600	<1	0	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1
		CNA750	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	0	<1	<1	0	<1	<1	<1
		GV	<1	0	<1	<1	0	<1	<1
		LEAR35	<1	<1	<1	<1	<1	<1	<1
	Non-jet	CNA208	6	<1	6	6	<1	6	12
		DHC6	1	<1	1	1	<1	1	2
	Subtotal			8	<1	8	8	<1	8
Grand Total			889	105	994	890	104	994	1,988

**Note:** Totals may not match exactly due to rounding.

\*ANP Type 737800 represents both B738 and B739 operations, which account for 98 percent and 2 percent, respectively.



### 6.1.1 Runway Definition

DFW has two main runway complexes: the east side and west side, comprised of seven runways oriented primarily in a north-south direction; four to the east (13L/31R, 17C/35C, 17L/35R, 17R/35L) and three to the west (13R/31L, 18L/36R, and 18R/36L). **Table 5** provides the length and width of the current runways at DFW used in AEDT and the current runway layout can be seen in **Figure 3**.

**Table 5 DFW Runways - Existing Conditions**

*Source: FAA 5010 accessed 3/10/2022*

Runway	Length (feet)	Width (feet)
13L/31R	9,000	200
13R/31L	9,300	150
17C/35C	13,400	150
17L/35R	8,500	150
17R/35L	13,400	200
18L/36R	13,401	200
18R/36L	13,400	150

DFW typically uses its north/south parallel runways for most arrivals and departures. Aircraft typically arrive on the outermost main north/south runways as well as some of the outboards and depart on the innermost runways main north/south runways (inboards). Based on historical conditions, the Airport is operated in one of two main operating configurations – south flow (approximately 70 percent of the time) or north flow (approximately 30 percent of the time) as shown in **Figure 4**. Aircraft normally take off and land into the wind. However, runway end utilization can also be affected by aircraft type, type of activity, and if applicable any airport runway use plans. **Table 6** provides a brief description of how each runway shown in **Figure 3** and **Figure 4** is typically used at DFW.

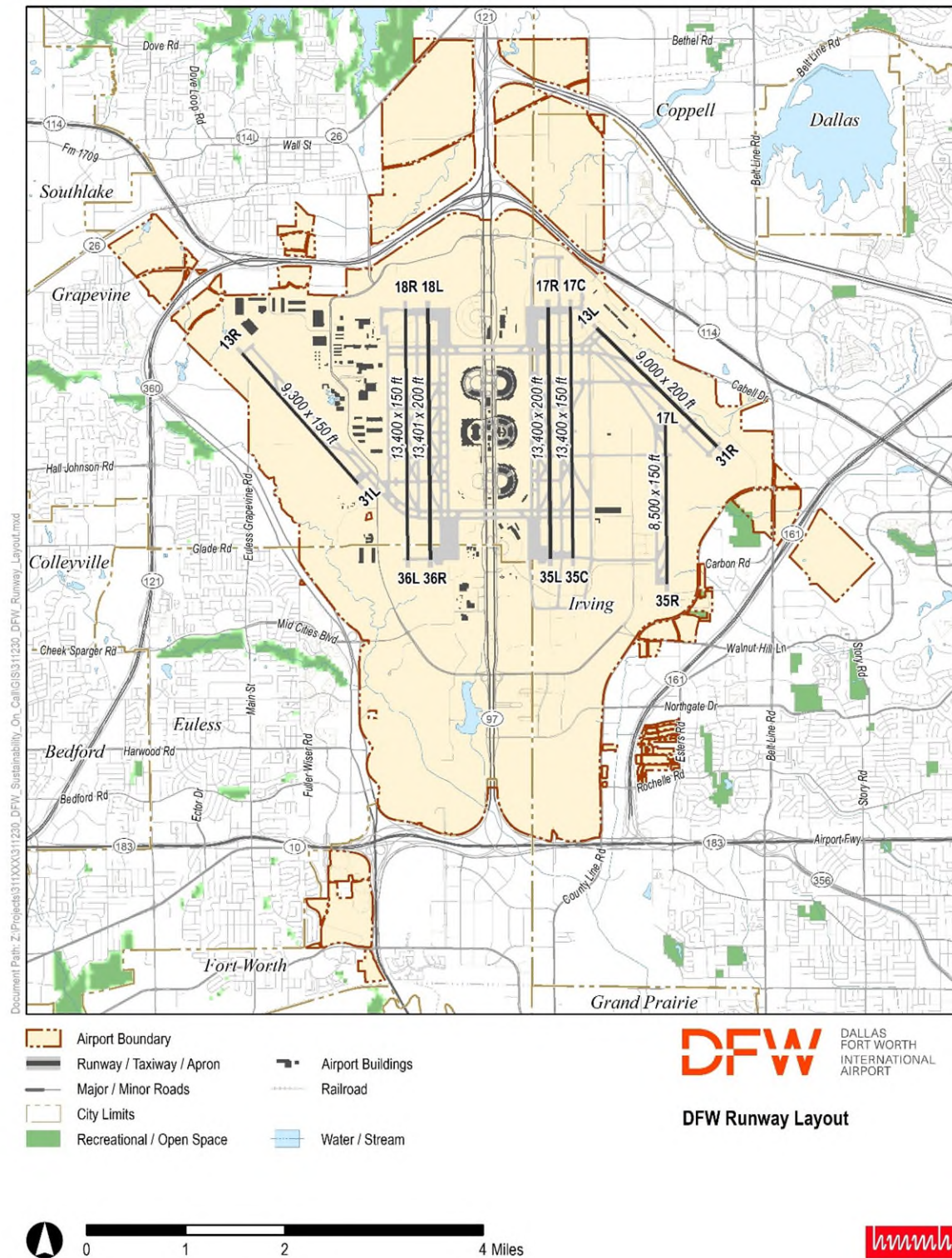


Figure 3 DFW Runway Layout

**Table 6 DFW Runways – Typical Runway Use**

*Source: DFW Runway Use Plan 1996*

Runway	South Flow	North Flow
Runway 13R	Diagonal runway in the west airfield used as a secondary arrival runway. Typically, no departures.	Not typically used in north flow.
Runway 18R	Primary arrival runway in the west airfield. It is also used as a secondary departure runway.	
Runway 18L	Primary departure runway in the west airfield. It is also used as a secondary arrival runway.	
Runway 17R	Primary departure runway in the east airfield. It is also used as a secondary arrival runway.	
Runway 17C	Primary arrival runway in the east airfield. It is also used as a secondary departure runway.	
Runway 17L	Used as a secondary arrival runway in the east airfield. Typically, no departures.	
Runway 13L	Diagonal runway in the east airfield used as a secondary departure runway. Typically, no arrivals.	
Runway 31L		Diagonal runway in the west airfield not typically used unless needed due to runway closures, strong W/NW wind conditions (West Flow) or other factors. Typically, no arrivals unless needed during West Flow.
Runway 36L		Primary arrival runway in the west airfield. It is also used as a secondary departure runway.
Runway 36R		Primary departure runway in the west airfield. It is also used as a secondary arrival runway.
Runway 35L		Primary departure runway in the east airfield. It is also used as a secondary arrival runway.
Runway 35C		Primary arrival runway in the east airfield. It is also used as a secondary departure runway.
Runway 35R		Used as a secondary arrival runway in the east airfield. Typically, no departures.
Runway 31R		Diagonal runway in the east airfield used as a secondary arrival runway. Typically, no departures.

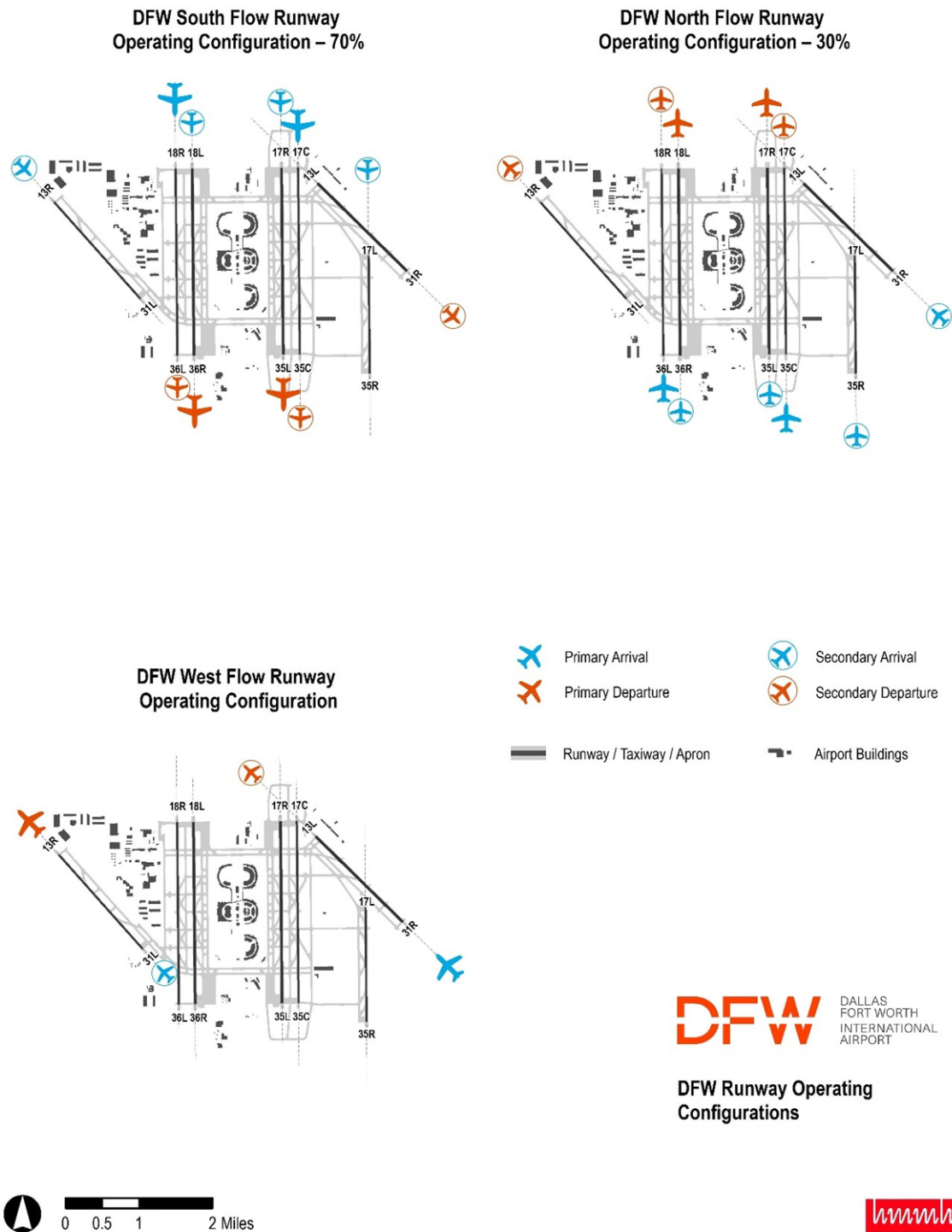


Figure 4 DFW Runway Operating Configurations



## 6.2 Runway End Utilization

Runway end utilization refers to the percent of time that a particular runway end is used for departures or arrivals. It is a principal element in the definition of the noise exposure pattern. Proportional use of a runway is based largely on conditions of wind direction and velocity and the length of the runway.

Similar to the fleet mix as discussed in **Section 6.1**, March 2019 to March 2020 runway utilization data was used to represent the existing conditions. **Table 7** summarizes the percentage developed from the DFW NOMS radar data that each runway was used for departures and arrivals from March 16, 2019, to March 15, 2020; this data was used to model the existing conditions and generate the Existing Conditions Noise Contour. For the runway use assignment, the outboard runways (Runways 17L/35R, 13R/31L and 13L/31R) were open until 11.00 p.m. The runway percentage use for day and night includes the assumption that the outboard runways (Runways 17L/35R, 13L/31R and 13R/31L) are not typically used after 10 p.m. or before 6 a.m. Nighttime operations (per FAA, nighttime operations are defined as 10:00 p.m. to 6:59 a.m.) runway utilization includes the predominant use of the main runways for arrivals and departures. Runway 17C/35C reopened in March 2019; however, it had reduced capacity due to partial closure of parallel Taxiway M. This resulted in less than historical use of Runway 17C/35C and higher than historical use of Runway 17L/35R during the modeling period. Historically, Runway 31L also has higher departure usage than shown in **Table 7**. The usage for these three runways would be adjusted to align with historical averages for the future condition modeling. **Table 7** provides the breakdown by time of day for arrivals and departures.

**Table 7 DFW Runway Utilization Summary – Existing Conditions**

*Source: DFW NOMS, HMMH, 2022*

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0	0.0	0.0	<0.1	0.0	<0.1
13R	3.0	<0.1	2.7	<0.1	0.0	<0.1
17C	24.2	24.6	24.2	0.5	1.8	0.6
17L	12.8	1.3	11.6	0.0	<0.1	<0.1
17R	0.3	11.9	1.5	39.1	30.1	38.1
18L	0.8	6.9	1.4	30.7	31.4	30.8
18R	29.1	24.6	28.7	0.2	6.5	0.9
31L	0.0	0.0	0.0	0.2	0.2	0.2
31R	0.8	<0.1	0.7	<0.1	0.0	<0.1
35C	8.1	11.3	8.5	0.1	0.6	0.2
35L	<0.1	3.8	0.4	15.1	13.1	14.9
35R	7.7	1.1	7.0	<0.1	0.0	<0.1
36L	12.6	11.1	12.5	<0.1	2.3	0.3
36R	0.4	3.3	0.7	14.0	14.1	14.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 8** provides a further breakdown of the runway use by Tower category and the type of aircraft for each runway.

**Table 8 DFW Runway Utilization by Category – Existing Conditions**

Source: DFW NOMS, HMMH, 2022

Operation Mode	Tower Category	Propulsion	Time of Day	Runway														Total
				13L	13R	17C	17L	17R	18L	18R	31L	31R	35C	35L	35R	36L	36R	
Arrival	Air Carrier	Jet	Day	0%	3%	26%	13%	<1%	<1%	28%	0%	<1%	9%	<1%	8%	12%	<1%	100%
			Night	0%	<1%	25%	1%	14%	7%	22%	0%	<1%	12%	5%	<1%	10%	3%	100%
		Regional Jet	Day	0%	3%	20%	13%	<1%	<1%	33%	0%	<1%	7%	<1%	8%	14%	<1%	100%
			Night	0%	<1%	20%	2%	4%	6%	36%	0%	<1%	9%	1%	2%	17%	3%	100%
	Air Taxi	Jet	Day	0%	4%	33%	10%	<1%	2%	20%	0%	2%	9%	<1%	9%	9%	<1%	100%
			Night	0%	0%	43%	4%	20%	0%	4%	0%	<1%	14%	7%	3%	3%	<1%	100%
		Regional Jet	Day	0%	2%	28%	10%	<1%	<1%	30%	0%	<1%	7%	<1%	8%	13%	<1%	100%
			Night	0%	0%	36%	2%	8%	5%	18%	0%	<1%	14%	1%	2%	11%	3%	100%
		Non-jet	Day	0%	53%	<1%	2%	<1%	<1%	13%	0%	6%	<1%	<1%	1%	24%	0%	100%
			Night	0%	1%	7%	1%	1%	11%	49%	0%	<1%	4%	1%	1%	17%	6%	100%
		General Aviation	Day	0%	3%	34%	13%	1%	<1%	18%	0%	1%	13%	<1%	8%	8%	<1%	100%
			Night	0%	0%	34%	3%	19%	2%	9%	0%	0%	22%	2%	1%	7%	1%	100%
		Non-jet	Day	0%	24%	14%	23%	<1%	<1%	7%	0%	14%	2%	<1%	2%	12%	<1%	100%
			Night	0%	0%	28%	1%	12%	4%	17%	0%	<1%	17%	5%	2%	11%	1%	100%
	Overall		Day	0%	3%	24%	13%	<1%	<1%	29%	0%	<1%	8%	<1%	8%	13%	<1%	100%
			Night	0%	<1%	25%	1%	12%	7%	25%	0%	<1%	11%	4%	1%	11%	3%	100%
			Total	0%	3%	24%	12%	2%	1%	29%	0%	<1%	8%	<1%	7%	12%	<1%	100%
Departure	Air Carrier	Jet	Day	0%	0%	<1%	0%	39%	31%	<1%	<1%	<1%	<1%	15%	0%	<1%	14%	100%
			Night	0%	0%	2%	<1%	30%	30%	7%	0%	0%	<1%	13%	0%	3%	14%	100%
		Regional Jet	Day	0%	0%	<1%	0%	39%	31%	<1%	<1%	0%	<1%	15%	0%	<1%	15%	100%
			Night	0%	0%	<1%	0%	33%	35%	<1%	<1%	0%	<1%	14%	0%	<1%	16%	100%
	Air Taxi	Jet	Day	0%	0%	1%	0%	46%	22%	<1%	<1%	<1%	<1%	18%	0%	<1%	12%	100%
			Night	0%	0%	<1%	0%	47%	34%	<1%	0%	0%	<1%	9%	0%	0%	8%	100%
		Regional Jet	Day	0%	0%	<1%	0%	39%	32%	<1%	<1%	0%	<1%	14%	0%	<1%	15%	100%
			Night	0%	0%	<1%	0%	30%	40%	<1%	0%	0%	<1%	12%	0%	<1%	16%	100%
		Non-jet	Day	1%	<1%	3%	0%	18%	30%	13%	21%	0%	1%	10%	0%	1%	1%	100%
			Night	0%	0%	4%	0%	7%	20%	44%	5%	0%	<1%	2%	0%	10%	7%	100%
		General Aviation	Day	0%	0%	<1%	0%	41%	27%	<1%	0%	0%	<1%	17%	0%	<1%	13%	100%
			Night	0%	0%	2%	0%	46%	17%	3%	0%	0%	0%	21%	0%	3%	9%	100%
		Non-jet	Day	<1%	<1%	4%	0%	36%	25%	5%	9%	0%	2%	14%	<1%	<1%	4%	100%
			Night	0%	0%	3%	0%	29%	18%	8%	<1%	0%	1%	25%	0%	2%	13%	100%
	Overall		Day	<1%	<1%	<1%	0%	39%	31%	<1%	<1%	<1%	<1%	15%	<1%	<1%	14%	100%
			Night	0%	0%	2%	<1%	30%	31%	6%	<1%	0%	<1%	13%	0%	2%	14%	100%
			Total	<1%	<1%	<1%	<1%	38%	31%	<1%	<1%	<1%	<1%	15%	<1%	<1%	14%	100%

Note: Totals may not match exactly due to rounding

### 6.3 Aircraft Stage Length and Operational Profiles

Within the AEDT database, aircraft departure profiles are defined by a range of trip distances identified as “stage lengths.” Higher stage lengths (longer trip distances) are associated with heavier aircraft due to the increase in fuel requirements for the flight. For example, a departure aircraft with a trip distance less than 500 nmi would be assigned a stage length value of one, where a departure aircraft with a trip distance of 3,000 nmi would be assigned a stage length value of five. **Table 9** provides the stage length classifications by their associated trip distances and **Table 10** presents the stage length utilization rates by AEDT aircraft type.

**Table 9 AEDT Stage Length Categories**

Source: AEDT 3d User Guide, March 2021

Category	Stage Length (nmi)
1	0-500
2	500-1000
3	1000-1500
4	1500-2500
5	2500-3500
6	3500-4500
7	4500-5500
8	5500-6500
9	6500+
Note: Stage Length is defined as the distance an aircraft travels from takeoff to landing	

The stage lengths flown from DFW are based on the radar data operations. **Table 10** indicates the proportion of the operations that fell within each of the nine stage length categories for existing conditions. Typically, widebody aircraft which operate on long haul routes have the higher stage lengths.

AEDT includes standard flight procedure data for each aircraft that represents each phase of flight to or from the airport. Information related to aircraft speed, altitude, thrust settings, flap settings, and distance are available and used by AEDT to calculate noise levels on the ground. Standard aircraft departure profiles are supplied from the runway (field elevation) up to 10,000 feet above ground level (AGL). Aircraft arrival profiles are supplied from 6,000 feet AGL down to the runway including the application of reverse thrust and rollout. The FAA requires that these standard arrival and departure profiles be used unless there is evidence that they are not applicable. The noise calculations presented in this document used the standard AEDT departure profiles.

**Table 10 Existing Conditions Modeled Departure Stage Length Usage by Aircraft Type**

Source: DFW NOMS, HMMH, 2022

AEDT ANP Type	Stage Length										Total
	1	2	3	4	5	6	7	8	9	M	
7478	6%	34%	21%	0%	19%	20%	<1%	0%	0%	0%	100%
717200	<1%	99%	<1%	0%	0%	0%	0%	0%	0%	0%	100%
737700	2%	58%	39%	0%	0%	0%	0%	0%	0%	0%	100%

AEDT ANP Type	Stage Length										Total
	1	2	3	4	5	6	7	8	9	M	
737800	20%	44%	34%	2%	<1%	0%	0%	0%	0%	0%	100%
747400	3%	11%	29%	0%	33%	23%	<1%	0%	0%	0%	100%
767300	43%	54%	<1%	0%	2%	0%	0%	0%	0%	0%	100%
777200	1%	21%	1%	0%	25%	30%	8%	13%	<1%	0%	100%
777300	4%	22%	20%	0%	17%	35%	<1%	0%	0%	0%	100%
1900D	98%	2%	0%	0%	0%	0%	0%	0%	0%	0%	100%
757PW	31%	59%	11%	0%	0%	0%	0%	0%	0%	0%	100%
757RR	5%	46%	40%	<1%	8%	0%	0%	0%	0%	0%	100%
7673ER	16%	48%	36%	0%	0%	0%	0%	0%	0%	0%	100%
767CF6	<1%	40%	59%	0%	0%	0%	0%	0%	0%	0%	100%
7773ER	<1%	2%	<1%	0%	4%	47%	0%	12%	33%	0%	100%
7878R	<1%	30%	18%	0%	5%	23%	5%	18%	0%	0%	100%
A300-622R	22%	49%	29%	0%	0%	0%	0%	0%	0%	0%	100%
A319-131	30%	54%	13%	2%	<1%	0%	0%	0%	0%	0%	100%
A320-211	2%	71%	27%	0%	0%	0%	0%	0%	0%	0%	100%
A320-232	6%	61%	33%	<1%	0%	0%	0%	0%	0%	0%	100%
A320-271N	0%	84%	16%	0%	0%	0%	0%	0%	0%	0%	100%
A321-232	9%	52%	39%	<1%	<1%	0%	0%	0%	0%	0%	100%
A350-941	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
A380-841	0%	0%	0%	0%	0%	<1%	0%	100%	0%	0%	100%
CL600	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA208	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA525C	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA55B	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA560XL	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA750	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CRJ9-ER	51%	46%	3%	0%	<1%	0%	0%	0%	0%	0%	100%
DC1010	93%	3%	4%	0%	0%	0%	0%	0%	0%	0%	100%
DHC6	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
EMB14L	84%	16%	<1%	0%	<1%	0%	0%	0%	0%	0%	100%
EMB170	44%	43%	13%	0%	0%	0%	0%	0%	0%	0%	100%
EMB175	25%	14%	60%	0%	0%	0%	0%	0%	0%	0%	100%
EMB190	<1%	87%	12%	<1%	0%	0%	0%	0%	0%	0%	100%
G650ER	33%	33%	33%	0%	0%	0%	0%	0%	0%	0%	100%
GIV	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
GV	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LEAR35	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MD11GE	28%	55%	9%	0%	0%	7%	0%	0%	0%	0%	100%
MD11PW	9%	63%	13%	0%	14%	0%	0%	0%	0%	0%	100%
MD83	48%	51%	1%	0%	<1%	0%	0%	0%	0%	0%	100%
Note: Totals may not match exactly due to rounding.											



## 6.4 Flight Tracks

The FAA has established routes for aircraft arriving and departing from DFW. For the noise analysis, model flight tracks were developed representing the path along the ground over which aircraft generally fly. For the existing conditions analysis, radar data for the existing conditions period (March 2019 to March 2020) was used to update existing AEDT model tracks to ensure they are representative of where aircraft fly at DFW. Radar data gathered was analyzed to verify the location, density, and width of existing flight corridors. Departure corridors are defined by a series of individual flight tracks located across the width of the corridor. Generally, aircraft on approach to a runway end are located within a smaller corridor due to the use of navigational instruments. To model the flight corridors in AEDT, consolidated flight tracks were developed from the radar data and given a track ID. Flight tracks modeled for the existing conditions are shown in **Figure 5** (Arrival Tracks) and **Figure 6** (Departure Tracks).

A total of 788 tracks were obtained from the prior AEDT, consisting of 380 arrival tracks and 408 departure tracks. No modifications were made to the prior AEDT model track set based on the radar data evaluation. Detailed AEDT model track use tables can be found in **Appendix B**.

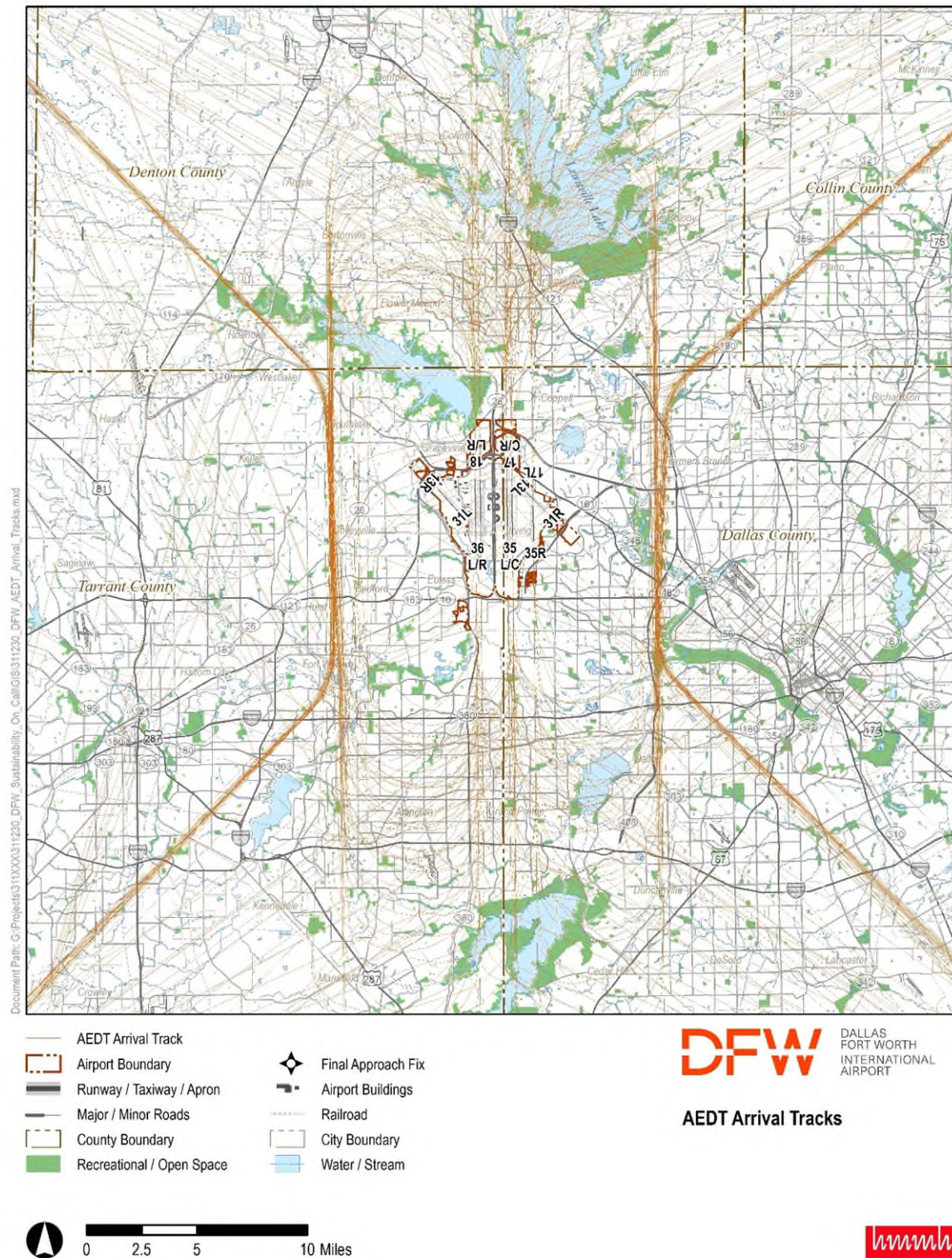


Figure 5 AEDT Arrival Tracks



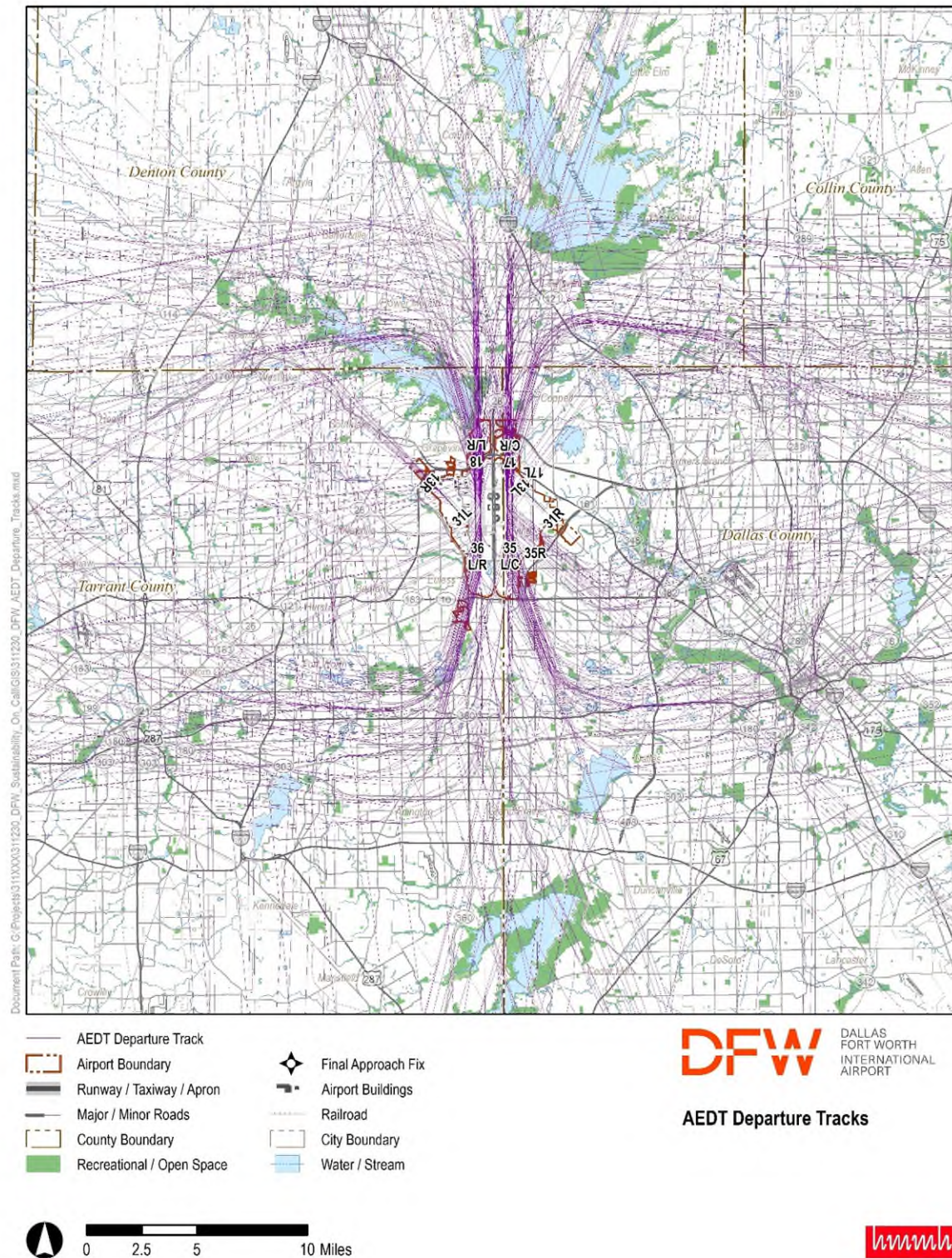


Figure 6 AEDT Departure Tracks

## 6.5 Existing Noise Exposure Contours

**Table 11** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the Existing Condition. Approximately 11.92 square miles of land fall within the Existing Condition (March 2019 to March 2020) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.51 square miles exposed to 65 DNL or higher, is located off-Airport (the remaining 11.41 square miles are located on DFW property). **Table 11** summarizes the areas of noise exposure within each noise contour level (65 DNL, 70 DNL and 75 DNL noise contours) for the existing conditions. **Figure 7** shows the annual noise exposure pattern at DFW for the existing conditions. Noise contours are presented for the 65 DNL, 70 DNL, and 75 DNL. DNL contours are a graphic representation of how the noise from DFW's annual average daily aircraft operations is distributed over the surrounding area. The size and shape of the noise exposure contours are reflective of the south and north flow at DFW. Noise contour patterns extend from DFW along each extended runway centerline, reflective of the flight tracks used by all aircraft. The relative distance of a contour from DFW along each route is a function of the frequency of use of each runway end for total aircraft arrivals and departures, and the type of aircraft assigned to the respective runways.

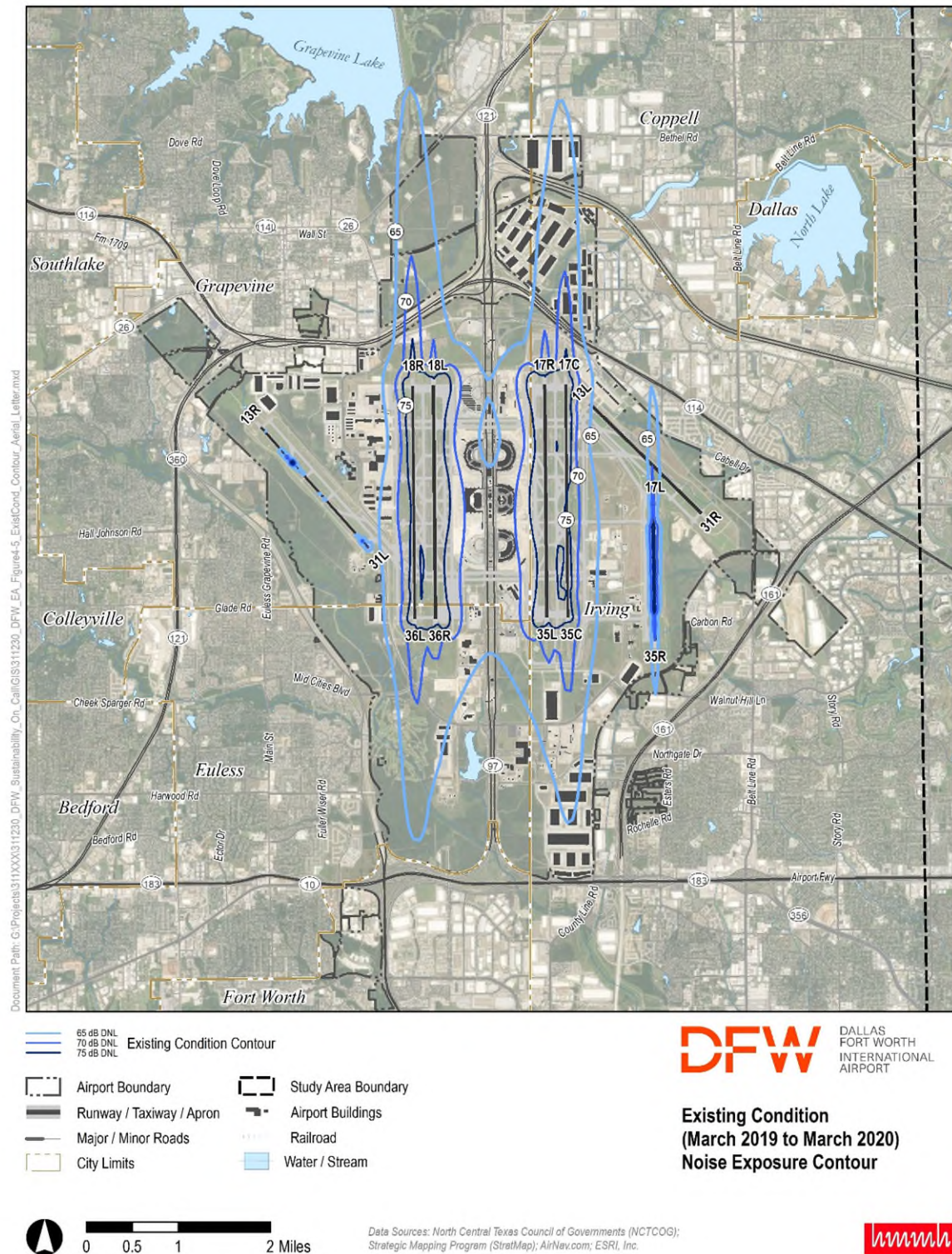
**Table 11 Estimated Land Area within Existing (March 2019 to March 2020) Noise Exposure Contour**

Source: HMMH, 2022

Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
DNL 65-70 dB	6.96	0.46	7.42
DNL 70-75 dB	2.16	0.05	2.21
DNL 75+ dB	2.29	0.00	2.29
<b>Total</b>	<b>11.41</b>	<b>0.51</b>	<b>11.92</b>

**Figure 8** provides the DNL contours for the Existing Condition over the land use map. In the Existing Condition, the DNL contours extend away from DFW on the north side in two main lobes over compatible land use along the extended centerline of the outboard parallel runway extending off DFW property to just north of Bethel Road, and on the south side in two main lobes along the extended centerline of the outboard parallel runway but remaining on airport property. The 65 DNL also extends off airport property over compatible land use north and south of Runway 17L/35R. The 70 DNL contour for the Existing Condition includes no noise sensitive land use and does not leave DFW property.





**Figure 7 Existing Condition (March 2019 to March 2020) Noise Exposure Contour**



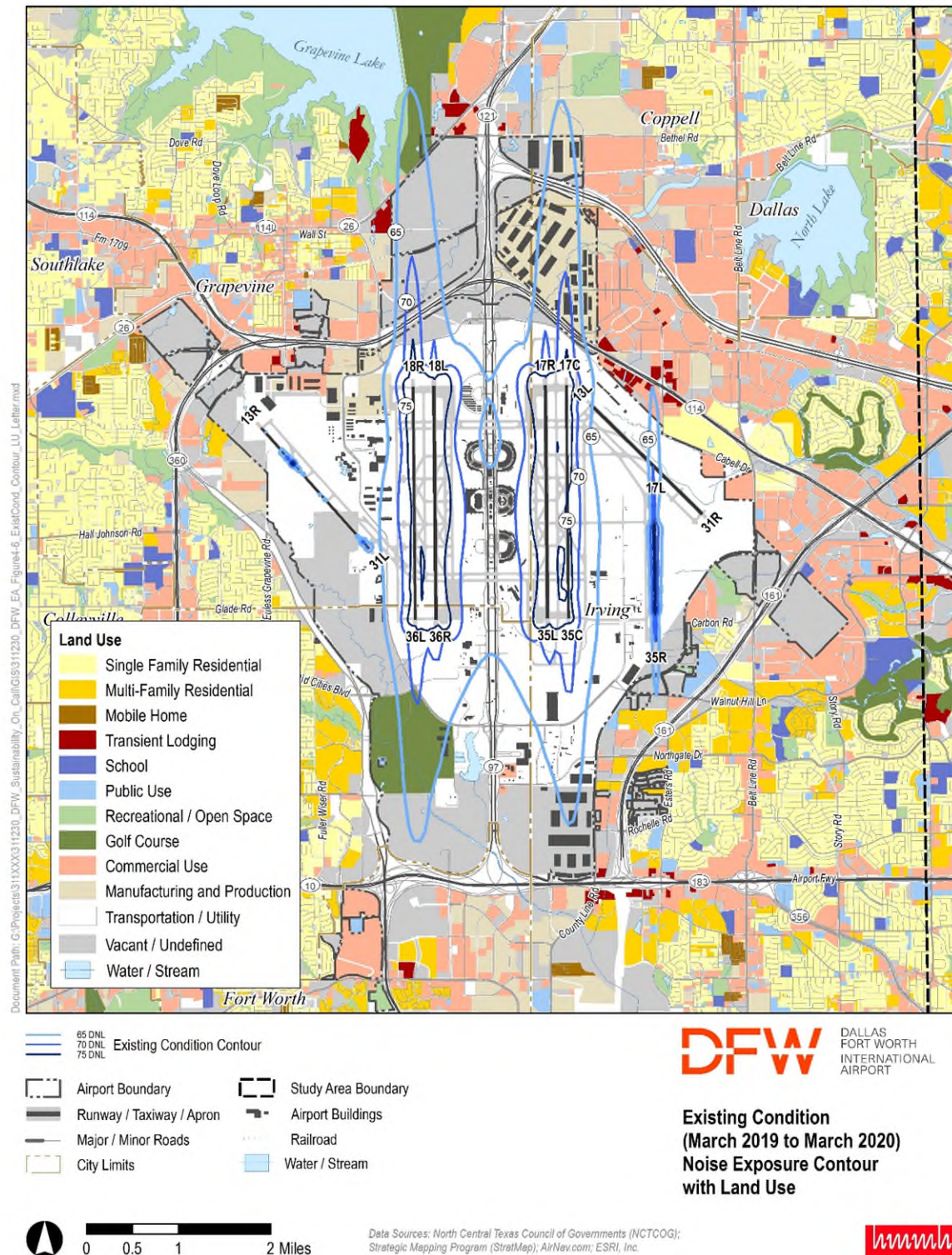


Figure 8 Existing Condition (March 2019 to March 2020) Noise Exposure Contour with Land Use

## 6.6 Existing Conditions Noise Compatible Land Use

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the 65 DNL or greater contours. Furthermore, there are no single family, multifamily, or manufactured housing within any of the March 2019 to March 2020 existing condition noise contours (see **Figure 8**). **Table 12** summarizes the residential population and housing units affected by noise levels exceeding 65 DNL for the Existing (March 2019 to March 2020) noise exposure contours.

**Table 12 Estimated Land Area within Existing (March 2019 to March 2020) Noise Exposure Contour**

*Source: 2020 US Census Block Data, HMMH, 2022*

Category	Type	DNL 65-70 dB	DNL 70-75 dB	DNL 75+ dB	DNL 65+ dB
<b>Housing</b>	Single-Family Residential	0	0	0	0
	Multi-Family Residential	0	0	0	0
	Manufactured Housing	0	0	0	0
	Total Housing Units	0	0	0	0
<b>Population</b>	Single-Family Residential	0	0	0	0
	Multi-Family Residential	0	0	0	0
	Manufactured Housing	0	0	0	0
	Total Housing Units	0	0	0	0

## 7 Future Alternatives

The following sections discuss the development of the future aircraft operational forecast, runway use, flight tracks and flight track usage for the future No Action and Proposed Action Alternatives. **Chapter 8** discusses the comparison between the two alternatives.

### 7.1 Forecast

The Runway 17R/35L Rehabilitation would be completed in four construction phases, Phases 2, 3, and 4 involve reduced length or full runway closures and are the subject of the noise analysis. Phase 1 work would be all the preparation work and staging (not impacting runway operations) needed to begin Phase 2. The three construction phases span across the 2023 to 2024 calendar year period. The three phases modeled for the EA cover 13 months from April 2023 to April 2024.

- Phase 2 – Runway 35L end closure – April 2023 to June 2023 (3 months)
- Phase 3 – Full Closure – July 2023 to December 2023 (6 months)
- Phase 4 – Runway 17R end closure – January 2024 to April 2024 (4 months)

The study team obtained the FAA 2020 Terminal Area Forecast (TAF) released in May 2021 for DFW and the DFW Aviation Activity Forecast (AAF) published in June 2019. The FAA TAF includes the effects of the COVID-19 pandemic and the AAF does not as it was released prior to the pandemic. Therefore, the FAA TAF and the DFW's AAF published in June 2019 were compared for existing and future study years. The comparison demonstrated that existing operations for DFW ending September 30, 2021, were over 17 percent higher than the FAA TAF for fiscal year (FY) 2021 but 16 percent below the AAF FY 2021

forecast. The FAA TAF includes a slower return to pre-COVID levels for DFW, whereas the AAF continues to forecast an increase in operations from the FY 2021 levels. Due to the faster than predicted return to operation levels at DFW in the FAA TAF and the uncertainty in future schedules due to COVID-19, the forecast for the EA uses the FAA TAF forecast with an increase of 5 percent for the Commercial Operations (Air Carrier and Air Taxi) in the FAA TAF. Further details on the forecast development can be found in **Appendix C**.

The NAA and Proposed Action for the EA have the same level of operations for both conditions. Both alternatives use the same level of operations and fleet mix because the Proposed Action is a runway rehabilitation project and would not alter the length of the runway or its use in the future. Using the FAA TAF data which are based on a FY, DFW developed a forecast to cover the 13-month period of the EA. Phase 2 and three months of Phase 3 occur in FY 2023 and the remaining three months of Phase 3 and Phase 4 occur in FY 2024. **Table 13** provides the level of operations modeled for the EA. The 13-month construction period operations were derived by dividing the fiscal year total by 12 months and then combining 6 months (April – September) of the 2023 fiscal year and 7 months (October – April) of the 2024 fiscal year. For the EA, FAA requires an annualized set of data. The 13-month data was then annualized by dividing the total by 13 months and then multiplying by 12 months, as shown following and in **Table 13**.

$$(13\text{-month total} / 13) * 12 = 12\text{-month annualized total}$$

**Table 13 Forecast NAA and Proposed Action Alternative Operations**

Source: FAA OPSNET, FAA 2020 TAF, HMMH

Period	Air Carrier	Air Taxi	Total Commercial	General Aviation	Military	Total
FY 2023 – 6 months	307,835	14,021	321,856	3,393	106	325,355
FY 2024 – 7 months	388,465	13,779	402,245	3,971	124	406,339
13-month Total	696,300	27,801	724,101	7,364	230	731,694
<b>12-month Annualized Total</b>	<b>642,739</b>	<b>25,662</b>	<b>668,401</b>	<b>6,797</b>	<b>212</b>	<b>675,410</b>

### 7.1.1 Aircraft Fleet Mix and Operations by Time of Day

The 675,410 annual operations translate to 1,845 AAD operations to be modeled for the 2023/2024 NAA and Proposed Action noise analysis. **Table 14** provide representative aircraft and engine combinations<sup>9</sup> and the number of average daily operations that were modeled in AEDT for the Future (2023/2024) NAA and Proposed Action Alternative. The future fleet mix includes a reduction in Air Taxi fleet operations (reduction in 50 seat and smaller regional jets) compared to the existing conditions and changes in the Air Carrier fleet mix (the retirement of the older louder MD83 and introduction of the quieter 737 MAX aircraft). The future AAD includes 1,845 total operations, 10.8 percent of which occurred during the DNL nighttime hours of 10:00 p.m. to 6:59 a.m.

<sup>9</sup> The future fleet mix was developed from the DFW NOMS information used for the Existing Conditions and a review of known aircraft fleet retirements.



**Table 14 DFW Modeled AAD Aircraft Operations for NAA and Proposed Action Alternative (2023/2024)**

Source: FAA TAF, HMMH, 2022

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	Jet	717200	2	<1	2	2	<1	2	5
		737700	14	1	16	15	<1	16	32
		737800*	159	16	175	159	16	175	350
		7378MAX	2	<1	2	2	<1	2	4
		747400	2	1	3	1	2	3	6
		7478	<1	<1	2	<1	<1	2	3
		757PW	<1	3	3	<1	3	3	6
		757RR	<1	2	3	<1	3	3	6
		767300	1	<1	1	<1	<1	1	3
		7673ER	3	3	6	4	2	6	12
		767CF6	1	<1	2	1	<1	2	4
		777200	11	3	14	13	<1	14	29
		777300	<1	1	2	1	1	2	4
		7773ER	5	1	6	6	<1	6	12
		7878R	13	3	16	15	<1	16	32
		A300-622R	3	2	5	2	2	5	10
		A319-131	89	10	99	89	10	99	198
		A320-211	23	4	26	23	4	26	53
		A320-232	30	6	36	32	4	36	73
		A320-271N	<1	<1	<1	<1	<1	<1	1
		A321-232	157	18	175	157	17	175	349
		A350-941	<1	0	<1	<1	0	<1	1
		A380-841	<1	<1	<1	<1	<1	<1	2
		DC1010	<1	<1	1	<1	<1	1	2
		EMB190	2	<1	2	2	<1	2	3
		MD11GE	<1	<1	2	1	<1	2	3
		MD11PW	2	2	3	2	1	3	7
	Regional Jet	CRJ9-ER	149	10	160	147	13	160	319
		EMB170	91	7	98	90	8	98	195
		EMB175	15	2	17	14	3	17	33
	Subtotal		779	99	878	783	95	878	1,756
Air Taxi	Regional Jet	CL600	1	<1	1	1	<1	1	3
		EMB14L	30	2	32	30	2	32	63
	Non-jet	1900D	<1	<1	<1	<1	<1	<1	1
		CNA208	<1	<1	1	<1	<1	1	2
		DHC6	<1	<1	<1	<1	<1	<1	<1
	Subtotal		33	2	35	32	3	35	70
General Aviation	Jet	CL600	<1	0	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
		CNA750	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	0	<1	<1	0	<1	<1	<1
		GV	<1	0	<1	<1	0	<1	<1
		LEAR35	<1	<1	<1	<1	<1	<1	<1
	Non-jet	CNA208	7	<1	7	7	<1	7	14
		DHC6	1	<1	1	1	<1	1	3
	Subtotal		9	<1	9	9	<1	9	19
Grand Total		822	101	923	824	99	923	1,845	
Note: Totals may not match exactly due to rounding.									
*ANP Type 737800 represents both B738 and B739 operations, which account for 98 percent and 2 percent, respectively.									

## 7.2 Future (2023/2024) No Action Alternative

Under the NAA, the runway rehabilitation project would not occur and there would be no changes to the typical runway use at DFW for 2023/2024.

### 7.2.1 Future (2023/2024) No Action Alternative Aircraft Activity Levels and Fleet Mix

The number of operations and fleet mix for the Future No Action Alternative are the same as shown in **Table 13** and **Table 14**.

### 7.2.2 Future (2023/2024) No Action Alternative Runway Utilization

Runway end utilization for the Future (2023/2024) NAA is similar to the existing conditions (see **Table 7**) except the overall use was adjusted to be 70 percent south flow and 30 percent north flow. Arrivals to Runway 17C/35C were increased, arrivals to 17L/35R were decreased, and departures from 31L was increased to reflect historical use of those runways.

At DFW the outboard runways (Runways 17L/35R, 13R/31L and 13L/31R) were open until 11.00 p.m. The runway percentage use for day and night includes the assumption that the outboard runways (Runways 17L/35R, 13L/31R and 13R/31L) are not typically used after 10 p.m. or before 6 a.m. Nighttime operations (per FAA, nighttime operations are defined as 10:00 p.m. to 6:59 a.m.) runway utilization includes the predominant use of the main runways for arrivals and departures. **Table 15** provides the breakdown by time of day for arrivals and departures.

**Table 15 DFW Runway Utilization Summary - NAA**

Source: DFW NOMS, HMMH, 2022

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	2.9%	<0.1%	2.6%	<0.1%	0.0%	<0.1%
17C	28.1%	25.0%	27.8%	0.5%	1.8%	0.6%
17L	9.1%	0.9%	8.2%	0.0%	<0.1%	<0.1%
17R	0.3%	11.6%	1.5%	39.0%	30.5%	38.1%
18L	0.8%	6.9%	1.4%	30.5%	31.1%	30.6%
18R	28.9%	24.7%	28.4%	0.2%	5.8%	0.8%
31L	<0.1%	0.0%	<0.1%	0.6%	<0.1%	0.5%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	8.3%	11.4%	8.6%	0.2%	0.6%	0.2%
35L	<0.1%	3.9%	0.5%	15.3%	13.5%	15.1%
35R	7.7%	1.1%	7.0%	<0.1%	0.0%	<0.1%
36L	12.6%	11.1%	12.4%	<0.1%	2.3%	0.3%
36R	0.4%	3.3%	0.7%	13.7%	14.3%	13.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

### 7.2.3 Future (2023/2024) No Action Alternative Flight Tracks

Flight track locations and percent utilization for the Future (2023/2024) NAA would be expected to be the same as the Existing Conditions (see **Section 6.4**).

### 7.2.4 Future (2023/2024) No Action Alternative Aircraft Stage Length and Operational Profiles

The trip lengths flown from DFW for the Future (2023/2024) NAA is similar to existing conditions except for the removal of the MD83 aircraft and the addition of the 7378MAX aircraft.

**Table 16 Existing Conditions Modeled Departure Stage Length Usage by Aircraft Type**

Source: DFW NOMS, HMMH, 2022

AEDT ANP Type	Stage Length										Total
	1	2	3	4	5	6	7	8	9	M	
<b>7478</b>	6%	34%	21%	0%	19%	20%	<1%	0%	0%	0%	<b>100%</b>
<b>717200</b>	<1%	99%	<1%	0%	0%	0%	0%	0%	0%	0%	<b>100%</b>
<b>737700</b>	2%	58%	39%	0%	0%	0%	0%	0%	0%	0%	<b>100%</b>
<b>737800</b>	20%	44%	34%	2%	<1%	0%	0%	0%	0%	0%	<b>100%</b>
<b>7378MAX</b>	20%	44%	34%	2%	<1%	0%	0%	0%	0%	0%	<b>100%</b>
<b>747400</b>	3%	11%	29%	0%	33%	23%	<1%	0%	0%	0%	<b>100%</b>
<b>767300</b>	43%	54%	<1%	0%	2%	0%	0%	0%	0%	0%	<b>100%</b>
<b>777200</b>	1%	21%	1%	0%	25%	30%	8%	13%	<1%	0%	<b>100%</b>

AEDT ANP Type	Stage Length										Total
	1	2	3	4	5	6	7	8	9	M	
777300	4%	22%	20%	0%	17%	35%	<1%	0%	0%	0%	100%
1900D	98%	2%	0%	0%	0%	0%	0%	0%	0%	0%	100%
757PW	31%	59%	11%	0%	0%	0%	0%	0%	0%	0%	100%
757RR	5%	46%	40%	<1%	8%	0%	0%	0%	0%	0%	100%
7673ER	16%	48%	36%	0%	0%	0%	0%	0%	0%	0%	100%
767CF6	<1%	40%	59%	0%	0%	0%	0%	0%	0%	0%	100%
7773ER	<1%	2%	<1%	0%	4%	47%	0%	12%	33%	0%	100%
7878R	<1%	30%	18%	0%	5%	23%	5%	18%	0%	0%	100%
A300-622R	22%	49%	29%	0%	0%	0%	0%	0%	0%	0%	100%
A319-131	30%	54%	13%	2%	<1%	0%	0%	0%	0%	0%	100%
A320-211	2%	71%	27%	0%	0%	0%	0%	0%	0%	0%	100%
A320-232	6%	61%	33%	<1%	0%	0%	0%	0%	0%	0%	100%
A320-271N	0%	84%	16%	0%	0%	0%	0%	0%	0%	0%	100%
A321-232	9%	52%	39%	<1%	<1%	0%	0%	0%	0%	0%	100%
A350-941	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
A380-841	0%	0%	0%	0%	0%	<1%	0%	100%	0%	0%	100%
CL600	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA208	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA525C	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA55B	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA560XL	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CNA750	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
CRJ9-ER	51%	46%	3%	0%	<1%	0%	0%	0%	0%	0%	100%
DC1010	93%	3%	4%	0%	0%	0%	0%	0%	0%	0%	100%
DHC6	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
EMB14L	84%	16%	<1%	0%	<1%	0%	0%	0%	0%	0%	100%
EMB170	44%	43%	13%	0%	0%	0%	0%	0%	0%	0%	100%
EMB175	25%	14%	60%	0%	0%	0%	0%	0%	0%	0%	100%
EMB190	<1%	87%	12%	<1%	0%	0%	0%	0%	0%	0%	100%
G650ER	33%	33%	33%	0%	0%	0%	0%	0%	0%	0%	100%
GIV	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
GV	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LEAR35	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MD11GE	28%	55%	9%	0%	0%	7%	0%	0%	0%	0%	100%
MD11PW	9%	63%	13%	0%	14%	0%	0%	0%	0%	0%	100%
Note: Totals may not match exactly due to rounding.											



## 7.2.5 Future (2023/2024) No Action Alternative Noise Exposure Contours

**Table 17** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the NAA. Approximately 11.25 square miles of land fall within the NAA (2023/2024) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.47 square miles exposed to 65 DNL or higher, is located off-DFW (the remaining 10.78 square miles are located on DFW property). **Table 17** summarizes the areas of noise exposure within each noise contour level (65 DNL, 70 DNL, and 75 DNL noise contours) for the NAA. **Figure 9** shows the annual noise exposure pattern at DFW for the NAA. Noise contours are presented for the 65 DNL, 70 DNL, and 75 DNL.

Similar to existing conditions, the size and shape of the noise exposure contours are reflective of the south and north flow at DFW. Noise contour patterns extend from DFW along each extended runway centerline, reflective of the flight tracks used by all aircraft. The relative distance of a contour from DFW along each route is a function of the frequency of use of each runway end for total aircraft arrivals and departures, and the type of aircraft assigned to the respective runways.

**Figure 9** provides the resultant DNL contours for the Future NAA. In the Future NAA, the DNL contours extend away from DFW on the northside in two main lobes along the extended centerline of the outboard parallel runway extending off DFW property to just north of Bethel Road, and on the southside in two main lobes along the extended centerline of the outboard parallel runway but remaining on DFW property. There is no noise sensitive land use within the future NAA 65 DNL or greater contours. The 70 DNL contour for the Future NAA barely extends off DFW property.

**Table 17 Estimated Land Area within NAA (2023/2024) Noise Exposure Contour**

Source: HMMH, 2022

Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
DNL 65-70 dB	6.52	0.42	6.94
DNL 70-75 dB	2.10	0.05	2.15
DNL 75+ dB	2.16	0.00	2.16
<b>Total</b>	<b>10.78</b>	<b>0.47</b>	<b>11.25</b>

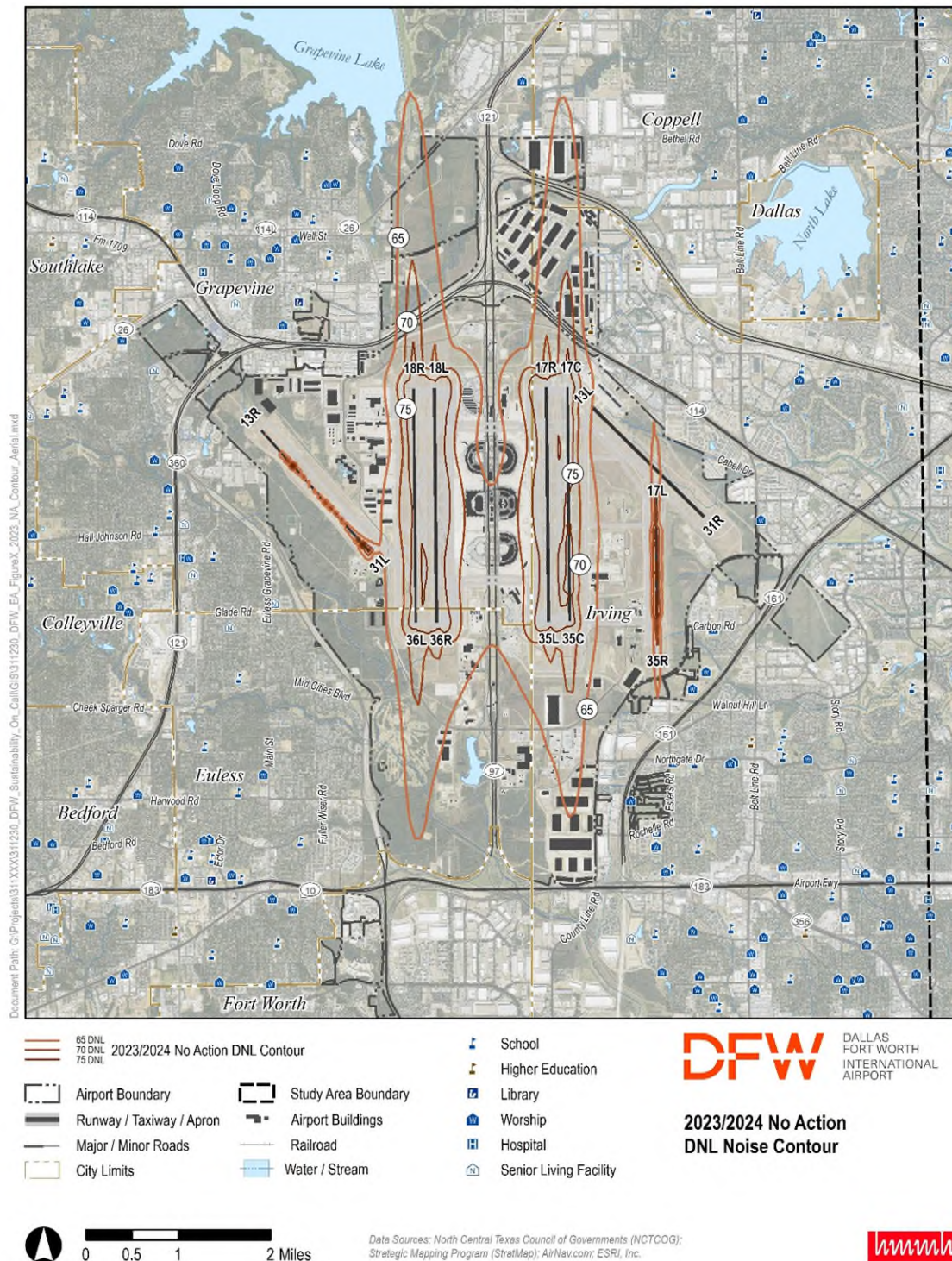


Figure 9 No Action Alternative (2023/2024) Noise Exposure Contour

## 7.2.6 Future (2023/2024) No Action Alternative Noise Compatible Land Use

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the contours. Furthermore, there no single family, multi-family, or manufactured housing within any of the Future NAA (2023/2024) noise contours as shown in **Figure 10. Table 18** summarizes the residential population and housing units affected by noise levels exceeding 65 DNL for the Future NAA (2023/2024) noise exposure contours.

**Table 18 Non-Compatible Land Use Housing and Population – Future NAA (2023/2024)**

Source: HMMH, 2022

Category	Type	DNL 65-70 dB	DNL 70-75 dB	DNL 75+ dB	DNL 65+ dB
<b>Housing</b>	Single-Family Residential	0	0	0	0
	Multi-Family Residential	0	0	0	0
	Manufactured Housing	0	0	0	0
	Total Housing Units	0	0	0	0
<b>Population</b>	Single-Family Residential	0	0	0	0
	Multi-Family Residential	0	0	0	0
	Manufactured Housing	0	0	0	0
	Total Housing Units	0	0	0	0
Notes: Population numbers are estimates based on the 2020 United States Census block data.					



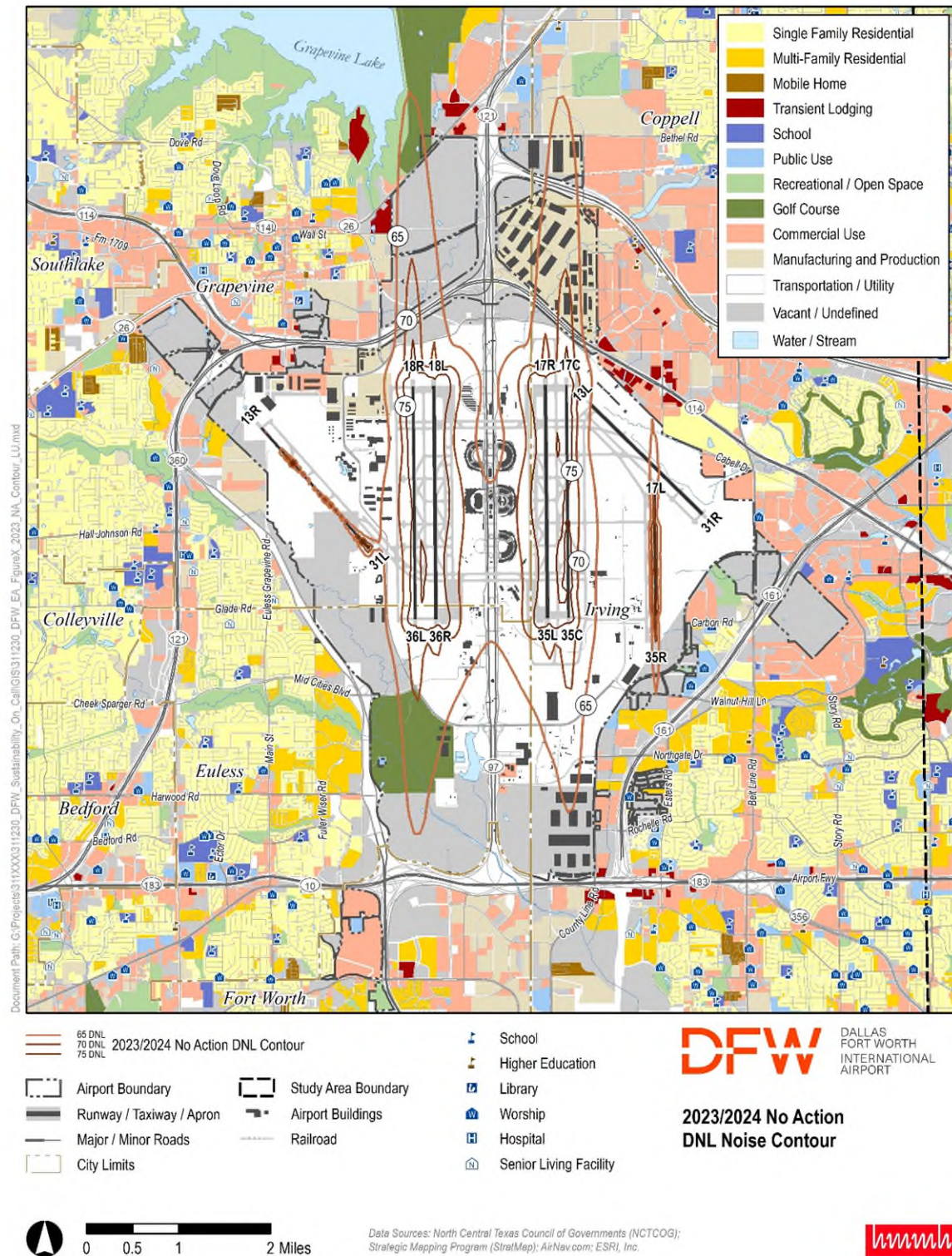


Figure 10 No Action Alternative (2023/2024) Noise Exposure Contour with Land Use



### 7.3 Future (2023/2024) Proposed Action Alternative

The Proposed Action Alternative is comprised of the rehabilitation of Runway 17R/35L and its shoulders, upgrades to the electrical systems and components, and a full asphalt overlay. The Proposed Action would cause temporary changes in runway use, during construction only. The proposed runway closure would potentially result in temporary changes in aircraft noise for some communities near the airport. One Future year (2023/2024) Proposed Action Alternative was used to analyze the construction phasing schedule, in terms of noise impacts based on the anticipated runway end closures, full runway closure and overall project schedule.

The 17R/35L runway rehabilitation would be completed in four construction phases, Phases 2, 3, and 4 involve reduced length or full runway closures and are the subject of the Proposed Action Alternative. Phase 1 work would be all the preparation work and staging (not impacting runway operations) needed to begin Phase 2. The three construction phases span across the 2023 to 2024 calendar year period. The three phases modeled for the EA cover a total of 13 months from April 2023 to April 2024.

- Phase 2 – Runway 35L end closure – April 2023 to June 2023 (3 months)
- Phase 3 – Full Closure – July 2023 to December 2023 (6 months)
- Phase 4 – Runway 17R end closure – January 2024 to April 2024 (4 months)

During Phase 2, the Runway 35L end would be closed reducing the length of the runway from 13,400 feet to 9,276 feet and during Phase 4 the Runway 17R end would be closed reducing the length of the runway from 13,400 feet to 9,426 feet.

#### 7.3.1 Future (2023/2024) Proposed Action Alternative Aircraft Activity Levels and Fleet Mix

No change to the number of aircraft operations or fleet mix would occur as a result of the Proposed Action Alternative. Therefore, the number of operations and fleet mix for the future Proposed Action Alternative would be the same as the NAA.

#### 7.3.2 Future (2023/2024) Proposed Action Alternative Runway Utilization

While Runway 17R/35L would experience a partial or full closure for rehabilitation, the Future (2023/2024) Proposed Action Alternative would have the same runway definitions as discussed for the existing conditions, except during Phases 2 and 4 where the runway length would be reduced. It is anticipated that the runway end utilization would change during the period of implementing the Proposed Action. The NAA runway use was adjusted for each construction phase for the Proposed Action.

Phase 2 would close the Runway 35L end of the runway resulting in a reduced runway length of 9,276 feet. Any heavy aircraft that would normally depart from Runway 17R/35L would use Runway 17C/35C instead. DFW expects that departure usage from Runway 17R/35L would remain the same during Phase 2 as narrowbody aircraft are reallocated from other runways to replace the heavy aircraft shifted to

Runway 35C.<sup>10</sup> Arrivals to Runway 35L would not be permitted during this period and would use Runway 35C instead. **Table 19** provides the breakdown by time of day for arrivals and departures for Phase 2 of the Proposed Action Alternative.

**Table 19 DFW Runway Utilization Summary Phase 2 Proposed Action Alternative**

Source: HMMH, 2022

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	2.9%	<0.1%	2.6%	<0.1%	0.0%	<0.1%
17C	28.0%	26.1%	27.8%	1.0%	5.7%	1.5%
17L	9.1%	0.9%	8.2%	0.0%	<0.1%	<0.1%
17R	0.3%	12.1%	1.6%	39.1%	29.3%	38.1%
18L	0.8%	7.0%	1.4%	29.9%	29.1%	29.8%
18R	28.7%	25.3%	28.4%	0.2%	5.1%	0.7%
31L	0.0%	0.0%	0.0%	0.6%	<0.1%	0.6%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	8.7%	12.6%	9.2%	0.3%	2.4%	0.5%
35L	0.0%	0.0%	0.0%	15.3%	13.0%	15.1%
35R	7.7%	1.1%	7.0%	<0.1%	0.0%	<0.1%
36L	12.5%	11.4%	12.4%	<0.1%	1.9%	0.2%
36R	0.4%	3.4%	0.7%	13.5%	13.4%	13.5%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Phase 3 would close the Runway 17R/35L completely resulting in operations being shifted to other runways. All departures from Runway 17R/35L would use Runway 17C/35C instead. In response to this reallocation from Runway 17R/35L, arrivals to Runway 17C/35C would shift to other runways.<sup>11</sup> **Table 20** provides the breakdown by time of day for arrivals and departures for Phase 3 of the Proposed Action Alternative.

<sup>10</sup> Dallas-Fort Worth International Airport (DFW) Runway 17R/35L Rehabilitation – Aircraft Taxi Time Analysis Results for NEPA, November 29, 2021

<sup>11</sup> Ibid.

**Table 20 DFW Runway Utilization Summary Phase 3 Proposed Action Alternative**

Source: HMMH, 2022

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	5.8%	0.2%	5.2%	<0.1%	0.0%	<0.1%
17C	0.0%	0.0%	0.0%	39.5%	32.3%	38.7%
17L	17.7%	11.9%	17.0%	0.0%	<0.1%	<0.1%
17R	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
18L	0.8%	6.9%	1.4%	30.5%	31.1%	30.6%
18R	45.9%	46.6%	46.0%	0.2%	5.8%	0.8%
31L	<0.01%	0.0%	<0.01%	2.8%	2.0%	2.8%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	4.2%	7.6%	4.6%	9.3%	8.7%	9.3%
35L	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
35R	11.9%	8.7%	11.5%	<0.1%	0.0%	<0.1%
36L	12.6%	11.1%	12.4%	<0.1%	2.3%	0.3%
36R	0.4%	3.3%	0.7%	17.6%	17.7%	17.6%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Phase 4 would close the Runway 17R end of the runway resulting in a reduced runway length of 9,426 feet. Any heavy aircraft that would normally depart from Runway 17R/35L would use Runway 17C/35C instead. In response to this shift of heavy aircraft from Runway 17R/35L, narrowbody departures would be reallocated from other runways to Runway 17R/35L resulting in the same usage as the No Action Alternative. Arrivals to Runway 17R would not be permitted during this period and would use Runway 17C instead.<sup>12</sup> **Table 21** provides the breakdown by time of day for arrivals and departures for Phase 4 of the Proposed Action Alternative.

<sup>12</sup> Ibid.

**Table 21 DFW Runway Utilization Summary Phase 4 Proposed Action Alternative**

Source: HMMH, 2022

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0.0%	0.0%	0.0%	<0.1%	0.0%	<0.1%
13R	2.9%	<0.1%	2.6%	<0.1%	0.0%	<0.1%
17C	28.4%	36.5%	29.3%	2.4%	4.0%	2.6%
17L	9.1%	0.9%	8.2%	0.0%	<0.1%	<0.1%
17R	0.0%	0.0%	0.0%	39.1%	30.3%	38.1%
18L	0.8%	6.9%	1.4%	28.6%	29.2%	28.6%
18R	28.9%	24.7%	28.4%	0.2%	5.8%	0.8%
31L	<0.01%	0.0%	<0.01%	0.6%	<0.1%	0.5%
31R	0.8%	<0.1%	0.7%	<0.1%	0.0%	<0.1%
35C	8.3%	11.4%	8.6%	0.9%	1.8%	1.0%
35L	<0.1%	3.9%	0.5%	15.3%	13.2%	15.1%
35R	7.7%	1.1%	7.0%	<0.1%	0.0%	<0.1%
36L	12.6%	11.1%	12.4%	<0.1%	2.3%	0.3%
36R	0.4%	3.3%	0.7%	12.8%	13.5%	12.9%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

### 7.3.3 Future (2023/2024) Proposed Action Alternative Flight Tracks

Flight track locations and percent utilization for the Future (2023/2024) Proposed Action Alternative would be expected to be the same as the existing conditions (see **Section 6.4**).

### 7.3.4 Future (2023/2024) Proposed Action Alternative Aircraft Stage Length and Operational Profiles

The trip lengths flown from DFW for the Future (2023/2024) Proposed Action Alternative is not expected to change from Future No Action Alternative (see **Section 7.2.4**).

### 7.3.5 Future (2023/2024) Proposed Action Alternative Noise Exposure Contours

Each phase representing that portion of the rehabilitation project was modeled in AEDT and then combined to generate a complete Proposed Action Alternative contour set. **Table 22** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the Proposed Action Alternative. Approximately 11.48 square miles of land fall within the Proposed Action Alternative (2023/2024) 65 DNL or higher noise exposure area. Of the total land area, approximately 0.62 square miles exposed to 65 DNL or higher, is located off-Airport (the remaining 10.86 square miles are located on DFW property). **Table 22** summarizes the areas of noise exposure within each noise contour level (65 DNL, 70 DNL, and 75 DNL noise contours) for the Proposed Action Alternative. **Figure 11** shows the annual noise exposure pattern at DFW for the Proposed Action Alternative. Noise contours are presented for the 65 DNL, 70 DNL, and 75 DNL.



**Table 22 Estimated Land Area within the Proposed Action Alternative (2023/2024) Noise Exposure Contours**

Source: HMMH, 2022

Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
DNL 65-70 dB	6.37	0.57	6.94
DNL 70-75 dB	2.18	0.05	2.23
DNL 75+ dB	2.31	0.00	2.31
Total	<b>10.86</b>	<b>0.62</b>	<b>11.48</b>

Similar to existing conditions, the size and shape of the noise exposure contours are reflective of the south and north flow at DFW. Noise contour patterns extend from DFW along each extended runway centerline, reflective of the flight tracks used by all aircraft. The relative distance of a contour from DFW along each route is a function of the frequency of use of each runway end for total aircraft arrivals and departures, and the type of aircraft assigned to the respective runways.

**Figure 11** provides the resultant DNL contours for the Proposed Action Alternative. In the Proposed Action Alternative, the DNL contours extend away from DFW on the north side in two main lobes along the extended centerline of the outboard parallel runways, extending off airport property on the west side to Grapevine Lake and on the east side to just past Interstate 635. On the south side, the contour extends in two main lobes along the extended centerline of the outboard parallel runways but remains on airport property. The 65 DNL does extend off airport property north of Runway 17L over compatible land use and south of Runway 35R over multifamily residential land use. The 70 DNL contour for the Existing Condition includes no noise sensitive land use and does not leave airport property.

### 7.3.6 Future (2023/2024) Proposed Action Alternative Noise Compatible Land Use

There are no public schools, churches, nursing homes, hospitals, or libraries within any of the contours. Furthermore, there no single family, or manufactured housing within any of the Proposed Action Alternative (2023/2024) noise contours. There is one area south of Runway 17L/35R where the 65 DNL extends off airport property and over residential (multi-family) land use. This results in 221 housing units (401 people) exposed to 65 DNL or higher due to the Proposed Action (see **Figure 12**). This area would be exposed to the higher DNL levels for approximately six months during the full runway closure portion of the project (Phase 3). **Table 23** summarizes the residential population and housing units affected by noise levels exceeding 65 DNL for the Proposed Action Alternative (2023/2024) noise exposure contours.

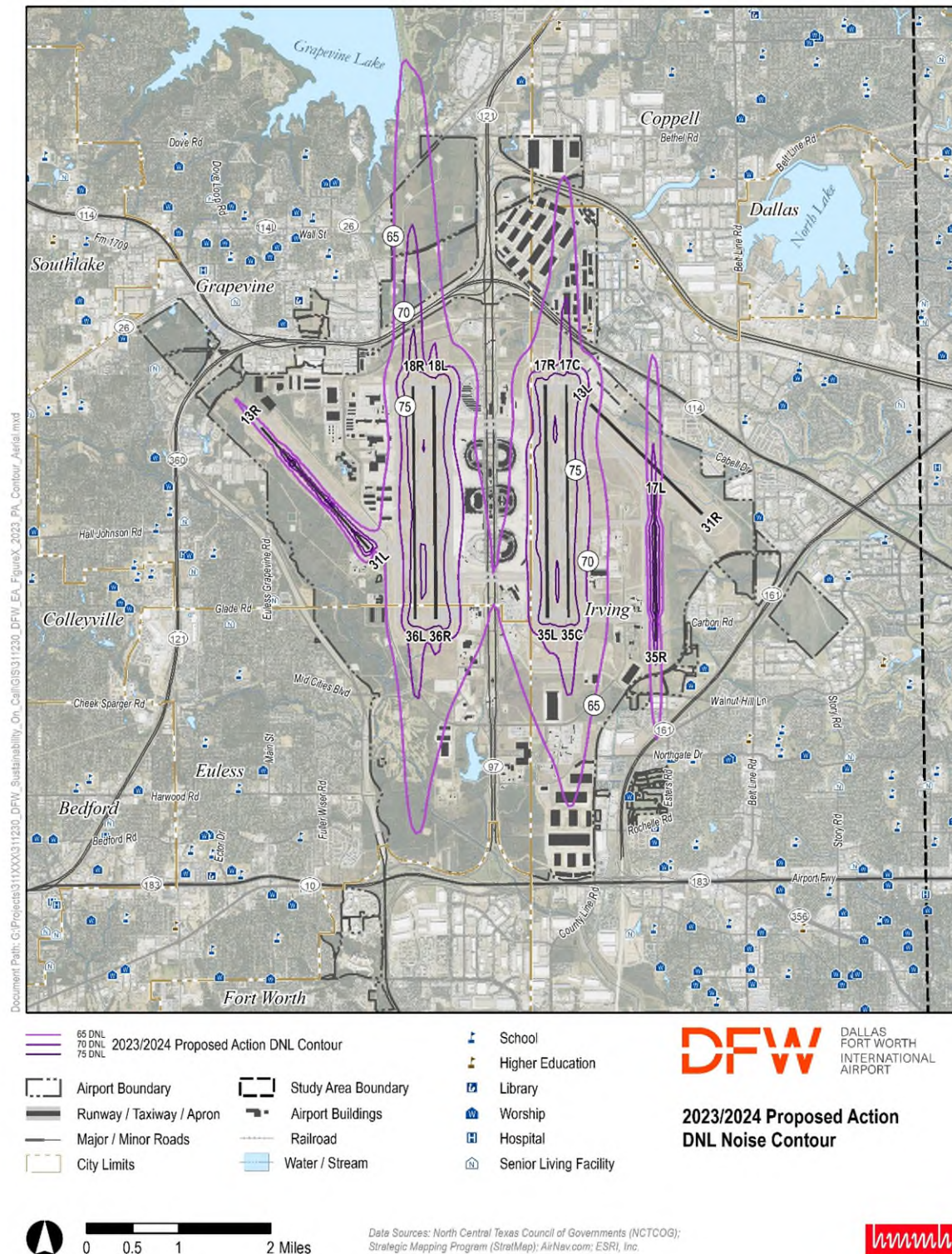


Figure 11 Proposed Action Alternative (2023/2024) Noise Exposure Contours



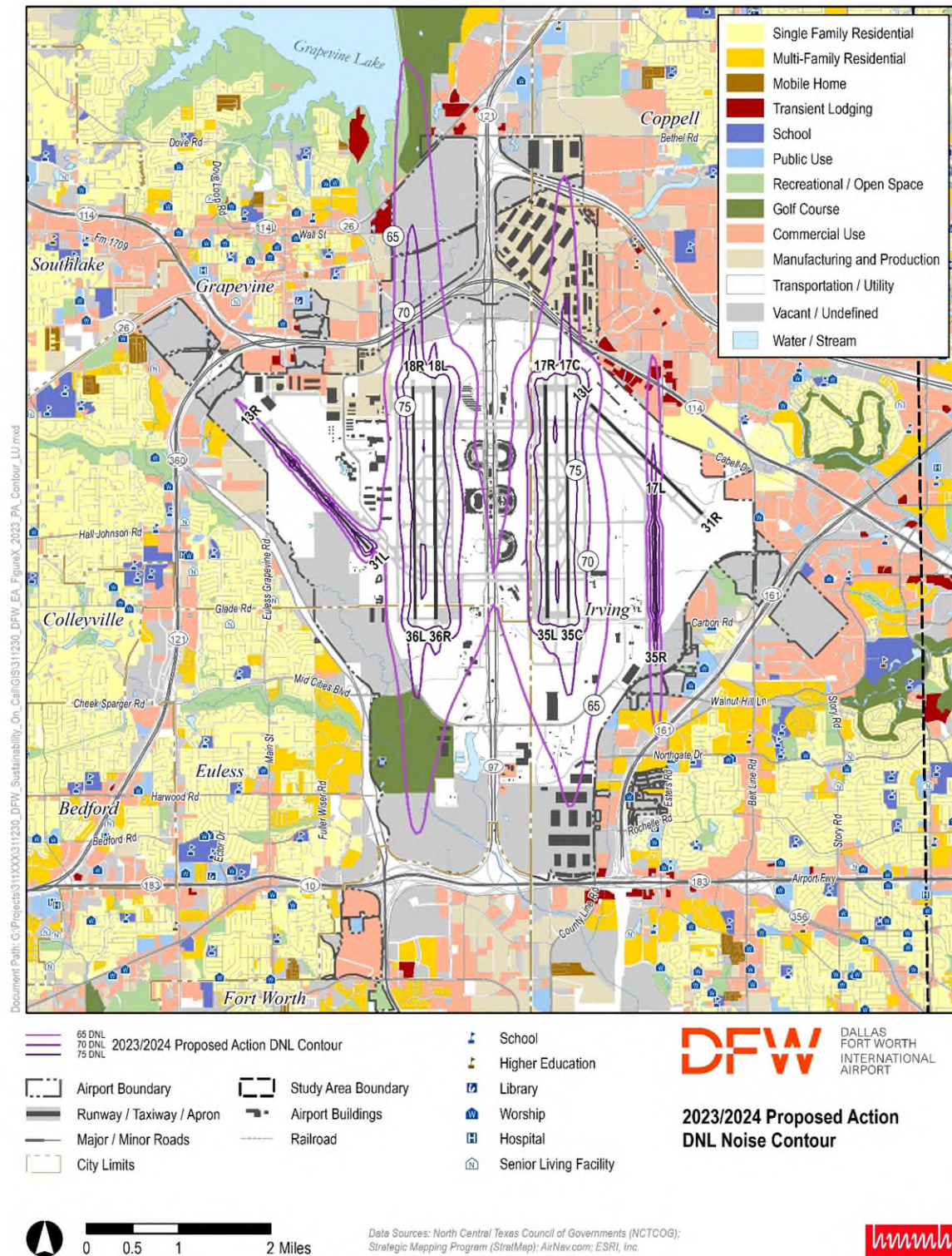


Figure 12 Proposed Action Alternative (2023/2024) Noise Exposure Contours with Land Use

**Table 23 Non-Compatible Land Use Housing and Population Proposed Action Alternative (2023/2024)**

Source: HMMH, 2022

Category	Type	DNL 65-70 dB	DNL 70-75 dB	DNL 75+ dB	DNL 65+ dB
<b>Housing</b>	Single-Family Residential	0	0	0	0
	Multi-Family Residential	221	0	0	221
	Manufactured Housing	0	0	0	0
	Total Housing Units	221	0	0	221
<b>Population</b>	Single-Family Residential	0	0	0	0
	Multi-Family Residential	401	0	0	401
	Manufactured Housing	0	0	0	0
	Total Population	401	0	0	401
Notes: Population numbers are estimates based on the 2020 United States Census block data. The US Census Block intersecting the 65 DNL contour has 1.81 number of people per unit.					

## 8 Comparison Between the NAA and Proposed Action Alternative

**Table 24** provides estimates of the total area split between on and off airport areas exposed to aircraft noise of at least 65 DNL for the NAA and Proposed Action Alternatives.

**Table 24 Estimated Land Area within Future (2023/2024) Noise Exposure Contour Alternatives**

Source: HMMH, 2022

Alternative	Contour Range	Airport Property Estimated Land Area (sq mi)	Non-Airport Property Estimated Land Area (sq mi)	Total Estimated Land Area (sq mi)
<b>No Action</b>	DNL 65-70 dB	6.52	0.42	6.94
	DNL 70-75 dB	2.10	0.05	2.15
	DNL 75+ dB	2.16	0.00	2.16
	Total	<b>10.78</b>	<b>0.47</b>	<b>11.25</b>
<b>Proposed Action</b>	DNL 65-70 dB	6.37	0.57	6.94
	DNL 70-75 dB	2.18	0.05	2.23
	DNL 75+ dB	2.31	0.00	2.31
	Total	<b>10.86</b>	<b>0.62</b>	<b>11.48</b>
<b>Difference (Proposed Action – NAA)</b>	DNL 65-70 dB	-0.15	0.15	0.00
	DNL 70-75 dB	0.08	0.00	0.08
	DNL 75+ dB	0.15	0.00	0.15
	Total	<b>0.08</b>	<b>0.15</b>	<b>0.23</b>



The noise exposure analysis results showed a slight increase in the estimated on and off-airport land area; this was due to the changes in runway utilization during the Proposed Action. The noise analysis results showed that the Proposed Action would increase the estimated land area within the DNL 65+ dB noise exposure contour as compared to the NAA.

**Figure 13** shows the comparison between the Future NAA and Proposed Action Alternative. Noise contours are presented for the 60 DNL, 65 DNL, 70 DNL, and 75 DNL. The 60 DNL contours are provided for informational purposes only. North of Runway 18R, the contour extends further to the north due to increased arrivals to Runway 18R during the construction period whereas the contour north of Runway 17C decreases due to the reduction in arrivals to Runway 17C and the shifting of departures from Runways 35L to 35C during the construction period. The contour north of Runway 17L extends further north than the No Action due to increased arrivals to Runway 17L during the construction period. The contour extends to the northwest of Runway 13R but does not leave airport property due to increased departures from Runway 31L during the construction period.

To the south of the airport, the contour south of Runway 36L remains the same during the construction period. The area south of Runway 35C along the extended runway centerline decreases due to the reduction in arrivals to the runway during the construction period. However, the area between Runways 35C and 35R increases due to the increase in departures from Runway 17C during the construction period. The area south of Runway 35R along the extended runway centerline is larger due to the increase in arrivals to the runway during the construction period. There would be temporary impacts to the apartment buildings to the south of Runway 17L/35R during the project, with the largest increase during Phase 3 (approximately six months). These buildings, located directly along the extended centerline of Runway 35R, would be impacted as aircraft operations are temporarily shifted during the closure of Runway 17R/35L. The analysis concluded that there are 221 multi-family residential units, with an estimated population of 401 people, that would be exposed to higher noise levels, within the 65-70 dB contour. Comparisons of the residential population and housing units affected by noise levels exceeding DNL 65 dB for the Future (2023/2024) NAA and Proposed Action Alternative Noise Exposure Contours are provided in **Table 25**. There are no public schools, churches, nursing homes, hospitals, or libraries within any of the 65 DNL or greater contours.

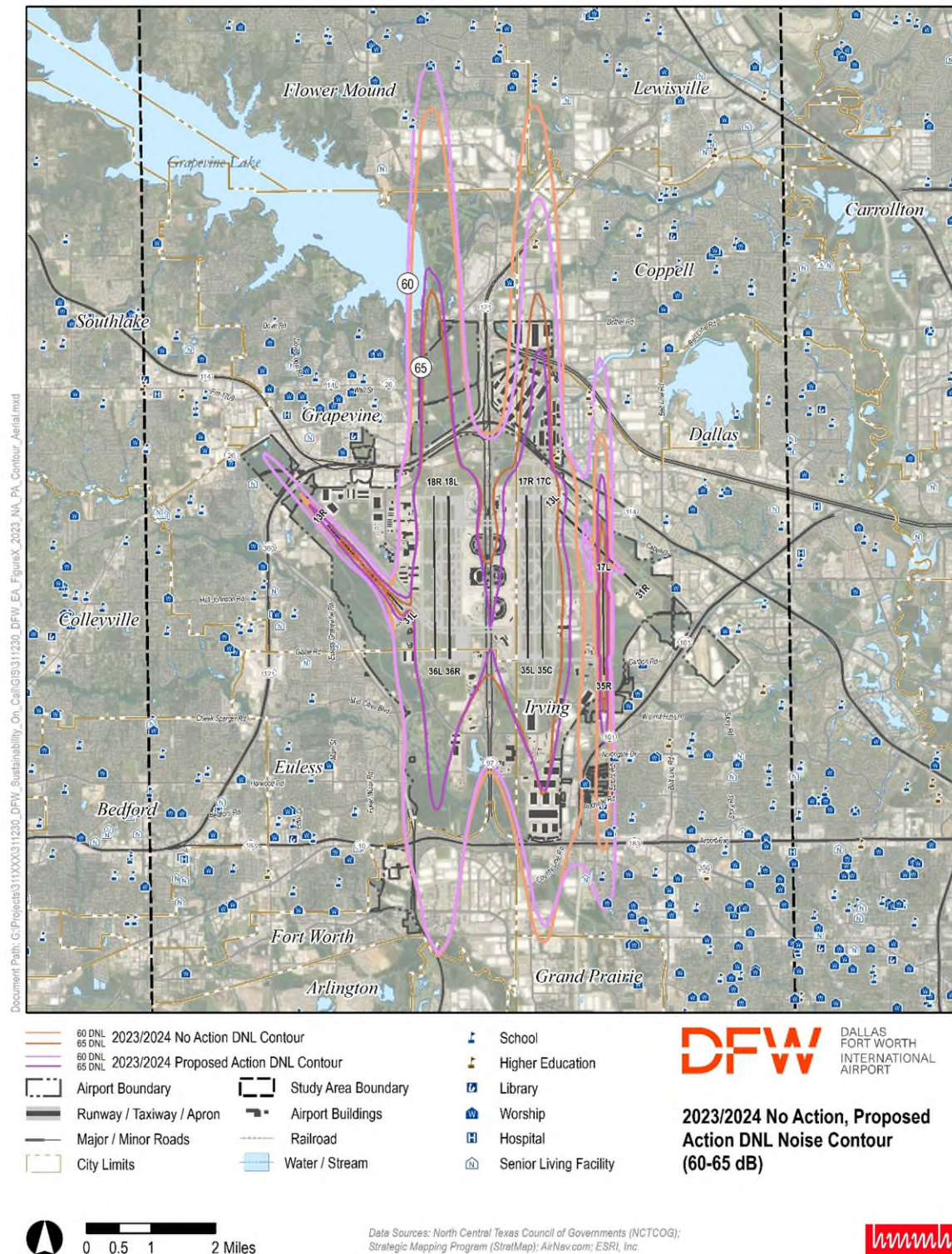


Figure 13 NAA and Proposed Action Alternative (2023/2024) Noise Exposure Contours

**Table 25 Non-Compatible Land Use Housing and Population – Proposed Action Alternative (2023/2024)**

Source: HMMH, 2022

Alternative	Category	Type	DNL 65-70 dB	DNL 70-75 dB	DNL 75+ dB	DNL 65+ dB
No Action	Housing	Single-Family Residential	0	0	0	0
		Multi-Family Residential	0	0	0	0
		Manufactured Housing	0	0	0	0
		Total Housing Units	0	0	0	0
Proposed Action		Single-Family Residential	0	0	0	0
		Multi-Family Residential	221	0	0	221
		Manufactured Housing	0	0	0	0
		Total Housing Units	221	0	0	221
Difference (Proposed Action – NAA)		Single-Family Residential	0	0	0	0
		Multi-Family Residential	221	0	0	221
		Manufactured Housing	0	0	0	0
		Total Housing Units	221	0	0	221
No Action	Population	Single-Family Residential	0	0	0	0
		Multi-Family Residential	0	0	0	0
		Manufactured Housing	0	0	0	0
		Total Population	0	0	0	0
Proposed Action		Single-Family Residential	0	0	0	0
		Multi-Family Residential	401	0	0	401
		Manufactured Housing	0	0	0	0
		Total Population	401	0	0	401
Difference (Proposed Action – NAA)		Single-Family Residential	0	0	0	0
		Multi-Family Residential	401	0	0	401
		Manufactured Housing	0	0	0	0
		Total Population	401	0	0	401
Notes: Population numbers are estimates based on the 2020 United States Census block data. The US Census Block intersecting the 65 DNL contour has 1.81 number of people per unit.						

## 8.1 Future Proposed Action Alternative Grid Point Evaluation

HMMH evaluated the change in noise using two different grids as described in **Section 5.3**. The NSA grid was used to determine any significant changes within the 65 DNL or any reportable changes between 60 DNL and 65 DNL. The Secondary Study Grid was used to determine any reportable changes within the 45 DNL to 60 DNL contour.

### 8.1.1 Analysis of 1.5 dB Change Within the 65 DNL or Greater Noise Contour

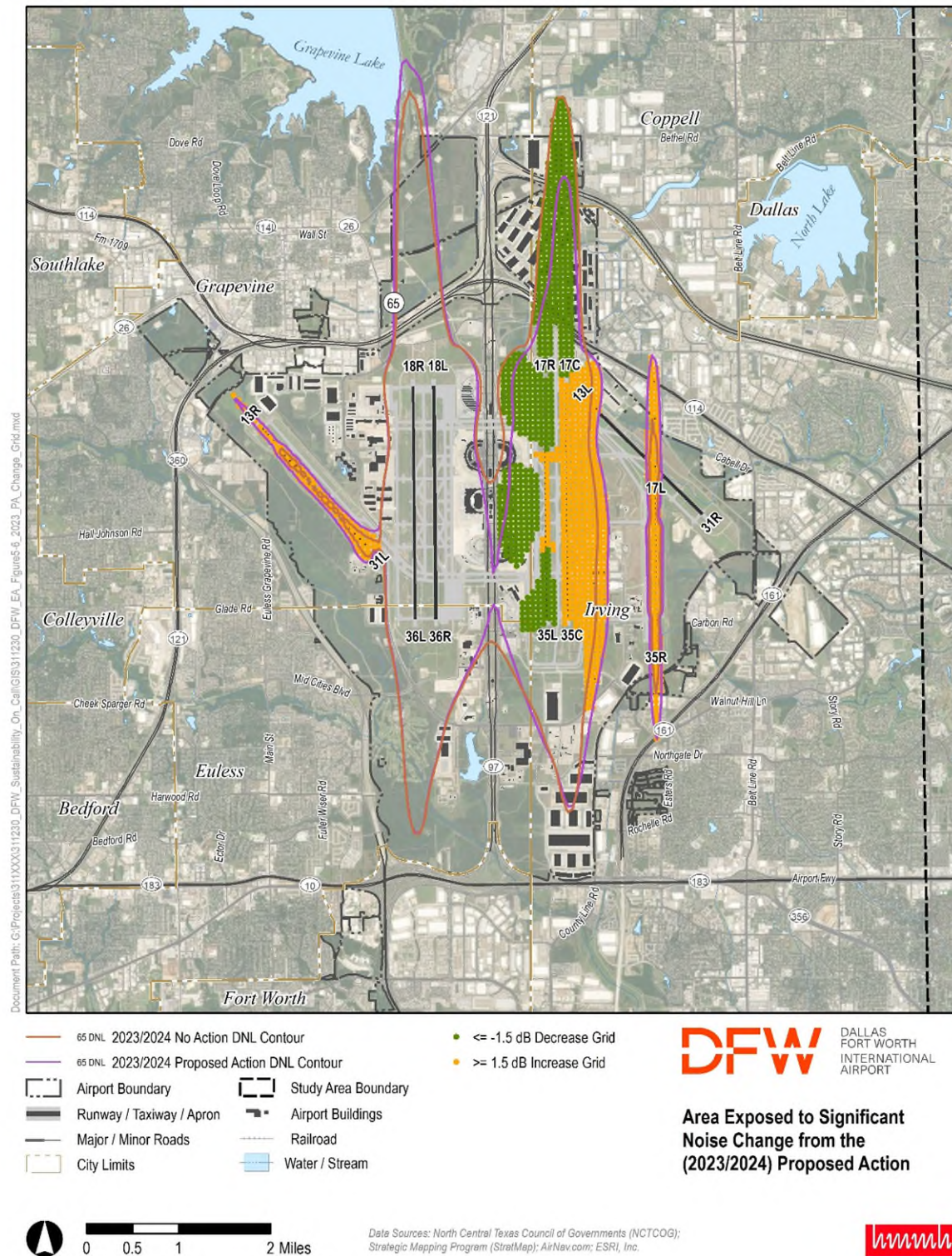
As shown in **Figure 14**, the analysis concluded that the Future Proposed Action Alternative would result in one noise-sensitive area south of Runway 35R experiencing a temporary significant increase in noise of DNL 1.5 dB or more, at or above DNL 65 dB noise exposure when compared to the NAA for the same timeframe. A grid point analysis was done for the entire noise study area to determine changes in noise levels between the NAA and Proposed Action Alternative. The green grid points primarily north of Runway 17R and Runway 17C in **Figure 14** represent areas of 1.5 dB decrease due to the Future Proposed Action Alternative. The orange grid points to the east of Runway 17C/35C and north and south of Runway 17L/35R in **Figure 14** represent areas of 1.5 dB increase due to the Future Proposed Action Alternative.

The Future Proposed Action Alternative has slightly increased the total land area within the noise contours as compared to the Future NAA. This was due to the change in runway use and the shifting of operations during the full closure under the Future Proposed Action Alternative.

**Figure 15** displays the area south of Runway 35R where the future Proposed Action Alternative 65 DNL contour extends over residential land use. This area would be exposed to levels greater than 65 DNL during the proposed project and would exceed the NEPA threshold for significant noise impact of 1.5 dB or greater (noise increase within the 65 DNL is 2.4 dB). The significant impact area is the area within the Proposed Action Alternative 65 DNL highlighted in yellow in **Figure 15**. However, these increases would be temporary during the construction period and would not be permanent. There is also an area of noise increase 1.5 dB or greater over the apartments to the west of the area within the 65 DNL as shown in **Figure 15** however this increase is not considered significant because this area has a DNL less than 65 dB.

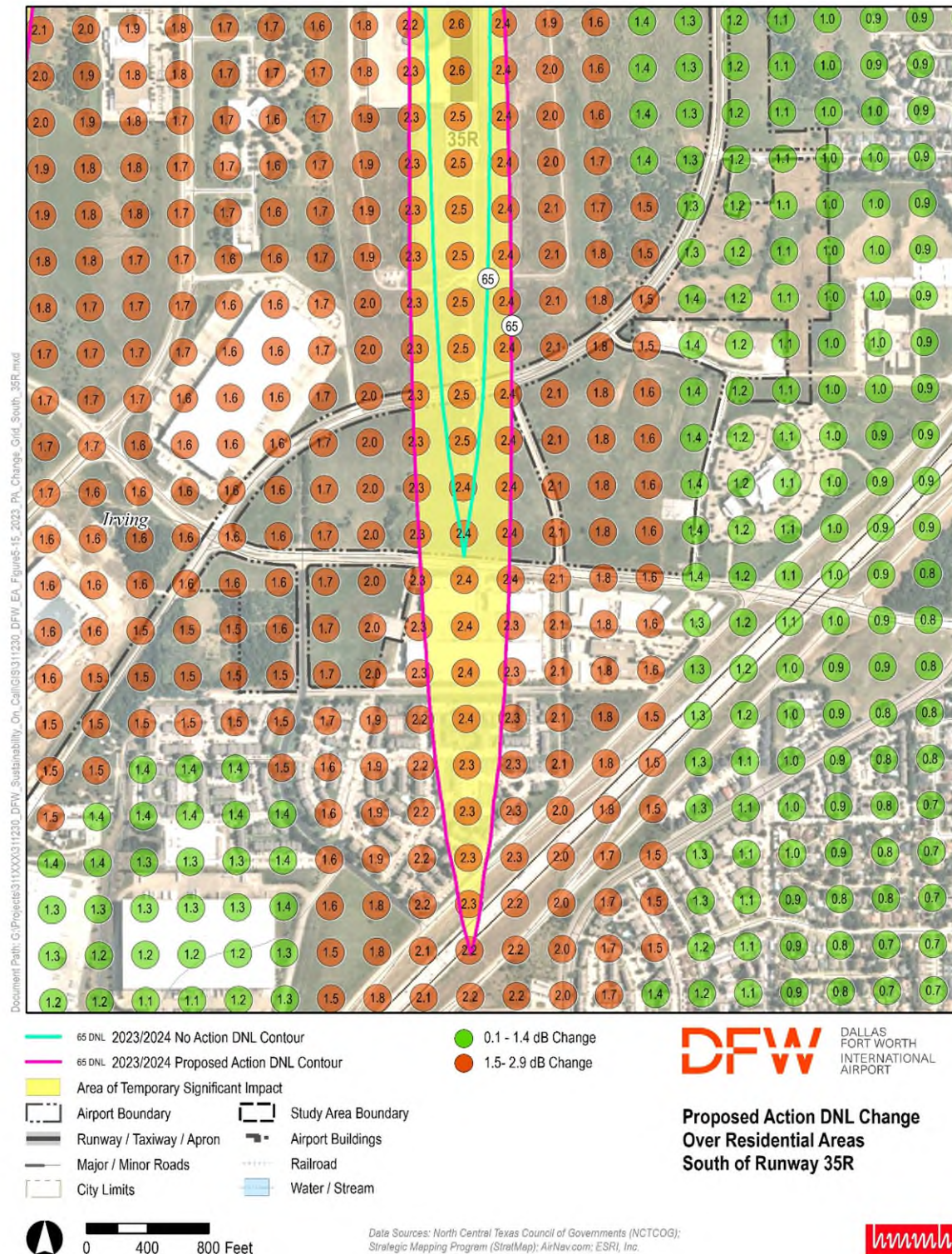
As shown in **Figure 16**, there are two additional areas of a significant noise change off airport property. The area north of Runway 17R and Runway 17C, which is all compatible land use, would experience a decrease in noise of 1.5 dB or more within the 65 DNL. The area north of Runway 17L, which is all compatible land use, would experience an increase in noise of 1.5 dB.





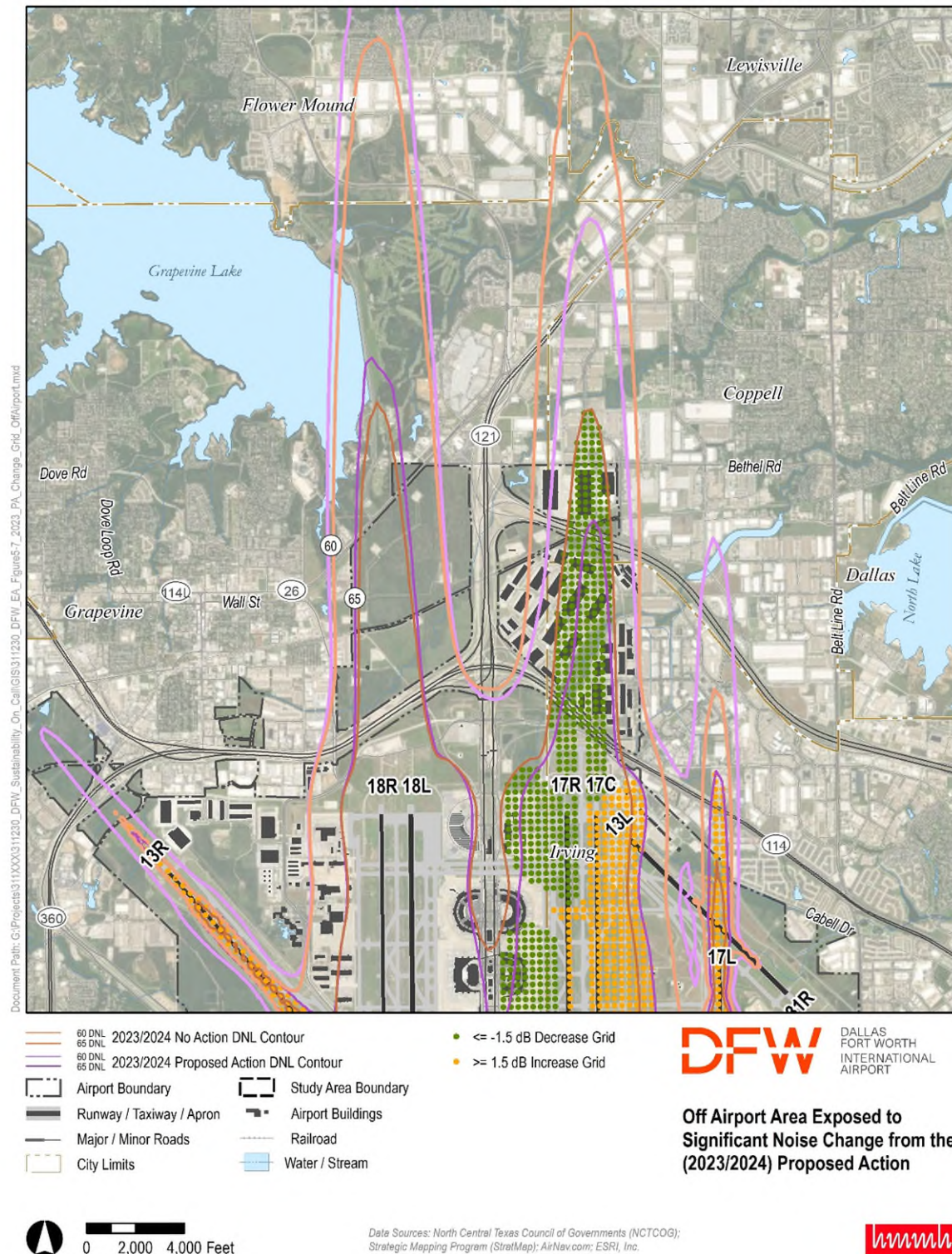
**Figure 14 Area Exposed to Significant Noise Change (+/-1.5 dB) from the Proposed Action Alternative (2023/2024)**





**Figure 15 Noncompatible Land Use Areas (Off-DFW) Exposed to an Increase in Noise from the Proposed Action Alternative (2023/2024)**





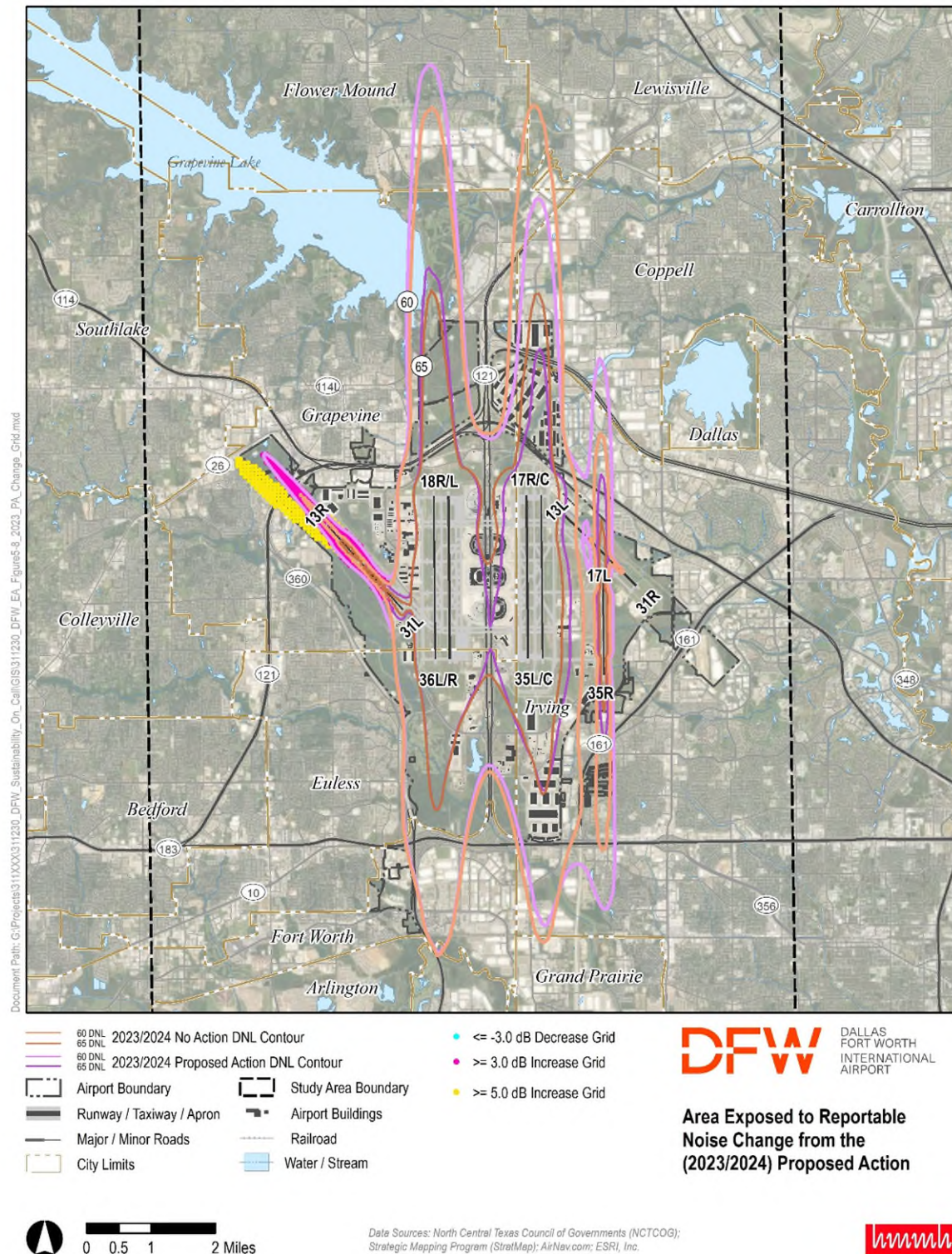
**Figure 16 Compatible Land Use Areas (Off-DFW) Exposed to a Significant Change in Noise from the Proposed Action Alternative (2023/2024)**

### 8.1.2 Analysis of 3 dB and 5 dB Reportable Change due to the Proposed Action Alternative

HMMH evaluated a grid covering the noise study area to evaluate any reportable change ( $\pm 3$  dB) between the 60 DNL to 65 DNL. There is only one area where there is a 3 dB or greater change between the 60 DNL to 65 DNL as shown in **Figure 17** and **Figure 18**. There is a small area of increase (+3 dB) on airport property along Runway 13R-31L (see left inset on **Figure 18**).

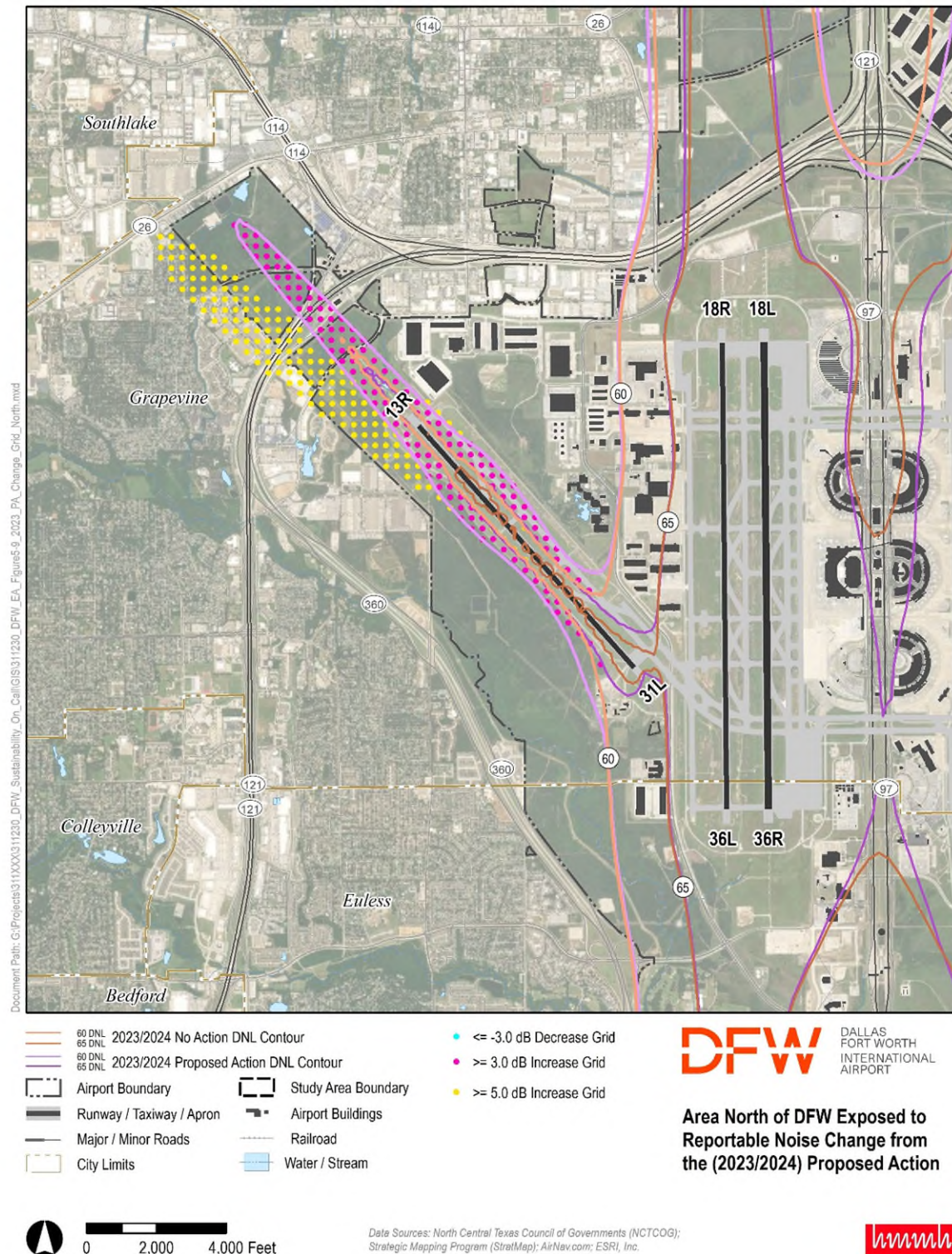
HMMH also evaluated a larger secondary study grid to evaluate any reportable change in noise ( $\pm 5$  dB) between the 45 DNL to 60 DNL. There was only one area of a 5 dB or greater increase within the 45 DNL to 60 DNL just to the northwest of Runway 13R/31L due to the Proposed Action Alternative as shown on **Figure 17** and **Figure 18**. This area is primarily airport property and compatible land use. There is one residential area, a mobile home park in Grapevine that is within the area of a reportable change.





**Figure 17 Areas Exposed to Reportable Noise Changes (+/-3 dB) from the Proposed Action Alternative (2023/2024)**





**Figure 18 Areas North of DFW Exposed to Reportable Noise Changes (+/-3 dB) from the Proposed Action Alternative (2023/2024)**

**Figure 19** provides the change in noise overlaid on the land use base map in areas west of DFW near Runway 13R/31L. The change in noise is shown with colored grid points representing different levels of decibel change. The majority of this area would experience some increase in noise during the runway reconstruction period with areas on either side of the runway extending to the northwest experiencing the largest increase in noise. The 60 DNL contour remains on airport property and, so most of this area is below the FAA threshold for a reportable noise increase. As discussed above, there is an area of 5 dB or greater reportable noise increase that extends off the west side of airport property almost to Route 26. A mobile home park within the reportable noise increase is identified on the **Figure 19**.

**Figure 20** provides the change in noise in areas north of DFW where the 60 DNL intersects with residential land use in Flower Mound. As shown in the figure, areas north of Runways 18L and 18R would experience a small increase in noise (less than 1.5 dB) during the runway reconstruction period. Areas north of Runways 17L and 17C would experience a decrease in noise during this same period.

**Figure 21** provides the change in noise in areas south of DFW where the 60 DNL intersects with residential land use in Irving. As shown in the figure, most areas off airport property south of Runways 17C and 17R would experience a small increase in noise (less than 1.5 dB) during the runway reconstruction period. The area directly south of Runway 17R where there are several multi-family residential areas would experience a higher increase in noise (less than 3 dB) during this period. Areas south of Runways 18L, 18R, and 17L would experience a decrease in noise during this same period.



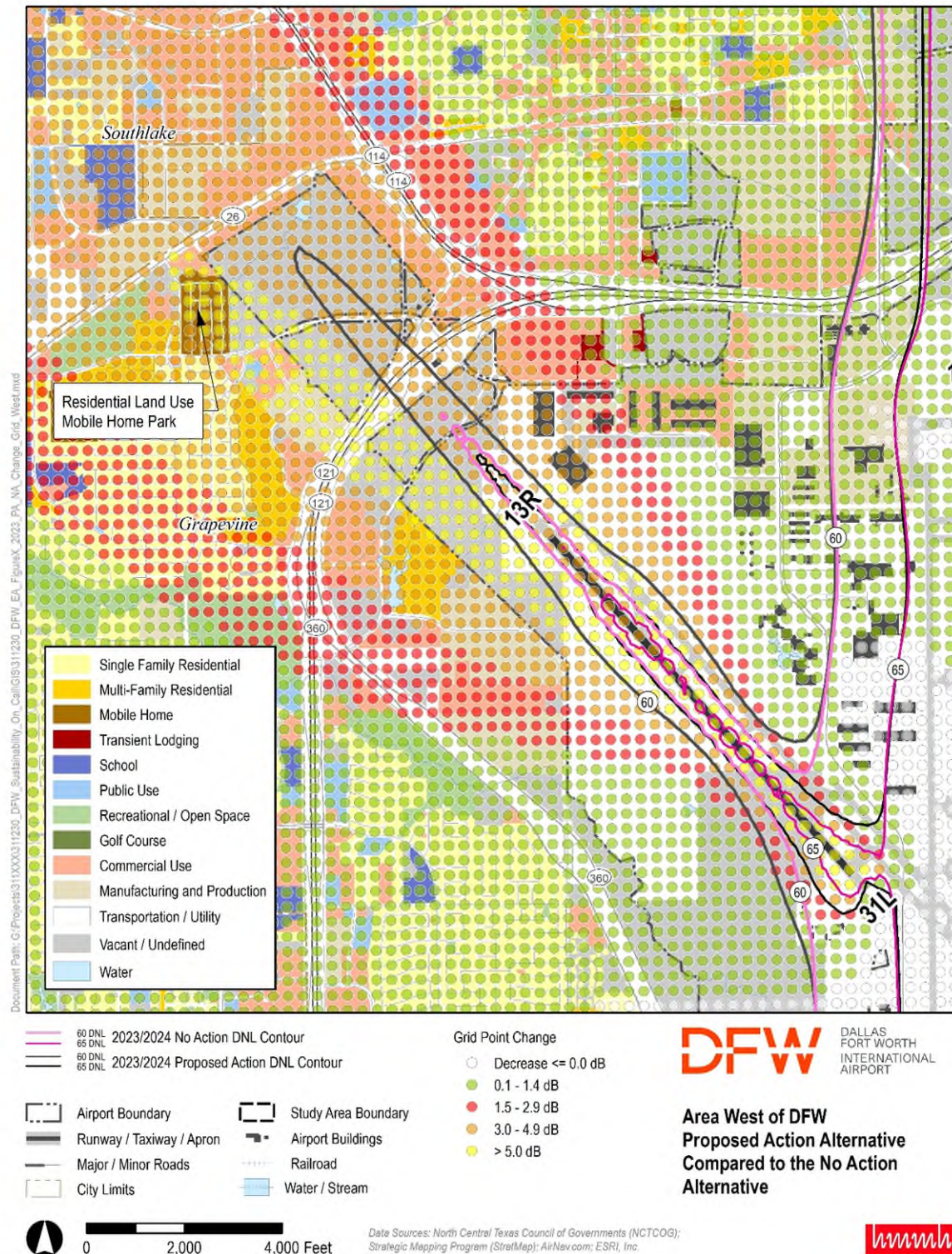
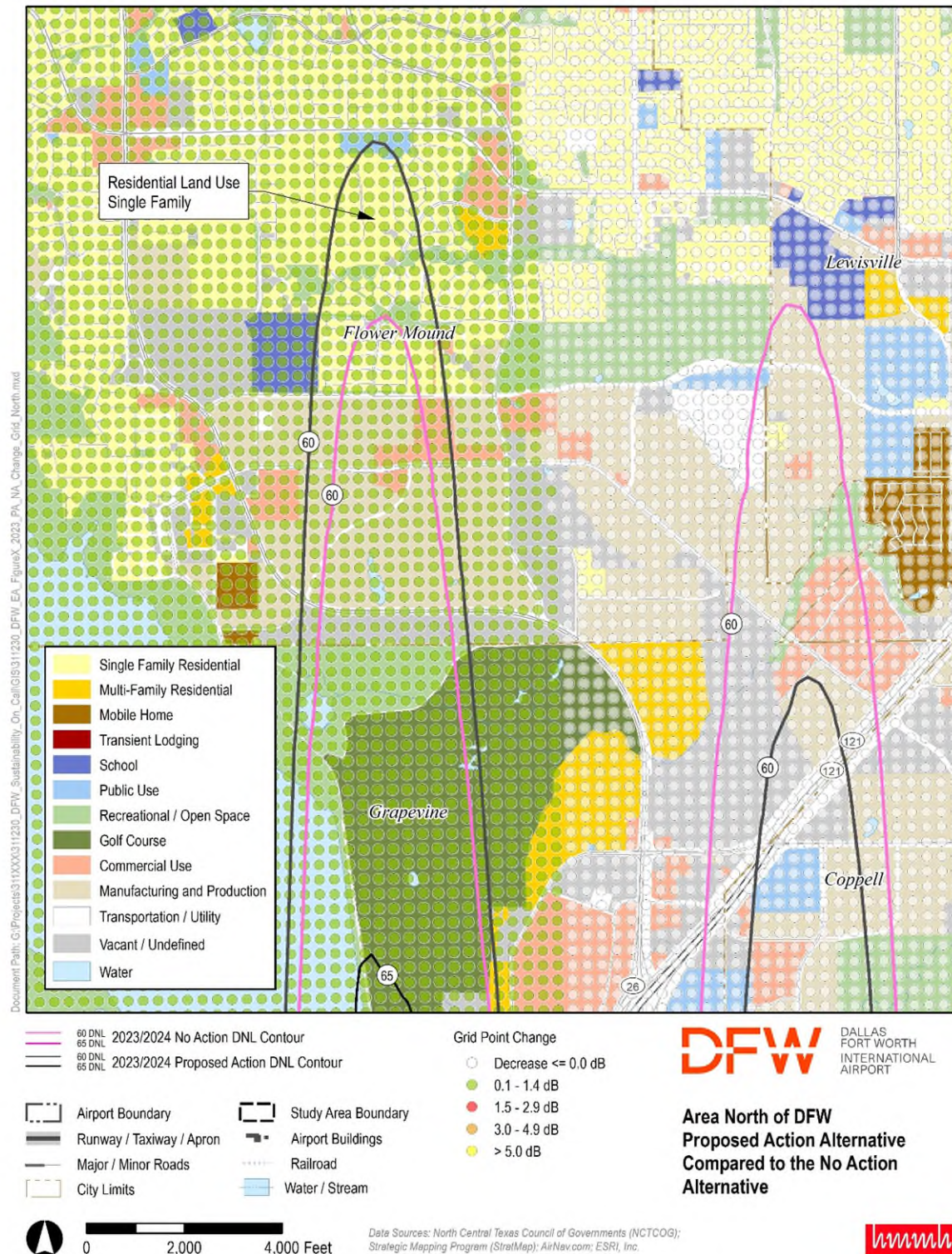


Figure 19 Changes in Noise Levels due to the Proposed Action Alternative – West of DFW





**Figure 20 Changes in Noise Levels due to the Proposed Action Alternative – North of DFW**



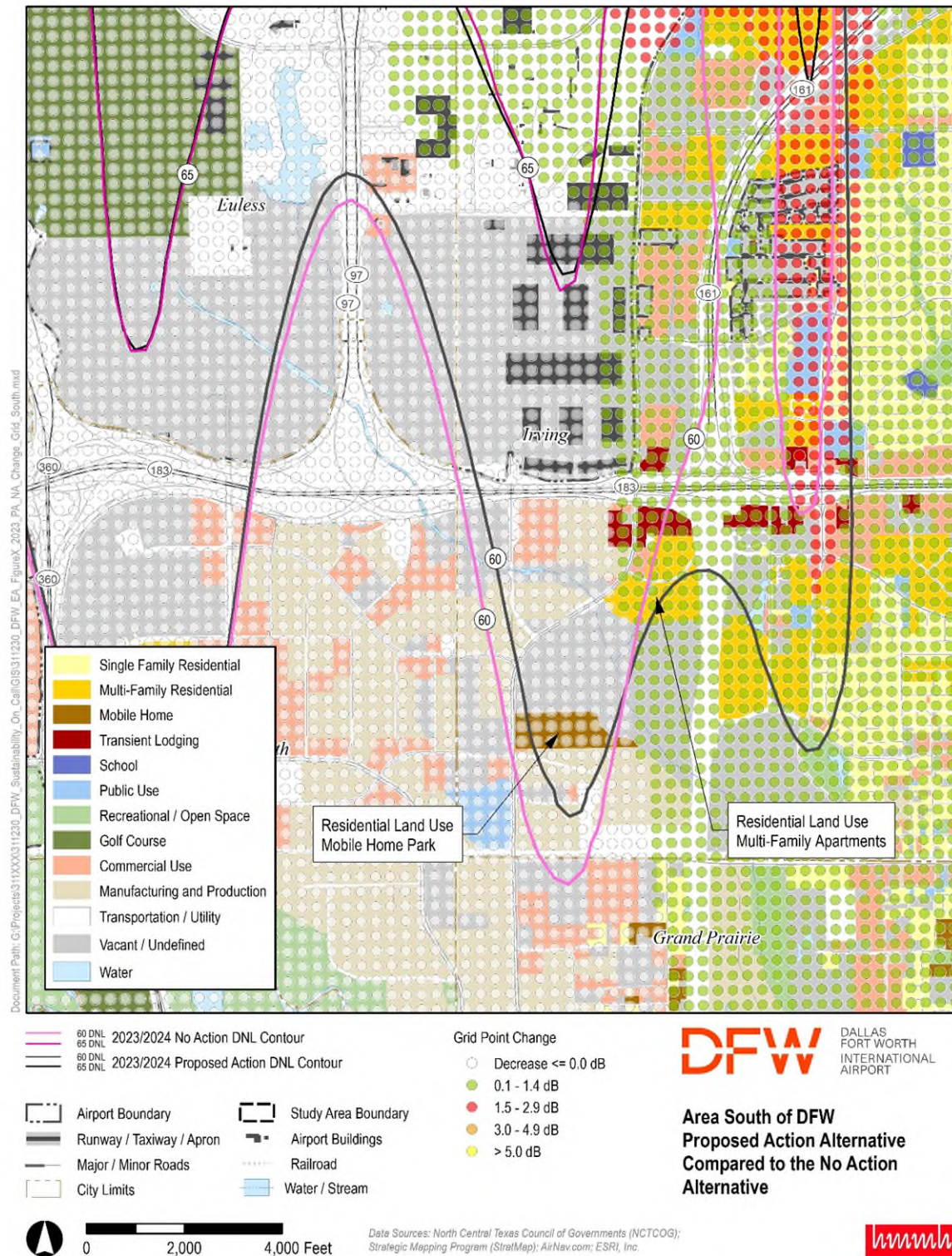


Figure 21 Changes in Noise Levels due to the Proposed Action Alternative – South of DFW

## 9 Mitigation

A significant noise impact would occur if the analysis showed that the Proposed Action Alternative would result in noise-sensitive areas experiencing an increase in noise of DNL 1.5 dB or more, at or above DNL 65 dB noise exposure when compared to the NAA for the same timeframe. The Proposed Action Alternative results in two areas of significant noise increase, the first area north of Runway 17L/35R is compatible land use so it is not considered significantly exposed. The second area where is a significant noise increase is located south of Runway 17L/35R and extends over multi-family residential land use, **therefore there is a temporary significant noise impact due to the Proposed Action Alternative.**

The Proposed Action Alternative would cause short-term, temporary elevated noise levels during the construction period of approximately 13 months (7-months of runway end closures and 6-month full closure). The temporary noise increases resulting from the Proposed Action Alternative would affect multi-family developments in the City of Irving. The affected buildings are located at the Bridgeport Apartments. These buildings, located directly along the extended centerline of Runway 35R, would be exposed to a temporary significant increase in noise. These residents would experience an increase in noise (approximately 2.3 dB) as aircraft operations are temporarily shifted during the full closure of Runway 17R/35L. Residents in the affected areas would be provided with mailings/utility bill inserts/flyers notifying them of the temporary closure of Runway 17R/35L and the proposed construction timeline.

Because the Proposed Action Alternative is short-term in nature, no long-term mitigation is required. DFW plans to mitigate the temporary noise increases through meeting with community leaders, city council members, and city managers, and by conducting community outreach specific to the residences affected. Notification of impacted communities will be done well in advance of the Proposed Action's start date. DFW plans to work with the apartment managers to provide letters of notification to each resident, by mail, or on each door prior to the start of the Proposed Action Alternative. The letters would describe the Proposed Action Alternative, the potential timeframe, and the temporary noise impacts due to the full closure of Runway 17R/35L. The affected community members will also be presented with the project information, its temporary effects on the residents, and the significant benefits this runway reconstruction project will yield the community. DFW staff will request written acknowledgement from apartment residents.

DFW Airport is both a technical stakeholder due to its role in the long-term planning for infrastructure improvements and a non-technical stakeholder due to its role as a community partner. DFW Airport will ensure that community members are informed of the temporary noise impacts well in advance of any project work or changes caused by the runway closure. DFW will maintain transparency in its dissemination of information related to the proposed runway closure. Additionally, the DFW Noise Compatibility personnel will provide project updates/briefings to the communities. The implementation of standard applicable engineering controls and best management practices will reduce any construction noise increases.





# Appendix A Fundamentals of Characterizing Sound, Noise Effects, and Metrics

## A.1 Introduction

Noise is a very complex physical quantity. The properties, measurement, and presentation of noise involve specialized terminology that is often difficult to understand. To assist reviewers in interpreting the complex noise metrics used in evaluating airport noise, this appendix introduces six acoustical descriptors of noise, roughly in increasing degree of complexity:

- Decibel, dB
- A-Weighted Decibel, dBA
- Maximum A-Weighted Sound Level, Lmax
- Sound Exposure Level, SEL
- Equivalent A-Weighted Sound Level, Leq
- Day-Night Average Sound Level, DNL

These noise metrics form the basis for the majority of noise analyses conducted at U.S. airports.

## A.2 Decibel, dB

All sounds come from a sound source -- a musical instrument, a voice speaking, an airplane passing overhead. It takes energy to produce sound. The sound energy produced by any sound source is transmitted through the air in sound waves -- tiny, quick oscillations of pressure just above and just below atmospheric pressure. The ear detects these oscillating pressures interpreting it as "sound."

Our ears are sensitive to a wide range of sound pressures. Although the loudest sounds that we hear without pain have about one million times more energy than the quietest sounds we hear, our ears are incapable of detecting small differences in these pressures. Thus, to better match how we hear this sound energy, we compress the total range of sound pressures to a more meaningful range by introducing the concept of sound pressure level.

Sound pressure level (SPL) is measured in decibels (dB). Decibels are logarithms of a ratio, the numerator being the pressure of the sound source of interest, and the denominator being the reference pressure (equivalent to the quietest sound that an average healthy young adult can hear):

$$\text{Sound Pressure Level (SPL)} = 20 * \log \left( \frac{P_{\text{source}}}{P_{\text{reference}}} \right) \text{dB}$$

The logarithmic conversion of sound pressure to sound pressure level means that the quietest sound that we can hear (the reference pressure) has a sound pressure level of about 0 dB, while the loudest



sounds that we hear without pain have sound pressure levels of about 120 dB. Most sounds in our day-to-day environment have sound pressure levels on the order of 30 dB to 100 dB.

Because decibels are logarithmic, combining decibels is unlike common arithmetic. For example, if two sound sources each produce 100 dB and they are then operated together, they produce 103 dB -- not the 200 decibels we might expect. Four equal sources operating simultaneously produce another three decibels of noise, resulting in a total sound pressure level of 106 dB. For every doubling of the number of equal sources, the sound pressure level goes up another three decibels.

A tenfold increase in the number of sources makes the sound pressure level go up 10 dB. A hundredfold increase makes the level go up 20 dB, and it takes a thousand equal sources to increase the level 30 dB.

If one noise source is much louder than another, the two sources together will produce virtually the same sound pressure level (and sound to our ears) as the louder source alone. For example, a 100 dB source plus an 80 dB source produce approximately 100 dB when operating together (actually, 100.04 dB). The louder source "masks" the quieter one. But if the quieter source gets louder, it will have an increasing effect on the total sound pressure level such that, when the two sources are equal, as described above, they produce a level three decibels above the sound of either one by itself.

Conveniently, people also hear or interpret sound pressure in a logarithmic fashion. Two useful rules of thumb to remember when comparing sound pressure levels are: (1) a 6 dB to 10 dB increase is generally perceived to be about a doubling of loudness, and (2) changes in sound pressure level of less than about 3 dB are not readily detectable outside of a laboratory environment.

### A.3 A-Weighted Decibel, sometimes denoted dBA

An important characteristic of sound is its frequency, or "pitch." This is the per-second rate of repetition of the sound pressure oscillations as they reach our ear, expressed in units known as Hertz (Hz), formerly called cycles per second.

When analyzing the total noise of any source, acousticians often break the noise into frequency bands to determine how much is low-frequency noise, how much is middle-frequency noise, and how much is high-frequency noise. This breakdown is important for two reasons:

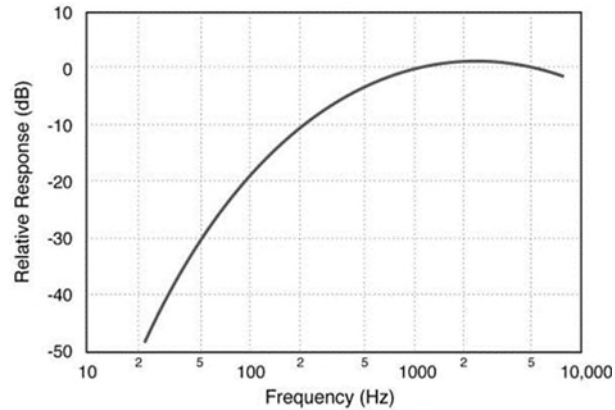
- Our ear is better equipped to hear mid and high frequencies and is less sensitive to lower frequencies. Thus, we find mid- and high-frequency noise more annoying.
- Engineering solutions to a noise problem are different for different frequency ranges. Low-frequency noise is generally harder to control.

The normal frequency range of hearing for most people extends from a low of about 20 Hz to a high of about 10,000 Hz to 15,000 Hz. People respond to sound most readily when the predominant frequency is in the range of normal conversation, typically around 1,000 Hz to 2,000 Hz. The acoustical community has defined several "filters," which approximate this sensitivity of our ear and thus, help us to judge the relative loudness of various sounds made up of many different frequencies.

The "A" filter (or "A-weighting") does this best for most environmental noise sources. A-weighted sound levels are measured in decibels, just like unweighted. To avoid ambiguity, A-weighted sound levels should be identified as such (e.g., "an A-weighted sound level of 85 dB") or in an abbreviated form (e.g., "a sound level of 85 dBA") where the "A" indicates the sound level has been A-weighted.

Government agencies in the U.S. (and most governments worldwide) recommend or require the use of A-weighted sound levels for measuring, modeling, describing, and assessing aircraft sound levels (and sound levels from most other transportation and environmental sources).

**Figure A-1** depicts A-weighting adjustments to sound from approximately 20 Hz to 10,000 Hz.



**Figure A-1: Frequency-Response Characteristics of Various Weighting Networks**

Source: HMMH, 2011

The A-weighted filter significantly de-emphasizes those parts of the total noise at lower and higher frequencies (below about 500 Hz and above about 10,000 Hz) where we do not hear as well. The filter has very little effect, or is nearly "flat," in the middle range of frequencies between 500 Hz and 10,000 Hz where we hear quite easily. Because this filter generally matches our ears' sensitivity, sounds having higher A-weighted sound levels are usually judged to be louder than those with lower A-weighted sound levels, a relationship which otherwise might not be true. It is for this reason that acousticians normally use A-weighted sound levels to evaluate environmental noise sources.

Figure A-2 depicts representative A-weighted sound levels for a variety of common sounds.

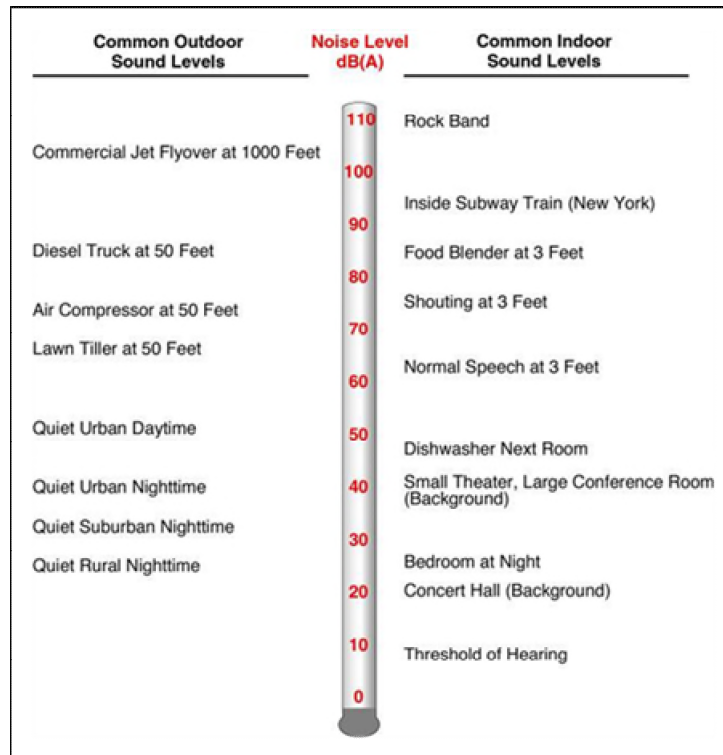


Figure A-2: Representative A-Weighted Sound Levels

Source: HMMH, 2011

#### A.4 Maximum A-Weighted Sound Level, $L_{max}$

An additional dimension to environmental noise is that A-weighted levels vary with time. For example, the sound level increases as an aircraft approaches, then falls and blends into the background as the aircraft recedes into the distance (though even the background varies as birds chirp, the wind blows, or a vehicle passes by). This is illustrated in Figure A-3.

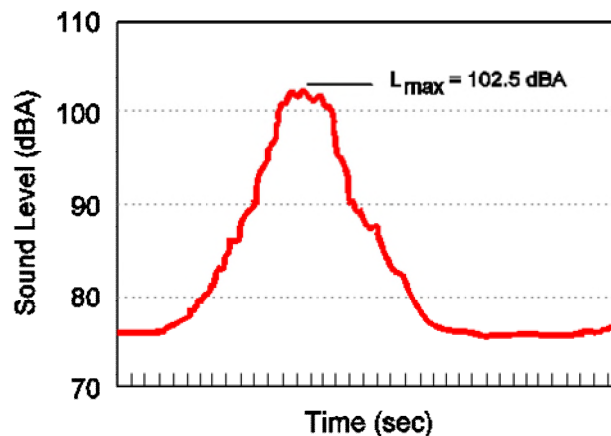


Figure A-3: Variation in the A-Weighted Sound Level over Time

Source: HMMH, 2011



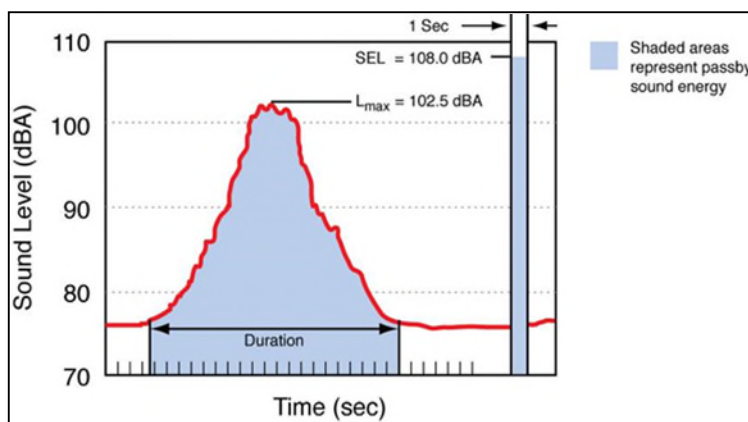
Because of this variation, it is often convenient to describe a particular noise "event" by its maximum sound level, abbreviated as  $L_{max}$  (or  $L_{Amax}$ , if the decibel abbreviation dB is used). In **Figure A-3** the  $L_{max}$  is approximately 102.5 dB.

While the maximum level is easy to understand, it suffers from a serious drawback when used to describe the relative "noisiness" of an event such as an aircraft flyover; i.e., it describes only one dimension of the event and provides no information on the event's overall, or cumulative, noise exposure. In fact, two events with identical maximum levels may produce very different total exposures. One may be of very short duration, while the other may continue for an extended period and be judged much more annoying. The next sections introduce two closely related measures that account for this concept of a noise "dose," or the cumulative exposure associated with an individual "noise event" such as an aircraft flyover.

## A.5 Sound Exposure Level, SEL

The most commonly used measure of cumulative noise exposure for an individual noise event, such as an aircraft flyover, is the Sound Exposure Level, or SEL. SEL is a summation of the A-weighted sound energy over the entire duration of a noise event. SEL expresses the accumulated energy in terms of the one-second-long steady-state sound level that would contain the same amount of energy as the actual time-varying level.

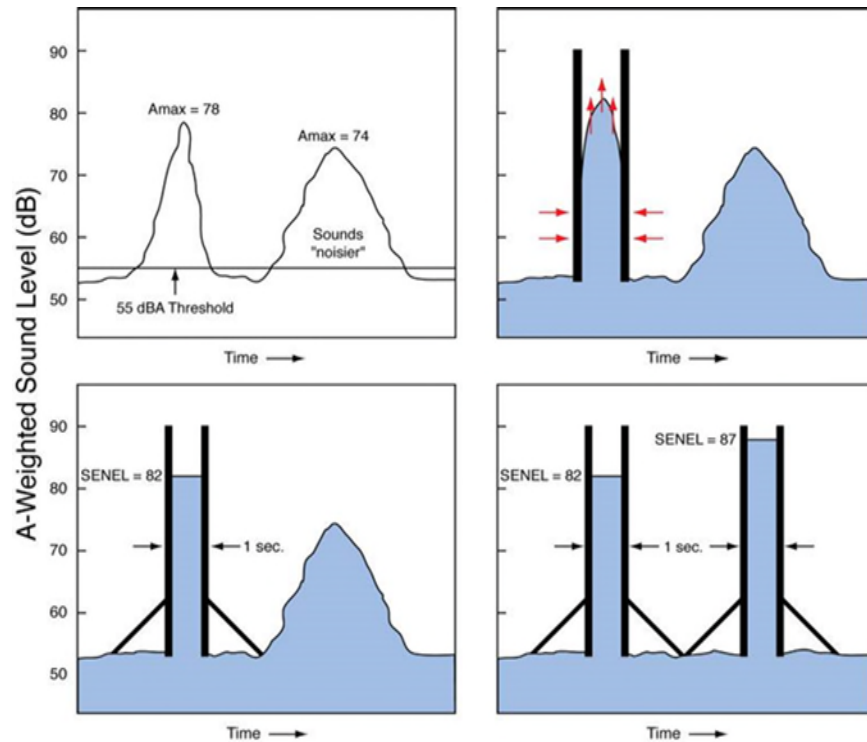
In simple terms, SEL "compresses" the energy into a single second. **Figure A-4** depicts this compression:



**Figure A-4: Graphical Depiction of Sound Exposure Level**

Source: HMMH, 2011

Note that because SEL is normalized to one second, it almost always will be higher than the event's  $L_{max}$ . In fact, for most aircraft flyovers, SEL is on the order of 5 dB to 12 dB higher than  $L_{max}$ . SEL provides a basis for comparing noise events that generally match our impression of their overall "noisiness," including the effects of both duration and level; the higher the SEL, the more annoying a noise event is likely to be. **Figure A-5** shows a comparison of two different noise events: the first has a shorter duration but a greater maximum level. More noise energy is contained in the second event, which has a higher SEL value.



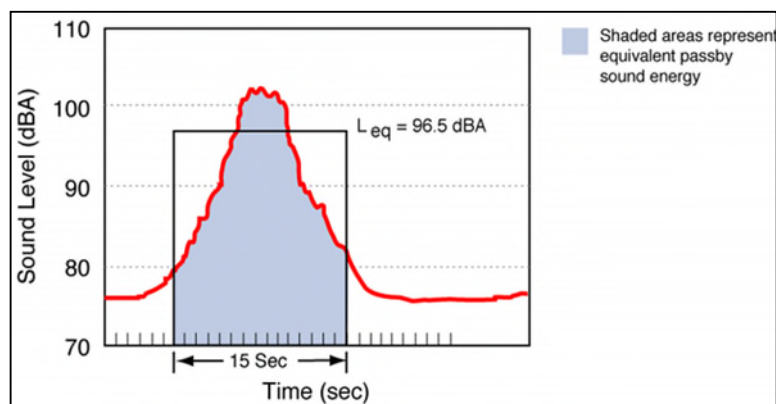
**Figure A-5: Graphical Comparison of SEL for Two Noise Events with Different Maximums and Durations**

Source: HMMH, 2011

## A.6 Equivalent A-Weighted Sound Level, $L_{eq}$

The Equivalent Sound Level, abbreviated  $L_{eq}$ , is a measure of the exposure resulting from the accumulation of sound levels over a particular period of interest; e.g., an hour, an 8-hour school day, nighttime, or a full 24-hour day. The applicable period should always be identified or clearly understood when discussing the metric.

$L_{eq}$  may be thought of as a constant sound level over the period of interest that contains as much sound energy as the actual varying level. It is a way of assigning a single number to a time-varying sound level. This is illustrated in **Figure A-6**.



**Figure A-6: Example of a One-Minute Equivalent Sound Level**

Source: HMMH, 2011

In airport noise applications,  $Leq$  is often presented for consecutive one-hour periods to illustrate how the hourly noise dose rises and falls throughout a 24-hour period as well as how certain hours are significantly affected by a few loud aircraft.

## A.7 Day-Night Average Sound Level, DNL or Ldn

The previous sections address noise measures that account for short term fluctuations in A-weighted levels as sound sources come and go affecting the overall noise environment. The Day-Night Average Sound Level (DNL or Ldn) represents a 24-hour A-weighted noise dose. DNL is essentially equal to the 24-hour A-weighted  $Leq$ , with one important adjustment: noise occurring at night – from 10 p.m. through 7 a.m. – is “factored up.” The factoring up can be made in one of two ways:

- Weighting, by counting each nighttime noise contribution 10 times; e.g., if DNL is calculated by summing the SEL of aircraft operations over a 24-hour period, each nighttime operation is represented by 10 identical daytime operations.
- Penalizing, by adding 10 dB to all nighttime noise contributions; e.g., if DNL is calculated from the SEL of aircraft operations occurring over a 24-hour period, 10 dB are added to the SEL values for nighttime operations.

The 10 dB adjustment accounts for our greater sensitivity to nighttime noise and the fact lower ambient levels at night tend to make noise events, such as aircraft flyovers, more intrusive.

Figure A-7 depicts this adjustment graphically.

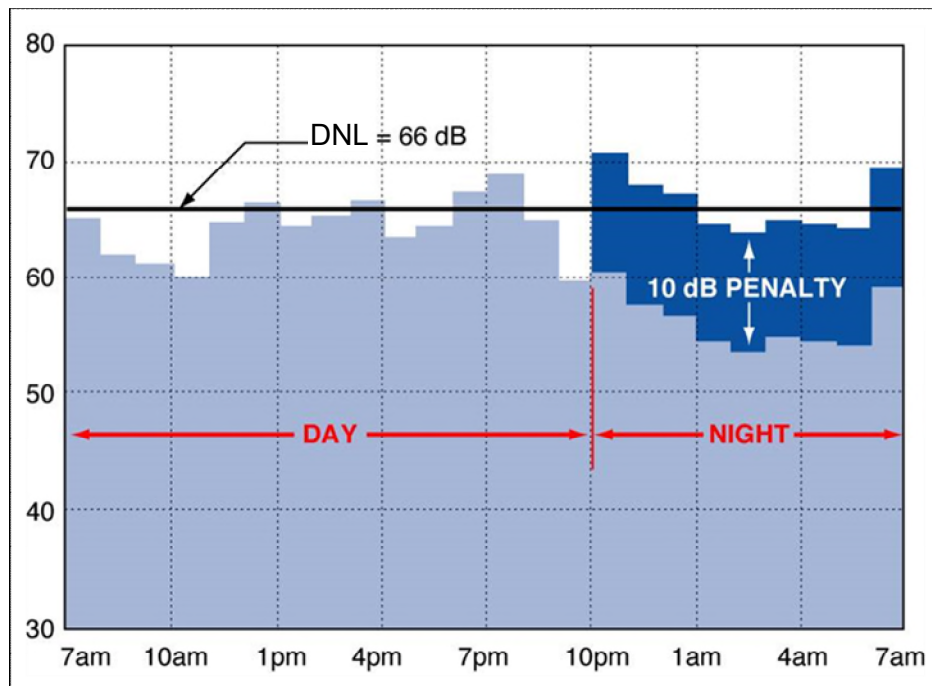


Figure A-7: Example of a Day-Night Average Sound Level Calculation

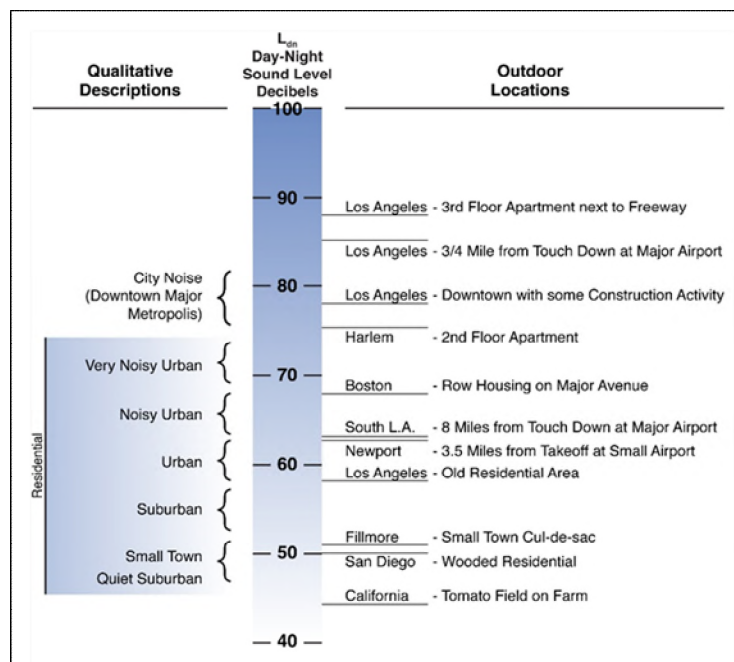
Source: HMMH, 2011

Most aircraft noise studies utilize computer-generated estimates of DNL, determined by adding up the energy from the SELs from each event, with the 10 dB penalty / weighting applied to night operations. Computed values of DNL are often depicted as noise contours reflecting lines of equal exposure around an airport (much as topographic maps indicate contours of equal elevation). The contours usually reflect long-term (annual average) operating conditions, taking into account the average flights per day, how often each runway is used throughout the year, and where over the surrounding communities the aircraft normally fly. Alternative time frames may also be helpful in understanding shorter term aspects of a noise environment.

Why is DNL used to describe noise around airports? The U.S. Environmental Protection Agency identified DNL as the most appropriate measure of evaluating airport noise based on the following considerations:

- It is applicable to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time.
- It correlates well with known effects of noise on individuals and the public.
- It is simple, practical, and accurate. In principle, it is useful for planning as well as for enforcement or monitoring purposes.
- The required measurement equipment, with standard characteristics is commercially available.
- It was closely related to existing methods currently in use.

Representative values of DNL in our environment range from a low of 40 dB to 45 dB in extremely quiet, isolated locations, to highs of 80 dB or 85 dB immediately adjacent to a busy truck route. DNL would typically be in the range of 50 dB to 55 dB in a quiet residential community and 60 dB to 65 dB in an urban residential neighborhood. **Figure A-8** presents representative outdoor DNL values measured at various U.S. locations.



**Figure A-8: Examples of Measured Day-Night Average Sound Levels**

Source: HMMH, 2011



When preparing environmental noise analyses, the FAA considers a change of 1.5 dB within the DNL 65 dB contour to be “significant.” If a change of 1.5 dB is observed, analysts should look between the 60 dB and 65 dB contours to see if there are areas of change of 3 dB or more; this is considered a “reportable impact.”

**Section A.2** provided rules of thumb for interpreting moment-to-moment changes in sound level. **Table A-1** presents guidelines for interpreting changes in cumulative exposure:

**Table A-1: Guidelines for Interpreting Changes in Cumulative Exposure**

Source: HMMH, 2021

DNL Change	Community Response	Mitigation
0 dB – 2 dB	May be noticeable	Abatement may be beneficial
2 dB – 5 dB	Generally noticeable	Abatement should be beneficial
Over 5 dB	A change in community reaction is likely	Abatement definitely beneficial

Most public agencies dealing with noise exposure, including the FAA, Department of Defense, and Department of Housing and Urban Development (HUD), have adopted DNL in their guidelines and regulations.



## Appendix B AEDT Flight Track Utilization

The set of flight tracks reflects existing operations following RNAV departures and some Required Navigational Performance (RNP) arrival procedures, which are a subset of the more advanced Performance Based Navigation (PBN) procedures implemented at DFW. **Table B-1** presents the modeled flight track usage rates by runway end and aircraft type category, for arrivals and **Table B-2** presents the same information for departures. The usage rates were developed from the same AEDT study used to derive the model tracks.

**Table B-1: AEDT Arrival Flight Track Utilization**

Source: 2018 AEDT Study HMMH, 2021

Runway	Track Group	Air Carrier		Air Taxi			General Aviation	
		Jet	Regional Jet	Jet	Regional Jet	Non-jet	Jet	Non-jet
13R	13RAJ1	100%	100%	100%	100%	0%	100%	0%
	13RAP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
17C	17CAJ1A	16%	16%	16%	16%	0%	16%	0%
	17CAJ1B	<1%	<1%	<1%	<1%	0%	<1%	0%
	17CAJ1C	12%	12%	12%	12%	0%	12%	0%
	17CAJ1D	4%	4%	4%	4%	0%	4%	0%
	17CAJ2A	5%	5%	5%	5%	0%	5%	0%
	17CAJ2B	13%	13%	13%	13%	0%	13%	0%
	17CAJ2C	10%	10%	10%	10%	0%	10%	0%
	17CAJ2D	39%	39%	39%	39%	0%	39%	0%
	17CAP1	0%	0%	0%	0%	12%	0%	12%
	17CAP2	0%	0%	0%	0%	73%	0%	73%
	17CAP3	0%	0%	0%	0%	15%	0%	15%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
17L	17LAJ1	<1%	<1%	<1%	<1%	0%	<1%	0%
	17LAJ2	<1%	<1%	<1%	<1%	0%	<1%	0%
	17LAJ3	<1%	<1%	<1%	<1%	0%	<1%	0%
	17LAJ4	14%	14%	14%	14%	0%	14%	0%
	17LAJ5	50%	50%	50%	50%	0%	50%	0%
	17LAJ6	<1%	<1%	<1%	<1%	0%	<1%	0%
	17LAJ7	34%	34%	34%	34%	0%	34%	0%
	17LAJ8	<1%	<1%	<1%	<1%	0%	<1%	0%
	17LAP1	0%	0%	0%	0%	89%	0%	89%
	17LAP2	0%	0%	0%	0%	11%	0%	11%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
17R	17RAJ1	6%	6%	6%	6%	0%	6%	0%
	17RAJ2	18%	18%	18%	18%	0%	18%	0%
	17RAJ3	26%	26%	26%	26%	0%	26%	0%
	17RAJ4	7%	7%	7%	7%	0%	7%	0%
	17RAJ5	21%	21%	21%	21%	0%	21%	0%

Runway	Track Group	Air Carrier		Air Taxi			General Aviation	
		Jet	Regional Jet	Jet	Regional Jet	Non-jet	Jet	Non-jet
	17RAJ6	9%	9%	9%	9%	0%	9%	0%
	17RAJ7	13%	13%	13%	13%	0%	13%	0%
	17RAP	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>18L</b>	18LAJ1	31%	31%	31%	31%	0%	31%	0%
	18LAJ2	37%	37%	37%	37%	0%	37%	0%
	18LAJ3	11%	11%	11%	11%	0%	11%	0%
	18LAJ4	21%	21%	21%	21%	0%	21%	0%
	18LAP	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>18R</b>	18RAJ1	4%	4%	4%	4%	0%	4%	0%
	18RAJ2	31%	31%	31%	31%	0%	31%	0%
	18RAJ3	<1%	<1%	<1%	<1%	0%	<1%	0%
	18RAJ4	51%	51%	51%	51%	0%	51%	0%
	18RAJ5	2%	2%	2%	2%	0%	2%	0%
	18RAJ6	<1%	<1%	<1%	<1%	0%	<1%	0%
	18RAJ7	2%	2%	2%	2%	0%	2%	0%
	18RAJ8	4%	4%	4%	4%	0%	4%	0%
	18RAJ9	5%	5%	5%	5%	0%	5%	0%
	18RAP1	0%	0%	0%	0%	41%	0%	41%
	18RAP2	0%	0%	0%	0%	59%	0%	59%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>31R</b>	31RAJ1	100%	100%	100%	100%	0%	100%	0%
	31RAP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>35C</b>	35CAJ1A	15%	15%	15%	15%	0%	15%	0%
	35CAJ1B	<1%	<1%	<1%	<1%	0%	<1%	0%
	35CAJ1C	<1%	<1%	<1%	<1%	0%	<1%	0%
	35CAJ2A	53%	53%	53%	53%	0%	53%	0%
	35CAJ2B	<1%	<1%	<1%	<1%	0%	<1%	0%
	35CAJ2C	<1%	<1%	<1%	<1%	0%	<1%	0%
	35CAJ3A	17%	17%	17%	17%	0%	17%	0%
	35CAJ3B	6%	6%	6%	6%	0%	6%	0%
	35CAJ4A	4%	4%	4%	4%	0%	4%	0%
	35CAJ4B	3%	3%	3%	3%	0%	3%	0%
	35CAP1	0%	0%	0%	0%	19%	0%	19%
	35CAP2	0%	0%	0%	0%	45%	0%	45%
	35CAP3	0%	0%	0%	0%	13%	0%	13%
	35CAP4	0%	0%	0%	0%	23%	0%	23%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>35L</b>	35LAJ1A	20%	20%	20%	20%	0%	20%	0%
	35LAJ1B	22%	22%	22%	22%	0%	22%	0%
	35LAJ2A	24%	24%	24%	24%	0%	24%	0%
	35LAJ2B	6%	6%	6%	6%	0%	6%	0%



Runway	Track Group	Air Carrier		Air Taxi			General Aviation	
		Jet	Regional Jet	Jet	Regional Jet	Non-jet	Jet	Non-jet
	35LAJ3	15%	15%	15%	15%	0%	15%	0%
	35LAJ4	13%	13%	13%	13%	0%	13%	0%
	35LAP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>35R</b>	35RAJ1A	1%	1%	1%	1%	0%	1%	0%
	35RAJ1B	<1%	<1%	<1%	<1%	0%	<1%	0%
	35RAJ2	32%	32%	32%	32%	0%	32%	0%
	35RAJ3A	35%	35%	35%	35%	0%	35%	0%
	35RAJ3B	31%	31%	31%	31%	0%	31%	0%
	35RAJ4	<1%	<1%	<1%	<1%	0%	<1%	0%
	35RAP1	0%	0%	0%	0%	69%	0%	69%
	35RAP2	0%	0%	0%	0%	31%	0%	31%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>36L</b>	36LAJ1A	40%	40%	40%	40%	0%	40%	0%
	36LAJ1B	<1%	<1%	<1%	<1%	0%	<1%	0%
	36LAJ2A	<1%	<1%	<1%	<1%	0%	<1%	0%
	36LAJ2B	4%	4%	4%	4%	0%	4%	0%
	36LAJ2C	7%	7%	7%	7%	0%	7%	0%
	36LAJ2D	<1%	<1%	<1%	<1%	0%	<1%	0%
	36LAJ3A	2%	2%	2%	2%	0%	2%	0%
	36LAJ3B	5%	5%	5%	5%	0%	5%	0%
	36LAJ4A	26%	26%	26%	26%	0%	26%	0%
	36LAJ4B	16%	16%	16%	16%	0%	16%	0%
	36LAP1	0%	0%	0%	0%	64%	0%	64%
	36LAP2	0%	0%	0%	0%	11%	0%	11%
	36LAP3	0%	0%	0%	0%	25%	0%	25%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>36R</b>	36RAJ1	26%	26%	26%	26%	0%	26%	0%
	36RAJ2A	3%	3%	3%	3%	0%	3%	0%
	36RAJ2B	14%	14%	14%	14%	0%	14%	0%
	36RAJ3	21%	21%	21%	21%	0%	21%	0%
	36RAJ4	36%	36%	36%	36%	0%	36%	0%
	36RAP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Note: Totals may not match exactly due to rounding.*

**Table B-2: AEDT Departure Flight Track Utilization**

Source: 2018 AEDT Study HMMH, 2021

Runway	Track Group	Air Carrier		Air Taxi			General Aviation	
		Jet	Regional Jet	Jet	Regional Jet	Non-jet	Jet	Non-jet
13L	13LDP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>
13R	13RDP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>
17C	17CDJ1	21%	21%	21%	21%	0%	21%	0%
	17CDJ2A	39%	39%	39%	39%	0%	39%	0%
	17CDJ2B	35%	35%	35%	35%	0%	35%	0%
	17CDJ3	5%	5%	5%	5%	0%	5%	0%
	17CDP1	0%	0%	0%	0%	15%	0%	15%
	17CDP2	0%	0%	0%	0%	65%	0%	65%
	17CDP3	0%	0%	0%	0%	21%	0%	21%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
17L	17LDJ1	100%	0%	0%	0%	0%	0%	0%
	<b>Subtotal</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
17R	17RDJ1A	<1%	<1%	<1%	<1%	0%	<1%	0%
	17RDJ1B	<1%	<1%	<1%	<1%	0%	<1%	0%
	17RDJ1C	<1%	<1%	<1%	<1%	0%	<1%	0%
	17RDJ2A	2%	2%	2%	2%	0%	2%	0%
	17RDJ2B	1%	1%	1%	1%	0%	1%	0%
	17RDJ3A	13%	13%	13%	13%	0%	13%	0%
	17RDJ3B	3%	3%	3%	3%	0%	3%	0%
	17RDJ4A	35%	35%	35%	35%	0%	35%	0%
	17RDJ4B	11%	11%	11%	11%	0%	11%	0%
	17RDJ4C	18%	18%	18%	18%	0%	18%	0%
	17RDJ5A	3%	3%	3%	3%	0%	3%	0%
	17RDJ5B	7%	7%	7%	7%	0%	7%	0%
	17RDJ6	2%	2%	2%	2%	0%	2%	0%
	17RDJ7	3%	3%	3%	3%	0%	3%	0%
	17RDJ8	1%	1%	1%	1%	0%	1%	0%
	17RDP1	0%	0%	0%	0%	20%	0%	20%
	17RDP2	0%	0%	0%	0%	33%	0%	33%
	17RDP3	0%	0%	0%	0%	39%	0%	39%
	17RDP4	0%	0%	0%	0%	8%	0%	8%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
18L	18LDJ1	<1%	1%	<1%	1%	0%	1%	0%
	18LDJ10	6%	6%	6%	6%	0%	6%	0%
	18LDJ2	7%	7%	7%	7%	0%	7%	0%
	18LDJ3	2%	2%	2%	2%	0%	2%	0%
	18LDJ4A	8%	8%	8%	8%	0%	8%	0%
	18LDJ4B	8%	8%	8%	8%	0%	8%	0%
	18LDJ4C	3%	3%	3%	3%	0%	3%	0%
	18LDJ5A	4%	4%	4%	4%	0%	4%	0%

Runway	Track Group	Air Carrier		Air Taxi			General Aviation	
		Jet	Regional Jet	Jet	Regional Jet	Non-jet	Jet	Non-jet
	18LDJ5B	4%	4%	4%	4%	0%	4%	0%
	18LDJ6	19%	19%	19%	19%	0%	19%	0%
	18LDJ7	15%	15%	15%	15%	0%	15%	0%
	18LDJ8	2%	2%	2%	2%	0%	2%	0%
	18LDJ9	21%	21%	21%	21%	0%	21%	0%
	18LDP1A	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>18R</b>	18RDJ1	20%	20%	20%	20%	0%	20%	0%
	18RDJ2	14%	14%	14%	14%	0%	14%	0%
	18RDJ3	15%	15%	15%	15%	0%	15%	0%
	18RDJ4	9%	9%	9%	9%	0%	9%	0%
	18RDJ5A	15%	15%	15%	15%	0%	15%	0%
	18RDJ5B	17%	17%	17%	17%	0%	17%	0%
	18RDJ6	10%	10%	10%	10%	0%	10%	0%
	18RDP1A	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>31L</b>	31LDJ1	50%	50%	50%	50%	0%	0%	0%
	31LDJ2	50%	50%	50%	50%	0%	0%	0%
	31LDP1	0%	0%	0%	0%	94%	0%	94%
	31LDP2	0%	0%	0%	0%	6%	0%	6%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>31R</b>	31RDJ	100%	0%	100%	0%	0%	0%	0%
	<b>Subtotal</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>35C</b>	35CDJ1	4%	4%	4%	4%	0%	4%	0%
	35CDJ2	13%	13%	13%	13%	0%	13%	0%
	35CDJ3	3%	3%	3%	3%	0%	3%	0%
	35CDJ4A	10%	10%	10%	10%	0%	10%	0%
	35CDJ4B	5%	5%	5%	5%	0%	5%	0%
	35CDJ5A	11%	11%	11%	11%	0%	11%	0%
	35CDJ5B	9%	9%	9%	9%	0%	9%	0%
	35CDJ6	45%	45%	45%	45%	0%	45%	0%
	35CDP	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>35L</b>	35LDJ1A	<1%	<1%	<1%	<1%	0%	<1%	0%
	35LDJ1B	<1%	<1%	<1%	<1%	0%	<1%	0%
	35LDJ1C	<1%	<1%	<1%	<1%	0%	<1%	0%
	35LDJ2A	1%	1%	1%	1%	0%	1%	0%
	35LDJ2B	13%	13%	13%	13%	0%	13%	0%
	35LDJ2C	2%	2%	2%	2%	0%	2%	0%
	35LDJ2D	<1%	<1%	<1%	<1%	0%	<1%	0%
	35LDJ3A	21%	21%	21%	21%	0%	21%	0%
	35LDJ3B	12%	12%	12%	12%	0%	12%	0%
	35LDJ4A	33%	33%	33%	33%	0%	33%	0%
	35LDJ4B	2%	2%	2%	2%	0%	2%	0%

Runway	Track Group	Air Carrier		Air Taxi			General Aviation	
		Jet	Regional Jet	Jet	Regional Jet	Non-jet	Jet	Non-jet
	35LDJ4C	3%	3%	3%	3%	0%	3%	0%
	35LDJ5A	10%	10%	10%	10%	0%	10%	0%
	35LDJ5B	2%	2%	2%	2%	0%	2%	0%
	35LDP1	0%	0%	0%	0%	100%	0%	100%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>35R</b>	35RDP	0%	0%	0%	0%	0%	0%	100%
	<b>Subtotal</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>
<b>36L</b>	36LDJ1	31%	31%	31%	31%	0%	31%	0%
	36LDJ2A	14%	14%	14%	14%	0%	14%	0%
	36LDJ2B	11%	11%	11%	11%	0%	11%	0%
	36LDJ3A	14%	14%	14%	14%	0%	14%	0%
	36LDJ3B	20%	20%	20%	20%	0%	20%	0%
	36LDJ3C	10%	10%	10%	10%	0%	10%	0%
	36LDP1	0%	0%	0%	0%	88%	0%	88%
	36LDP2	0%	0%	0%	0%	12%	0%	12%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>36R</b>	36RDJ1	<1%	<1%	<1%	<1%	0%	<1%	0%
	36RDJ10	1%	1%	1%	1%	0%	1%	0%
	36RDJ1B	17%	17%	17%	17%	0%	17%	0%
	36RDJ2	6%	6%	6%	6%	0%	6%	0%
	36RDJ3	19%	19%	19%	19%	0%	19%	0%
	36RDJ4	5%	5%	5%	5%	0%	5%	0%
	36RDJ5A	1%	1%	1%	1%	0%	1%	0%
	36RDJ5B	<1%	<1%	<1%	<1%	0%	<1%	0%
	36RDJ5C	<1%	<1%	<1%	<1%	0%	<1%	0%
	36RDJ6	16%	16%	16%	16%	0%	16%	0%
	36RDJ7	2%	2%	2%	2%	0%	2%	0%
	36RDJ8	3%	3%	3%	3%	0%	3%	0%
	36RDJ9	3%	3%	3%	3%	0%	3%	0%
	36RDJC	3%	3%	3%	3%	0%	3%	0%
	36RDJD	19%	19%	19%	19%	0%	19%	0%
	36RDJE	<1%	<1%	<1%	<1%	0%	<1%	0%
	36RDJF	1%	1%	1%	1%	0%	1%	0%
	36RDP1	0%	0%	0%	0%	88%	0%	88%
	36RDP2	0%	0%	0%	0%	12%	0%	12%
	<b>Subtotal</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Note: Totals may not match exactly due to rounding.



## Appendix C Aviation Forecast

The following forecast memorandum was provided to the FAA for review and approval for the EA. FAA approved the use of this forecast on March 10, 2022.



**HMMH**  
700 District Avenue, Suite 800  
Burlington, MA 01803  
781.229.0707

#### TECHNICAL MEMORANDUM

**To:** Esther Chitsinde, DFW EAD  
Sandra Lancaster, DFW EAD

**From:** Robert Mentzer, Principal Consultant

**Date:** 1/20/2022

**Subject:** DFW Runway 17R-35L Rehabilitation NEPA Project - Baseline and Forecast Operations

**Reference:** HMMH Project Number 311230.004.001

For the DFW Runway 17R-35L Rehabilitation NEPA project, HMMH was tasked with reviewing the forecast documents and developing the detailed baseline forecast for the noise and air quality modeling. The operational data presented here will be used for the DFW Runway 17R-35L Rehabilitation Environmental Assessment (EA).

#### 1. Sources

HMMH download the FAA 2020 Terminal Area Forecast (TAF)<sup>1</sup> for DFW and HMMH was provided the DFW Aviation Activity Forecast 2019 (AAF)<sup>2</sup> by DFW for review and reference. It should be noted the FAA TAF includes the effects of the COVID-19 pandemic and the AAF does not as it was released prior to the pandemic. Therefore, DFW EAD has directed the study team to review the forecasts and use the forecast data with the lower values as they should be acceptable to FAA for the NEPA studies. HMMH has also downloaded daily counts of operations from the FAA OPSNET system which are separated into four categories by the FAA.

- Air Carrier – Commercial operations with more than 60 seats
- Air Taxi – Commercial operations with less than 60 seats
- General Aviation – Non-commercial operations
- Military – Military operations

#### 2. Baseline

HMMH reviewed dates of past construction projects at DFW and dates of the COVID pandemic to determine a baseline sample period for the Affected Environment. Dates identified are:

- Runway 17C-35C Rehabilitation - May 2018 to March 10, 2019, full and partial closures
- COVID 19 – Drop in Operations – started March 21, 2020
- Runway 18R-36L Rehabilitation - June 2020 to May 2021, full and partial closures

HMMH identified a 12-month period spanning March 16, 2019, through March 15, 2020 as the baseline year and level of operations. HMMH downloaded the FAA Tower Count data for this period (3/16/2019 to 3/15/2020)<sup>3</sup> to use as the baseline. Average annual daily operations for this period are 1,988 operations per day as shown in Table 1. DFW agrees with the use of this 12-month period but noted that Runway 17C/35C still had reduced capacity during a portion of the 12-month period due to taxiway closures. However, these closures did not affect the level of operations during this period.

<sup>1</sup> Published May 2021 - <https://taf.faa.gov/> - accessed 10/4/2021

<sup>2</sup> Published September 2019

<sup>3</sup> FAA OPSNET - <https://aspm.faa.gov/opsnet/sys/Airport.asp> - accessed 10/5/2021





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HMMH plans to use the data in Table 1 for the Affected Environment existing conditions modeling. This baseline set of data is also being used for the CTA and Airfield Efficiency EAs at DFW.

Table 1. Baseline Operations

Period	Air Carrier	Air Taxi	General Aviation	Military	Total
3/16/2019-3/15/2020	632,468	89,163	5,681	205	727,517
Average Daily Operations	1,728	244	16	1	1,988

Source: FAA OPSNET

### 3. Current Trends

Operations at DFW for the 12-month fiscal year period ending September 30, 2021, is 620,831.<sup>4</sup> This total is 17.6 percent higher than the operations level forecasted in the TAF for fiscal year 2021 (528,084)<sup>5</sup> as the TAF was forecasting a much slower return to normal operations due to the COVID-19 pandemic. This level of operations though is still well below the DFW Aviation Activity Forecast for fiscal year 2021 of 742,866 operations. Due to the faster return to operation levels and the uncertainty in future schedules due to COVID we suggest increasing the TAF Commercial Operations (Air Carrier and Air Taxi) to be used in the forecast for the Runway 17R-35L Rehabilitation by 5 percent. This will keep the forecast operations for the Runway 17R-35L Rehabilitation projects consistent with the CTA and Airfield Efficiency EAs. The forecast will be higher than the 2020 TAF but still within the 10% forecast requirement by the FAA.

### 4. Future Forecast

The runway rehabilitation will be completed in four construction phases, Phases 2, 3 and 4 involve reduced length or full runway closures and are the subject of the EA. The Runway 17R-35L Rehabilitation EA will require aircraft operational noise and emissions evaluations for three construction phases over the 2023 to 2024 calendar year period. The three phases modeled for the EA will cover a total of 13 months from April 2023 to April 2024.

- Phase 2 – Runway 35L end closure - April 2023 to June 2023 (3 months)
- Phase 3 – Full Closure - July 2023 to December 2023 (6 months)
- Phase 4 – Runway 17R end closure – January 2024 to April 2024 (4 months)

Therefore, we compared the TAF and the AAF for each of those year as shown in Table 2. The AAF provides breakdowns for Commercial Passenger, Cargo, Other Air Taxi, General Aviation and Military, however it does not split out Air Carrier and Air Taxi groups under Commercial Passenger and Cargo. Therefore, we combined Air Carrier and Air Taxi in the TAF to get Total Commercial. Using the AAF data we subtracted the General Aviation and Military from the Total Operations to also get Total Commercial.

The total operations shown in Table 2 between the AAF and the TAF differ by 17 percent for 2023 and 16 percent for 2024 and the difference between the two forecasts is almost entirely in commercial operations. Based on these differences and the prior analysis of current operations at DFW in Section 3, the Runway 17R-35L Rehabilitation EA is proposing to use the TAF+5 percent for the future forecast operations.

<sup>4</sup> OPSNET accessed 10/25/2021

<sup>5</sup> 2020 TAF is included in Appendix A







Table 2. Forecast Fiscal Year Operations

Period	Air Carrier	Air Taxi	Total Commercial	General Aviation	Military	Total	Difference (AAF-TAF +5%)
<b>Baseline (3/16/19-3/15/20)</b>	632,468	89,163	721,631	5,681	205	727,517	
FY 2023 TAF	586,532	26,707	613,059	6,786	212	620,057	
<b>FY 2023 TAF+5%</b>	<b>615,670</b>	<b>28,042</b>	<b>643,712</b>	<b>6,786</b>	<b>212</b>	<b>650,710</b>	
FY 2023 DFW AAF			754,639	6,801	160	761,600	110,890
FY 2024 TAF	634,229	22,497	656,726	6,807	212	663,745	
<b>FY 2024 TAF+5%</b>	<b>665,940</b>	<b>23,622</b>	<b>689,562</b>	<b>6,807</b>	<b>212</b>	<b>696,581</b>	
FY 2024 DFW AAF			764,603	6,830	160	771,593	75,012

Note: The TAF and AAF are reported as fiscal year operations

Source: FAA OPSNET, DFW 2019 Aviation Activity Forecast, FAA 2020 TAF, HMMH

## 5. Proposed and No Action Forecast

The No Action and Proposed Action for the Runway 17R-35L Rehabilitation EA will have the same level of operations for both conditions. Using the forecast data in Table 2 which are based on a Fiscal Year (FY), DFW developed a forecast to cover the 13-month period of this EA. Phase 2 and 3 months of Phase 3 occur in FY 2023 and the remaining 3 months of Phase 3 and Phase 4 occur in FY 2024. Table 3 provides the proposed level of operations to be modeled for the Runway 17R-35L Rehabilitation EA. The 13-month construction period operations were derived by dividing the fiscal year total by 12 months and then combining 6 months (April – September) of the 2023 fiscal year and 7 months (October – April) of the 2024 fiscal year. For the EA, an annualized set of data is required, the 13-month data was then annualized by dividing the total by 13 months and then multiplying by 12 months, as shown below and in Table 3.

$$(13\text{-month total} / 13) * 12 = 12\text{-month annualized total}$$

Table 3. Forecast No-Action and Proposed Action Operations

Period	Air Carrier	Air Taxi	Total Commercial	General Aviation	Military	Total
<b>Baseline (3/16/19-3/15/20)</b>	<b>632,468</b>	<b>89,163</b>	<b>721,631</b>	<b>5,681</b>	<b>205</b>	<b>727,517</b>
FY 2023 – 6 months	307,835	14,021	321,856	3,393	106	325,355
FY 2024 – 7 months	388,465	13,779	402,245	3,971	124	406,339
13-month Total	696,300	27,801	724,101	7,364	230	731,694
<b>12-month Annualized Total</b>	<b>642,739</b>	<b>25,662</b>	<b>668,401</b>	<b>6,797</b>	<b>212</b>	<b>675,410</b>

Source: FAA OPSNET, FAA 2020 TAF, HMMH

Table 4 provides the baseline and recommended future operations, average annual day operations, LTO's and passenger levels for the Runway 17R-35L Rehabilitation EA. The average annual day operations shown in Table 4 will be used for each of the three construction phases modeled in the EA. Table 5 compares the recommended future EA operations data to the 2023 and 2024 FY levels from the TAF. The recommended future EA operations data are within 8.9 percent of the TAF 2023 FY levels and 1.8 percent of the TAF 2024 FY levels.







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Table 4. Baseline and Future Operations and Passengers

Period	Total Operations	Average Annual Day Operations	Total LTO's	Total Passengers
Baseline (3/16/19-3/15/20)	727,517	1,993	363,758	75,779,526 <sup>1</sup>
12 Month Annualized	675,410	1,850	337,705	68,640,359

Note 1) Total passengers for the 12-month period ending February 2020.  
LTO – Landing Takeoff Operation

Source: FAA OPSNET, DFW Total Passengers Feb 2020, FAA 2020 TAF, HMMH

Table 5. Forecast Operations Compared to the TAF

Period	12-Month Annualized Operations	TAF FY Operations	Difference from TAF
2023	675,410	620,057	8.9%
2024	675,410	663,745	1.8%

Source: FAA 2020 TAF, HMMH

#### APPENDIX A. FAA 2020 TERMINAL AREA FORECAST

LOC	Reg	APOINT_NAME	SYSY	SC	AC	COMMU	T_ENPL	ITN_AC	ITN_AT	ATN_GA	ITN_MIL	T_AOPS
DFW	ASW	Dallas-Fort Worth International	2018	0	26573503	6191939	32765442	578295	78497	6572	160	663524
DFW	ASW	Dallas-Fort Worth International	2019	0	28252269	6610026	34862295	611239	85517	6156	245	703157
DFW	ASW	Dallas-Fort Worth International	2020	1	17629118	4844444	22473562	482529	72186	4388	212	559315
DFW	ASW	Dallas-Fort Worth International	2021	1	16572242	4362088	20934330	472966	50282	4624	212	528084
DFW	ASW	Dallas-Fort Worth International	2022	1	19668171	5063869	24732040	515495	41364	5582	212	562653
DFW	ASW	Dallas-Fort Worth International	2023	1	24012709	6131976	30144685	586352	26707	6786	212	620057
DFW	ASW	Dallas-Fort Worth International	2024	1	27779699	7084358	34864057	634229	22497	6807	212	663745
DFW	ASW	Dallas-Fort Worth International	2025	1	30050058	7678608	37728666	684155	23465	6828	212	714660
DFW	ASW	Dallas-Fort Worth International	2026	1	31440154	8041699	39481853	714817	24198	6849	212	746076
DFW	ASW	Dallas-Fort Worth International	2027	1	32250833	8247623	40498456	732417	24661	6870	212	764160
DFW	ASW	Dallas-Fort Worth International	2028	1	32935134	8419033	41354167	747096	25051	6891	212	779250
DFW	ASW	Dallas-Fort Worth International	2029	1	33625192	8592086	42217278	761892	25445	6912	212	794461
DFW	ASW	Dallas-Fort Worth International	2030	1	34312627	8764332	43076959	776605	25838	6934	212	809589
DFW	ASW	Dallas-Fort Worth International	2031	1	35048818	8949785	43998603	792403	26258	6955	212	825828
DFW	ASW	Dallas-Fort Worth International	2032	1	35812393	9142680	44955073	808803	26694	6976	212	842685
DFW	ASW	Dallas-Fort Worth International	2033	1	36579647	9336633	45916280	825269	27133	6998	212	859612
DFW	ASW	Dallas-Fort Worth International	2034	1	37324696	9524579	46849275	841214	27560	7019	212	876005
DFW	ASW	Dallas-Fort Worth International	2035	1	38053228	9708022	47761250	856766	27979	7041	212	891998
DFW	ASW	Dallas-Fort Worth International	2036	1	38788154	9893164	48681318	872442	28402	7062	212	908118
DFW	ASW	Dallas-Fort Worth International	2037	1	39527344	10079522	49606866	888200	28828	7084	212	924324





## **APPENDIX E: AIR QUALITY TECHNICAL REPORT**

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# AIR QUALITY ASSESSMENT TECHNICAL REPORT: RUNWAY 17R/35L REHABILITATION PROGRAM

Project no. 1690015627-017  
Recipient Sandra Lancaster  
Date April 27, 2022  
Prepared by John Grant, Ramboll  
Checked by Krish Vijayaraghavan, Ramboll  
Approved by Megan Neiderhiser, Ramboll

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## Acronyms and Abbreviations

ACEIT	Airport Construction Emissions Inventory Tool
ACRP	Airport Cooperative Research Program
APU	Auxiliary Power Unit
CAA	Federal Clean Air Act
CAP	Criteria Air Pollutant
CATEX	Categorical Exclusion
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2e</sub>	Carbon Dioxide Equivalents
DFW	Dallas Fort Worth International Airport
EIS	Environmental Impact Statement
EV	Electric Vehicles
FAA	Federal Aviation Administration
GHG	Greenhouse Gases
GSE	Ground Support Equipment
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
MOVES	MOtor Vehicle Emission Simulator
N <sub>2</sub> O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
O <sub>3</sub>	Ozone
Pb	Lead
PM <sub>10</sub>	Particulate Matter Less Than 10 Microns in Diameter
PM <sub>2.5</sub>	Particulate Matter Less Than 2.5 Microns
RTC	Regional Transportation Council
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
SOP	Standard Operating Procedure
TCEQ	Texas Commission on Environmental Quality
tpy	Tons Per Year

TRB	Transportation Research Board
USEPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds



## Executive Summary

This technical report provides an assessment of the air quality impacts associated with the rehabilitation of Runway 17R/35L at Dallas Fort Worth International Airport (the Airport or DFW) (the “Proposed Project”). The Proposed Action Alternative would extend the structural life of the runway, enhance the future functional performance, reduce operational impacts, and reduce maintenance costs associated with work orders.

Ramboll evaluated impacts to air quality due to the Proposed Project under the National Environmental Policy Act (NEPA) in accordance with the guidelines provided in the Federal Aviation Administration (FAA) Aviation Emissions and Air Quality Handbook Version 3 Update 1 (FAA Handbook); FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions; and FAA Order 1050.1F, Environmental Impacts: Policies and Procedures.

Ramboll estimated criteria air pollutant (CAP) and GHG emissions associated with construction and operation of the Proposed Project. Proposed project construction emission estimates were developed based on (i) activity estimates for vehicles, non-road equipment, and project dimensions provided by DFW and based on the Airport Construction Emissions Inventory Tool (ACEIT)<sup>1</sup> and (ii) emission factors from the United States Environmental Protection Agency (USEPA) MOtor Vehicle Emission Simulator, version 3 (MOVES3)<sup>2</sup> and USEPA AP-42 guidance<sup>3</sup>. Proposed Project operational emission estimates were developed based on (i) aircraft, ground support equipment (GSE) and auxiliary power unit (APU) activity estimates for the Proposed Project and No Action and (ii) Aviation Environmental Design Tool (AEDT) Version 3d<sup>4</sup>.

Ramboll evaluated the Proposed Project’s significance with respect to air quality impacts under NEPA by comparing project emissions to applicable USEPA *de minimis* levels established under the General Conformity Rule<sup>5</sup>. Dallas-Fort Worth is in a Serious Ozone Non-Attainment Area<sup>6</sup>; therefore, the project is subject to 50 tons per year (tpy) volatile organic compounds (VOC) and nitrogen oxides (NOx) *de minimis* thresholds under the General Conformity Rule, to determine compliance with the Clean Air Act (CAA) and the Texas Commission on Environmental Quality’s (TCEQ) Dallas-Fort Worth Eight-Hour Ozone State Implementation Plan (SIP).

Table ES-1 shows that maximum projected annual Proposed Project emissions are below applicable *de minimis* thresholds under the current serious designation for the Dallas-Fort Worth Ozone Non-Attainment Area.

<sup>1</sup> Transportation Research Board. 2014. Airport Construction Emissions Inventory Tool. Available at: <https://www.trb.org/Main/Blurbs/170234.aspx>. Accessed: March 2022.

<sup>2</sup> US Environmental Protection Agency. 2021. Motor Vehicle Emission Simulator, Version 3 (MOVES3). Available at: <https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves>. Accessed: March 2022.

<sup>3</sup> US Environmental Protection Agency. 1995. AP-42: Compilation of Air Emissions Factors. Available at: <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors>. Accessed: March 2022.

<sup>4</sup> Federal Aviation Administration. Aviation Environmental Design Tool (AEDT). Available at: <https://aedt.faa.gov/>. Accessed: March 2022.

<sup>5</sup> 75 FR 17254. Available at: <https://www.govinfo.gov/content/pkg/FR-2010-04-05/pdf/2010-7047.pdf>. Accessed online: March 2022.

<sup>6</sup> USEPA. Greenbook. 2020. Texas Nonattainment/Maintenance Status for Each County By Year for All Criteria Pollutants. Dallas-Fort Worth. Available Online: [https://www3.epa.gov/airquality/greenbook/anayo\\_tx.html](https://www3.epa.gov/airquality/greenbook/anayo_tx.html). Accessed: March 2022.

**Table ES-1. Proposed Project total emissions compared to applicable general conformity *de minimis* thresholds.**

Project Year	Project Emissions (tons/year)		General Conformity <i>De Minimis</i> Threshold* (tons/year)		Project Emissions greater than General Conformity <i>De Minimis</i> Threshold?	
	NOx	VOC	NOx	VOC	NOx	VOC
<b>Current DFW <i>De Minimis</i> Threshold under Serious Ozone Classification*</b>						
2023	38.87	19.08	50	50	No	No
2024	10.42	2.57	50	50	No	No

\* Source: 40 CFR 93 § 153 *de minimis* thresholds applied to Dallas-Fort Worth Non-attainment Area "serious" classification

## 1. Introduction

This technical report has been prepared to discuss the potential environmental impacts associated with the rehabilitation of Runway 17R/35L (the "Proposed Project"). In conformance with the NEPA, this analysis identifies and assesses the impacts that would result from the Proposed Project's emission of CAPs. It also discloses emissions of GHGs and describes potential hazardous air pollutant (HAP) emissions.

This analysis evaluates the potential air quality-related impacts of the Proposed Project, which would involve bringing runway and connector taxiway geometry conditions up to current Federal Aviation Administration (FAA) Advisory Circular (AC) standards and improving pavement conditions adjacent to the runway in addition to a full asphalt overlay for the runway. This technical report describes the scope and methodology for evaluation of air quality impacts from construction and operational sources, where relevant. The results of these evaluations are compared to the standards of significance identified by the Federal CAA.

### 1.1 Overall Approach and Regulatory Setting

NEPA provides for an environmental review process to disclose the potential impacts, including air quality, from a proposed federal action on the human environment. Per the USEPA, NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

The impacts to air quality due to the Proposed Project for NEPA are determined in accordance with the guidelines provided in the FAA Aviation Emissions and Air Quality Handbook Version 3 Update 1 (FAA Handbook); FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions; and FAA Order 1050.1F, Environmental Impacts: Policies and Procedures. Potential air quality and climate impacts are categories that are required to be analyzed per these orders and guidance.

FAA 1050.1F, Exhibit 4-1 defines the significance threshold for air quality as when "[t]he action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the USEPA under the CAA, for any of the time period analyzed, or to increase the frequency or severity of any such existing violations." FAA guidance requests that air

quality analysis focus on NAAQS criteria air pollutants and that a separate section should address Climate.

The CAA requires adoption of NAAQS, which are periodically updated, to protect public health and welfare from the effects of air pollution. Current federal standards are set for sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), particulate matter less than 2.5 microns (PM<sub>2.5</sub>), and Lead (Pb).<sup>7</sup> Specific geographic areas are classified as either "attainment" or "non-attainment" areas for each pollutant based upon comparison of measured data with NAAQS. Those areas designated as "non-attainment" for purposes of NAAQS compliance are required to prepare regional air quality plans, which set forth a strategy for bringing an area into compliance with the standards. These regional air quality plans developed to meet federal requirements are included in an overall program referred to as the State Implementation Plan (SIP).

Dallas and Tarrant counties, where the Project site is located, have been designated by the USEPA as being in attainment and non-attainment depending on pollutant with the following NAAQS, respectively:<sup>8</sup>

- *Attainment or Unclassified:* CO (1-hr, 8-hr), NO<sub>2</sub> (1-hr, Annual), SO<sub>2</sub> (1-hr, 3-hr), PM<sub>10</sub> (24-hr), PM<sub>2.5</sub> (24-hr, Annual), and Pb (Rolling 3-month average);
- *Non-Attainment:* O<sub>3</sub> (2008 8-hr, Serious), O<sub>3</sub> (2015 8-hr, Marginal).

Per above, the Dallas-Fort Worth area's EPA NAAQS non-attainment designations are limited to O<sub>3</sub>. O<sub>3</sub> is not directly emitted but is formed in the atmosphere when nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) react in sunlight. O<sub>3</sub> is considered a regional pollutant because NO<sub>x</sub> and VOC emissions throughout the air basin are involved in ozone formation. A regional photochemical model that considers emissions throughout the air basin would be required to explicitly model ozone concentrations. Instead, the potential impacts to ozone concentrations are typically based on annual or daily estimates of NO<sub>x</sub> and VOC emissions. Air pollutant emissions from construction and any net increases in emissions associated with operation of the Proposed Project and Alternatives would be calculated as relevant to ozone formation and concentration.

## 1.2 Existing Conditions

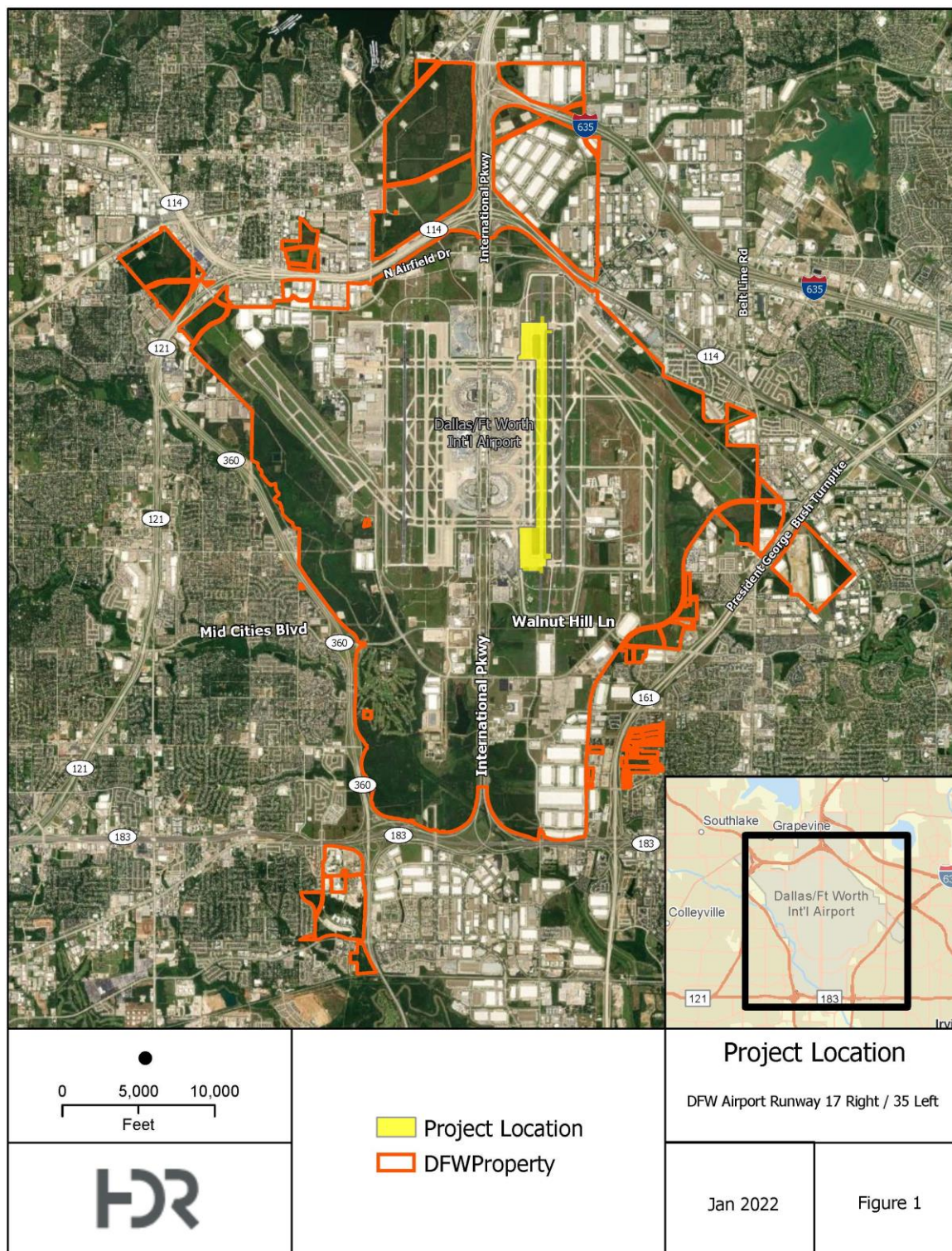
DFW is located between owner cities Dallas and Fort Worth, Texas, with portions included in both Dallas and Tarrant counties. In 2019, it serviced over 73 million passengers to 258 nonstop destinations.

Figure 1-1 shows the general Airport location and surroundings. DFW currently encompasses 17,207 acres (approximately 27 square miles) in Dallas and Tarrant Counties, and contains five terminals (named Terminals A, B, C, D, and E), seven runways (13L/31R, 13R/31L, 17C/35C, 17L/35R, 17R/35L, 18L/36R, and 18R/36L), and 182 gates.

<sup>7</sup> USEPA. NAAQS Table. Available at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. Accessed: January 2022.

<sup>8</sup> USEPA. Greenbook. 2020. Texas Nonattainment/Maintenance Status for Each County By Year for All Criteria Pollutants. Dallas-Fort Worth. Available Online: [https://www3.epa.gov/airquality/greenbook/anayo\\_tx.html](https://www3.epa.gov/airquality/greenbook/anayo_tx.html)



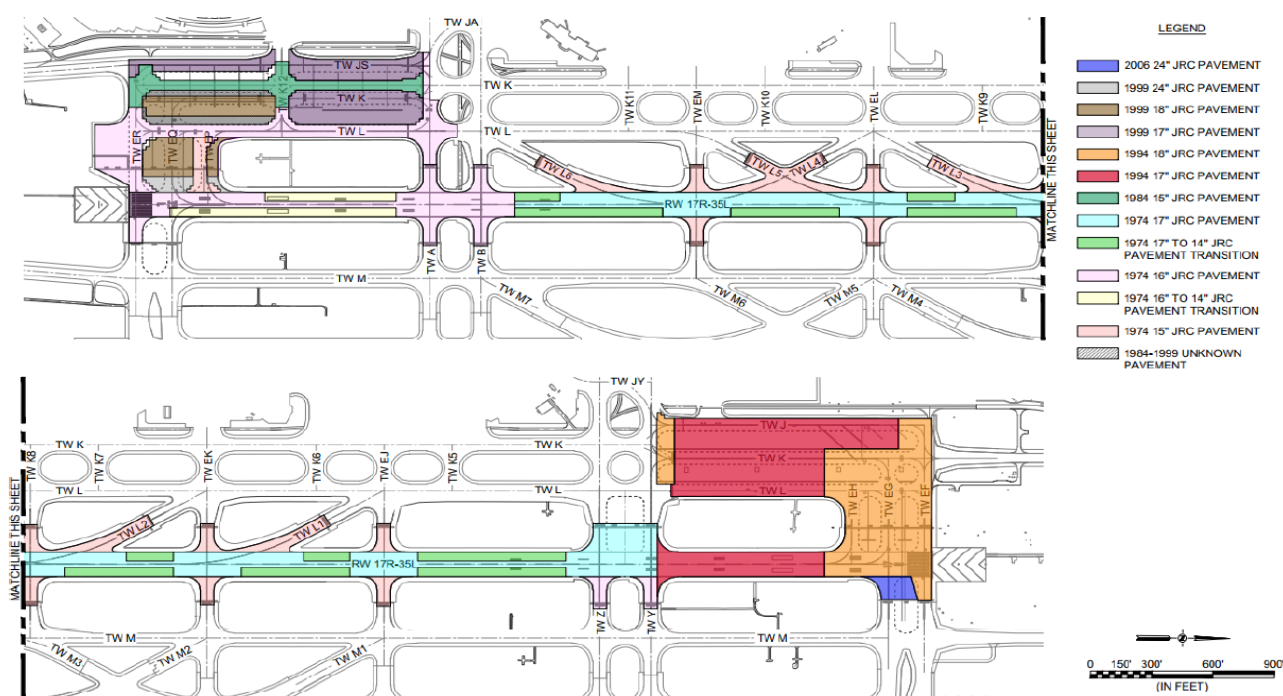


**Figure 1-1. Project Location**



Runway 17R/35L provides critically needed departure capacity in support of DFW's scheduled flight operations. Since 2000, Runway 17R/35L averages approximately 167,000 departures annually. In 2018, Runway 17R/35L served 53 percent of all departures for over 175,000 departure operations.

Runway 17R/35L is 13,400 feet long and serves as the Airport's east airfield primary departure runway. This Aircraft Design Group VI (ADG-VI) runway supports the ADG-VI cargo operations and provides the airport with the all-weather landing capacity in support of DFW's scheduled flight operations. Runway 17R/35L is 200 feet wide with 40-foot-wide asphalt shoulders. It is located 1,000 feet west of Runway 17C/35C and 450 feet east of Taxiway L. The Runway and Taxiway L in the southeast pad were completed in 1974 followed by Taxiway K in 1984. Between 1984 and 1999, Taxiways L and K were widened and in 1999 the infield areas were paved to form the current configuration of the southeast hold pad (SEHP). The runway blast pad and taxiway fillet modifications and the northeast hold pad (NEHP) were completed in 1994 to form the current configuration of the NEHP. The general airfield layout, pavement thickness, and construction dates are shown in Figure 1-2.



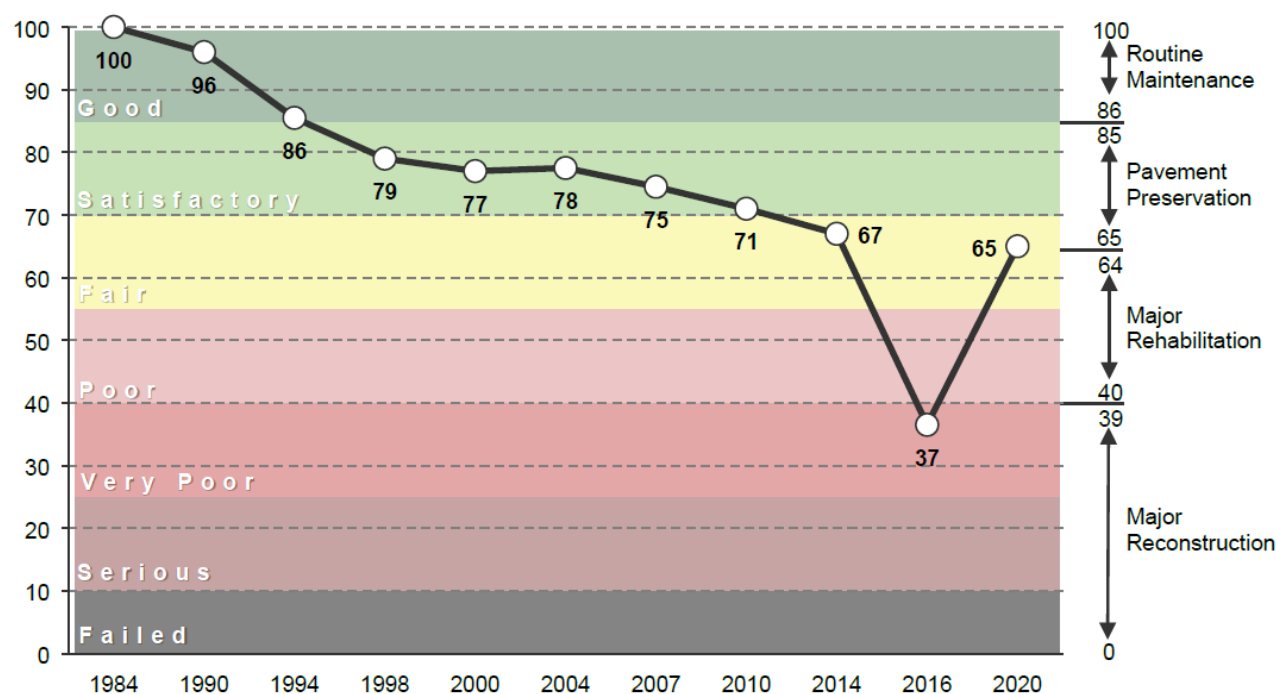
**Figure 1-2. Runway and Hold Pad Construction History**

Since its construction approximately 48 years ago, Runway 17R/35L has never had a major rehabilitation that addressed the full scope of deficiencies on the entire runway. Select panel replacement and routine maintenance along with shoulder repairs have kept this critical asset functioning to date; however, it is now at a point on the pavement maintenance curve, along with its aging utilities, where a complete rehabilitation is required. The original runway and taxiway pavements

are showing increased signs of fatigue and wear. The runway pavement modified in 1994 (north end of the runway, taxiways, and NEHP) is also showing similar signs of fatigue. The runway and connector taxiway pavement conditions warrant rehabilitation.

For Runway 17R/35L, the 2020 pavement assessment indicated Pavement Condition Index (PCI) values ranging from fair to good across the entire width and length of the runway. Though the PCI results indicate the pavement is in fair to good condition, it was noted that the sample level data identified areas, particularly in the keel section, where there are large expanses of pavement in poor condition. It was also noted that joint seal damage and large patching, such as utility cuts, are predominant across much of the runway. The condition of the keel section received a “fair” score of 65. The predominant pavement distresses along traffic sections are longitudinal and transverse cracking, edge and corner spalls, kerf cut patches, popouts, and joint seal damage. Non-traffic areas mostly exhibit spalls and joint seal damage.

The historical PCI for the keel section of Runway 17R/35L are shown in **Figure 1-3**. The figure also illustrates the pavement condition categories using different color bands. The recommended actions for each category are provided to the right of the chart. The chart shows that the condition of the Runway 17R/35L keel section has steadily deteriorated since the runway was opened in 1974.



Source: Parsons, DFW Airfield Pavement Evaluations, February 3, 2015; Michael Baker International, Airport Pavement Condition September 2016; RS&H, Runway Pavement Evaluation Report, May 29, 2020

**Figure 1-3. Historical Pavement Condition of Runway 17R/35L Keel Section**

### 1.3 Proposed Project

The proposed project is crucial to ensuring that the airport maintains safe and efficient operations on one of the most utilized departure runways in the National Airspace System (NAS). The purpose of the proposed Runway 17R/35L rehabilitation project is to extend the structural life of the runway, enhance the future functional performance, reduce operational impacts, and reduce maintenance costs associated with work orders.

Runway 17R/35L serves as the primary east side departure runway for DFW. It is one of the busiest runways at DFW and is a critical asset to the daily operations. Runway 17R/35L is the eastern inboard runway closest to the Airport Terminal Complex and has been in operation since 1974. A majority of the original 1974 runway pavement and the associated connector taxiway pavements are intact and in use today.

The Runway 17R/35L Rehabilitation Project is part of a comprehensive runway rehabilitation program, currently underway at DFW. Rehabilitation of Runway 17C/35C began in 2018 and was completed in March 2019. Rehabilitation of Runway 18R/36L began in June 2020 and was completed in Spring 2021. Runway 17R/35L is the next runway in the rehabilitation program. Additional benefits include bringing runway and connector taxiway geometry conditions up to current Federal Aviation Administration (FAA) Advisory Circular (AC) standards and improving pavement conditions adjacent to the runway, including the SEHP and NEHP areas and partial demolition of the Runway 35L run-up area. Based on the under-utilization of the Runway 35L run-up area, non-standard signage location, and location with the Precision Obstacle Free Zone (POFZ), the pavement would be demolished within the Instrument Landing System (ILS) critical area to help ensure aircraft or vehicles do not interfere with instrument operations or cause a runway incursion.

The Proposed Project includes the following elements:

- Runway 17R-35L pavement and electrical rehabilitation;
- Runway 35L run-up area partial demolition;
- No-taxi island installation at several locations;
- Northeast Hold Pad and Southeast Hold Pad Rehabilitation and Taxiway Design Group VI Fillet Modifications, including electrical upgrades;
- Glycol Master Plan Improvements;
- Full-depth panel replacements at several locations;
- Existing taxiway pavement demolition;
- Slip-lining;
- Repair of collapsed soil sites;
- Pipeline reconfigurations and pipe replacements;
- Threshold/Aircraft Rescue and Fire Fighting road;
- Obstruction mitigation;
- Runway weather information system installation;
- Final site-area grading, topsoil, seed/sod, and other erosion controls;
- Temporary lighting, signage, and pavement markings installation;
- Removal and replacement of obsolete runway signage and markings;

- Temporary gate improvements;
- Runway lighting replacement; and
- Operation of two concrete and an asphalt batch plant<sup>9</sup>.

Air quality and greenhouse gas emissions from construction of the Proposed Project are analyzed for anticipated construction years 2023 and 2024. Air quality and greenhouse gas emissions from operation of the Proposed Project are analyzed for 2023 and 2024. Net operational emissions are evaluated by comparison of Proposed Project and No Action emissions. Proposed Project construction and operational emissions are described in **Section 2.4.1** and **Section 2.4.2** and evaluated for significance in **Section 4.1.1** and **Section 4.1.2** of this technical report.

## 1.4 Project Design Features

The DFW Airport has on-going commitments to reduce its air emissions. The following are measures that are already implemented or will be implemented at the Airport:

Clean Air policy<sup>10</sup> (effective 8/1/2020), which includes the following required measures:

- 3.2.1 Ensure compliance by meeting or exceeding all applicable air quality laws, regulations, and Texas SIP requirements.
- 3.2.2 Achieve and maintain carbon neutrality certification on a pathway to net zero carbon emissions by 2030 in accordance with Level 4+ Airport Carbon Accreditation Program requirements.
- 3.2.3 Identify future air quality requirements and initiate procedures to meet or exceed them.
- 3.2.4 Incorporate energy efficiency and carbon emissions reduction priorities into the strategic plan.
- 3.2.5 Require use of 100 percent renewable energy in electricity supplied to the Board.
- 3.2.6 Develop and utilize innovative strategies in expanding the Board's current commitments to improve air quality.
- 3.2.7 Establish, track and analyze metrics to monitor air quality performance, and to set goals for continuous improvement.
- 3.2.8 Actively engage with tenants and other business partners to improve energy performance, optimize operational efficiency, and reduce emissions through their own reduction plans or through measures initiated by the airport.
- 3.2.9 Maintain a Clean Fleet Standard Operating Procedure (SOP) that prioritizes zero emission vehicle and equipment purchases for fleet operations in accordance with the Regional Transportation Council's (RTC) Clean Fleet Policy.
- 3.2.10 Actively promote the transition to electric vehicles (EVs) through the provision of required infrastructure, incentives, and partnerships.
- 3.2.11 Discourage vehicle idling in order to support regional efforts to improve air quality.

<sup>9</sup> Batch plants are stationary sources of air emissions permitted through the Texas Commission on Environmental Quality (TCEQ) New Source Review (NSR) permit program. The NSR permit process would be completed and approved for each batch plant before construction begins. The batch plants are not expected to produce substantial air emissions. Emissions from permitted stationary sources are accounted for in the SIP and are therefore Presumed to Conform.

<sup>10</sup> DFW. 2020. Clean Air policy.



- 3.2.12 Continue to integrate energy efficiency into its facilities, systems, processes, and operations and ensure the best available technologies are utilized.
- 3.2.13 Partner with agencies, academia, nongovernmental organizations, business associations, and other interested stakeholders to develop effective and sustainable solutions to local air quality challenges.

## 2. Methodology and Inventory

The steps performed under this air quality analysis are consistent with the FAA Handbook as follows: (1) Determine the need for the assessment; (2) Select the assessment methodology; and (3) Conduct the assessment and assess the Proposed Project's impact relative to the numeric thresholds.

### 2.1 Need for Assessment

The FAA Handbook lays out the following steps to determine when an air quality assessment is required and the type of assessment that may be needed.

1. Determine the Project definition, described in **Section 1.3**.
2. Determine whether FAA involvement is associated with the Project; DFW has already been in discussions with the FAA regarding this Project. In this step, the Proposed Project has been confirmed not to fall under a categorical exclusion (CATEX), so an environmental assessment or environmental impact statement (EIS) will be developed.
3. Determine if the Project will cause or create a reasonably foreseeable increase in air emissions; as described further below, construction and operations of this Project may cause an increase in air emissions.
4. Establish the attainment/nonattainment status for the Project area and identify pollutants for which the area is designated nonattainment/maintenance, described in **Section 1.1**.
5. Evaluate agency/public scoping comments concerning air quality; this is only a requirement when preparing an EIS and is not addressed explicitly in this report.

Based on the results of Steps 1 through 4 above, an air quality assessment has been conducted as described below.

### 2.2 Assessment Methodology

The FAA Handbook describes several different potential assessment methodologies that could be pursued when an air quality assessment is needed. Figure 4-5 of the FAA Handbook provides examples that show which methodologies are appropriate, potentially appropriate, or unnecessary for various project action categories.

The potential methodologies for the Project air quality assessment are summarized below. The construction emissions inventory for this Project is described as "appropriate" and all other methodologies as "potentially appropriate." The decision to evaluate the "potentially appropriate" methodologies was assessed using Project-specific information. Selected analysis methods and analysis methods that were evaluated but not selected are summarized below.

### Selected Analysis Methods

- Construction Emissions Inventory: A construction emissions inventory is designed to quantify the mass of CAP emissions and precursors associated with construction activity in a proposed action. This is described in **Sections 2.3.1** and **2.4.1** below.
- Operational Emissions Inventory: An operational emissions inventory is designed to quantify the mass of CAP emissions and precursors associated with operational activity in a proposed action. This is described in **Sections Section 2.3.2** and **2.4.2** below.
- Greenhouse Gas Emissions Inventory: A GHG emissions inventory is designed to quantify the mass of GHG emissions associated with a proposed action. Project GHG emissions are quantified for construction and operations.

### Analysis Methods that were not Selected

- Qualitative Assessment: When it has been determined that the Project will not cause or create a reasonably foreseeable increase in air emissions, a qualitative assessment of air quality impacts is likely all that is necessary. This assessment should contain an explanation of the conditions and rationale upon which this finding is based. This is not necessary given that a quantitative analysis of construction and operational emissions has been performed as described above.
- Atmospheric Dispersion Modeling: Dispersion modeling is used to further refine the results of the operational and construction emissions inventory by distributing the emissions across a project area both spatially and temporally based on the operational and physical characteristics of the emission source(s) combined with meteorological and local terrain data. This is not necessary for this Project given the nonattainment pollutant of interest (O<sub>3</sub>) and the results of the *de minimis* assessment below.
- Roadway “Hot-Spot” Analysis: Hot-spot modeling is designed to assess the effects of motor vehicle traffic emissions on local air quality conditions. This is not applicable to the Proposed Project given that it will not result in large increases in vehicle traffic.
- Hazardous Air Pollutants Emissions Inventory: A HAPs inventory is designed to quantify the mass of HAP emissions associated with operational activity in a proposed action. This is not performed as part of this Project because operational emissions increases are expected to be very small.

## **2.3 Scenarios Evaluated**

### **2.3.1 Construction Scenarios Evaluated**

Ramboll evaluated CAP and GHG emissions associated with the Proposed Project. The Proposed Project would involve the demolition and rehabilitation of the runway. A list of project types included is provided in Table 2. Construction activities would take place from 2023 through 2024. Construction emissions depend on the activity levels of heavy-duty construction equipment, haul truck trips, and vehicle trips made by construction workers and vendors traveling to and from the Proposed Project site.

A list of associated project types, schedule, and the proportion of activity in each year by project type is provided in Table 2. For concrete and asphalt batch plant operations, 55% of activity occurs in 2023 and 45% of activity occurs in 2024.

**Table 2. Proposed Project schedule by project type.**

Project Type	ACEIT Project Type	Start Date	End Date	Annual Days in 2023	Annual Days in 2024	Percentage of Project in 2023	Percentage of Project in 2024
Access Road	Access Road	3/3/2023	4/3/2023	30	0	100%	0%
Airfield Lighting	Airfield Lighting	5/15/2023	5/31/2024	207	151	58%	42%
Drainage System	Drainage System	8/17/2023	6/26/2024	8	16	33%	67%
Fencing	Fencing	3/1/2023	11/21/2023	42	0	100%	0%
Landscaping	Landscaping	8/17/2023	6/26/2024	8	16	33%	67%
Navigational Aids (NAVAIDS)	NAVAIDS	4/1/2024	7/24/2024	0	115	0%	100%
Parking Lot	Parking Lot	2/1/2023	3/1/2023	28	0	100%	0%
Rehabilitate Runway	Rehabilitate Runway	5/8/2023	5/25/2024	238	112	68%	32%
Runway Drains	Runway Drains	5/8/2023	5/25/2024	238	112	68%	32%
Runway Markings	Runway Markings	8/22/2023	6/11/2024	11	24	31%	69%
Runway Safety Area	Runway Safety Area	2/22/2024	7/24/2024	0	59	0%	100%
Service Road	Service Road	5/1/2023	6/1/2023	31	0	100%	0%
Taxiways	Taxiways	5/8/2023	6/22/2024	106	95	53%	47%
Taxiway Exit	Taxiway Exit	9/21/2023	1/22/2024	102	22	82%	18%
Site Work - 10000 sqft	Site Work - 10000 sqft	3/1/2023	2/1/2024	30	30	50%	50%
Demolition - Asphalt	Demolition - Asphalt	5/9/2023	3/23/2024	15	4	79%	21%
Demolition - Concrete	Demolition - Concrete	5/8/2023	4/9/2024	59	21	74%	26%
Fugitive Dust Control	General Use	2/1/2023	7/24/2024	334	205	62%	38%
Asphalt Plant	-	-	-	-	-	55%	45%
Concrete Plant	-	-	-	-	-	55%	45%

### 2.3.2 Operational Scenarios Evaluated

Ramboll evaluated incremental operational emissions resulting from the Proposed Project. The Proposed Project is not expected to alter aircraft or airport operations in the long term. However, aircraft operations are expected to be affected during construction activities. The Runway 17R/35L Rehabilitation Project would be completed in four construction phases. While Phase 1 of construction mainly involves construction work adjacent to the runway which is not expected to alter aircraft activity, Phases 2, 3, and 4 involve reduced length or full runway closures and are the subject of the air quality analysis. The three construction phases cover 13 months from April 2023 to April 2024 as described below.



- Phase 2: Runway 35L end closure (April 2023 to June 2023, 3 months)
- Phase 3: Full Closure (July 2023 to December 2023, 6 months)
- Phase 4: Runway 17R end closure (January 2024 to April 2024, 4 months)

A No Action alternative was also evaluated over the same 13-month period between April 2023 and April 2024 where it is assumed that no construction for runway rehabilitation occurs, and aircraft operations are not affected. Net increase in operational emissions were calculated by difference between emissions under the No Action and Proposed Project alternatives.

**Section 2.4.2** below describes the methodology by which incremental emissions from the Proposed Project were estimated.

## 2.4 Emission Inventory Development

This section describes the methodology that Ramboll used to develop construction and operational emissions inventories for the Proposed Project. This analysis evaluates CAPs and GHGs. Disclosure of HAPs is recommended for operational emissions but not for construction. Operational emissions are expected to be very small; therefore, HAPs are not considered. For this analysis, the following pollutants were considered:

- O<sub>3</sub> precursors: VOCs and NO<sub>x</sub>
- CAPs: CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>
- GHGs: CO<sub>2</sub> (carbon dioxide), CH<sub>4</sub> (methane), N<sub>2</sub>O (nitrous oxide); total GHG emissions are reported as CO<sub>2</sub>e (carbon dioxide equivalents)

Because O<sub>3</sub> is a secondary pollutant (i.e., it is not directly emitted but is formed in the atmosphere), emissions of VOCs and NO<sub>x</sub>, which react in the presence of sunlight to form ozone, were used to assess impacts on ozone levels.

CO<sub>2</sub>e emissions were estimated based on 20-year global warming potential (GWP) estimates for CH<sub>4</sub> (82.5) and N<sub>2</sub>O (273)<sup>11</sup>, conservatively, as 20-year GWPs will result in higher CO<sub>2</sub>e estimates compared to 100-year GWP estimates.

To estimate CAP and GHG emissions from the Proposed Project, Ramboll directly or indirectly relied primarily on emissions estimation guidance from government-sponsored organizations, project specific studies (e.g., design documents), and emission estimation software.

### 2.4.1 Construction Emissions Inventory

The Proposed Action would generate criteria air pollutant (CAP) emissions from heavy-duty construction equipment activity, truck haul trips, and construction worker and vendor truck trips to and from the project areas. Construction emissions include both on-road mobile and off-road source categories.

<sup>11</sup> Intergovernmental Panel on Climate Change (IPCC), 2014. AR5 Synthesis Report: Climate Change 2014. Available at: <https://www.ipcc.ch/report/ar5/syr/>. Accessed: October 2020.

Mobile source exhaust and fugitive dust emissions would be generated from on-road vehicles and construction equipment, including but not limited to dump trucks, mixers, passenger vehicles, flatbed trucks, and tractor trailers. Fugitive VOC emissions would be generated by asphalt drying. Emissions of CAPs and O<sub>3</sub> precursors include emissions of NO<sub>x</sub>, CO, SO<sub>2</sub>, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub>. Of these, NO<sub>x</sub> and VOC are the two primary precursors to O<sub>3</sub> formation.

Construction equipment usage would cause a short-term increase in air emissions. The estimated construction emissions from diesel-powered on-road vehicles and off-road construction equipment were modeled using the USEPA Motor Vehicles Emissions Simulator, version 3 (MOVES3)<sup>1</sup>. Emissions were calculated using the activity estimates for each project component combined with the most recent emission factors from the USEPA MOVES3 and USEPA AP-42 guidance.

### 2.4.1.1 Emissions Inventory Activities

#### 2.4.1.1.1 Project Schedule by Phase

Proposed Action construction is anticipated from January 2023 through April 2024. The annual Proposed Action-related construction emissions are well below the *de minimis* levels of 50 tpy for NO<sub>x</sub> and VOC. Additionally, construction activities would require the use of batch plant operations, which were described as connected action. Since the Proposed Action is below the *de minimis* threshold of 50 tpy, batch plant emissions will be considered as part of the New Source Review permitting for each plant and would be contained under the SIP. The anticipated construction project types and phasing are shown in Table 2. The proportion of construction activities which are anticipated to take place in each calendar year is shown in **Appendix A**. For concrete and asphalt batch plant operations, 55% of activity occurs in 2023 and 45% of activity occurs in 2024.

**Table 3. Project types and construction activities for the Proposed Project.**

Project Type	Construction Activities
Access Road	Asphalt Drying, Asphalt Placement, Asphalt Storage and Batching, Clearing and Grubbing, Concrete Mixing/Batching, Concrete Placement, Curbing, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Dust Control, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sidewalks, Soil Erosion/Sediment Control, Soil Handling, Street Lighting, Subbase Placement, Topsoil Placement, Tree Planting, Unstabilized Land and Wind Erosion
Airfield Lighting	Employee Commute, Lighting, Material Delivery, Material Movement (Paved Roads)
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe, Drainage - 24 inch SICPP, Drainage Structures, Employee Commute, Hydroseeding, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Topsoil Placement, Unstabilized Land and Wind Erosion
Fencing	Clearing and Grubbing, Employee Commute, Excavation (Cut to Fill), Fencing, Grading, Hydroseeding, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Topsoil Placement, Unstabilized Land and Wind Erosion
Landscaping	Employee Commute, Hydroseeding, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Mulching, Sodding, Soil Handling, Topsoil Placement, Tree Planting, Tree Pruning
Navigational Aids (NAVAIDS)	Approach Lighting, Employee Commute, Instrument Landing System (ILS) Glide Slope, Instrument Landing System (ILS) Localizer, Material Movement (Paved Roads), Precision Approach Path Indicator (PAPI), Rotating Beacon, Windcone
Parking Lot <sup>1</sup>	Asphalt Drying, Asphalt Placement, Asphalt Storage and Batching, Clearing and Grubbing, Concrete Mixing/Batching, Concrete Placement, Curbing, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sidewalks, Soil Erosion/Sediment Control, Soil Handling, Street Lighting, Subbase Placement, Topsoil Placement, Tree Planting, Unstabilized Land and Wind Erosion
Rehabilitate Runway	Asphalt Drying, Asphalt Placement, Asphalt Storage and Batching, Cold Milling, Concrete Demolition, Concrete Mixing/Batching, Concrete Placement, Dust Control, Employee Commute, Excavation (Cut to Fill) (Assume 20% reconstruction), Excavation (Topsoil Stripping), Grading, Hydroseeding, Lighting, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sealing Random Cracks, Soil Erosion/Sediment Control, Soil Handling, Subbase Placement, Topsoil Placement, Unstabilized Land and Wind Erosion
Runway Drains	Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Employee Commute, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Unstabilized Land and Wind Erosion
Runway Markings	Employee Commute, Marking Removal, Markings
Runway Safety Area	Clearing and Grubbing, Drainage - 24 inch SICPP, Drainage, Dust Control, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Hydroseeding, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Topsoil Placement, Unstabilized Land and Wind Erosion
Service Road <sup>1</sup>	Asphalt Drying, Asphalt Placement, Asphalt Storage and Batching, Clearing and Grubbing, Concrete Mixing/Batching, Concrete Placement, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Dust Control, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sidewalks, Soil Handling, Soil Erosion/Sediment Control, Street Lighting, Subbase Placement, Topsoil Placement, Tree Planting, Unstabilized Land and Wind Erosion
Taxiways	Asphalt Drying, Asphalt Placement, Asphalt Storage and Batching, Clearing and Grubbing, Concrete Mixing/Batching, Concrete Placement, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Dust Control, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Lighting, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Subbase Placement, Topsoil Placement, Unstabilized Land and Wind Erosion
Taxiway Exit	Asphalt Drying, Asphalt Placement, Asphalt Storage and Batching, Clearing and Grubbing, Concrete Mixing/Batching, Concrete Placement, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Dust Control, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Lighting, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Subbase Placement, Topsoil Placement, Unstabilized Land and Wind Erosion

Project Type	Construction Activities
Site Work - 10000 sqft	Construction Mob & Layout, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Site Clearing- Remove Trees & Shrubs, Site Restoration- Landscaping (Curbing), Site Restoration- Landscaping (Rough Grading), Site Restoration- Landscaping (Top Soil Seed and Plantings), Soil Handling, Underground Services to 5 ft. of Building, Unstabilized Land and Wind Erosion
Demolition - Asphalt	Asphalt Demolition, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Handling, Unstabilized Land and Wind Erosion
Demolition - Concrete	Concrete Demolition, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Handling, Unstabilized Land and Wind Erosion
Fugitive Dust Control	General Use

<sup>1</sup> While DFW anticipates using concrete for paving, this analysis conservatively adds fugitive emissions from the potential use of asphalt for a portion of paving activity.

#### 2.4.1.1.2 Construction Emissions Inventory Activity Inputs

The Transportation Research Board (TRB) developed the Airport Construction Emissions Inventory Tool (ACEIT)<sup>1</sup> to provide a consistent approach and default values for construction emissions for airport projects. It includes default construction information based on surveys of airports. While ACEIT generates both construction activity and emission estimates, for this project, ACEIT was used exclusively to generate activity estimates (e.g., vehicle miles traveled) and ancillary information (e.g., vehicle types) for on-road vehicles, construction equipment, and fugitive emission sources. ACEIT was not used to estimate emissions because emission factors included in ACEIT for on-road vehicles and construction equipment are not based on the most recent version of MOVES released by USEPA (MOVES3), which is required for this analysis.

ACEIT provides activity assumptions from demolition, site preparation, building, material delivery, construction employee work commute, painting/stripping, and other construction activities. For the Runway Rehabilitation Proposed Action, ACEIT was run to estimate Project construction activity for representative calendar year 2022 using project size inputs. ACEIT output activity was split between 2023 and 2024 based on schedule by project type (see Table 2).

The basis of construction emission inventory activity inputs is described below:

- **On-road heavy-duty trucks:** Material delivery and other heavy-duty vehicle (excepting water trucks used for dust control) activity estimates were based on ACEIT;
- **On-road light duty vehicles:** Employee commute activity was based on 600 employees visiting the site per day per DFW project specifications.
- **Non-road equipment:** Equipment hours and rated horsepower were based on DFW project specific estimates. Equipment average load factor was based on the Texas Nonroad Model, version 2.2 (TexN2.2).
- **Fugitive dust:** Activity inputs for use in fugitive dust emission calculations were based on ACEIT.
- **Water trucks:** Daily water truck operation for fugitive dust control was conservatively assumed for the duration of the project. Per DFW, 2 water trucks will be in operation.



Annual construction activity was allocated to project types based on ACEIT estimates of the percentage of construction activity per project type. DFW provided activity was then split between 2023 and 2024 based on schedule by project type (see Table 2).

Project-specific ACEIT inputs are provided in **Appendix A**.

#### 2.4.1.1.3 Project-Specific Applications

The Project also includes additional emission sources that are not part of ACEIT. These emission sources include daily water truck activity for fugitive dust control. Daily water truck operation is conservatively assumed for the duration of the project for eight hours, forty miles, and eight starts per day. Per DFW, two water trucks will be in operation during the Proposed Project. Data for water trucks are included in detailed activity, emission factor, and emissions tables in **Appendix B**.

#### 2.4.1.2 Emission Factors

ACEIT default vehicle emission factors for non-road (off-road) equipment and on-road vehicles are from older versions of the NONROAD and MOVES models, respectively.<sup>12</sup> Thus, Ramboll has not relied upon ACEIT emission factors for on-road vehicles or non-road equipment in this analysis. Ramboll developed emission factors for on-road vehicles and non-road equipment for Dallas County using the latest MOVES model available at the time this work was conducted, MOVES3. Ramboll also applied AP-42 fugitive dust emission factors which are more relevant to the project than those output by ACEIT, as described in **Section 2.4.1.2.3**.

##### 2.4.1.2.1 On-road Emission Factors

Ramboll used MOVES3 to estimate off-road equipment emission factors for calendar years 2023 and 2024. MOVES3 was run at a national scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas counties. We have followed ACRP Report 102 guidance on county choice: “If the project spans multiple counties, the county with the greatest population should be used to select the appropriate emission factors (based on fuel characteristics that are representative of each county).”<sup>8</sup> Emissions and activity were output from MOVES by vehicle type, fuel type, road type, and process type for each calendar year. Emissions were aggregated over six emission process types to facilitate application to activity for development of Proposed Project emissions.

Table 4 lists MOVES emission process types, aggregate groupings, road type and activity surrogates. Emission factors were estimated by aggregate grouping by dividing MOVES output emissions by MOVES output activity.

<sup>12</sup> Transportation Research Board. ACRP Report 102: Guidance for Estimating Airport Construction Emissions. Available at: <http://www.trb.org/main/blurbs/170234.aspx>. Accessed: October 2020.

**Table 4. MOVES process grouping and activity surrogates.**

MOVES Emission Process	Aggregate Grouping	Road Type	Activity Surrogate	
			Description	Metric
Crankcase Running Exhaust	RPD <sup>2</sup>	Urban Unrestricted Access	Distance	Miles
Running Exhaust	RPD <sup>2</sup>	Urban Unrestricted Access	Distance	Miles
Brake Wear	RPD_WEAR <sup>3</sup>	Urban Unrestricted Access	Distance	Miles
Tire Wear	RPD_WEAR <sup>3</sup>	Urban Unrestricted Access	Distance	Miles
Evaporation Fuel Leaks	RPD_EVAP <sup>4</sup>	Urban Unrestricted Access	Distance	Miles
Evaporation Fuel Vapor Venting	RPD_EVAP <sup>4</sup>	Urban Unrestricted Access	Distance	Miles
Evaporation Permeation	RPD_EVAP <sup>4</sup>	Urban Unrestricted Access	Distance	Miles
Crankcase Start Exhaust	RPV_START <sup>5</sup>	Off-Network	Starts	One-Way Trips <sup>1</sup>
Start Exhaust	RPV_START <sup>5</sup>	Off-Network	Starts	One-Way Trips <sup>1</sup>
Evaporation Fuel Vapor Venting	DIURNAL <sup>6</sup>	Off-Network	Vehicle Population	Vehicle-days
Evaporation Fuel Leaks	RPV_EVAP <sup>7</sup>	Off-Network	Vehicle Population	Vehicle-days
Evaporation Permeation	RPV_EVAP <sup>7</sup>	Off-Network	Vehicle Population	Vehicle-days

<sup>1</sup> Number of starts is assumed to be equivalent to number of one-way trips

<sup>2</sup> RPD: rate per distance for exhaust processes

<sup>3</sup> RPD\_WEAR: rate per distance for brake wear and tire wear processes

<sup>4</sup> RPD\_EVAP: rate per distance for evaporative processes

<sup>5</sup> RPV\_START: rate per vehicle for start processes

<sup>6</sup> DIURNAL: (rate per vehicle for) diurnal processes

<sup>7</sup> RPV\_EVAP: rate per vehicle for evaporative processes

Detailed tables describing Proposed Project on-road vehicle data used (i.e., vehicle activity, vehicle emission factors, and vehicle emissions) to estimate emissions are provided in **Appendix B**.

#### 2.4.1.2.2 Non-road Emission Factors

Ramboll used MOVES3 for on-road vehicles and Texn2.2 for non-road equipment to estimate emission factors for calendar years 2023 and 2024. MOVES3 and TexN2.2 were run for Dallas County, Texas following ACRP Report 102 guidance on county choice as noted above. Emission and activity data were output from MOVES for on-road vehicles and TexN2.2 for non-road equipment by equipment type, fuel type, and horsepower bin by construction equipment sector (i.e., non-diesel construction equipment (non-DCE), commercial construction, boring and drilling equipment, trenchers, transportation/sales/services, skid steer loaders, and miscellaneous diesel equipment plus all equipment less than 25 hp) for each calendar year. Emission factors were estimated for each equipment type and fuel type by dividing TexN2.2 output emissions by TexN2.2 estimated energy consumption in horsepower-hours. MOVES3 does not estimate N<sub>2</sub>O emissions; therefore, the non-road N<sub>2</sub>O emission factor was taken from the USEPA Inventory of U.S. Greenhouse Gas Emissions and

Sinks<sup>13</sup>. A complete list of project non-road equipment activity and emission factors can be found in **Appendix C**.

#### 2.4.1.2.3 Fugitive Emission Factors

Fugitive emission inputs from all fugitive source types are obtained from ACEIT. Calculation methodologies applied in ACEIT are based on the most recent applicable USEPA AP-42 guidance documents. Ramboll reviewed ACEIT emission estimation methodology, emission factors and ancillary factors and made project-specific adjustments for the development of fugitive emissions as described in Table 5 below.

**Table 5. Fugitive emissions estimation methodology and project-specific adjustments.**

Fugitive Source	Methodology	Project-specific Input Adjustments
Concrete Mixing/Batching	AP-42 11.12	Emission inputs unchanged from ACEIT output.
Soil Handling	AP-42 13.2.4	Applied average annual wind speed of 10.5 mph at DFW <sup>1</sup>
Unstabilized Land and Wind Erosion	AP-42 11.9	Emission inputs unchanged from ACEIT output
Asphalt Drying	FAA Aviation Emissions and Air Quality Handbook Version 3 Update 1	Emission inputs unchanged from ACEIT output
Material Movement (Paved Roads)	AP-42 13.2.1	ACEIT default VMT scaled to Proposed Project square footage for building and site work project types.
Material Movement (Unpaved Roads)	AP-42 13.2.2	ACEIT default VMT scaled to Proposed Project square footage for building and site work project types.

<sup>1</sup> Dallas/Fort Worth - Normals (1981-2010), Means, and Extremes, NWS <https://www.weather.gov/fwd/dfwann>, Accessed October 2020.

The ratio of PM<sub>2.5</sub> to PM<sub>10</sub> emissions for fugitives is provided in Table 6 by construction activity.

**Table 6. Fugitives PM<sub>2.5</sub> to PM<sub>10</sub> emission ratios.**

Construction Activity	PM <sub>2.5</sub> /PM <sub>10</sub>	Source
Asphalt Drying	-	No PM Emissions
Asphalt Storage and Batching	0.06	AP-42 11.1-2
Concrete Mixing/Batching	0.15	AP-42 11.12
Material Movement (Paved Roads)	0.25	AP-42 13.2.1-1
Material Movement (Unpaved Roads)	0.1	AP-42 13.2.2-2
Soil Handling	0.15	AP-42 13.2.4
Unstabilized Land and Wind Erosion	0.15	AP-42 13.2.5

A complete list of fugitive inputs and emissions by project type and construction activity is provided in **Appendix D**.

#### 2.4.2 Operational Emissions

The Proposed Action would generate incremental emissions from modified aircraft operations during construction activities. This section outlines the approach used to calculate operational emissions for both the No Action and Proposed Action scenarios.

<sup>13</sup> US Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018, Annex A. Available at <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2018>. Accessed: October 2020.

The Proposed Project does not increase aircraft activity relative to the No Action alternative; however, changes in aircraft activity (such as modified taxi durations and runway utilization) are expected during construction activities associated with the Proposed Project. Therefore, this assessment only evaluates changes to operational emissions during the construction period, defined to be a 13-month period between April 2023 and April 2024 as described in **Section 2.3.2**.

The operational inventory consists of emissions from aircraft activities, auxiliary power units (APUs) on board aircraft and ground support equipment (GSE) associated with aircraft operations at the airport. The Proposed Project is not expected to result in changes to emissions from other operational sources at the airport, such as on-road mobile sources and stationary sources, both in the long-term as well as the temporary construction period.

#### 2.4.2.1 Aircraft Activity and Fleet Forecast

The air quality assessment is based on aircraft activity forecasts for 2023 and 2024 that were used for the Noise evaluation. As described in Section 7.1 of the Noise Technical Report, forecasts for aircraft activity levels at DFW for 2023-2024 timeframe was based on the 2020 FAA Terminal Area Forecast (TAF) with an increase of 5 percent for the Commercial Operations (Air Carrier and Air Taxi) to account for the faster-than-anticipated return to operation levels at DFW, and the uncertainty in future schedules due to COVID-19.

Table 7 provides the level of aircraft operations that were modeled. As mentioned previously, the aircraft activity levels would be the same for the No Action and Proposed Project scenarios. The FAA requires an annualized set of data for NEPA assessments; therefore, the 13-month activity data was annualized by dividing the total by 13 months and then multiplying by 12 months.

**Table 7. Forecast No Action and Proposed Project Alternative Operations.**

Period	Air Carrier	Air Taxi	Total Commercial	General Aviation	Military	Total
FY 2023 – 6 months	307,835	14,021	321,856	3,393	106	325,355
FY 2024 – 7 months	388,465	13,779	402,245	3,971	124	406,339
13-month Total	696,300	27,801	724,101	7,364	230	731,694
<b>12-month Annualized Total</b>	<b>642,739</b>	<b>25,662</b>	<b>668,401</b>	<b>6,797</b>	<b>212</b>	<b>675,410</b>

Source: FAA OPSNET, FAA 2020 TAF, HMMH

Section 7.1 of the Noise Technical Report provides the future year fleet mix that was used to model emissions for the No Action and Proposed Project scenarios. The future year fleet mix includes several modifications to account for anticipated reductions in Air Taxi fleet operations and changes in the Air Carrier fleet mix.



### 2.4.2.2 Aircraft Taxi Time Estimates

#### No Action Alternative

Average taxi-time by runway end was provided by DFW operational simulations for future No Action Alternative.<sup>14</sup> The No Action data is from the DFW 90 MAP VMC baseline modeling conducted by Landrum & Brown in 2021 with a fully operational runway 17R/35L, as summarized in Table 8. The estimates are for all operations weighted by DFW flow use (70 percent south flow, 30 percent north flow), in minutes per operation. Taxi-times in Table 8 are shown in minutes.

**Table 8. DFW Taxi Time Summary – No Action Alternative (All Phases)**

FAA ASPM		
No Action Alternative (All Phases)		
	Departure	Arrivals
Runway	Taxi Out Minutes	Taxi In Minutes
13L	21.1	N/A
13R	21.1	13.4
17C	21.1	13.4
17L	21.1	13.4
17R	21.1	13.4
18L	21.1	13.4
18R	21.1	13.4
31L	21.9	13.4
31R	21.9	13.4
35C	21.9	13.4
35L	21.9	13.4
35R	21.9	13.4
36L	21.9	13.4
36R	21.9	13.4

Source: DFW DCC Nov 29, 2021, Memorandum

#### Proposed Project Alternative

In the Proposed Project scenario, Runway 17R/35L would experience a partial or full closure for rehabilitation, and the runway length would be reduced in Phases 2 and 4 of construction to between 9,300-9,400 ft. As a result, it is anticipated that the runway end utilization would change during the period of implementing the Proposed Project, and consequently, taxi times would be altered. Further details on anticipated changes to runway end utilization can be found in Section 7.3 of the Noise Technical Report.

Average taxi times by runway end was provided by DFW operational simulations for each Phase for the future Proposed Project Alternative.<sup>14</sup> The Proposed Project data is from the DFW 90 MAP VMC modeling conducted by Landrum & Brown in 2021 for each construction phase, as summarized in Table 9. The

<sup>14</sup> Memorandum: Dallas-Fort Worth International Airport (DFW) Runway 17R/35L Rehabilitation – Aircraft Taxi Time Analysis Results for NEPA, November 29, 2021. From TransSolutions (Terry Caldwell) to DFW (Dillon Pettyjohn, Robert Terrell).

estimates are for all operations weighted by DFW flow use (70 percent south flow, 30 percent north flow), in minutes per operation. Taxi-times in Table 9 are shown in minutes.

**Table 9. DFW Taxi Time Summary – Proposed Project Alternative**

DFW 17R/35L Rehabilitation Project						
Proposed Project (2023-2024)						
	Phase 2 Departure	Phase 3 Departures	Phase 4 Departures	Phase 2 Arrivals	Phase 3 Arrivals	Phase 4 Arrivals
Runway	Taxi Out Minutes	Taxi Out Minutes	Taxi Out Minutes	Taxi In Minutes	Taxi In Minutes	Taxi In Minutes
13L	21.1	22.0	21.5	N/A	N/A	N/A
13R	21.1	22.0	21.5	13.4	13.7	13.4
17C	21.1	22.0	21.5	13.4	N/A	13.4
17L	21.1	22.0	21.5	13.4	13.7	13.4
17R	21.1	N/A	21.5	13.4	N/A	N/A
18L	21.1	22.0	21.5	13.4	13.7	13.4
18R	21.1	22.0	21.5	13.4	13.7	13.4
31L	22.3	25.0	21.9	13.4	13.4	13.4
31R	22.3	25.0	21.9	13.4	13.9	13.4
35C	22.3	25.0	21.9	13.4	13.9	13.4
35L	22.3	N/A	21.9	N/A	N/A	13.4
35R	22.3	25.0	21.9	13.4	13.9	13.4
36L	22.3	25.0	21.9	13.4	13.9	13.4
36R	22.3	25.0	21.9	13.4	13.9	13.4

Source: DFW DCC Nov 29, 2021, Memorandum

Note: Taxi times indicated with "N/A" reflect cases where operations during the specified Phase do not occur at the specified runway end.

### 2.4.2.3 Emissions modeling using AEDT

The emissions modeling analysis uses AEDT Version 3d (released 29 March 2021). All AEDT modeling conducted for this study adheres to "Guidance on Using the AEDT to Conduct Environmental modeling for FAA Actions Subject to NEPA" (FAA 2017). AEDT is a combined emissions and dispersion modeling software for assessing air quality at civilian airports and military air bases.<sup>15,16</sup> The model was developed by the FAA in cooperation with the United States Air Force. The model is used to produce an inventory of emissions generated by sources on and around the airport or air base, and to calculate pollutant concentrations in these environments. AEDT is also used to perform noise analyses.

AEDT performs two primary air quality functions: generating emissions inventories and performing dispersion analyses. AEDT calculates emissions for several types of airport sources, based on aircraft

<sup>15</sup> Federal Aviation Administration. Aviation Environmental Design Tool (AEDT). Available at: <https://aedt.faa.gov/>. Accessed: March 2022.

<sup>16</sup> AEDT replaced the FAA's Emissions and Dispersion Modeling System (EDMS) as of May 2015.

engine performance, times in mode, and landing-takeoff cycles (LTOs), by engine type, for each inventory. AEDT incorporates both USEPA-approved emissions inventory methodologies and a dispersion model to ensure that analyses performed with the application conform to USEPA guidelines. The AEDT setup used to calculate aircraft emissions is consistent with the model setup that was used to assess noise impacts for this project, and is based on the same set of inputs to AEDT such as the number of modeled operations, aircraft types and other operational parameters.

AEDT was used to quantify CAP and GHG emissions from aircraft, APUs, and GSE.

### **Aircraft**

The 12-month annualized total number of aircraft operations shown in Table 7 were modeled in AEDT, and aircraft emissions were calculated for start-up, taxi-out, taxi-in, takeoff, landing and airborne operations up to the mixing height of 3,000ft above field elevation. For the No Action scenario, a single AEDT run was configured with individual taxi times assigned to each operation based on the assigned runway end as presented in Table 8. For the Proposed Project scenario, three separate AEDT runs were configured, to model operations in Phase 2, 3, and 4 respectively. Annual operations were distributed across the three Phases according to the duration of each Phase. In Phases 2 and 4, the runway length for Runway 17R/35L was shortened to 9,276 ft and 9,426 ft, respectively. Runway assignments and taxi times were modified for each alternative per data shown in Table 9, with individual taxi times assigned to each operation based on the assigned runway end similar to the No Action calculation.

### **Auxiliary Power Units (APUs)**

Emissions from APUs were calculated by utilizing AEDT default APU assignments (engine type/horsepower) by aircraft class. APUs were assumed to operate for 26 minutes per LTO, which is the default assumption in AEDT.

### **Ground Support Equipment**

Emissions from GSE equipment, including air conditioners, air starts, aircraft tractors, baggage tractors, belt loaders, cabin service trucks, cargo loaders, catering trucks, forklifts, fuel trucks, hydrant trucks, lavatory trucks, service trucks and water service equipment, were calculated based on AEDT defaults for each aircraft type. AEDT defaults include fuel type, operating time, horsepower, and load factor.

#### **2.4.2.4 Other Sources, With No Net Increase in Emissions**

Long-term operation of the Proposed Project would result in no net increase in emissions from any source at the airport. For informational purposes, this section describes each potential emissions source and the reasoning for which the Project would not result in an increase in emissions above the *de minimis* thresholds.

- **Mobile Sources:** Mobile sources associated with the Airport's day-to-day operations include landside and airside vehicles owned and operated by the Airport and by third parties, such as on-site maintenance trucks, shuttle services, employee and passenger transportation, and

other off-road equipment not included in GSE above. The Proposed Project would not increase passenger throughput or the number of workers at DFW and thus would not increase mobile source emissions. Therefore, the Proposed Project would not increase operational emissions from this source category.

- **DFW-Owned Airside Equipment:** The Proposed Project would not increase aircraft operations or landscaping needs at DFW and thus would not increase the use of non-GSE off-road equipment. Therefore, the Proposed Project would not increase operational emissions from this source category.
- **Stationary and Area Sources:** Stationary and area sources may include heaters/boilers, emergency generators, gasoline and diesel dispensing facilities, fuel storage tanks, cooling towers, coating and painting operations, incinerators, live-fire training facilities, solvent degreasers, and sand/salt piles. As the Proposed Project only affects rehabilitation of the runway, it would not create an increase in operational emissions from stationary source emissions.
- **Indirect Electricity Emissions:** Purchased electricity generates indirect GHG emissions. The Proposed Project would not result in increases to total electricity consumption, and therefore this source would not increase GHG emissions.



### 3. Significance Thresholds

This section discusses the criteria and general methods used to evaluate the Proposed Project's significance with respect to air quality impacts under NEPA.

The emissions inventories are used to determine the projected net annual increase in emissions, and the potential impact to air quality in the vicinity of DFW due to the Proposed Project. The General Conformity Rule ensures that federal activities do not cause or contribute to a violation of NAAQS. The General Conformity process begins with an Applicability Analysis. If General Conformity applies, the Agency must prepare a General Conformity Determination. Then federal, state and local air quality governance are engaged in a public review process of the agency's determination.

When performing a General Conformity applicability analysis, the FAA considers a range of factors, including:

- If action will occur in a Non-attainment or Maintenance Area
- If specific exemptions in the General Conformity Rule apply
- If the action is on the federal agency's list of "presumed to conform" activities
- If total emissions exceed General Conformity *de minimis* thresholds, and
- If an EPA-approved SIP has an emissions budget for which emissions with the action could be compared

If an action is not exempt or presumed to conform or found to cause emissions above applicable *de minimis* thresholds in any nonattainment or maintenance area, the agency must prepare a General Conformity Determination prior to taking the action.

DFW is in a Serious Ozone Non-Attainment Area<sup>17</sup> (2008 standards)<sup>18</sup>; therefore, the 50 tpy VOC and NO<sub>x</sub> *de minimis* thresholds apply to this Project<sup>19</sup>. The maximum annual Project emissions are compared to applicable *de minimis* thresholds below to determine compliance under the General Conformity Rule and compliance with the CAA and the Texas SIP.

<sup>17</sup> DFW Airport sits in both Dallas and Tarrant Counties. Both Counties in their entirety are within 2008 Serious Ozone Non-Attainment Areas.

<sup>18</sup> EPA. 2020. Greenbook Non-Attainment Areas by County. Available online: [https://www3.epa.gov/airquality/greenbook/anayo\\_tx.html](https://www3.epa.gov/airquality/greenbook/anayo_tx.html)

<sup>19</sup> FAA. 2015. Aviation Emissions & Air Quality Handbook, Version 3, Update 1. Section 8.1.1.4. January.

## 4. Results

### 4.1 Emission Inventories Results

The following analysis addresses whether the Project would exceed the *de minimis* thresholds described above. If *de minimis* thresholds are exceeded, a General Conformity Determination would be needed. If a project's emissions do not exceed the *de minimis* thresholds, then the project is presumed to conform. Criteria air pollutant and ozone precursor mass emissions were calculated based on methodology described in **Section 2.4** above.

#### 4.1.1 Construction Emissions Inventory

Proposed Project total construction emissions include emissions from all project elements which are not presumed to conform to General Conformity requirements and project elements which are presumed to conform. Presumed to conform project elements include stationary sources of air emissions at two concrete and one asphalt batch plant which are permitted through the TCEQ New Source Review (NSR) permit program. The NSR permit process would be completed and approved for each batch plant before construction begins. Emissions from permitted stationary sources are accounted for in the SIP and are therefore Presumed to Conform. All other project elements are presumed not to conform. Table 10 presents CAP emissions associated with all construction elements of the Proposed Project by emissions source and year. Table 11 presents CAP emissions associated with all construction elements of the Proposed Project by source type and year.

**Table 10. Proposed Action total annual criteria air pollutant emissions by emission source.**

Project Year	Emissions Source	Emissions (tons/year)					
		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	Total PM <sub>10</sub>	Total PM <sub>2.5</sub>
2023	On-road	10.632	55.471	1.682	0.053	1.743	0.410
2023	Non-road	6.935	2.597	0.534	0.005	0.383	0.371
2023	Fugitives	0.000	0.000	7.579	0.000	31.828	4.648
<b>2023</b>	<b>Total</b>	<b>17.568</b>	<b>58.068</b>	<b>9.795</b>	<b>0.057</b>	<b>33.953</b>	<b>5.429</b>
2024	On-road	4.230	22.884	0.627	0.022	0.700	0.158
2024	Non-road	6.880	2.592	0.534	0.005	0.382	0.371
2024	Fugitives	0.000	0.000	1.749	0.000	24.485	3.592
<b>2024</b>	<b>Total</b>	<b>11.110</b>	<b>25.476</b>	<b>2.910</b>	<b>0.027</b>	<b>25.567</b>	<b>4.121</b>

**Table 11. Proposed Action total annual criteria air pollutant emissions by project type and year.**

Project Type	Project Year	Emissions (tons/year)					
		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	Total PM <sub>10</sub>	Total PM <sub>2.5</sub>
Access Road	2023	0.88	9.09	0.61	0.01	1.21	0.201
Airfield Lighting	2023	0.05	0.67	0.02	0.00	0.02	0.004

Project Type	Project Year	Emissions (tons/year)					
		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	Total PM <sub>10</sub>	Total PM <sub>2.5</sub>
Drainage System	2023	0.05	0.93	0.02	0.00	0.04	0.006
Fencing	2023	0.12	2.67	0.07	0.00	0.14	0.022
Landscaping	2023	0.08	1.07	0.03	0.00	0.21	0.034
NAVAIDS	2023	0.00	0.00	0.00	0.00	0.00	0.000
Parking Lot	2023	4.06	10.91	4.35	0.01	10.93	1.715
Rehabilitate Runway	2023	2.68	5.81	2.50	0.01	6.22	0.997
Runway Drains	2023	0.17	1.17	0.04	0.00	0.26	0.044
Runway Markings	2023	0.53	0.60	0.05	0.00	0.04	0.033
Runway Safety Area	2023	0.00	0.00	0.00	0.00	0.00	0.000
Service Road	2023	0.38	8.42	0.23	0.01	0.27	0.046
Taxiways	2023	0.96	4.40	0.84	0.00	2.00	0.321
Taxiway Exit	2023	0.76	6.44	0.61	0.01	1.32	0.214
Site Work - 10000 sqft	2023	0.02	0.19	0.01	0.00	0.04	0.006
Demolition - Asphalt	2023	0.65	2.14	0.08	0.00	3.78	0.572
Demolition - Concrete	2023	0.19	1.04	0.04	0.00	1.65	0.251
General Use	2023	0.06	0.04	0.00	0.00	0.01	0.002
Asphalt Plant	2023	1.98	0.83	0.10	0.00	1.94	0.320
Concrete Plant	2023	3.95	1.65	0.20	0.00	3.88	0.640
<b>2023 Emission Totals</b>		<b>17.57</b>	<b>58.07</b>	<b>9.80</b>	<b>0.06</b>	<b>33.95</b>	<b>5.43</b>
Access Road	2024	0.32	0.14	0.03	0.00	0.02	0.020
Airfield Lighting	2024	0.04	0.47	0.01	0.00	0.01	0.003
Drainage System	2024	0.07	1.77	0.04	0.00	0.07	0.012
Fencing	2024	0.01	0.01	0.00	0.00	0.00	0.001
Landscaping	2024	0.10	2.02	0.05	0.00	0.42	0.066
NAVAIDS	2024	0.12	4.01	0.09	0.00	0.07	0.012
Parking Lot	2024	1.02	0.44	0.09	0.00	0.06	0.063
Rehabilitate Runway	2024	1.70	2.85	1.21	0.00	2.96	0.498
Runway Drains	2024	0.15	0.56	0.02	0.00	0.13	0.025
Runway Markings	2024	0.53	1.01	0.06	0.00	0.05	0.034
Runway Safety Area	2024	0.10	3.62	0.08	0.00	13.17	1.966
Service Road	2024	0.08	0.04	0.01	0.00	0.01	0.005
Taxiways	2024	0.84	3.79	0.74	0.00	1.79	0.288
Taxiway Exit	2024	0.34	1.41	0.14	0.00	0.30	0.058
Site Work - 10000 sqft	2024	0.02	0.18	0.00	0.00	0.04	0.006

Project Type	Project Year	Emissions (tons/year)					
		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	Total PM <sub>10</sub>	Total PM <sub>2.5</sub>
Demolition - Asphalt	2024	0.21	0.57	0.02	0.00	1.01	0.155
Demolition - Concrete	2024	0.10	0.37	0.01	0.00	0.59	0.092
General Use	2024	0.04	0.02	0.00	0.00	0.00	0.001
Asphalt Plant	2024	1.77	0.73	0.09	0.00	1.62	0.273
Concrete Plant	2024	3.55	1.46	0.19	0.00	3.24	0.545
<b>2024 Emission Totals</b>		<b>11.11</b>	<b>25.48</b>	<b>2.91</b>	<b>0.03</b>	<b>25.57</b>	<b>4.12</b>

Table 12 presents GHG emissions associated with construction elements of the Proposed Project by emissions source and year. Table 13 presents unmitigated GHG emissions associated with construction elements of the Proposed Project by source type and year.

**Table 12. Proposed Action total annual GHG emissions by emission source.**

Project Year	Emissions Source	Emissions (tons/year)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
2023	On-road	0.251	0.057	10,047	10,083
2023	Non-road	0.026	0.076	1,595	1,618
2023	Fugitives	0.000	0.000	-	-
<b>2023</b>	<b>Total</b>	<b>0.276</b>	<b>0.133</b>	<b>11,642</b>	<b>11,701</b>
2024	On-road	0.093	0.022	4,114	4,128
2024	Non-road	0.025	0.076	1,595	1,618
2024	Fugitives	0.000	0.000	-	-
<b>2024</b>	<b>Total</b>	<b>0.119</b>	<b>0.098</b>	<b>5,710</b>	<b>5,746</b>

**Table 13. Proposed Action total annual GHG emissions by project type and year.**

Project Type	Project Year	Emissions (tons/year)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	2023	0.03	0.01	1,229	1,235
Airfield Lighting	2023	0.00	0.00	89	90
Drainage System	2023	0.00	0.00	112	113
Fencing	2023	0.01	0.00	322	324
Landscaping	2023	0.00	0.00	132	133
NAVAIDS	2023	0.00	0.00	-	-
Parking Lot	2023	0.06	0.02	2,655	2,667
Rehabilitate Runway	2023	0.03	0.02	1,537	1,544
Runway Drains	2023	0.00	0.00	162	163



Project Type	Project Year	Emissions (tons/year)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	2023	0.00	0.01	166	168
Runway Safety Area	2023	0.00	0.00	-	-
Service Road	2023	0.03	0.01	1,001	1,006
Taxiways	2023	0.02	0.01	787	791
Taxiway Exit	2023	0.03	0.01	926	931
Site Work - 10000 sqft	2023	0.00	0.00	26	26
Demolition - Asphalt	2023	0.01	0.00	489	491
Demolition - Concrete	2023	0.00	0.00	171	171
General Use	2023	0.00	0.00	31	31
Asphalt Plant	2023	0.01	0.01	602	606
Concrete Plant	2023	0.02	0.02	1,204	1,212
<b>2023 Emission Totals</b>		<b>0.28</b>	<b>0.13</b>	<b>11,642</b>	<b>11,701</b>
Access Road	2024	0.00	0.00	76	77
Airfield Lighting	2024	0.00	0.00	64	64
Drainage System	2024	0.01	0.00	214	215
Fencing	2024	0.00	0.00	3	3
Landscaping	2024	0.01	0.00	248	249
NAVAIDS	2024	0.01	0.00	477	479
Parking Lot	2024	0.00	0.01	244	247
Rehabilitate Runway	2024	0.02	0.01	832	837
Runway Drains	2024	0.00	0.00	92	92
Runway Markings	2024	0.00	0.01	216	219
Runway Safety Area	2024	0.01	0.00	431	433
Service Road	2024	0.00	0.00	20	20
Taxiways	2024	0.02	0.01	700	703
Taxiway Exit	2024	0.01	0.00	242	243
Site Work - 10000 sqft	2024	0.00	0.00	25	25
Demolition - Asphalt	2024	0.00	0.00	140	141
Demolition - Concrete	2024	0.00	0.00	69	69
General Use	2024	0.00	0.00	19	19
Asphalt Plant	2024	0.01	0.01	533	536
Concrete Plant		0.02	0.02	1,065	1,073
<b>2024 Emission Totals</b>		<b>0.12</b>	<b>0.10</b>	<b>5,710</b>	<b>5,746</b>

#### **4.1.2 Operational Emission Inventory**

Table 14 shows the operational emissions quantified for the No Action scenario and the Proposed Project scenario. As discussed in Section 2.4.2, operational emissions from aircraft and related sources were only quantified during the construction activity timeframe (13 months between April 2023 and April 2024), as the Proposed Project is not expected to alter aircraft or airport operations in the long term. Furthermore, the Proposed Project is not expected to change any other source of operational emissions either in the near-term or long-term.

Table 14 also shows the difference between the No Action and Proposed Project scenarios to quantify the incremental operational emissions occurring due to the Proposed Project. Aircraft emissions increase under the Proposed Project scenario relative to the No Action scenario, with NO<sub>x</sub> emissions increasing by approximately 21 tons during the annualized period modeled in AEDT. This increase is driven almost entirely by the increased taxi times in the Proposed Action scenario relative to the No Action scenario resulting from the partial/full runway closures and re-assignment of runway ends. Emissions from APUs and GSE are not expected to change as a result of the Proposed Action.

**Table 14. Aircraft operational annualized emissions for Proposed Project and No Action with emission changes.**

Mode	Emissions (short tons/year)						
	VOC	CO	NOx	PM <sub>10</sub>	PM <sub>2.5</sub>	SOx	CO <sub>2</sub>
<b>No Action</b>							
Aircraft*	470	3,682	3,923	37	37	381	1,027,676
Ground Support Equipment (GSE)	21	546	54	3	3	0	0
Auxiliary Power Unit (APU)	10	119	123	16	16	17	0
No Action Total	<b>501</b>	<b>4,347</b>	<b>4,100</b>	<b>57</b>	<b>57</b>	<b>398</b>	<b>1,027,676</b>
<b>Proposed Project</b>							
Aircraft*	479	3,768	3,942	38	38	387	1,041,219
Ground Support Equipment (GSE)	21	546	54	3	3	0	0
Auxiliary Power Unit (APU)	10	119	123	16	16	17	0
Proposed Action Total	<b>509</b>	<b>4,434</b>	<b>4,119</b>	<b>58</b>	<b>57</b>	<b>403</b>	<b>1,041,219</b>
<b>Difference (Proposed Project - No Action)</b>							
Aircraft*	8	87	19	<1	<1	5	13,543
Ground Support Equipment (GSE)**	0	0	0	0	0	0	0
Auxiliary Power Unit (APU)**	0	0	0	0	0	0	0
Proposed Action Total	<b>8</b>	<b>87</b>	<b>19</b>	<b>&lt;1</b>	<b>&lt;1</b>	<b>5</b>	<b>13,543</b>

\* Includes emissions associated with taxi-in, taxi-out and in-flight operations below mixing height

\*\* Difference in emissions is <0.001 tons/year

Table 15 shows 2023 and Table 16 shows 2024 No Action and Proposed Project action operational emissions and the incremental operational emissions occurring due to the Proposed Project in each year. The annualized emissions presented in Table 14 were scaled up by a factor of 13/12 to represent emissions over a 13-month period spanning 2023 and 2024. 13-month emissions were allocated to 2023 and 2024 according to the number of project months for each year. Emissions in 2023 include the April to December (9 months) period and emissions in 2024 include January to April (4 months) period. Since emissions in Table 14 are annualized for 12 months, they do not correspond to the sum of calendar year 2023 and 2024 emissions in Table 15 and Table 16.

**Table 15. 2023 aircraft operational emissions for the Proposed Project and No Action with emission changes.**

Mode	Emissions (short tons/year)						
	VOC	CO	NOx	PM <sub>10</sub>	PM <sub>2.5</sub>	SOx	CO <sub>2</sub>
<b>No Action</b>							
Aircraft*	354	2,770	2,951	28	28	287	773,131
Ground Support Equipment (GSE)	15	411	41	2	2	0	0
Auxiliary Power Unit (APU)	7	90	92	12	12	12	0
No Action Total	<b>378</b>	<b>3,271</b>	<b>3,084</b>	<b>43</b>	<b>43</b>	<b>300</b>	<b>773,131</b>
<b>Proposed Project</b>							
Aircraft*	363	2,867	2,972	29	29	293	788,357
Ground Support Equipment (GSE)	15	411	41	2	2	0	0
Auxiliary Power Unit (APU)	7	90	92	12	12	12	0
Proposed Action Total	<b>386</b>	<b>3,368</b>	<b>3,106</b>	<b>43</b>	<b>43</b>	<b>305</b>	<b>788,357</b>
<b>Difference (Proposed Project - No Action)</b>							
Aircraft*	9	97	21	<1	<1	6	15,226
Ground Support Equipment (GSE)**	<1	<1	<1	<1	<1	<1	0
Auxiliary Power Unit (APU)**	<1	<1	<1	<1	<1	<1	0
Proposed Action Total	<b>9</b>	<b>97</b>	<b>21</b>	<b>&lt;1</b>	<b>&lt;1</b>	<b>6</b>	<b>15,266</b>

\* Includes emissions associated with taxi-in, taxi-out and in-flight operations below mixing height

\*\* Difference in emissions is <0.001 tons/year

**Table 16. 2024 aircraft operational emissions for the Proposed Project and No Action with emission changes.**

Mode	2024 Emissions (short tons/year)						
	VOC	CO	NOx	PM <sub>10</sub>	PM <sub>2.5</sub>	SOx	CO <sub>2</sub>
<b>No Action</b>							
Aircraft*	156	1,219	1,299	12	12	126	340,177
Ground Support Equipment (GSE)	7	181	18	1	1	0	0
Auxiliary Power Unit (APU)	3	39	41	5	5	5	0
No Action Total	<b>166</b>	<b>1,439</b>	<b>1,357</b>	<b>19</b>	<b>19</b>	<b>132</b>	<b>340,177</b>
<b>Proposed Project</b>							
Aircraft*	155	1,215	1,298	12	12	126	339,630
Ground Support Equipment (GSE)	7	181	18	1	1	0	0
Auxiliary Power Unit (APU)	3	39	41	5	5	5	0
Proposed Action Total	<b>165</b>	<b>1,436</b>	<b>1,356</b>	<b>19</b>	<b>19</b>	<b>132</b>	<b>339,630</b>



Mode	2024 Emissions (short tons/year)						
	VOC	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	CO <sub>2</sub>
Difference (Proposed Project - No Action)							
Aircraft*	<1	-4	-1	<1	<1	<1	-547
Ground Support Equipment (GSE)**	<1	<1	<1	<1	<1	<1	0
Auxiliary Power Unit (APU)**	<1	<1	<1	<1	<1	<1	0
Proposed Action Total	<1	-4	-1	<1	<1	<1	-547

\* Includes emissions associated with taxi-in, taxi-out and in-flight operations below mixing height

\*\* Difference in emissions is <0.001 tons/year

### 4.1.3 All Sources

Table 17 presents emissions associated with construction elements and operational emissions of the Proposed Project by emissions source and year.

**Table 17. Proposed Action annual criteria air pollutant emissions by emission source.**

Project Year	Emissions Source	Emissions (tons/year)					
		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	Total PM <sub>10</sub>	Total PM <sub>2.5</sub>
2023	On-road	10.632	55.471	1.682	0.053	1.743	0.410
2023	Nonroad	6.935	2.597	0.534	0.005	0.383	0.371
2023	Fugitives	0.000	0.000	7.579	0.000	31.828	4.648
2023	Aircraft	21.305	97.239	9.285	5.648	0.448	0.448
<b>2023</b>	<b>Total</b>	<b>38.872</b>	<b>155.307</b>	<b>19.081</b>	<b>5.706</b>	<b>34.402</b>	<b>5.877</b>
2024	On-road	4.230	22.884	0.627	0.022	0.700	0.158
2024	Nonroad	6.880	2.592	0.534	0.005	0.382	0.371
2024	Fugitives	0.000	0.000	1.749	0.000	24.485	3.592
2024	Aircraft	-0.687	-3.545	-0.341	-0.205	-0.015	-0.015
<b>2024</b>	<b>Total</b>	<b>10.424</b>	<b>21.931</b>	<b>2.568</b>	<b>-0.178</b>	<b>25.552</b>	<b>4.106</b>

#### 4.1.4 General Conformity *De Minimis* Thresholds

As shown in Table 18, Proposed Project emissions are below *de minimis* thresholds for all years.

**Table 18. Proposed Project total emissions compared to applicable general conformity *de minimis* thresholds.**

Project Year	Project Emissions (tons/year)		General Conformity <i>De Minimis</i> Threshold* (tons/year)		Project Emissions greater than General Conformity <i>De Minimis</i> Threshold?	
	NOx	VOC	NOx	VOC	NOx	VOC
Current DFW <i>De Minimis</i> Threshold under Serious Ozone Classification*						
2023	38.87	19.08	50	50	No	No
2024	10.42	2.57	50	50	No	No

\* Source: 40 CFR 93 § 153 *de minimis* thresholds applied to Dallas-Fort Worth Non-attainment Area "serious" classification

## 4.2 Project Alternatives

Under the No Action Alternative, DFW would not implement the proposed Runway 17R/35L rehabilitation project. The No Action Alternative would not involve any construction activities; therefore, no construction emissions would be associated with the No Action Alternative. The runway would continue to deteriorate and DFW would not be able to preserve the structural integrity of its primary east airfield arrival runway. Furthermore, the potential for Foreign Object Debris (FOD) would increase which would impact safe airfield operations. The No Action Alternative was not assessed because it does not meet the stated purpose and need for this project, nor are any emission impacts expected from the No Action Alternative.

No other action alternative was assessed for this Project.

## APPENDIX A: PROPOSED PROJECT ACEIT INPUTS FOR PROPOSED PROJECT

**Table A1.      ACEIT Inputs.**

**Table A1. ACEIT Inputs.**

Project Type	Parameter	Project Estimate	Units
Access Road	What is the maximum length of the road (L) in feet?	5800	Feet
Access Road	What is the maximum width of the road including shoulder (W) in feet?	50	Feet
Access Road	What is the estimated cost of the 'Access Road project type' in \$ million(s)?	not available	\$ Million(s)
Airfield Lighting	What is the maximum length of lighting project (L) in feet? - Includes lights on both sides of runway.	13400	Feet
Airfield Lighting	What is the estimated cost of the 'Airfield Lighting project type' in \$ million(s)?	not available	\$ Million(s)
Drainage System	What is the maximum length of the drainage system (L) in feet?	6510	Feet
Drainage System	What is the maximum width of the drainage system (W) in feet?	3	Feet
Drainage System	What is the maximum depth of the drainage system (D) in feet?	10	Feet
Drainage System	What is the estimated cost of the 'Drainage System project type' in \$ million(s)?	not available	\$ Million(s)
Fencing	What is the maximum length of the fence (L) in feet?	3340	Feet
Fencing	What is the estimated cost of the 'Fencing project type' in \$ million(s)?	0.30	\$ Million(s)
Landscaping	What is the maximum length of the project area (L) in feet?	13400	Feet
Landscaping	What is the maximum width of the project area (W) in feet?	150	Feet
Landscaping	What is the number of trees planted?	0.0	Number
Landscaping	What is the number of trees pruned?	0.0	Number
Landscaping	What is the estimated cost of the 'Landscaping project type' in \$ million(s)?	2.8	\$ Million(s)
Navigational Aids (NAVAIDS)	What is the number of precision approach path indicators (PAPIs) to be installed?	0	Number
Navigational Aids (NAVAIDS)	What is the number of instrument landing system glide slopes (ILSGS) to be installed?	0	Number
Navigational Aids (NAVAIDS)	What is the number of instrument landing system localizers (ILS-L) to be installed?	0	Number
Navigational Aids (NAVAIDS)	What is the number of approach lighting (AL) lights indicated to be installed?	1	Number
Navigational Aids (NAVAIDS)	What is the number of rotating beacons (RB) to be installed?	0	Number
Navigational Aids (NAVAIDS)	What is the number of windcones (WC) to be installed?	1	Number
Navigational Aids (NAVAIDS)	What is the maximum length of the project area (L) in feet?	2400	Feet
Navigational Aids (NAVAIDS)	What is the maximum width of the project area (W) in feet?	200	Feet
Navigational Aids (NAVAIDS)	What is the estimated cost of the 'Navigational Aids (NAVAIDS)project type' in \$ million(s)?	not available	\$ Million(s)
Parking Lot	What is the maximum length of the parking lot (L) in feet?	2000	Feet
Parking Lot	What is the maximum width of the parking lot (W) in feet?	1600	Feet
Parking Lot	What is the estimated cost of the 'Parking Lot project type' in \$ million(s)?	not available	\$ Million(s)
Rehabilitate Runway	What is the maximum length of rehabilitation (L) in feet?	13400	Feet



Project Type	Parameter	Project Estimate	Units
Rehabilitate Runway	What is the maximum width of rehabilitation (W) in feet?	200	Feet
Rehabilitate Runway	What is the estimated cost of the 'Rehabilitate Runway project type' in \$ million(s)?	not available	\$ Million(s)
Runway Drains	What is the maximum length (L) of the drainage system installed (perforated pipe and main sewer) in feet? - Perforated underdrain is typically installed on both sides of runway and/or taxiway.	56309	Feet
Runway Drains	What is the maximum width of the runway drains (W) in feet?	3	Feet
Runway Drains	What is the estimated cost of the 'Runway Drains project type' in \$ million(s)?	not available	\$ Million(s)
Runway Markings	What is the maximum length of the markings (L) in feet?	40200	Feet
Runway Markings	What is the maximum width of the markings (W) in feet?	200	Feet
Runway Markings	What is the estimated cost of the 'Runway Markings project type' in \$ million(s)?	1.075	\$ Million(s)
Runway Safety Area	What is the maximum length of the runway safety area (L) in feet?	13600	Feet
Runway Safety Area	What is the maximum width of the runway safety area (W) in feet?	500	Feet
Runway Safety Area	What is the estimated cost of the 'Runway Safety Area project type' in \$ million(s)?	not available	\$ Million(s)
Service Road	What is the maximum length of the service road (L) in feet?	80	Feet
Service Road	What is the maximum width of the service road (W) in feet?	100	Feet
Service Road	What is the estimated cost of the 'Service Road project type' in \$ million(s)?	not available	\$ Million(s)
Taxiways	What is the maximum length of the taxiway (L) in feet?	10685	Feet
Taxiways	What is the maximum width of the taxiway (W) in feet?	100	Feet
Taxiways	What is the estimated cost of the 'Taxiways project type' in \$ million(s)?	not available	\$ Million(s)
Taxiway Exit	What is the maximum length of the taxiway exit (L) in feet?	4200	Feet
Taxiway Exit	What is the maximum width of the taxiway exit (W) in feet?	100	Feet
Taxiway Exit	What is the estimated cost of the 'Taxiway Exit project type' in \$ million(s)?	not available	\$ Million(s)
Site Work - 10000 sqft	What is the estimated cost of the 'Site Work - 10000 sqftproject type' in \$ million(s)?	0.33	\$ Million(s)
Demolition - Asphalt	What is the maximum length of demolition area (L) in feet?	26800, 800	Feet
Demolition - Asphalt	What is the maximum width of demolition area (W) in feet?	40, 280	Feet
Demolition - Asphalt	What is the estimated cost of the 'Demolition - Asphalt project type' in \$ million(s)?	not available	\$ Million(s)
Demolition - Concrete	What is the maximum length of demolition area (L) in feet?	11000, 3400	Feet
Demolition - Concrete	What is the maximum width of demolition area (W) in feet?	50, 100	Feet
Demolition - Concrete	What is the estimated cost of the 'Demolition - Concrete project type' in \$ million(s)?	not available	\$ Million(s)

## APPENDIX B: DETAILED ON-ROAD EMISSION INVENTORY DATA FOR PROPOSED PROJECT FOR PROPOSED PROJECT

Table B1.	Construction-phase on-road vehicle activity.
Table B2.	2023 construction-phase on-road vehicle criteria air pollutant emission factors.
Table B3.	2023 construction-phase on-road vehicle greenhouse gas emission factors.
Table B4.	2024 construction-phase on-road vehicle criteria air pollutant emission factors.
Table B5.	2024 construction-phase on-road vehicle greenhouse gas emission factors.
Table B6.	2023 construction-phase on-road vehicle criteria air pollutant emissions.
Table B7.	2023 construction-phase on-road vehicle greenhouse gas emissions.
Table B8.	2024 construction-phase on-road vehicle criteria air pollutant emissions.
Table B9.	2024 construction-phase on-road vehicle greenhouse gas emissions.

**Table B1. Construction-phase on-road vehicle activity.**

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Access Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	67063	67063	0
Access Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD	Miles	5961	5961	0
Access Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	35767	35767	0
Access Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	2801175	2801175	0
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	16527	9556	6971
Airfield Lighting	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	358290	207168	151122
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD	Miles	238222	188070	50152
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	358290	282860	75429
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD	Miles	33951	25039	8912
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	358290	264239	94051
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	879439	293146	586293
Fencing	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	7724	7724	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	846867	846867	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPD	Miles	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	1003212	334404	668808
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	1335444	0	1335444
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	740000	740000	0
Parking Lot	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD	Miles	65778	65778	0

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	394667	394667	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	2768604	2768604	0
Rehabilitate Runway	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	619750	421430	198320
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD	Miles	55089	37461	17628
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	330533	224762	105771
Rehabilitate Runway	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	2052024	1395376	656648
Runway Drains	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	521149	354381	166768
Runway Markings	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	385164	121051	264112
Runway Safety Area	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	1205157	0	1205157
Service Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	1850	1850	0
Service Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD	Miles	164	164	0
Service Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	987	987	0
Service Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	2670888	2670888	0
Site Work - 10000 sqft	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	2313	1157	1157
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	1233	617	617
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	118235	59117	59117
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD	Miles	800	400	400
Taxiway Exit	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	97125	79893	17232



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD	Miles	8633	7101	1532
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	51800	42610	9190
Taxiway Exit	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	2377742	1955884	421857
Taxiways	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD	Miles	247091	130307	116784
Taxiways	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD	Miles	21964	11583	10381
Taxiways	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD	Miles	131782	69497	62285
Taxiways	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	2377742	1253934	1123808
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD	Miles	49778	39298	10480
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	358290	282860	75429
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD	Miles	20988	15479	5509
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	43120	31801	11319
Access Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	67063	67063	0
Access Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	5961	5961	0
Access Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	35767	35767	0
Access Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	2801175	2801175	0
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	16527	9556	6971
Airfield Lighting	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	358290	207168	151122
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	238222	188070	50152
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	358290	282860	75429

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	33951	25039	8912
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	358290	264239	94051
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	879439	293146	586293
Fencing	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	7724	7724	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	846867	846867	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	1003212	334404	668808
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	1335444	0	1335444
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	740000	740000	0
Parking Lot	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	65778	65778	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	394667	394667	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	2768604	2768604	0
Rehabilitate Runway	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	619750	421430	198320
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	55089	37461	17628
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	330533	224762	105771
Rehabilitate Runway	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	2052024	1395376	656648
Runway Drains	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	521149	354381	166768
Runway Markings	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	385164	121051	264112
Runway Safety Area	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	1205157	0	1205157
Service Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	1850	1850	0
Service Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	164	164	0

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Service Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	987	987	0
Service Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	2670888	2670888	0
Site Work - 10000 sqft	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	2313	1157	1157
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	1233	617	617
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	118235	59117	59117
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	800	400	400
Taxiway Exit	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	97125	79893	17232
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	8633	7101	1532
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	51800	42610	9190
Taxiway Exit	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	2377742	1955884	421857
Taxiways	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	247091	130307	116784
Taxiways	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	21964	11583	10381
Taxiways	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	131782	69497	62285
Taxiways	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	2377742	1253934	1123808
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	49778	39298	10480
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	358290	282860	75429
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	20988	15479	5509
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	43120	31801	11319
Access Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	67063	67063	0

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Access Road	Material Delivery	Dump Truck – Asphalt	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	5961	5961	0
Access Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	35767	35767	0
Access Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	2801175	2801175	0
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	16527	9556	6971
Airfield Lighting	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	358290	207168	151122
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	238222	188070	50152
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	358290	282860	75429
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	33951	25039	8912
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	358290	264239	94051
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	879439	293146	586293
Fencing	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	7724	7724	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	846867	846867	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	1003212	334404	668808
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	1335444	0	1335444
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	740000	740000	0
Parking Lot	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	65778	65778	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	394667	394667	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	2768604	2768604	0
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	0	0	0



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Rehabilitate Runway	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	619750	421430	198320
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	55089	37461	17628
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	330533	224762	105771
Rehabilitate Runway	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	2052024	1395376	656648
Runway Drains	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	521149	354381	166768
Runway Markings	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	385164	121051	264112
Runway Safety Area	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	1205157	0	1205157
Service Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	1850	1850	0
Service Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	164	164	0
Service Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	987	987	0
Service Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	2670888	2670888	0
Site Work - 10000 sqft	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	2313	1157	1157
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	1233	617	617
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	118235	59117	59117
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	800	400	400
Taxiway Exit	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	97125	79893	17232
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	8633	7101	1532
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	51800	42610	9190
Taxiway Exit	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	2377742	1955884	421857

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Taxiways	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	247091	130307	116784
Taxiways	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	21964	11583	10381
Taxiways	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	131782	69497	62285
Taxiways	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	2377742	1253934	1123808
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	49778	39298	10480
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	358290	282860	75429
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	20988	15479	5509
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	43120	31801	11319
Access Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	3353	3353	0
Access Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	298	298	0
Access Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	1788	1788	0
Access Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	53869	53869	0
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	826	478	349
Airfield Lighting	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	6890	3984	2906
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	11911	9404	2508
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	6890	5440	1451
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	1698	1252	446
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	6890	5082	1809

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	16912	5637	11275
Fencing	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	386	386	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	16286	16286	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	19293	6431	12862
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	25682	0	25682
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	37000	37000	0
Parking Lot	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	3289	3289	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	19733	19733	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	53242	53242	0
Rehabilitate Runway	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	30988	21072	9916
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	2754	1873	881
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	16527	11238	5289
Rehabilitate Runway	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	39462	26834	12628
Runway Drains	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	10022	6815	3207
Runway Markings	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	7407	2328	5079
Runway Safety Area	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	23176	0	23176
Service Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	93	93	0

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Service Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	8	8	0
Service Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	49	49	0
Service Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	51363	51363	0
Site Work - 10000 sqft	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	116	58	58
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	62	31	31
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	2274	1137	1137
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	40	20	20
Taxiway Exit	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	4856	3995	862
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	432	355	77
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	2590	2130	460
Taxiway Exit	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	45726	37613	8113
Taxiways	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	12355	6515	5839
Taxiways	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	1098	579	519
Taxiways	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	6589	3475	3114
Taxiways	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	45726	24114	21612
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	2489	1965	524
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	6890	5440	1451

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	1049	774	275
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	8624	6360	2264
Access Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	120	120	0
Access Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	30	30	0
Access Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	60	60	0
Access Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	2580	2580	0
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	358	207	151
Airfield Lighting	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	3938	2277	1661
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	228	180	48
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	209	165	44
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	160	118	42
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	880	649	231
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	648	216	432
Fencing	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	42	42	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	1092	1092	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle-days	24	8	16
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	739	246	493
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	4715	0	4715



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	1008	1008	0
Parking Lot	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	112	112	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	560	560	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	2380	2380	0
Rehabilitate Runway	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	10850	7378	3472
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	1050	714	336
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	5950	4046	1904
Rehabilitate Runway	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	22050	14994	7056
Runway Drains	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	5600	3808	1792
Runway Markings	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	414	130	284
Runway Safety Area	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	2183	0	2183
Service Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	31	31	0
Service Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	31	31	0
Service Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	31	31	0
Service Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	2542	2542	0
Site Work - 10000 sqft	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	60	30	30
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	60	30	30

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	218	109	109
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle-days	60	30	30
Taxiway Exit	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	620	510	110
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	124	102	22
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	372	306	66
Taxiway Exit	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	9052	7446	1606
Taxiways	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	2412	1272	1140
Taxiways	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	402	212	190
Taxiways	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	1407	742	665
Taxiways	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	14673	7738	6935
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	57	45	12
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	209	165	44
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	160	118	42
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle-days	8624	6360	2264
Access Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	120	120	0
Access Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	30	30	0
Access Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	60	60	0
Access Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	2580	2580	0

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	358	207	151
Airfield Lighting	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	3938	2277	1661
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	228	180	48
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	209	165	44
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	160	118	42
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	880	649	231
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	648	216	432
Fencing	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	42	42	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	1092	1092	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	24	8	16
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	739	246	493
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	4715	0	4715
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	1008	1008	0
Parking Lot	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	112	112	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	560	560	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	2380	2380	0
Rehabilitate Runway	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	10850	7378	3472
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	1050	714	336

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	5950	4046	1904
Rehabilitate Runway	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	22050	14994	7056
Runway Drains	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	5600	3808	1792
Runway Markings	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	414	130	284
Runway Safety Area	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	2183	0	2183
Service Road	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	31	31	0
Service Road	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	31	31	0
Service Road	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	31	31	0
Service Road	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	2542	2542	0
Site Work - 10000 sqft	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	60	30	30
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	60	30	30
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	218	109	109
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	60	30	30
Taxiway Exit	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	620	510	110
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	124	102	22
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	372	306	66
Taxiway Exit	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	9052	7446	1606

Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Taxiways	Material Delivery	Cement Mixer	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	2412	1272	1140
Taxiways	Material Delivery	Dump Truck - Asphalt	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	402	212	190
Taxiways	Material Delivery	Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	1407	742	665
Taxiways	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	14673	7738	6935
Demolition - Asphalt	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	57	45	12
Demolition - Asphalt	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	209	165	44
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	160	118	42
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle-days	160	118	42
General Use	Fugitive Dust Control	Water Truck	Single Unit Short-haul Truck	Diesel	DIURNAL	Vehicle-days	8624	5344	3280
General Use	Fugitive Dust Control	Water Truck	Single Unit Short-haul Truck	Diesel	RPD	Miles	43120	26720	16400
General Use	Fugitive Dust Control	Water Truck	Single Unit Short-haul Truck	Diesel	RPD_EVAP	Miles	43120	26720	16400
General Use	Fugitive Dust Control	Water Truck	Single Unit Short-haul Truck	Diesel	RPD_WEAR	Miles	43120	26720	16400
General Use	Fugitive Dust Control	Water Truck	Single Unit Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	8624	5344	3280
General Use	Fugitive Dust Control	Water Truck	Single Unit Short-haul Truck	Diesel	RPV_START	One-Way Trips	8624	5344	3280
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	RPD	Miles	365400	199508	165892
Concrete Plant	Material Delivery	Concrete 18 Wheeler	Combination Short-haul Truck	Diesel	RPD	Miles	730800	399017	331783
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	365400	199508	165892
Concrete Plant	Material Delivery	Concrete 18 Wheeler	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	730800	399017	331783



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2023	Activity - 2024
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	365400	199508	165892
Concrete Plant	Material Delivery	Concrete 18 Wheeler	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	730800	399017	331783
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	14054	7673	6380
Concrete Plant	Material Delivery	Concrete 18 Wheeler	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	28108	15347	12761
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle-days	2600	1420	1180
Concrete Plant	Material Delivery	Concrete 18 Wheeler	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle-days	5200	2839	2361
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	2600	1420	1180
Concrete Plant	Material Delivery	Concrete 18 Wheeler	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle-days	5200	2839	2361

**Table B2. 2023 construction-phase on-road vehicle criteria air pollutant emission factors.**

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Access Road	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Airfield Lighting	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Fencing	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	4.29E+00	2.29E+00	1.43E-01	5.71E-03	8.34E-02	7.68E-02
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Runway Drains	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Runway Markings	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Runway Safety Area	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Service Road	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	4.29E+00	2.29E+00	1.43E-01	5.71E-03	8.34E-02	7.68E-02
Taxiway Exit	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Taxiway Exit	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Taxiways	Material Delivery	Cement Mixer	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Taxiways	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	9.52E-02	2.76E+00	2.98E-02	2.20E-03	2.11E-03	1.86E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Access Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-01	2.83E-02
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Service Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-01	2.83E-02
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.48E-02	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Access Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	5.93E-01	8.40E-01	1.24E-01	1.18E-04	1.61E-03	1.48E-03
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Runway Drains	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Service Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Service Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	5.93E-01	8.40E-01	1.24E-01	1.18E-04	1.61E-03	1.48E-03
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Taxiways	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Taxiways	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.18E-01	4.41E+00	3.21E-01	5.81E-04	1.07E-02	9.50E-03
Access Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.79E-04	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	2.05E+00	1.34E+00	1.12E-01	3.54E-03	4.76E-02	4.38E-02
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	2.22E-02



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	3.10E-01	1.86E-01	8.60E-02	6.15E-05	6.08E-04	5.60E-04
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	g/mi	4.29E+00	2.29E+00	1.43E-01	5.71E-03	8.34E-02	7.68E-02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	g/mi	4.29E+00	2.29E+00	1.43E-01	5.71E-03	8.34E-02	7.68E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-01	2.83E-02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-01	2.83E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	g/one-way trip	5.93E-01	8.40E-01	1.24E-01	1.18E-04	1.61E-03	1.48E-03
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	g/one-way trip	5.93E-01	8.40E-01	1.24E-01	1.18E-04	1.61E-03	1.48E-03
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B3. 2023 construction-phase on-road vehicle greenhouse gas emission factors.**

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2e</sub>
Access Road	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Airfield Lighting	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Fencing	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	2.17E-02	2.80E-03	1.71E+03	1.71E+03
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Runway Drains	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Runway Markings	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Runway Safety Area	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Service Road	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Service Road	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	2.17E-02	2.80E-03	1.71E+03	1.71E+03
Taxiway Exit	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Taxiway Exit	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Taxiways	Material Delivery	Cement Mixer	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Taxiways	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	9.28E-03	1.98E-03	3.31E+02	3.32E+02
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Access Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	6.91E-02	5.06E-03	3.52E+01	4.23E+01
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Runway Drains	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Runway Markings	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Service Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Service Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	6.91E-02	5.06E-03	3.52E+01	4.23E+01
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Taxiways	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.95E-02	2.88E-02	8.75E+01	9.86E+01
Access Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	1.73E-02	3.29E-03	1.06E+03	1.06E+03
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	4.97E-02	5.06E-03	1.83E+01	2.38E+01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	g/mi	2.17E-02	2.80E-03	1.71E+03	1.71E+03
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	g/mi	2.17E-02	2.80E-03	1.71E+03	1.71E+03
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	g/one-way trip	6.91E-02	5.06E-03	3.52E+01	4.23E+01
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	g/one-way trip	6.91E-02	5.06E-03	3.52E+01	4.23E+01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B4. 2024 construction-phase on-road vehicle criteria air pollutant emission factors.**

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Access Road	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Airfield Lighting	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Fencing	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	4.10E+00	2.25E+00	1.31E-01	5.60E-03	7.41E-02	6.82E-02
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Runway Drains	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Runway Markings	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Runway Safety Area	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Service Road	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Service Road	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	4.10E+00	2.25E+00	1.31E-01	5.60E-03	7.41E-02	6.82E-02
Taxiway Exit	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Taxiway Exit	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Material Delivery	Cement Mixer	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Taxiways	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	7.45E-02	2.64E+00	2.37E-02	2.14E-03	1.98E-03	1.75E-03
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Access Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-01	2.84E-02
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Service Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-01	2.84E-02
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-02	6.34E-03
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	3.38E-02	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Access Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	6.04E-01	8.09E-01	1.23E-01	1.17E-04	1.55E-03	1.43E-03
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Runway Drains	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Runway Markings	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Service Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Service Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	6.04E-01	8.09E-01	1.23E-01	1.17E-04	1.55E-03	1.43E-03
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Taxiways	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Taxiways	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	2.04E-01	4.19E+00	3.04E-01	5.77E-04	1.09E-02	9.61E-03
Access Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	9.48E-05	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	1.93E+00	1.30E+00	9.55E-02	3.47E-03	4.07E-02	3.74E-02
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-01	2.23E-02
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	3.09E-01	1.75E-01	8.52E-02	6.11E-05	5.76E-04	5.30E-04
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	g/mi	4.10E+00	2.25E+00	1.31E-01	5.60E-03	7.41E-02	6.82E-02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	g/mi	4.10E+00	2.25E+00	1.31E-01	5.60E-03	7.41E-02	6.82E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-01	2.84E-02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-01	2.84E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	g/one-way trip	6.04E-01	8.09E-01	1.23E-01	1.17E-04	1.55E-03	1.43E-03
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	g/one-way trip	6.04E-01	8.09E-01	1.23E-01	1.17E-04	1.55E-03	1.43E-03
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors					
					NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B5. 2024 construction-phase on-road vehicle greenhouse gas emission factors.**

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Access Road	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Airfield Lighting	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Fencing	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	2.06E-02	2.80E-03	1.67E+03	1.68E+03

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Runway Drains	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Runway Markings	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Runway Safety Area	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Service Road	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Service Road	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	2.06E-02	2.80E-03	1.67E+03	1.68E+03
Taxiway Exit	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Taxiway Exit	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Taxiways	Material Delivery	Cement Mixer	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Taxiways	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	8.12E-03	1.85E-03	3.23E+02	3.24E+02
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2e</sub>
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Access Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	6.95E-02	5.06E-03	3.51E+01	4.22E+01
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Runway Drains	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Runway Markings	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Service Road	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Service Road	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	6.95E-02	5.06E-03	3.51E+01	4.22E+01
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Taxiways	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Taxiways	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.72E-02	2.77E-02	8.69E+01	9.75E+01
Access Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	1.64E-02	3.29E-03	1.04E+03	1.04E+03
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	5.00E-02	5.06E-03	1.82E+01	2.38E+01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	g/mi	2.06E-02	2.80E-03	1.67E+03	1.68E+03
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	g/mi	2.06E-02	2.80E-03	1.67E+03	1.68E+03
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emission Factor Units	Emission Factors			
					CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	g/one-way trip	6.95E-02	5.06E-03	3.51E+01	4.22E+01
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	g/one-way trip	6.95E-02	5.06E-03	3.51E+01	4.22E+01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B6. 2023 construction-phase on-road vehicle criteria air pollutant emissions.**

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Material Delivery	Cement Mixer	RPD	1.52E-01	9.91E-02	8.26E-03	2.62E-04	3.52E-03	3.23E-03
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	1.35E-02	8.81E-03	7.34E-04	2.33E-05	3.12E-04	2.87E-04
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	8.09E-02	5.28E-02	4.41E-03	1.40E-04	1.87E-03	1.72E-03
Access Road	Employee Commute	Passenger Car	RPD	2.94E-01	8.53E+00	9.21E-02	6.78E-03	6.50E-03	5.75E-03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	2.16E-02	1.41E-02	1.18E-03	3.73E-05	5.01E-04	4.61E-04
Airfield Lighting	Employee Commute	Passenger Car	RPD	2.17E-02	6.31E-01	6.81E-03	5.02E-04	4.81E-04	4.26E-04
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	4.25E-01	2.78E-01	2.32E-02	7.34E-04	9.86E-03	9.07E-03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	2.97E-02	8.61E-01	9.30E-03	6.85E-04	6.57E-04	5.81E-04
Demolition - Concrete	Material Delivery	Dump Truck	RPD	5.66E-02	3.70E-02	3.08E-03	9.77E-05	1.31E-03	1.21E-03
Demolition - Concrete	Employee Commute	Passenger Car	RPD	2.77E-02	8.04E-01	8.68E-03	6.40E-04	6.14E-04	5.43E-04
Drainage System	Employee Commute	Passenger Car	RPD	3.08E-02	8.92E-01	9.63E-03	7.10E-04	6.81E-04	6.02E-04
Fencing	Material Delivery	Cement Mixer	RPD	1.75E-02	1.14E-02	9.51E-04	3.01E-05	4.05E-04	3.73E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Employee Commute	Passenger Car	RPD	8.89E-02	2.58E+00	2.78E-02	2.05E-03	1.97E-03	1.74E-03
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD	3.51E-02	1.02E+00	1.10E-02	8.10E-04	7.76E-04	6.87E-04
NAVAIDS	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD	1.67E+00	1.09E+00	9.11E-02	2.89E-03	3.88E-02	3.57E-02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	1.49E-01	9.72E-02	8.10E-03	2.57E-04	3.45E-03	3.17E-03
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	8.92E-01	5.83E-01	4.86E-02	1.54E-03	2.07E-02	1.90E-02
Parking Lot	Employee Commute	Passenger Car	RPD	2.91E-01	8.43E+00	9.10E-02	6.70E-03	6.43E-03	5.69E-03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	9.53E-01	6.23E-01	5.19E-02	1.64E-03	2.21E-02	2.03E-02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	8.47E-02	5.53E-02	4.61E-03	1.46E-04	1.96E-03	1.81E-03
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	5.08E-01	3.32E-01	2.77E-02	8.77E-04	1.18E-02	1.08E-02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	1.46E-01	4.25E+00	4.59E-02	3.38E-03	3.24E-03	2.87E-03
Runway Drains	Employee Commute	Passenger Car	RPD	3.72E-02	1.08E+00	1.16E-02	8.58E-04	8.23E-04	7.28E-04
Runway Markings	Employee Commute	Passenger Car	RPD	1.27E-02	3.69E-01	3.98E-03	2.93E-04	2.81E-04	2.49E-04
Runway Safety Area	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD	4.18E-03	2.73E-03	2.28E-04	7.22E-06	9.70E-05	8.92E-05
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	3.71E-04	2.42E-04	2.02E-05	6.40E-07	8.60E-06	7.91E-06
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	2.23E-03	1.46E-03	1.22E-04	3.85E-06	5.17E-05	4.76E-05
Service Road	Employee Commute	Passenger Car	RPD	2.80E-01	8.13E+00	8.78E-02	6.47E-03	6.20E-03	5.49E-03
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	2.61E-03	1.71E-03	1.42E-04	4.51E-06	6.06E-05	5.58E-05
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	1.39E-03	9.11E-04	7.59E-05	2.40E-06	3.23E-05	2.97E-05
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	6.20E-03	1.80E-01	1.94E-03	1.43E-04	1.37E-04	1.21E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	1.89E-03	1.01E-03	6.33E-05	2.52E-06	3.68E-05	3.38E-05
Taxiway Exit	Material Delivery	Cement Mixer	RPD	1.81E-01	1.18E-01	9.84E-03	3.12E-04	4.19E-03	3.85E-03
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	1.61E-02	1.05E-02	8.75E-04	2.77E-05	3.72E-04	3.42E-04
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	9.63E-02	6.29E-02	5.25E-03	1.66E-04	2.23E-03	2.05E-03
Taxiway Exit	Employee Commute	Passenger Car	RPD	2.05E-01	5.95E+00	6.43E-02	4.74E-03	4.54E-03	4.02E-03
Taxiways	Material Delivery	Cement Mixer	RPD	2.95E-01	1.93E-01	1.60E-02	5.08E-04	6.83E-03	6.28E-03
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	2.62E-02	1.71E-02	1.43E-03	4.52E-05	6.07E-04	5.59E-04
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	1.57E-01	1.03E-01	8.56E-03	2.71E-04	3.64E-03	3.35E-03
Taxiways	Employee Commute	Passenger Car	RPD	1.32E-01	3.82E+00	4.12E-02	3.04E-03	2.91E-03	2.58E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	8.88E-02	5.81E-02	4.84E-03	1.53E-04	2.06E-03	1.90E-03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	2.97E-02	8.61E-01	9.30E-03	6.85E-04	6.57E-04	5.81E-04
Demolition - Concrete	Material Delivery	Dump Truck	RPD	3.50E-02	2.29E-02	1.91E-03	6.04E-05	8.11E-04	7.46E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD	3.34E-03	9.68E-02	1.05E-03	7.70E-05	7.38E-05	6.53E-05
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02	1.64E-03
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-03	1.46E-04
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.86E-03	8.77E-04
Access Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-01	1.96E-02
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-03	2.34E-04
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-02	1.45E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.61E-02	4.61E-03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-02	1.98E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.80E-03	6.14E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02	1.85E-03
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-02	2.05E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-03	1.89E-04
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.54E-02	5.92E-03
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.34E-03
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-01	1.81E-02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-02	1.61E-03
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.57E-02	9.68E-03
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-01	1.94E-02
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-02	1.03E-02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.18E-03	9.19E-04
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.31E-02	5.51E-03
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.49E-02	9.75E-03
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-02	2.48E-03
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.50E-03	8.46E-04
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.55E-04	4.54E-05
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-05	4.02E-06
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.89E-04	2.42E-05
Service Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-01	1.87E-02
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-04	2.84E-05
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-04	1.51E-05
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-03	4.13E-04
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.71E-05	1.25E-05
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-02	1.96E-03



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-03	1.74E-04
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.17E-03	1.04E-03
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-01	1.37E-02
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-02	3.20E-03
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-03	2.84E-04
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-02	1.70E-03
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-02	8.77E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.54E-03	9.64E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-02	1.98E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-03	3.80E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-03	2.22E-04
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.08E-01	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	7.95E-03	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.06E-01	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	5.36E-02	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.36E-02	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.65E-03	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.03E-01	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.27E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	7.51E-02	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.81E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.22E-03	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	1.15E-03	6.89E-04	3.18E-04	2.27E-07	2.25E-06	2.07E-06
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	1.02E-04	6.13E-05	2.83E-05	2.02E-08	2.00E-07	1.84E-07
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	6.11E-04	3.68E-04	1.70E-04	1.21E-07	1.20E-06	1.10E-06
Access Road	Employee Commute	Passenger Car	RPV_START	1.29E-02	2.62E-01	1.90E-02	3.45E-05	6.37E-04	5.64E-04
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	1.63E-04	9.82E-05	4.53E-05	3.24E-08	3.20E-07	2.95E-07
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	9.57E-04	1.94E-02	1.41E-03	2.55E-06	4.71E-05	4.17E-05
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	3.21E-03	1.93E-03	8.92E-04	6.37E-07	6.31E-06	5.80E-06
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	1.31E-03	2.64E-02	1.92E-03	3.48E-06	6.44E-05	5.69E-05
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	4.28E-04	2.57E-04	1.19E-04	8.48E-08	8.40E-07	7.72E-07
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	1.22E-03	2.47E-02	1.80E-03	3.26E-06	6.01E-05	5.32E-05
Drainage System	Employee Commute	Passenger Car	RPV_START	1.35E-03	2.74E-02	1.99E-03	3.61E-06	6.67E-05	5.90E-05
Fencing	Material Delivery	Cement Mixer	RPV_START	1.32E-04	7.94E-05	3.66E-05	2.62E-08	2.59E-07	2.38E-07

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Employee Commute	Passenger Car	RPV_START	3.91E-03	7.91E-02	5.76E-03	1.04E-05	1.93E-04	1.70E-04
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_START	1.55E-03	3.12E-02	2.27E-03	4.12E-06	7.61E-05	6.73E-05
NAVAIDS	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_START	1.26E-02	7.61E-03	3.51E-03	2.51E-06	2.48E-05	2.28E-05
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	1.12E-03	6.76E-04	3.12E-04	2.23E-07	2.21E-06	2.03E-06
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	6.74E-03	4.06E-03	1.87E-03	1.34E-06	1.32E-05	1.22E-05
Parking Lot	Employee Commute	Passenger Car	RPV_START	1.28E-02	2.59E-01	1.88E-02	3.41E-05	6.30E-04	5.57E-04
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	7.20E-03	4.33E-03	2.00E-03	1.43E-06	1.41E-05	1.30E-05
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	6.40E-04	3.85E-04	1.78E-04	1.27E-07	1.26E-06	1.16E-06
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	3.84E-03	2.31E-03	1.07E-03	7.61E-07	7.54E-06	6.93E-06
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	6.45E-03	1.30E-01	9.49E-03	1.72E-05	3.18E-04	2.81E-04
Runway Drains	Employee Commute	Passenger Car	RPV_START	1.64E-03	3.31E-02	2.41E-03	4.37E-06	8.06E-05	7.13E-05
Runway Markings	Employee Commute	Passenger Car	RPV_START	5.59E-04	1.13E-02	8.23E-04	1.49E-06	2.75E-05	2.44E-05
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_START	3.16E-05	1.90E-05	8.77E-06	6.27E-09	6.20E-08	5.71E-08
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	2.80E-06	1.69E-06	7.78E-07	5.56E-10	5.50E-09	5.06E-09
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	1.69E-05	1.01E-05	4.68E-06	3.34E-09	3.31E-08	3.05E-08
Service Road	Employee Commute	Passenger Car	RPV_START	1.23E-02	2.50E-01	1.82E-02	3.29E-05	6.08E-04	5.38E-04
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	1.98E-05	1.19E-05	5.48E-06	3.92E-09	3.88E-08	3.57E-08

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	1.05E-05	6.34E-06	2.92E-06	2.09E-09	2.07E-08	1.90E-08
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	2.73E-04	5.52E-03	4.02E-04	7.28E-07	1.35E-05	1.19E-05
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	1.31E-05	1.85E-05	2.73E-06	2.60E-09	3.54E-08	3.26E-08
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	1.36E-03	8.21E-04	3.79E-04	2.71E-07	2.68E-06	2.46E-06
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	1.21E-04	7.30E-05	3.37E-05	2.41E-08	2.38E-07	2.19E-07
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	7.28E-04	4.38E-04	2.02E-04	1.44E-07	1.43E-06	1.31E-06
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	9.04E-03	1.83E-01	1.33E-02	2.41E-05	4.45E-04	3.94E-04
Taxiways	Material Delivery	Cement Mixer	RPV_START	2.23E-03	1.34E-03	6.18E-04	4.41E-07	4.37E-06	4.02E-06
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	1.98E-04	1.19E-04	5.49E-05	3.92E-08	3.88E-07	3.57E-07
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	1.19E-03	7.14E-04	3.30E-04	2.35E-07	2.33E-06	2.14E-06
Taxiways	Employee Commute	Passenger Car	RPV_START	5.79E-03	1.17E-01	8.52E-03	1.54E-05	2.85E-04	2.52E-04
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	6.71E-04	4.04E-04	1.86E-04	1.33E-07	1.32E-06	1.21E-06
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	1.31E-03	2.64E-02	1.92E-03	3.48E-06	6.44E-05	5.69E-05
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	2.64E-04	1.59E-04	7.34E-05	5.24E-08	5.19E-07	4.78E-07
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	1.53E-03	3.09E-02	2.25E-03	4.07E-06	7.53E-05	6.66E-05
Access Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.84E-07	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.50E-07	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.81E-08	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	7.13E-08	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.37E-08	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.20E-07	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.71E-08	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.62E-07	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.65E-06	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	4.19E-07	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.43E-08	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.79E-07	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.20E-08	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	8.18E-07	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	8.50E-07	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.81E-08	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	6.99E-07	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	5.10E-07	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.50E-07	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	3.26E-08	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.28E-07	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.27E-08	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.16E-07	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.87E-08	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.70E-07	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.96E-06	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	7.52E-07	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.57E-08	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	5.02E-07	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.15E-08	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.47E-06	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.53E-06	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	3.26E-08	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.33E-08	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	6.04E-02	3.95E-02	3.29E-03	1.04E-04	1.40E-03	1.29E-03
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-03	6.55E-04
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	1.83E-03	1.10E-03	5.07E-04	3.62E-07	3.58E-06	3.30E-06
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	9.43E-01	5.05E-01	3.16E-02	1.26E-03	1.84E-02	1.69E-02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	1.89E+00	1.01E+00	6.31E-02	2.51E-03	3.67E-02	3.38E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.84E-02	6.22E-03
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-02	1.24E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	5.02E-03	7.10E-03	1.05E-03	9.97E-07	1.36E-05	1.25E-05
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	1.00E-02	1.42E-02	2.10E-03	1.99E-06	2.72E-05	2.50E-05
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B7. 2023 construction-phase on-road vehicle greenhouse gas emissions.**

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Cement Mixer	RPD	1.28E-03	2.43E-04	7.80E+01	7.82E+01
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	1.14E-04	2.16E-05	6.93E+00	6.95E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	6.82E-04	1.30E-04	4.16E+01	4.17E+01
Access Road	Employee Commute	Passenger Car	RPD	2.87E-02	6.12E-03	1.02E+03	1.02E+03
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	1.82E-04	3.46E-05	1.11E+01	1.11E+01
Airfield Lighting	Employee Commute	Passenger Car	RPD	2.12E-03	4.53E-04	7.55E+01	7.58E+01
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	3.59E-03	6.81E-04	2.19E+02	2.19E+02
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	2.89E-03	6.18E-04	1.03E+02	1.03E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	4.77E-04	9.07E-05	2.91E+01	2.92E+01

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Employee Commute	Passenger Car	RPD	2.70E-03	5.77E-04	9.63E+01	9.67E+01
Drainage System	Employee Commute	Passenger Car	RPD	3.00E-03	6.40E-04	1.07E+02	1.07E+02
Fencing	Material Delivery	Cement Mixer	RPD	1.47E-04	2.80E-05	8.98E+00	9.00E+00
Fencing	Employee Commute	Passenger Car	RPD	8.66E-03	1.85E-03	3.09E+02	3.10E+02
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD	3.42E-03	7.30E-04	1.22E+02	1.22E+02
NAVAIDS	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD	1.41E-02	2.68E-03	8.61E+02	8.63E+02
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	1.25E-03	2.38E-04	7.65E+01	7.67E+01
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	7.52E-03	1.43E-03	4.59E+02	4.60E+02
Parking Lot	Employee Commute	Passenger Car	RPD	2.83E-02	6.05E-03	1.01E+03	1.01E+03
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	8.03E-03	1.53E-03	4.90E+02	4.91E+02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	7.14E-04	1.36E-04	4.36E+01	4.37E+01
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	4.29E-03	8.14E-04	2.61E+02	2.62E+02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	1.43E-02	3.05E-03	5.09E+02	5.11E+02
Runway Drains	Employee Commute	Passenger Car	RPD	3.63E-03	7.74E-04	1.29E+02	1.30E+02
Runway Markings	Employee Commute	Passenger Car	RPD	1.24E-03	2.64E-04	4.41E+01	4.43E+01
Runway Safety Area	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD	3.53E-05	6.70E-06	2.15E+00	2.16E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	3.13E-06	5.94E-07	1.91E-01	1.91E-01

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2e</sub>
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	1.88E-05	3.57E-06	1.15E+00	1.15E+00
Service Road	Employee Commute	Passenger Car	RPD	2.73E-02	5.83E-03	9.73E+02	9.77E+02
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	2.20E-05	4.19E-06	1.35E+00	1.35E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	1.18E-05	2.23E-06	7.17E-01	7.19E-01
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	6.05E-04	1.29E-04	2.15E+01	2.16E+01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	9.58E-06	1.24E-06	7.53E-01	7.54E-01
Taxiway Exit	Material Delivery	Cement Mixer	RPD	1.52E-03	2.89E-04	9.29E+01	9.31E+01
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	1.35E-04	2.57E-05	8.26E+00	8.28E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	8.12E-04	1.54E-04	4.96E+01	4.97E+01
Taxiway Exit	Employee Commute	Passenger Car	RPD	2.00E-02	4.27E-03	7.13E+02	7.16E+02
Taxiways	Material Delivery	Cement Mixer	RPD	2.48E-03	4.72E-04	1.52E+02	1.52E+02
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	2.21E-04	4.20E-05	1.35E+01	1.35E+01
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	1.32E-03	2.52E-04	8.08E+01	8.10E+01
Taxiways	Employee Commute	Passenger Car	RPD	1.28E-02	2.74E-03	4.57E+02	4.59E+02
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	7.49E-04	1.42E-04	4.57E+01	4.58E+01
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	2.89E-03	6.18E-04	1.03E+02	1.03E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	2.95E-04	5.61E-05	1.80E+01	1.80E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPD	3.25E-04	6.95E-05	1.16E+01	1.16E+01
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	1.84E-04	1.87E-05	6.78E-02	8.80E-02
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	1.63E-05	1.66E-06	6.02E-03	7.83E-03
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	9.80E-05	9.98E-06	3.62E-02	4.70E-02
Access Road	Employee Commute	Passenger Car	RPV_START	2.34E-03	1.71E-03	5.19E+00	5.85E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	2.62E-05	2.67E-06	9.66E-03	1.25E-02
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	1.73E-04	1.26E-04	3.84E-01	4.33E-01
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	5.15E-04	5.25E-05	1.90E-01	2.47E-01
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	2.37E-04	1.73E-04	5.25E-01	5.91E-01

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2e</sub>
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	6.86E-05	6.98E-06	2.53E-02	3.29E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	2.21E-04	1.61E-04	4.90E-01	5.52E-01
Drainage System	Employee Commute	Passenger Car	RPV_START	2.45E-04	1.79E-04	5.44E-01	6.13E-01
Fencing	Material Delivery	Cement Mixer	RPV_START	2.12E-05	2.15E-06	7.81E-03	1.01E-02
Fencing	Employee Commute	Passenger Car	RPV_START	7.09E-04	5.17E-04	1.57E+00	1.77E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_START	2.80E-04	2.04E-04	6.20E-01	6.99E-01
NAVAIDS	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_START	2.03E-03	2.06E-04	7.48E-01	9.72E-01
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	1.80E-04	1.83E-05	6.65E-02	8.64E-02
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	1.08E-03	1.10E-04	3.99E-01	5.18E-01
Parking Lot	Employee Commute	Passenger Car	RPV_START	2.32E-03	1.69E-03	5.13E+00	5.79E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	1.15E-03	1.18E-04	4.26E-01	5.53E-01
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	1.03E-04	1.04E-05	3.79E-02	4.92E-02
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	6.16E-04	6.27E-05	2.27E-01	2.95E-01
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	1.17E-03	8.51E-04	2.59E+00	2.92E+00
Runway Drains	Employee Commute	Passenger Car	RPV_START	2.97E-04	2.16E-04	6.57E-01	7.41E-01
Runway Markings	Employee Commute	Passenger Car	RPV_START	1.01E-04	7.39E-05	2.24E-01	2.53E-01
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_START	5.07E-06	5.16E-07	1.87E-03	2.43E-03

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	4.49E-07	4.57E-08	1.66E-04	2.15E-04
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	2.70E-06	2.75E-07	9.98E-04	1.30E-03
Service Road	Employee Commute	Passenger Car	RPV_START	2.24E-03	1.63E-03	4.95E+00	5.58E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	3.17E-06	3.23E-07	1.17E-03	1.52E-03
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	1.69E-06	1.72E-07	6.23E-04	8.09E-04
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	4.95E-05	3.61E-05	1.10E-01	1.24E-01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	1.52E-06	1.12E-07	7.77E-04	9.33E-04
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	2.19E-04	2.23E-05	8.07E-02	1.05E-01
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	1.95E-05	1.98E-06	7.18E-03	9.32E-03
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	1.17E-04	1.19E-05	4.31E-02	5.59E-02
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	1.64E-03	1.19E-03	3.63E+00	4.09E+00
Taxiways	Material Delivery	Cement Mixer	RPV_START	3.57E-04	3.63E-05	1.32E-01	1.71E-01
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	3.17E-05	3.23E-06	1.17E-02	1.52E-02
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	1.90E-04	1.94E-05	7.02E-02	9.12E-02
Taxiways	Employee Commute	Passenger Car	RPV_START	1.05E-03	7.65E-04	2.33E+00	2.62E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	1.08E-04	1.10E-05	3.97E-02	5.16E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	2.37E-04	1.73E-04	5.25E-01	5.91E-01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	4.24E-05	4.32E-06	1.56E-02	2.03E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	2.77E-04	2.02E-04	6.13E-01	6.91E-01
Access Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	5.09E-04	9.68E-05	3.11E+01	3.11E+01
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	2.93E-04	2.98E-05	1.08E-01	1.40E-01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	4.78E-03	6.16E-04	3.75E+02	3.76E+02



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	9.56E-03	1.23E-03	7.51E+02	7.52E+02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	5.85E-04	4.28E-05	2.98E-01	3.58E-01
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	1.17E-03	8.56E-05	5.96E-01	7.16E-01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B8. 2024 construction-phase on-road vehicle criteria air pollutant emissions.**

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	1.48E-02	1.00E-02	7.34E-04	2.67E-05	3.13E-04	2.88E-04
Airfield Lighting	Employee Commute	Passenger Car	RPD	1.24E-02	4.40E-01	3.94E-03	3.57E-04	3.29E-04	2.91E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	1.07E-01	7.20E-02	5.28E-03	1.92E-04	2.25E-03	2.07E-03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	6.20E-03	2.20E-01	1.97E-03	1.78E-04	1.64E-04	1.45E-04
Demolition - Concrete	Material Delivery	Dump Truck	RPD	1.89E-02	1.28E-02	9.38E-04	3.41E-05	4.00E-04	3.68E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD	7.73E-03	2.74E-01	2.46E-03	2.22E-04	2.05E-04	1.81E-04
Drainage System	Employee Commute	Passenger Car	RPD	4.82E-02	1.71E+00	1.53E-02	1.38E-03	1.28E-03	1.13E-03
Fencing	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD	5.49E-02	1.95E+00	1.75E-02	1.58E-03	1.46E-03	1.29E-03
NAVAIDS	Employee Commute	Passenger Car	RPD	1.10E-01	3.89E+00	3.49E-02	3.15E-03	2.91E-03	2.57E-03
Parking Lot	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	4.21E-01	2.85E-01	2.09E-02	7.59E-04	8.89E-03	8.18E-03
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	3.75E-02	2.53E-02	1.86E-03	6.74E-05	7.90E-04	7.27E-04
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	2.25E-01	1.52E-01	1.11E-02	4.05E-04	4.74E-03	4.36E-03
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	5.39E-02	1.91E+00	1.71E-02	1.55E-03	1.43E-03	1.27E-03
Runway Drains	Employee Commute	Passenger Car	RPD	1.37E-02	4.86E-01	4.35E-03	3.94E-04	3.63E-04	3.21E-04
Runway Markings	Employee Commute	Passenger Car	RPD	2.17E-02	7.69E-01	6.89E-03	6.24E-04	5.75E-04	5.09E-04
Runway Safety Area	Employee Commute	Passenger Car	RPD	9.90E-02	3.51E+00	3.15E-02	2.85E-03	2.63E-03	2.32E-03
Service Road	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	2.46E-03	1.66E-03	1.22E-04	4.42E-06	5.19E-05	4.77E-05
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	1.31E-03	8.85E-04	6.49E-05	2.36E-06	2.76E-05	2.54E-05
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	4.86E-03	1.72E-01	1.54E-03	1.40E-04	1.29E-04	1.14E-04
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	1.81E-03	9.91E-04	5.78E-05	2.47E-06	3.27E-05	3.01E-05
Taxiway Exit	Material Delivery	Cement Mixer	RPD	3.66E-02	2.47E-02	1.81E-03	6.59E-05	7.73E-04	7.11E-04
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	3.26E-03	2.20E-03	1.61E-04	5.86E-06	6.87E-05	6.32E-05
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	1.95E-02	1.32E-02	9.68E-04	3.52E-05	4.12E-04	3.79E-04
Taxiway Exit	Employee Commute	Passenger Car	RPD	3.47E-02	1.23E+00	1.10E-02	9.96E-04	9.19E-04	8.13E-04
Taxiways	Material Delivery	Cement Mixer	RPD	2.48E-01	1.68E-01	1.23E-02	4.47E-04	5.24E-03	4.82E-03
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	2.21E-02	1.49E-02	1.09E-03	3.97E-05	4.65E-04	4.28E-04
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	1.32E-01	8.94E-02	6.56E-03	2.38E-04	2.79E-03	2.57E-03
Taxiways	Employee Commute	Passenger Car	RPD	9.23E-02	3.27E+00	2.93E-02	2.65E-03	2.45E-03	2.17E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	2.23E-02	1.50E-02	1.10E-03	4.01E-05	4.70E-04	4.32E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	6.20E-03	2.20E-01	1.97E-03	1.78E-04	1.64E-04	1.45E-04
Demolition - Concrete	Material Delivery	Dump Truck	RPD	1.17E-02	7.91E-03	5.80E-04	2.11E-05	2.47E-04	2.27E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD	9.30E-04	3.30E-02	2.95E-04	2.67E-05	2.47E-05	2.18E-05
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-03	1.72E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.11E-03	1.06E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.66E-03	1.23E-03
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-03	5.27E-04
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-03	2.19E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.05E-03	6.57E-04
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-02	4.10E-03
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.59E-02	4.68E-03
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.17E-02	9.34E-03
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.82E-02	4.88E-03
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-03	4.34E-04
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-02	2.60E-03
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.52E-02	4.59E-03
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.95E-03	1.17E-03
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02	1.85E-03
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.47E-02	8.42E-03
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-04	2.85E-05
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-04	1.52E-05
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-03	4.13E-04
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.74E-05	1.25E-05
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-03	4.24E-04
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.95E-04	3.77E-05
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-03	2.26E-04
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-02	2.95E-03
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-02	2.88E-03
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-03	2.56E-04
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-02	1.53E-03
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-02	7.86E-03
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-03	2.58E-04
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-03	5.27E-04
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-03	1.36E-04
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-04	7.91E-05
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.81E-03	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	3.50E-03	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.18E-02	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.97E-02	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.45E-02	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	9.84E-03	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.49E-02	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.20E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.57E-02	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.19E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.81E-03	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.22E-04	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	1.19E-04	6.73E-05	3.27E-05	2.35E-08	2.21E-07	2.04E-07
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	6.55E-04	1.34E-02	9.73E-04	1.85E-06	3.48E-05	3.08E-05
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	8.53E-04	4.84E-04	2.35E-04	1.69E-07	1.59E-06	1.47E-06

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	3.27E-04	6.70E-03	4.86E-04	9.23E-07	1.74E-05	1.54E-05
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	1.52E-04	8.60E-05	4.18E-05	3.00E-08	2.83E-07	2.60E-07
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	4.08E-04	8.35E-03	6.06E-04	1.15E-06	2.17E-05	1.92E-05
Drainage System	Employee Commute	Passenger Car	RPV_START	2.54E-03	5.21E-02	3.78E-03	7.17E-06	1.35E-04	1.19E-04
Fencing	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_START	2.90E-03	5.94E-02	4.31E-03	8.18E-06	1.54E-04	1.36E-04
NAVAIDS	Employee Commute	Passenger Car	RPV_START	5.79E-03	1.19E-01	8.60E-03	1.63E-05	3.07E-04	2.72E-04
Parking Lot	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	3.37E-03	1.91E-03	9.31E-04	6.68E-07	6.30E-06	5.80E-06
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	3.00E-04	1.70E-04	8.28E-05	5.94E-08	5.60E-07	5.15E-07
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	1.80E-03	1.02E-03	4.97E-04	3.56E-07	3.36E-06	3.09E-06
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	2.85E-03	5.83E-02	4.23E-03	8.04E-06	1.51E-04	1.34E-04
Runway Drains	Employee Commute	Passenger Car	RPV_START	7.23E-04	1.48E-02	1.07E-03	2.04E-06	3.84E-05	3.40E-05
Runway Markings	Employee Commute	Passenger Car	RPV_START	1.14E-03	2.35E-02	1.70E-03	3.23E-06	6.08E-05	5.38E-05
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	5.22E-03	1.07E-01	7.76E-03	1.47E-05	2.77E-04	2.45E-04

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	1.97E-05	1.12E-05	5.43E-06	3.89E-09	3.67E-08	3.38E-08
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	1.05E-05	5.95E-06	2.89E-06	2.08E-09	1.96E-08	1.80E-08
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	2.56E-04	5.25E-03	3.81E-04	7.23E-07	1.36E-05	1.20E-05
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	1.33E-05	1.78E-05	2.72E-06	2.59E-09	3.42E-08	3.14E-08
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	2.93E-04	1.66E-04	8.09E-05	5.80E-08	5.47E-07	5.04E-07
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	2.60E-05	1.48E-05	7.19E-06	5.16E-09	4.87E-08	4.48E-08
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	1.56E-04	8.87E-05	4.32E-05	3.09E-08	2.92E-07	2.69E-07
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	1.83E-03	3.75E-02	2.72E-03	5.16E-06	9.71E-05	8.59E-05
Taxiways	Material Delivery	Cement Mixer	RPV_START	1.99E-03	1.13E-03	5.48E-04	3.93E-07	3.71E-06	3.41E-06
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	1.77E-04	1.00E-04	4.87E-05	3.50E-08	3.30E-07	3.03E-07
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	1.06E-03	6.01E-04	2.92E-04	2.10E-07	1.98E-06	1.82E-06
Taxiways	Employee Commute	Passenger Car	RPV_START	4.87E-03	9.98E-02	7.24E-03	1.38E-05	2.59E-04	2.29E-04
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	1.78E-04	1.01E-04	4.92E-05	3.53E-08	3.33E-07	3.06E-07
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	3.27E-04	6.70E-03	4.86E-04	9.23E-07	1.74E-05	1.54E-05
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	9.37E-05	5.32E-05	2.59E-05	1.86E-08	1.75E-07	1.61E-07
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	5.10E-04	1.05E-02	7.58E-04	1.44E-06	2.71E-05	2.40E-05

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.74E-07	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	4.60E-09	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.41E-08	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	4.51E-08	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	5.15E-08	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	4.93E-07	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	7.37E-07	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.87E-07	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.97E-08	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.28E-07	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.14E-08	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.68E-07	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	7.25E-07	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	4.60E-09	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.37E-07	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	3.18E-07	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	8.43E-09	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.43E-08	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	8.28E-08	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	9.44E-08	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	9.03E-07	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.35E-06	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	3.43E-07	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	5.44E-08	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.18E-07	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.09E-08	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	3.08E-07	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.33E-06	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	8.43E-09	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	8.05E-09	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	3.49E-02	2.35E-02	1.73E-03	6.27E-05	7.35E-04	6.77E-04
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.16E-03	4.04E-04
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	1.12E-03	6.33E-04	3.08E-04	2.21E-07	2.08E-06	1.92E-06

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)					
				NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	7.49E-01	4.11E-01	2.40E-02	1.02E-03	1.35E-02	1.25E-02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	1.50E+00	8.22E-01	4.79E-02	2.05E-03	2.71E-02	2.49E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-02	5.19E-03
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-02	1.04E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	4.25E-03	5.69E-03	8.67E-04	8.26E-07	1.09E-05	1.00E-05
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	8.49E-03	1.14E-02	1.73E-03	1.65E-06	2.18E-05	2.01E-05
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table B9. 2024 construction-phase on-road vehicle greenhouse gas emissions.**

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD	1.26E-04	2.52E-05	7.96E+00	7.98E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD	1.35E-03	3.08E-04	5.37E+01	5.39E+01
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	9.04E-04	1.82E-04	5.73E+01	5.74E+01
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	6.75E-04	1.54E-04	2.68E+01	2.69E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPD	1.61E-04	3.23E-05	1.02E+01	1.02E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPD	8.42E-04	1.92E-04	3.34E+01	3.36E+01
Drainage System	Employee Commute	Passenger Car	RPD	5.25E-03	1.20E-03	2.08E+02	2.09E+02
Fencing	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD	5.99E-03	1.36E-03	2.38E+02	2.39E+02
NAVAIDS	Employee Commute	Passenger Car	RPD	1.20E-02	2.72E-03	4.75E+02	4.77E+02
Parking Lot	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD	3.58E-03	7.18E-04	2.26E+02	2.27E+02
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD	3.18E-04	6.38E-05	2.01E+01	2.02E+01
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD	1.91E-03	3.83E-04	1.21E+02	1.21E+02
Rehabilitate Runway	Employee Commute	Passenger Car	RPD	5.88E-03	1.34E-03	2.33E+02	2.34E+02

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Employee Commute	Passenger Car	RPD	1.49E-03	3.40E-04	5.93E+01	5.95E+01
Runway Markings	Employee Commute	Passenger Car	RPD	2.36E-03	5.39E-04	9.39E+01	9.42E+01
Runway Safety Area	Employee Commute	Passenger Car	RPD	1.08E-02	2.46E-03	4.28E+02	4.30E+02
Service Road	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD	2.08E-05	4.19E-06	1.32E+00	1.32E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	1.11E-05	2.23E-06	7.04E-01	7.05E-01
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	5.29E-04	1.21E-04	2.10E+01	2.11E+01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	9.07E-06	1.24E-06	7.38E-01	7.39E-01
Taxiway Exit	Material Delivery	Cement Mixer	RPD	3.11E-04	6.24E-05	1.97E+01	1.97E+01
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD	2.76E-05	5.55E-06	1.75E+00	1.75E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD	1.66E-04	3.33E-05	1.05E+01	1.05E+01
Taxiway Exit	Employee Commute	Passenger Car	RPD	3.78E-03	8.61E-04	1.50E+02	1.51E+02
Taxiways	Material Delivery	Cement Mixer	RPD	2.11E-03	4.23E-04	1.33E+02	1.34E+02
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD	1.87E-04	3.76E-05	1.19E+01	1.19E+01
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD	1.12E-03	2.26E-04	7.11E+01	7.13E+01
Taxiways	Employee Commute	Passenger Car	RPD	1.01E-02	2.29E-03	4.00E+02	4.01E+02
Demolition - Asphalt	Material Delivery	Dump Truck	RPD	1.89E-04	3.80E-05	1.20E+01	1.20E+01

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Employee Commute	Passenger Car	RPD	6.75E-04	1.54E-04	2.68E+01	2.69E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPD	9.93E-05	2.00E-05	6.29E+00	6.30E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD	1.01E-04	2.31E-05	4.02E+00	4.04E+00
Access Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_START	1.92E-05	1.94E-06	7.01E-03	9.13E-03
Airfield Lighting	Employee Commute	Passenger Car	RPV_START	1.19E-04	8.86E-05	2.78E-01	3.12E-01
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	1.38E-04	1.40E-05	5.04E-02	6.57E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	5.94E-05	4.42E-05	1.39E-01	1.56E-01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	2.46E-05	2.49E-06	8.96E-03	1.17E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	7.41E-05	5.52E-05	1.73E-01	1.94E-01
Drainage System	Employee Commute	Passenger Car	RPV_START	4.62E-04	3.44E-04	1.08E+00	1.21E+00
Fencing	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_START	5.27E-04	3.92E-04	1.23E+00	1.38E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_START	1.05E-03	7.83E-04	2.46E+00	2.76E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_START	5.47E-04	5.53E-05	1.99E-01	2.60E-01
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_START	4.86E-05	4.92E-06	1.77E-02	2.31E-02
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_START	2.92E-04	2.95E-05	1.06E-01	1.38E-01

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_START	5.17E-04	3.85E-04	1.21E+00	1.36E+00
Runway Drains	Employee Commute	Passenger Car	RPV_START	1.31E-04	9.78E-05	3.07E-01	3.45E-01
Runway Markings	Employee Commute	Passenger Car	RPV_START	2.08E-04	1.55E-04	4.87E-01	5.46E-01
Runway Safety Area	Employee Commute	Passenger Car	RPV_START	9.50E-04	7.07E-04	2.22E+00	2.49E+00
Service Road	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_START	3.19E-06	3.23E-07	1.16E-03	1.51E-03
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	1.70E-06	1.72E-07	6.20E-04	8.07E-04
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	4.66E-05	3.47E-05	1.09E-01	1.22E-01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	1.53E-06	1.12E-07	7.74E-04	9.31E-04
Taxiway Exit	Material Delivery	Cement Mixer	RPV_START	4.75E-05	4.81E-06	1.73E-02	2.26E-02
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_START	4.22E-06	4.27E-07	1.54E-03	2.01E-03
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_START	2.53E-05	2.56E-06	9.24E-03	1.20E-02
Taxiway Exit	Employee Commute	Passenger Car	RPV_START	3.32E-04	2.47E-04	7.77E-01	8.72E-01
Taxiways	Material Delivery	Cement Mixer	RPV_START	3.22E-04	3.26E-05	1.17E-01	1.53E-01
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_START	2.86E-05	2.90E-06	1.04E-02	1.36E-02
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_START	1.72E-04	1.74E-05	6.26E-02	8.15E-02
Taxiways	Employee Commute	Passenger Car	RPV_START	8.86E-04	6.59E-04	2.07E+00	2.32E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_START	2.89E-05	2.92E-06	1.05E-02	1.37E-02
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_START	5.94E-05	4.42E-05	1.39E-01	1.56E-01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	1.52E-05	1.54E-06	5.54E-03	7.21E-03
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	9.28E-05	6.90E-05	2.17E-01	2.43E-01
Access Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck - Asphalt	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	2.96E-04	5.94E-05	1.87E+01	1.88E+01

Project Type	Construction Activity	Vehicle	Emission Process	Emissions (tons/yr)			
				CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	1.81E-04	1.83E-05	6.60E-02	8.59E-02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD	3.76E-03	5.12E-04	3.06E+02	3.07E+02
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD	7.53E-03	1.02E-03	6.12E+02	6.13E+02
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_START	4.89E-04	3.56E-05	2.47E-01	2.97E-01
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_START	9.78E-04	7.12E-05	4.94E-01	5.94E-01
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Delivery	Asphalt 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Delivery	Concrete 18 Wheeler	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



## APPENDIX C: DETAILED NON-ROAD EMISSION INVENTORY DATA FOR PROPOSED PROJECT FOR PROPOSED PROJECT

Table C1.	Construction-phase non-road equipment activity.
Table C2.	2023 construction-phase non-road equipment criteria air pollutant emission factors.
Table C3.	2023 construction-phase non-road equipment greenhouse gas emission factors.
Table C4.	2024 construction-phase non-road equipment criteria air pollutant emission factors.
Table C5.	2024 construction-phase non-road equipment greenhouse gas emission factors.
Table C6.	2023 construction-phase non-road equipment criteria air pollutant emissions.
Table C7.	2023 construction-phase non-road equipment greenhouse gas emissions.
Table C8.	2024 construction-phase non-road equipment criteria air pollutant emissions.
Table C9.	2024 construction-phase non-road equipment greenhouse gas emissions.

**Table C1. Construction-phase non-road equipment activity.**

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Access Road	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	37	37	-	2,222	2,222	-
Access Road	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	59	59	-	4,450	4,450	-
Access Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	37	37	-	3,370	3,370	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	111	111	-	10,999	10,999	-
Access Road	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	37	37	-	22,220	22,220	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	28	28	-	1,540	1,540	-
Access Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	28	28	-	3,576	3,576	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	2	-	135	135	-
Access Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	2	2	-	312	312	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	52	52	-	2,892	2,892	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	52	52	-	7,384	7,384	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	79	79	-	7,787	7,787	-
Access Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	26	26	-	3,408	3,408	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	26	26	-	1,468	1,468	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	26	26	-	3,749	3,749	-
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	6	6	-	355	355	-
Access Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	6	6	-	539	539	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	18	18	-	1,758	1,758	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Access Road	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	12	12	-	1,693	1,693	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Access Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Access Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Access Road	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Access Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	10	10	-	572	572	-
Access Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	7	7	-	427	427	-
Access Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	10	10	-	572	572	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	29	29	-	4,086	4,086	-
Access Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	4	4	-	232	232	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	12	12	-	1,661	1,661	-
Access Road	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	9	9	-	5,155	5,155	-
Access Road	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	9	9	-	5,155	5,155	-
Access Road	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	4	4	-	328	328	-
Access Road	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	232	232	-	9,759	9,759	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Access Road	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	232	232	-	17,891	17,891	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	232	232	-	33,227	33,227	-
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	15	15	-	927	927	-
Access Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	15	15	-	1,406	1,406	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	46	46	-	4,587	4,587	-
Access Road	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	15	15	-	9,267	9,267	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	47	47	-	2,632	2,632	-
Access Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	47	47	-	6,111	6,111	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	85	85	-	4,736	4,736	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	85	85	-	12,094	12,094	-
Access Road	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	169	169	-	24,188	24,188	-
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	8	8	-	473	473	-
Access Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	8	8	-	717	717	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	24	24	-	2,340	2,340	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Access Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Access Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	11	11	-
Access Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	-	26	26	-
Access Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	-	40	40	-
Access Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	-	23	23	-
Access Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	17	17	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	-	45	45	-
Access Road	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	6	6	-	891	891	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	16	16	-	2,291	2,291	-
Access Road	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	155	155	-	6,506	6,506	-
Access Road	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	155	155	-	11,927	11,927	-
Access Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	155	155	-	22,151	22,151	-
Access Road	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	134	134	-	21,099	21,099	-
Access Road	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	67	67	-	20,030	20,030	-
Airfield Lighting	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	2	1	1	105	61	44
Airfield Lighting	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	3	2	1	211	122	89
Airfield Lighting	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	1	1	160	92	67



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	5	3	2	521	301	220
Airfield Lighting	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	2	1	1	1,053	609	444
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	1	73	42	31
Airfield Lighting	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	1	169	98	71
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	6	4	3
Airfield Lighting	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	15	9	6
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	1	1	137	79	58
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	2	1	1	350	202	148
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	4	2	2	369	213	156
Airfield Lighting	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	1	162	93	68
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	1	70	40	29
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	1	178	103	75
Airfield Lighting	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	0	0	0	17	10	7
Airfield Lighting	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	0	0	26	15	11
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	0	0	83	48	35
Airfield Lighting	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	1	0	0	80	46	34
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Airfield Lighting	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	27	16	11
Airfield Lighting	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	20	12	9
Airfield Lighting	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	27	16	11
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	1	194	112	82
Airfield Lighting	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	11	6	5
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	0	0	79	46	33
Airfield Lighting	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	0	0	0	244	141	103
Airfield Lighting	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	0	0	0	244	141	103
Airfield Lighting	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	0	0	0	16	9	7
Airfield Lighting	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	11	6	5	462	267	195
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	11	6	5	848	490	358
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	11	6	5	1,575	910	664
Airfield Lighting	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	1	0	0	44	25	19
Airfield Lighting	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	1	0	0	67	39	28

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	2	1	1	217	126	92
Airfield Lighting	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	1	0	0	439	254	185
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	1	1	125	72	53
Airfield Lighting	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	2	1	1	290	167	122
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	4	2	2	224	130	95
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	4	2	2	573	331	242
Airfield Lighting	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	8	5	3	1,146	663	483
Airfield Lighting	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	0	0	0	22	13	9
Airfield Lighting	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	0	0	34	20	14
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	1	0	111	64	47
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	1	0	0
Airfield Lighting	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	1	1	1

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	2	1	1
Airfield Lighting	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	1	1	0
Airfield Lighting	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	1	0	0
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	2	1	1
Airfield Lighting	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	0	0	0	42	24	18
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	0	0	109	63	46
Airfield Lighting	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	7	4	3	308	178	130
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	7	4	3	565	327	238
Airfield Lighting	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	4	3	1,050	607	443
Airfield Lighting	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	6	4	3	1,000	578	422
Airfield Lighting	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	3	2	1	949	549	400
Demolition - Asphalt	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	10	8	2	623	492	131
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	17	13	4	1,248	985	263
Demolition - Asphalt	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	10	8	2	945	746	199
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	31	25	7	3,084	2,435	649
Demolition - Asphalt	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	10	8	2	6,231	4,919	1,312
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	8	6	2	432	341	91
Demolition - Asphalt	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	8	6	2	1,003	792	211

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	0	38	30	8
Demolition - Asphalt	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	0	88	69	18
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	14	11	3	811	640	171
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	14	11	3	2,071	1,635	436
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	22	17	5	2,184	1,724	460
Demolition - Asphalt	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	7	6	2	956	755	201
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	7	6	2	412	325	87
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	6	2	1,051	830	221
Demolition - Asphalt	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	2	1	0	100	79	21
Demolition - Asphalt	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	1	0	151	119	32
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	5	4	1	493	389	104
Demolition - Asphalt	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	3	3	1	475	375	100
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Asphalt	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Asphalt	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Demolition - Asphalt	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Demolition - Asphalt	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	3	2	1	160	127	34
Demolition - Asphalt	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	0	120	95	25
Demolition - Asphalt	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	3	2	1	160	127	34
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	8	6	2	1,146	905	241
Demolition - Asphalt	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	1	1	0	65	51	14
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	3	3	1	466	368	98
Demolition - Asphalt	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	2	2	1	1,445	1,141	304
Demolition - Asphalt	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	2	2	1	1,445	1,141	304
Demolition - Asphalt	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	1	1	0	92	73	19
Demolition - Asphalt	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	65	51	14	2,737	2,160	576
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	65	51	14	5,017	3,961	1,056
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	65	51	14	9,318	7,356	1,962
Demolition - Asphalt	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	4	3	1	260	205	55
Demolition - Asphalt	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	4	3	1	394	311	83
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	13	10	3	1,286	1,016	271
Demolition - Asphalt	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	4	3	1	2,599	2,052	547
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	13	10	3	738	583	155
Demolition - Asphalt	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	13	10	3	1,714	1,353	361

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	24	19	5	1,328	1,049	280
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	24	19	5	3,391	2,677	714
Demolition - Asphalt	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	47	37	10	6,783	5,355	1,428
Demolition - Asphalt	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	2	2	0	133	105	28
Demolition - Asphalt	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	2	0	201	159	42
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	7	5	1	656	518	138
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Asphalt	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Asphalt	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	3	2	1
Demolition - Asphalt	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	7	6	2
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	11	9	2
Demolition - Asphalt	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	6	5	1
Demolition - Asphalt	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	5	4	1
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	12	10	3

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Asphalt	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	2	1	0	250	197	53
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	4	4	1	643	507	135
Demolition - Asphalt	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	43	34	9	1,824	1,440	384
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	43	34	9	3,345	2,641	704
Demolition - Asphalt	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	43	34	9	6,212	4,904	1,308
Demolition - Asphalt	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	37	30	8	5,917	4,671	1,246
Demolition - Asphalt	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	19	15	4	5,617	4,434	1,183
Demolition - Concrete	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	10	7	2	571	421	150
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	15	11	4	1,143	843	300
Demolition - Concrete	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	10	7	2	865	638	227
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	29	21	7	2,824	2,083	741
Demolition - Concrete	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	10	7	2	5,705	4,208	1,498
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	7	5	2	396	292	104
Demolition - Concrete	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	7	5	2	918	677	241
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	0	0	35	25	9
Demolition - Concrete	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	0	0	80	59	21
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	13	10	3	742	548	195
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	13	10	3	1,896	1,398	498

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	20	15	5	1,999	1,475	525
Demolition - Concrete	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	7	5	2	875	645	230
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	7	5	2	377	278	99
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	5	2	963	710	253
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	2	1	0	91	67	24
Demolition - Concrete	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	1	0	138	102	36
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	5	3	1	451	333	119
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	3	2	1	435	321	114
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Demolition - Concrete	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	1	147	108	39
Demolition - Concrete	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	1	0	110	81	29

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Concrete	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	1	147	108	39
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	5	2	1,049	774	275
Demolition - Concrete	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	1	1	0	60	44	16
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	3	2	1	427	315	112
Demolition - Concrete	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	2	2	1	1,324	976	347
Demolition - Concrete	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	2	2	1	1,324	976	347
Demolition - Concrete	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	1	1	0	84	62	22
Demolition - Concrete	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	60	44	16	2,506	1,848	658
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	60	44	16	4,594	3,388	1,206
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	60	44	16	8,531	6,292	2,240
Demolition - Concrete	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	4	3	1	238	175	62
Demolition - Concrete	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	4	3	1	361	266	95
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	12	9	3	1,178	869	309
Demolition - Concrete	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	4	3	1	2,380	1,755	625
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	12	9	3	676	498	177
Demolition - Concrete	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	12	9	3	1,569	1,157	412
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	22	16	6	1,216	897	319
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	22	16	6	3,105	2,290	815
Demolition - Concrete	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	43	32	11	6,211	4,580	1,630
Demolition - Concrete	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	2	1	1	121	90	32



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Concrete	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	1	1	184	136	48
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	6	4	2	601	443	158
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	3	2	1
Demolition - Concrete	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	7	5	2
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	10	8	3
Demolition - Concrete	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	6	4	2
Demolition - Concrete	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	4	3	1
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	11	8	3
Demolition - Concrete	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	2	1	0	229	169	60
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	4	3	1	588	434	154
Demolition - Concrete	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	40	29	10	1,670	1,232	439
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	40	29	10	3,063	2,259	804

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Demolition - Concrete	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	40	29	10	5,688	4,195	1,493
Demolition - Concrete	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	34	25	9	5,417	3,995	1,422
Demolition - Concrete	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	17	13	5	5,143	3,793	1,350
Drainage System	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	7	2	5	408	136	272
Drainage System	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	11	4	7	817	272	545
Drainage System	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	7	2	5	619	206	412
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	20	7	14	2,019	673	1,346
Drainage System	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	7	2	5	4,078	1,359	2,719
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	5	2	3	283	94	188
Drainage System	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	5	2	3	656	219	438
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	25	8	16
Drainage System	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	57	19	38
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	9	3	6	531	177	354
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	9	3	6	1,355	452	903
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	14	5	10	1,429	476	953
Drainage System	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	5	2	3	626	209	417
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	5	2	3	269	90	180
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	5	2	3	688	229	459

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Drainage System	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	1	0	1	65	22	43
Drainage System	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	1	0	1	99	33	66
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	3	1	2	323	108	215
Drainage System	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	2	1	1	311	104	207
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Drainage System	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Drainage System	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Drainage System	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Drainage System	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	1	1	105	35	70
Drainage System	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	1	0	1	78	26	52
Drainage System	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	1	1	105	35	70
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	5	2	3	750	250	500
Drainage System	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	1	0	0	43	14	28
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	2	1	1	305	102	203
Drainage System	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	2	1	1	946	315	631

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Drainage System	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	2	1	1	946	315	631
Drainage System	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	1	0	0	60	20	40
Drainage System	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	43	14	28	1,791	597	1,194
Drainage System	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	43	14	28	3,284	1,095	2,189
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	43	14	28	6,098	2,033	4,066
Drainage System	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	3	1	2	170	57	113
Drainage System	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	3	1	2	258	86	172
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	9	3	6	842	281	561
Drainage System	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	3	1	2	1,701	567	1,134
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	9	3	6	483	161	322
Drainage System	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	9	3	6	1,122	374	748
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	16	5	10	869	290	580
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	16	5	10	2,220	740	1,480
Drainage System	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	31	10	21	4,439	1,480	2,960
Drainage System	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	1	0	1	87	29	58
Drainage System	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	1	0	1	132	44	88
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	4	1	3	429	143	286
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Drainage System	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Drainage System	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	2	1	1
Drainage System	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	5	2	3
Drainage System	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	7	2	5
Drainage System	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	4	1	3
Drainage System	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	3	1	2
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	8	3	5
Drainage System	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	1	0	1	164	55	109
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	3	1	2	421	140	280
Drainage System	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	28	9	19	1,194	398	796
Drainage System	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	28	9	19	2,189	730	1,459
Drainage System	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	28	9	19	4,066	1,355	2,710
Drainage System	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	25	8	16	3,872	1,291	2,582
Drainage System	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	12	4	8	3,676	1,225	2,451
Fencing	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	2	2	-	92	92	-



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Fencing	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	2	2	-	183	183	-
Fencing	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	2	-	139	139	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	5	5	-	453	453	-
Fencing	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	2	2	-	916	916	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	-	63	63	-
Fencing	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	-	147	147	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	6	6	-
Fencing	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	-	13	13	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	2	-	119	119	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	2	2	-	304	304	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	3	3	-	321	321	-
Fencing	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	-	140	140	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	-	61	61	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	-	155	155	-
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	0	0	-	15	15	-
Fencing	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	0	-	22	22	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	1	-	72	72	-
Fencing	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	0	0	-	70	70	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Fencing	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Fencing	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Fencing	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Fencing	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	-	24	24	-
Fencing	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	-	18	18	-
Fencing	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	-	24	24	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	-	168	168	-
Fencing	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	-	10	10	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	-	68	68	-
Fencing	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	0	0	-	212	212	-
Fencing	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	0	0	-	212	212	-
Fencing	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	0	0	-	14	14	-
Fencing	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	10	10	-	402	402	-
Fencing	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	10	10	-	737	737	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	10	10	-	1,369	1,369	-
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	1	1	-	38	38	-
Fencing	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	1	1	-	58	58	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	2	2	-	189	189	-
Fencing	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	1	1	-	382	382	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	2	-	108	108	-
Fencing	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	2	2	-	252	252	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	3	3	-	195	195	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	3	3	-	498	498	-
Fencing	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	7	7	-	997	997	-
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	0	0	-	19	19	-
Fencing	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	0	-	30	30	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	1	-	96	96	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Fencing	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Fencing	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	0	0	-
Fencing	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	-	1	1	-
Fencing	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	-	2	2	-
Fencing	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	-	1	1	-
Fencing	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	1	1	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	-	2	2	-
Fencing	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	0	0	-	37	37	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	-	94	94	-
Fencing	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	6	6	-	268	268	-
Fencing	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	6	6	-	492	492	-
Fencing	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	6	6	-	913	913	-
Fencing	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	6	6	-	870	870	-
Fencing	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	3	3	-	826	826	-
Landscaping	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	14	5	9	816	272	544
Landscaping	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	22	7	15	1,633	544	1,089
Landscaping	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	14	5	9	1,237	412	825
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	41	14	27	4,037	1,346	2,691

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Landscaping	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	14	5	9	8,156	2,719	5,437
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	10	3	7	565	188	377
Landscaping	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	10	3	7	1,313	438	875
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	0	1	49	16	33
Landscaping	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	0	1	115	38	76
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	19	6	13	1,061	354	708
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	19	6	13	2,710	903	1,807
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	29	10	19	2,858	953	1,905
Landscaping	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	10	3	6	1,251	417	834
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	10	3	6	539	180	359
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	10	3	6	1,376	459	917
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	2	1	1	130	43	87
Landscaping	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	1	1	198	66	132
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	7	2	4	645	215	430
Landscaping	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	4	1	3	621	207	414
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Landscaping	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Landscaping	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Landscaping	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Landscaping	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	3	1	2	210	70	140
Landscaping	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	3	1	2	157	52	105
Landscaping	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	3	1	2	210	70	140
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	10	3	7	1,500	500	1,000
Landscaping	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	1	0	1	85	28	57
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	4	1	3	610	203	407
Landscaping	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	3	1	2	1,892	631	1,261
Landscaping	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	3	1	2	1,892	631	1,261
Landscaping	Construction	Paint Sprayers <sup>5</sup>	Nonroad Diesel Fuel	92	0.34	1	0	1	120	40	80
Landscaping	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	85	28	57	3,582	1,194	2,388
Landscaping	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	85	28	57	6,567	2,189	4,378
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	85	28	57	12,196	4,065	8,130
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	6	2	4	340	113	227
Landscaping	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	6	2	4	516	172	344
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	17	6	11	1,684	561	1,123

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Landscaping	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	6	2	4	3,402	1,134	2,268
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	17	6	12	966	322	644
Landscaping	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	17	6	12	2,243	748	1,495
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	31	10	21	1,738	579	1,159
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	31	10	21	4,439	1,480	2,959
Landscaping	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	62	21	41	8,878	2,959	5,919
Landscaping	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	3	1	2	174	58	116
Landscaping	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	3	1	2	263	88	175
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	9	3	6	859	286	573
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Landscaping	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Landscaping	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	4	1	3
Landscaping	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	10	3	6
Landscaping	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	15	5	10

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Landscaping	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	8	3	6
Landscaping	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	6	2	4
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	16	5	11
Landscaping	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	2	1	2	327	109	218
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	6	2	4	841	280	561
Landscaping	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	57	19	38	2,388	796	1,592
Landscaping	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	57	19	38	4,378	1,459	2,919
Landscaping	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	57	19	38	8,130	2,710	5,420
Landscaping	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	49	16	33	7,744	2,581	5,163
Landscaping	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	25	8	16	7,352	2,451	4,901
NAVAIDS	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	0	-	0	6	-	6
NAVAIDS	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	0	-	0	12	-	12
NAVAIDS	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	-	0	9	-	9
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	-	0	30	-	30
NAVAIDS	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	0	-	0	61	-	61
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	4	-	4
NAVAIDS	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	-	0	10	-	10
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	0	-	0
NAVAIDS	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	-	0	1	-	1

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	8	-	8
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	20	-	20
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	-	0	22	-	22
NAVAIDS	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	-	0	9	-	9
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	4	-	4
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	10	-	10
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	0	-	0	1	-	1
NAVAIDS	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	-	0	1	-	1
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	-	0	5	-	5
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	0	-	0	5	-	5
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
NAVAIDS	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	-	0	2	-	2
NAVAIDS	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	-	0	1	-	1
NAVAIDS	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	-	0	2	-	2
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	11	-	11
NAVAIDS	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	-	0	1	-	1
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	5	-	5
NAVAIDS	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	0	-	0	14	-	14
NAVAIDS	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	0	-	0	14	-	14
NAVAIDS	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	0	-	0	1	-	1
NAVAIDS	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	1	-	1	27	-	27
NAVAIDS	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	1	-	1	49	-	49
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	-	1	92	-	92
NAVAIDS	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	0	-	0	3	-	3
NAVAIDS	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	-	0	4	-	4
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	-	0	13	-	13
NAVAIDS	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	0	-	0	26	-	26
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	7	-	7
NAVAIDS	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	-	0	17	-	17
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	13	-	13
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	33	-	33



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
NAVAIDS	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	0	-	0	67	-	67
NAVAIDS	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	0	-	0	1	-	1
NAVAIDS	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	-	0	2	-	2
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	-	0	6	-	6
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	0	-	0
NAVAIDS	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	-	0	0	-	0
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	-	0	0	-	0
NAVAIDS	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	-	0	0	-	0
NAVAIDS	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	-	0	0	-	0
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	0	-	0
NAVAIDS	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	0	-	0	2	-	2
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	6	-	6

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
NAVAIDS	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	0	-	0	18	-	18
NAVAIDS	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	0	-	0	33	-	33
NAVAIDS	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	-	0	61	-	61
NAVAIDS	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	0	-	0	58	-	58
NAVAIDS	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	0	-	0	55	-	55
Parking Lot	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	119	119	-	7,116	7,116	-
Parking Lot	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	190	190	-	14,251	14,251	-
Parking Lot	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	119	119	-	10,792	10,792	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	356	356	-	35,223	35,223	-
Parking Lot	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	119	119	-	71,158	71,158	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	88	88	-	4,933	4,933	-
Parking Lot	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	88	88	-	11,452	11,452	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	8	8	-	431	431	-
Parking Lot	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	8	8	-	1,001	1,001	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	165	165	-	9,260	9,260	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	165	165	-	23,645	23,645	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	252	252	-	24,935	24,935	-
Parking Lot	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	84	84	-	10,915	10,915	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	84	84	-	4,702	4,702	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	84	84	-	12,006	12,006	-
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	19	19	-	1,137	1,137	-
Parking Lot	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	19	19	-	1,725	1,725	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	57	57	-	5,631	5,631	-
Parking Lot	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	38	38	-	5,422	5,422	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Parking Lot	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Parking Lot	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Parking Lot	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Parking Lot	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	31	31	-	1,830	1,830	-
Parking Lot	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	23	23	-	1,368	1,368	-
Parking Lot	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	31	31	-	1,830	1,830	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	92	92	-	13,086	13,086	-
Parking Lot	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	12	12	-	744	744	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	37	37	-	5,320	5,320	-
Parking Lot	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	28	28	-	16,506	16,506	-
Parking Lot	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	28	28	-	16,506	16,506	-
Parking Lot	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	11	11	-	1,049	1,049	-
Parking Lot	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	744	744	-	31,251	31,251	-
Parking Lot	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	744	744	-	57,294	57,294	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	744	744	-	106,403	106,403	-
Parking Lot	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	49	49	-	2,968	2,968	-
Parking Lot	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	49	49	-	4,501	4,501	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	148	148	-	14,690	14,690	-
Parking Lot	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	49	49	-	29,677	29,677	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	151	151	-	8,429	8,429	-
Parking Lot	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	151	151	-	19,568	19,568	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	271	271	-	15,167	15,167	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	271	271	-	38,729	38,729	-
Parking Lot	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	542	542	-	77,458	77,458	-
Parking Lot	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	25	25	-	1,514	1,514	-
Parking Lot	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	25	25	-	2,296	2,296	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	76	76	-	7,493	7,493	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Parking Lot	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Parking Lot	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	-	36	36	-
Parking Lot	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	-	83	83	-
Parking Lot	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	1	-	127	127	-
Parking Lot	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	-	74	74	-
Parking Lot	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	-	56	56	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	-	143	143	-
Parking Lot	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	20	20	-	2,854	2,854	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	51	51	-	7,338	7,338	-
Parking Lot	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	496	496	-	20,834	20,834	-
Parking Lot	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	496	496	-	38,196	38,196	-
Parking Lot	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	496	496	-	70,935	70,935	-
Parking Lot	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	428	428	-	67,565	67,565	-



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Parking Lot	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	214	214	-	64,144	64,144	-
Rehabilitate Runway	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	164	112	53	9,866	6,709	3,157
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	263	179	84	19,758	13,436	6,323
Rehabilitate Runway	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	164	112	53	14,963	10,175	4,788
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	493	335	158	48,835	33,208	15,627
Rehabilitate Runway	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	164	112	53	98,658	67,087	31,570
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	122	83	39	6,840	4,651	2,189
Rehabilitate Runway	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	122	83	39	15,878	10,797	5,081
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	11	7	3	598	406	191
Rehabilitate Runway	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	11	7	3	1,387	943	444
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	229	156	73	12,838	8,730	4,108
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	229	156	73	32,783	22,292	10,491
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	349	237	112	34,572	23,509	11,063
Rehabilitate Runway	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	116	79	37	15,133	10,290	4,842
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	116	79	37	6,519	4,433	2,086
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	116	79	37	16,646	11,319	5,327
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	26	18	8	1,577	1,072	505
Rehabilitate Runway	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	26	18	8	2,392	1,627	765

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	79	54	25	7,807	5,309	2,498
Rehabilitate Runway	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	53	36	17	7,517	5,112	2,406
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Rehabilitate Runway	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Rehabilitate Runway	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Rehabilitate Runway	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Rehabilitate Runway	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	42	29	14	2,538	1,726	812
Rehabilitate Runway	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	32	22	10	1,897	1,290	607
Rehabilitate Runway	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	42	29	14	2,538	1,726	812
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	127	86	41	18,144	12,338	5,806
Rehabilitate Runway	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	17	12	6	1,032	702	330
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	52	35	17	7,376	5,016	2,360
Rehabilitate Runway	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	38	26	12	22,886	15,562	7,323
Rehabilitate Runway	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	38	26	12	22,886	15,562	7,323
Rehabilitate Runway	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	16	11	5	1,455	989	465

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Rehabilitate Runway	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	1,032	702	330	43,329	29,464	13,865
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	1,032	702	330	79,436	54,016	25,419
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1,032	702	330	147,524	100,316	47,208
Rehabilitate Runway	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	69	47	22	4,115	2,798	1,317
Rehabilitate Runway	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	69	47	22	6,241	4,244	1,997
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	206	140	66	20,368	13,850	6,518
Rehabilitate Runway	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	69	47	22	41,147	27,980	13,167
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	209	142	67	11,687	7,947	3,740
Rehabilitate Runway	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	209	142	67	27,131	18,449	8,682
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	375	255	120	21,028	14,299	6,729
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	375	255	120	53,696	36,514	17,183
Rehabilitate Runway	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	751	511	240	107,393	73,027	34,366
Rehabilitate Runway	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	35	24	11	2,099	1,427	672
Rehabilitate Runway	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	35	24	11	3,183	2,165	1,019
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	105	71	34	10,389	7,065	3,325
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Rehabilitate Runway	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Rehabilitate Runway	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	0	50	34	16
Rehabilitate Runway	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	0	116	79	37
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	2	1	1	176	120	56
Rehabilitate Runway	Construction	Graders	Nonroad Diesel Fuel	172	0.41	1	0	0	102	69	33
Rehabilitate Runway	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	0	77	53	25
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	1	0	198	135	63
Rehabilitate Runway	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	28	19	9	3,957	2,690	1,266
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	71	48	23	10,174	6,918	3,256
Rehabilitate Runway	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	688	468	220	28,886	19,642	9,243
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	688	468	220	52,957	36,011	16,946
Rehabilitate Runway	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	688	468	220	98,349	66,877	31,472
Rehabilitate Runway	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	593	403	190	93,677	63,701	29,977
Rehabilitate Runway	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	296	202	95	88,934	60,475	28,459
Runway Drains	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	23	16	7	1,381	939	442
Runway Drains	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	37	25	12	2,767	1,881	885
Runway Drains	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	23	16	7	2,095	1,425	670

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	69	47	22	6,838	4,650	2,188
Runway Drains	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	23	16	7	13,815	9,394	4,421
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	17	12	5	958	651	306
Runway Drains	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	17	12	5	2,223	1,512	711
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	0	84	57	27
Runway Drains	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	0	194	132	62
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	32	22	10	1,798	1,222	575
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	32	22	10	4,591	3,122	1,469
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	49	33	16	4,841	3,292	1,549
Runway Drains	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	16	11	5	2,119	1,441	678
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	16	11	5	913	621	292
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	16	11	5	2,331	1,585	746
Runway Drains	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	4	3	1	221	150	71
Runway Drains	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	4	3	1	335	228	107
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	11	8	4	1,093	743	350
Runway Drains	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	7	5	2	1,053	716	337
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Drains	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Drains	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Drains	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Runway Drains	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	6	4	2	355	242	114
Runway Drains	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	4	3	1	266	181	85
Runway Drains	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	6	4	2	355	242	114
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	18	12	6	2,541	1,728	813
Runway Drains	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	1	144	98	46
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	5	2	1,033	702	331
Runway Drains	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	5	4	2	3,205	2,179	1,025
Runway Drains	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	5	4	2	3,205	2,179	1,025
Runway Drains	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	2	2	1	204	139	65
Runway Drains	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	144	98	46	6,067	4,126	1,942
Runway Drains	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	144	98	46	11,123	7,564	3,559
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	144	98	46	20,657	14,047	6,610
Runway Drains	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	10	7	3	576	392	184
Runway Drains	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	10	7	3	874	594	280

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	29	20	9	2,852	1,939	913
Runway Drains	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	10	7	3	5,762	3,918	1,844
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	29	20	9	1,637	1,113	524
Runway Drains	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	29	20	9	3,799	2,583	1,216
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	53	36	17	2,944	2,002	942
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	53	36	17	7,519	5,113	2,406
Runway Drains	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	105	72	34	15,038	10,226	4,812
Runway Drains	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	5	3	2	294	200	94
Runway Drains	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	5	3	2	446	303	143
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	15	10	5	1,455	989	466
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Drains	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Drains	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	7	5	2
Runway Drains	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	16	11	5

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Drains	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	25	17	8
Runway Drains	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	14	10	5
Runway Drains	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	11	7	3
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	28	19	9
Runway Drains	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	4	3	1	554	377	177
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	10	7	3	1,425	969	456
Runway Drains	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	96	65	31	4,045	2,750	1,294
Runway Drains	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	96	65	31	7,415	5,043	2,373
Runway Drains	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	96	65	31	13,772	9,365	4,407
Runway Drains	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	83	56	27	13,117	8,920	4,198
Runway Drains	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	42	28	13	12,453	8,468	3,985
Runway Markings	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	189	59	129	11,330	3,561	7,769
Runway Markings	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	303	95	207	22,690	7,131	15,559
Runway Markings	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	189	59	129	17,183	5,400	11,783
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	566	178	388	56,082	17,626	38,456
Runway Markings	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	189	59	129	113,296	35,607	77,689
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	140	44	96	7,854	2,469	5,386
Runway Markings	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	140	44	96	18,234	5,731	12,503

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	12	4	8	686	216	471
Runway Markings	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	12	4	8	1,593	501	1,093
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	263	83	181	14,743	4,634	10,110
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	263	83	181	37,647	11,832	25,815
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	401	126	275	39,702	12,478	27,224
Runway Markings	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	134	42	92	17,378	5,462	11,916
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	134	42	92	7,486	2,353	5,133
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	134	42	92	19,116	6,008	13,108
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	30	9	21	1,811	569	1,242
Runway Markings	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	30	9	21	2,747	863	1,884
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	91	28	62	8,965	2,818	6,147
Runway Markings	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	60	19	41	8,633	2,713	5,920
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Markings	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Markings	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Markings	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Runway Markings	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	49	15	33	2,914	916	1,998
Runway Markings	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	36	11	25	2,179	685	1,494
Runway Markings	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	49	15	33	2,914	916	1,998
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	146	46	100	20,836	6,548	14,287
Runway Markings	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	20	6	14	1,185	372	812
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	59	19	41	8,471	2,662	5,808
Runway Markings	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	44	14	30	26,281	8,260	18,022
Runway Markings	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	44	14	30	26,281	8,260	18,022
Runway Markings	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	18	6	12	1,670	525	1,145
Runway Markings	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	1,185	372	812	49,758	15,638	34,120
Runway Markings	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	1,185	372	812	91,223	28,670	62,553
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1,185	372	812	169,413	53,244	116,169
Runway Markings	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	79	25	54	4,725	1,485	3,240
Runway Markings	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	79	25	54	7,167	2,252	4,914
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	236	74	162	23,390	7,351	16,039
Runway Markings	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	79	25	54	47,252	14,851	32,402
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	240	75	164	13,421	4,218	9,203
Runway Markings	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	240	75	164	31,156	9,792	21,364



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	431	136	296	24,148	7,589	16,559
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	431	136	296	61,664	19,380	42,284
Runway Markings	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	862	271	591	123,328	38,760	84,568
Runway Markings	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	40	13	28	2,410	758	1,653
Runway Markings	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	40	13	28	3,656	1,149	2,507
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	121	38	83	11,931	3,750	8,181
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Markings	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Markings	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	0	1	57	18	39
Runway Markings	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	0	1	133	42	91
Runway Markings	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	2	1	1	202	64	139
Runway Markings	Construction	Graders	Nonroad Diesel Fuel	172	0.41	1	0	0	117	37	80
Runway Markings	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	0	1	89	28	61
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	2	0	1	227	71	156

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Markings	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	32	10	22	4,544	1,428	3,116
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	82	26	56	11,684	3,672	8,012
Runway Markings	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	790	248	542	33,172	10,425	22,746
Runway Markings	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	790	248	542	60,815	19,113	41,702
Runway Markings	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	790	248	542	112,942	35,496	77,446
Runway Markings	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	681	214	467	107,577	33,810	73,767
Runway Markings	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	340	107	233	102,130	32,098	70,032
Runway Safety Area	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	136	-	136	8,132	-	8,132
Runway Safety Area	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	217	-	217	16,286	-	16,286
Runway Safety Area	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	136	-	136	12,333	-	12,333
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	407	-	407	40,253	-	40,253
Runway Safety Area	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	136	-	136	81,319	-	81,319
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	101	-	101	5,638	-	5,638
Runway Safety Area	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	101	-	101	13,087	-	13,087
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	9	-	9	493	-	493
Runway Safety Area	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	9	-	9	1,144	-	1,144
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	189	-	189	10,582	-	10,582
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	189	-	189	27,022	-	27,022

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	288	-	288	28,496	-	28,496
Runway Safety Area	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	96	-	96	12,473	-	12,473
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	96	-	96	5,373	-	5,373
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	96	-	96	13,720	-	13,720
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	22	-	22	1,300	-	1,300
Runway Safety Area	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	22	-	22	1,972	-	1,972
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	65	-	65	6,435	-	6,435
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	43	-	43	6,196	-	6,196
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Runway Safety Area	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	35	-	35	2,092	-	2,092
Runway Safety Area	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	26	-	26	1,564	-	1,564

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Safety Area	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	35	-	35	2,092	-	2,092
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	105	-	105	14,955	-	14,955
Runway Safety Area	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	14	-	14	850	-	850
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	43	-	43	6,080	-	6,080
Runway Safety Area	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	31	-	31	18,864	-	18,864
Runway Safety Area	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	31	-	31	18,864	-	18,864
Runway Safety Area	Construction	Paint Sprayers <sup>5</sup>	Nonroad Diesel Fuel	92	0.34	13	-	13	1,199	-	1,199
Runway Safety Area	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	850	-	850	35,714	-	35,714
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	850	-	850	65,475	-	65,475
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	850	-	850	121,597	-	121,597
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	57	-	57	3,392	-	3,392
Runway Safety Area	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	57	-	57	5,144	-	5,144
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	170	-	170	16,788	-	16,788
Runway Safety Area	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	57	-	57	33,915	-	33,915
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	172	-	172	9,633	-	9,633
Runway Safety Area	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	172	-	172	22,363	-	22,363
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	310	-	310	17,332	-	17,332
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	310	-	310	44,259	-	44,259
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	619	-	619	88,519	-	88,519
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	29	-	29	1,730	-	1,730

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Safety Area	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	29	-	29	2,624	-	2,624
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	86	-	86	8,563	-	8,563
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	-	1	41	-	41
Runway Safety Area	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	-	1	95	-	95
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	-	1	145	-	145
Runway Safety Area	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	-	0	84	-	84
Runway Safety Area	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	-	1	64	-	64
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	-	1	163	-	163
Runway Safety Area	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	23	-	23	3,261	-	3,261
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	59	-	59	8,386	-	8,386
Runway Safety Area	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	567	-	567	23,809	-	23,809
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	567	-	567	43,650	-	43,650



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Runway Safety Area	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	567	-	567	81,065	-	81,065
Runway Safety Area	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	489	-	489	77,214	-	77,214
Runway Safety Area	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	244	-	244	73,304	-	73,304
Service Road	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	9	9	-	570	570	-
Service Road	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	15	15	-	1,141	1,141	-
Service Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	9	9	-	864	864	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	28	28	-	2,820	2,820	-
Service Road	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	9	9	-	5,696	5,696	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	7	7	-	395	395	-
Service Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	7	7	-	917	917	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	1	-	35	35	-
Service Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	1	-	80	80	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	13	13	-	741	741	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	13	13	-	1,893	1,893	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	20	20	-	1,996	1,996	-
Service Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	7	7	-	874	874	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	7	7	-	376	376	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	7	-	961	961	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Service Road	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	2	2	-	91	91	-
Service Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	2	-	138	138	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	5	5	-	451	451	-
Service Road	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	3	3	-	434	434	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Service Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Service Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Service Road	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Service Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	-	147	147	-
Service Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	-	110	110	-
Service Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	2	2	-	147	147	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	7	7	-	1,048	1,048	-
Service Road	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	1	1	-	60	60	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	3	3	-	426	426	-
Service Road	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	2	2	-	1,321	1,321	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Service Road	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	2	2	-	1,321	1,321	-
Service Road	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	1	1	-	84	84	-
Service Road	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	60	60	-	2,502	2,502	-
Service Road	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	60	60	-	4,586	4,586	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	60	60	-	8,517	8,517	-
Service Road	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	4	4	-	238	238	-
Service Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	4	4	-	360	360	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	12	12	-	1,176	1,176	-
Service Road	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	4	4	-	2,376	2,376	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	12	12	-	675	675	-
Service Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	12	12	-	1,566	1,566	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	22	22	-	1,214	1,214	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	22	22	-	3,100	3,100	-
Service Road	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	43	43	-	6,200	6,200	-
Service Road	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	2	2	-	121	121	-
Service Road	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	2	2	-	184	184	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	6	6	-	600	600	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Service Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Service Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	3	3	-
Service Road	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	-	7	7	-
Service Road	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	-	10	10	-
Service Road	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	-	6	6	-
Service Road	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	-	4	4	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	-	11	11	-
Service Road	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	2	2	-	228	228	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	4	4	-	587	587	-
Service Road	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	40	40	-	1,668	1,668	-
Service Road	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	40	40	-	3,058	3,058	-
Service Road	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	40	40	-	5,678	5,678	-
Service Road	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	34	34	-	5,408	5,408	-
Service Road	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	17	17	-	5,135	5,135	-
Site Work - 10000 sqft	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	1	1	1	78	39	39

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	2	1	1	155	78	78
Site Work - 10000 sqft	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	1	1	1	118	59	59
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	4	2	2	384	192	192
Site Work - 10000 sqft	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	1	1	1	775	388	388
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	0	0	54	27	27
Site Work - 10000 sqft	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	0	0	125	62	62
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	5	2	2
Site Work - 10000 sqft	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	11	5	5
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	1	1	101	50	50
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	2	1	1	258	129	129
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	3	1	1	272	136	136
Site Work - 10000 sqft	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	1	0	0	119	59	59
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	0	0	51	26	26
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	0	0	131	65	65
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	0	0	0	12	6	6
Site Work - 10000 sqft	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	0	0	19	9	9
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	0	0	61	31	31
Site Work - 10000 sqft	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	0	0	0	59	30	30

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	20	10	10
Site Work - 10000 sqft	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	15	7	7
Site Work - 10000 sqft	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	20	10	10
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	0	0	143	71	71
Site Work - 10000 sqft	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	0	0	0	8	4	4
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	58	29	29
Site Work - 10000 sqft	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	0	0	0	180	90	90
Site Work - 10000 sqft	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	0	0	0	180	90	90
Site Work - 10000 sqft	Construction	Paint Sprayers5	Nonroad Diesel Fuel	92	0.34	0	0	0	11	6	6
Site Work - 10000 sqft	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	8	4	4	341	170	170
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	8	4	4	624	312	312



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	8	4	4	1,160	580	580
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	1	0	0	32	16	16
Site Work - 10000 sqft	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	1	0	0	49	25	25
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	2	1	1	160	80	80
Site Work - 10000 sqft	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	1	0	0	323	162	162
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	1	1	92	46	46
Site Work - 10000 sqft	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	2	1	1	213	107	107
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	3	1	1	165	83	83
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	3	1	1	422	211	211
Site Work - 10000 sqft	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	6	3	3	844	422	422
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	0	0	0	16	8	8
Site Work - 10000 sqft	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	0	0	0	25	13	13
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	0	0	82	41	41
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	0	0	0
Site Work - 10000 sqft	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	1	0	0
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	1	1	1
Site Work - 10000 sqft	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	1	0	0
Site Work - 10000 sqft	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	1	0	0
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	2	1	1
Site Work - 10000 sqft	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	0	0	0	31	16	16
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	0	0	80	40	40
Site Work - 10000 sqft	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	5	3	3	227	114	114
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	5	3	3	416	208	208
Site Work - 10000 sqft	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	5	3	3	773	387	387
Site Work - 10000 sqft	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	5	2	2	736	368	368
Site Work - 10000 sqft	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	2	1	1	699	350	350
Taxiway Exit	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	35	29	6	2,098	1,726	372
Taxiway Exit	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	56	46	10	4,202	3,457	746
Taxiway Exit	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	35	29	6	3,182	2,618	565
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	105	86	19	10,386	8,544	1,843

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiway Exit	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	35	29	6	20,982	17,260	3,723
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	26	21	5	1,455	1,197	258
Taxiway Exit	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	26	21	5	3,377	2,778	599
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	2	2	0	127	105	23
Taxiway Exit	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	2	2	0	295	243	52
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	49	40	9	2,730	2,246	484
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	49	40	9	6,972	5,735	1,237
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	74	61	13	7,353	6,048	1,305
Taxiway Exit	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	25	20	4	3,218	2,647	571
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	25	20	4	1,386	1,140	246
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	25	20	4	3,540	2,912	628
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	6	5	1	335	276	60
Taxiway Exit	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	6	5	1	509	418	90
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	17	14	3	1,660	1,366	295
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	11	9	2	1,599	1,315	284
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiway Exit	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiway Exit	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Taxiway Exit	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-
Taxiway Exit	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	9	7	2	540	444	96
Taxiway Exit	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	7	6	1	404	332	72
Taxiway Exit	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	9	7	2	540	444	96
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	27	22	5	3,859	3,174	685
Taxiway Exit	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	4	3	1	219	180	39
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	11	9	2	1,569	1,290	278
Taxiway Exit	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	8	7	1	4,867	4,004	864
Taxiway Exit	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	8	7	1	4,867	4,004	864
Taxiway Exit	Construction	Paint Sprayers <sup>5</sup>	Nonroad Diesel Fuel	92	0.34	3	3	1	309	254	55
Taxiway Exit	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	219	180	39	9,215	7,580	1,635
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	219	180	39	16,894	13,897	2,997
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	219	180	39	31,375	25,809	5,567
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	15	12	3	875	720	155
Taxiway Exit	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	15	12	3	1,327	1,092	235
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	44	36	8	4,332	3,563	769

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiway Exit	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	15	12	3	8,751	7,198	1,553
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	44	37	8	2,486	2,045	441
Taxiway Exit	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	44	37	8	5,770	4,746	1,024
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	80	66	14	4,472	3,679	793
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	80	66	14	11,420	9,394	2,026
Taxiway Exit	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	160	131	28	22,840	18,788	4,052
Taxiway Exit	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	7	6	1	446	367	79
Taxiway Exit	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	7	6	1	677	557	120
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	22	18	4	2,210	1,818	392
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiway Exit	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiway Exit	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	11	9	2
Taxiway Exit	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	25	20	4
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	0	0	0	37	31	7

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiway Exit	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	22	18	4
Taxiway Exit	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	16	14	3
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	0	0	0	42	35	7
Taxiway Exit	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	6	5	1	841	692	149
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	15	12	3	2,164	1,780	384
Taxiway Exit	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	146	120	26	6,143	5,053	1,090
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	146	120	26	11,263	9,265	1,998
Taxiway Exit	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	146	120	26	20,917	17,206	3,711
Taxiway Exit	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	126	104	22	19,923	16,389	3,535
Taxiway Exit	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	63	52	11	18,915	15,559	3,356
Taxiways	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	60	0.37	75	40	36	4,508	2,377	2,131
Taxiways	Construction	Advance Joint Sealant Equipment	Nonroad Diesel Fuel	75	0.36	120	63	57	9,028	4,761	4,267
Taxiways	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	75	40	36	6,837	3,606	3,231
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	225	119	107	22,314	11,768	10,547
Taxiways	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	75	40	36	45,080	23,773	21,306
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	56	29	26	3,125	1,648	1,477
Taxiways	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	56	29	26	7,255	3,826	3,429
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	5	3	2	273	144	129
Taxiways	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	5	3	2	634	334	300



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	105	55	50	5,866	3,094	2,773
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	105	55	50	14,980	7,900	7,080
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	160	84	75	15,797	8,331	7,466
Taxiways	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	53	28	25	6,915	3,646	3,268
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	53	28	25	2,979	1,571	1,408
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	53	28	25	7,606	4,011	3,595
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	12	6	6	721	380	341
Taxiways	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	12	6	6	1,093	576	517
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	36	19	17	3,567	1,881	1,686
Taxiways	Construction	Hoe Ram <sup>4</sup>	Nonroad Diesel Fuel	143	0.38	24	13	11	3,435	1,811	1,623
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiways	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiways	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Taxiways	Construction	Bore Drill Rigs	Nonroad Diesel Fuel	209	0.50	-	-	-	-	-	-

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiways	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	19	10	9	1,159	611	548
Taxiways	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	14	8	7	867	457	410
Taxiways	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	19	10	9	1,159	611	548
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	58	31	27	8,290	4,372	3,918
Taxiways	Construction	Trenchers	Nonroad Diesel Fuel	60	0.50	8	4	4	471	249	223
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	24	12	11	3,370	1,777	1,593
Taxiways	Construction	Rotary Cold Mill	Nonroad Diesel Fuel	600	0.36	17	9	8	10,457	5,515	4,942
Taxiways	Construction	Grooving Machine	Nonroad Diesel Fuel	600	0.30	17	9	8	10,457	5,515	4,942
Taxiways	Construction	Paint Sprayers <sup>5</sup>	Nonroad Diesel Fuel	92	0.34	7	4	3	665	351	314
Taxiways	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	471	249	223	19,798	10,441	9,357
Taxiways	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	471	249	223	36,297	19,142	17,155
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	471	249	223	67,408	35,549	31,860
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	Nonroad Diesel Fuel	60	0.37	31	17	15	1,880	992	889
Taxiways	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	31	17	15	2,852	1,504	1,348
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	94	50	44	9,307	4,908	4,399
Taxiways	Construction	Tack Truck	Nonroad Diesel Fuel	600	0.38	31	17	15	18,801	9,915	8,886
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	95	50	45	5,340	2,816	2,524
Taxiways	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	95	50	45	12,397	6,538	5,859
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	172	90	81	9,608	5,067	4,541
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	172	90	81	24,535	12,939	11,596

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiways	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	343	181	162	49,071	25,878	23,193
Taxiways	Construction	Skid Steer Loaders4	Nonroad Diesel Fuel	60	0.37	16	8	8	959	506	453
Taxiways	Construction	Asphalt Paver	Nonroad Diesel Fuel	91	0.42	16	8	8	1,455	767	687
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	48	25	23	4,747	2,503	2,244
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiways	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	-	-	-	-	-	-
Taxiways	Construction	Graders	Nonroad Diesel Fuel	172	0.41	-	-	-	-	-	-
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	-	-	-	-	-	-
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	-	-	-	-	-	-
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	0	0	0	23	12	11
Taxiways	Construction	Concrete Pavers	Nonroad Diesel Fuel	130	0.42	0	0	0	53	28	25
Taxiways	Construction	Rollers (Compactor Roller incl.)	Nonroad Diesel Fuel	99	0.38	1	0	0	80	42	38
Taxiways	Construction	Graders	Nonroad Diesel Fuel	172	0.41	0	0	0	47	25	22
Taxiways	Construction	Concrete Saw	Nonroad Diesel Fuel	56	0.59	1	0	0	35	19	17
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	1	0	0	90	48	43
Taxiways	Construction	Hoe Ram4	Nonroad Diesel Fuel	143	0.38	13	7	6	1,808	953	854
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	33	17	15	4,649	2,452	2,197

Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Total Hours	Hours - 2023	Hours - 2024	Total Horsepower-Hours	Horsepower-Hours - 2023	Horsepower-Hours - 2024
Taxiways	Construction	Skid Steer Loaders	Nonroad Diesel Fuel	42	0.37	314	166	149	13,199	6,961	6,238
Taxiways	Construction	Tractor/Loader (Backhoe)	Nonroad Diesel Fuel	77	0.37	314	166	149	24,198	12,761	11,437
Taxiways	Construction	Excavators	Nonroad Diesel Fuel	143	0.38	314	166	149	44,939	23,699	21,240
Taxiways	Construction	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	271	143	128	42,804	22,573	20,231
Taxiways	Construction	Large Concrete Crusher	Nonroad Diesel Fuel	300	0.43	135	71	64	40,637	21,430	19,206
Asphalt Plant	Plant Mobile Source	Generator	Nonroad Diesel Fuel	22	0.31	2,436	1,330	1,106	53,592	29,261	24,331
Asphalt Plant	Plant Mobile Source	Pumps	Nonroad Diesel Fuel	23	0.43	2,436	1,330	1,106	56,028	30,591	25,437
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	2,436	1,330	1,106	384,888	210,149	174,739
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	Nonroad Diesel Fuel	500	0.43	2,436	1,330	1,106	1,218,000	665,028	552,972
Concrete Plant	Plant Mobile Source	Generator	Nonroad Diesel Fuel	22	0.31	4,872	2,660	2,212	107,184	58,522	48,662
Concrete Plant	Plant Mobile Source	Pumps	Nonroad Diesel Fuel	23	0.43	4,872	2,660	2,212	112,056	61,183	50,873
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	Nonroad Diesel Fuel	158	0.36	4,872	2,660	2,212	769,776	420,298	349,478
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	Nonroad Diesel Fuel	500	0.43	4,872	2,660	2,212	2,436,000	1,330,056	1,105,944

**Table C2. 2023 construction-phase non-road equipment criteria air pollutant emission factors.**

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Access Road	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Access Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Access Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Access Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Access Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Access Road	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Access Road	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Access Road	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Access Road	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Access Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Access Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Access Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Access Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Access Road	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Access Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Access Road	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Access Road	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Airfield Lighting	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Airfield Lighting	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Airfield Lighting	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Airfield Lighting	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Airfield Lighting	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Airfield Lighting	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Airfield Lighting	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Airfield Lighting	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Airfield Lighting	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Airfield Lighting	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Airfield Lighting	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Airfield Lighting	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Airfield Lighting	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Airfield Lighting	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Airfield Lighting	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Airfield Lighting	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Demolition - Asphalt	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Asphalt	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Demolition - Asphalt	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Asphalt	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Asphalt	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Demolition - Asphalt	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Demolition - Asphalt	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Asphalt	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Asphalt	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Asphalt	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Asphalt	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Demolition - Asphalt	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Asphalt	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Demolition - Concrete	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Demolition - Concrete	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Concrete	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Demolition - Concrete	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Concrete	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Concrete	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Demolition - Concrete	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Demolition - Concrete	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Demolition - Concrete	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Concrete	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Demolition - Concrete	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Demolition - Concrete	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Demolition - Concrete	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Demolition - Concrete	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Demolition - Concrete	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Demolition - Concrete	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Drainage System	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Drainage System	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Drainage System	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Drainage System	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Drainage System	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Drainage System	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Drainage System	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Drainage System	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Drainage System	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Drainage System	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Drainage System	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Drainage System	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Drainage System	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Drainage System	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Drainage System	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Drainage System	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Drainage System	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Drainage System	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Fencing	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Fencing	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Fencing	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Fencing	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Fencing	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Fencing	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Fencing	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Fencing	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Fencing	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Fencing	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Fencing	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Fencing	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Fencing	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Fencing	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Fencing	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Fencing	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Fencing	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Fencing	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Landscaping	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Landscaping	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Landscaping	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Landscaping	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Landscaping	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Landscaping	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Landscaping	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Landscaping	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Landscaping	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Landscaping	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Landscaping	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Landscaping	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Landscaping	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Landscaping	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Landscaping	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Landscaping	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Landscaping	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Landscaping	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Landscaping	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
NAVAIDS	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
NAVAIDS	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
NAVAIDS	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
NAVAIDS	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
NAVAIDS	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
NAVAIDS	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
NAVAIDS	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
NAVAIDS	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
NAVAIDS	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
NAVAIDS	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
NAVAIDS	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
NAVAIDS	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
NAVAIDS	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
NAVAIDS	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
NAVAIDS	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
NAVAIDS	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
NAVAIDS	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Parking Lot	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Parking Lot	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Parking Lot	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Parking Lot	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Parking Lot	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Parking Lot	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Parking Lot	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Parking Lot	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Parking Lot	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Parking Lot	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Parking Lot	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Parking Lot	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Parking Lot	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Parking Lot	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Parking Lot	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Parking Lot	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Parking Lot	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Parking Lot	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Rehabilitate Runway	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Rehabilitate Runway	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Rehabilitate Runway	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Rehabilitate Runway	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Rehabilitate Runway	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Rehabilitate Runway	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Rehabilitate Runway	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Rehabilitate Runway	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Rehabilitate Runway	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Rehabilitate Runway	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Rehabilitate Runway	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Rehabilitate Runway	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Rehabilitate Runway	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Rehabilitate Runway	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Rehabilitate Runway	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Runway Drains	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Drains	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Runway Drains	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Drains	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Runway Drains	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Drains	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Drains	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Runway Drains	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Runway Drains	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Runway Drains	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Runway Drains	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Drains	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Drains	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Drains	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Runway Drains	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Runway Drains	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Drains	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Runway Drains	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Runway Markings	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Markings	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Runway Markings	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Markings	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Runway Markings	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Markings	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Markings	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Runway Markings	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Runway Markings	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Markings	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Markings	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Markings	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Markings	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Runway Markings	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Runway Markings	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Markings	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Runway Markings	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Runway Safety Area	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Safety Area	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Runway Safety Area	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Safety Area	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Runway Safety Area	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Safety Area	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Safety Area	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Runway Safety Area	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Runway Safety Area	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Safety Area	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Runway Safety Area	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Runway Safety Area	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Runway Safety Area	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Runway Safety Area	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Runway Safety Area	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Runway Safety Area	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Service Road	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Service Road	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Service Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Service Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Service Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Service Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Service Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Service Road	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Service Road	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Service Road	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Service Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Service Road	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Service Road	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Service Road	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Service Road	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Service Road	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Service Road	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Service Road	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Site Work - 10000 sqft	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Site Work - 10000 sqft	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Site Work - 10000 sqft	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Site Work - 10000 sqft	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Site Work - 10000 sqft	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Site Work - 10000 sqft	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Site Work - 10000 sqft	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Site Work - 10000 sqft	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Site Work - 10000 sqft	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Taxiway Exit	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiway Exit	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Taxiway Exit	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiway Exit	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Taxiway Exit	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiway Exit	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiway Exit	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Taxiway Exit	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Taxiway Exit	Construction	Paint Sprayers5	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Taxiway Exit	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiway Exit	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Skid Steer Loaders4	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiway Exit	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiway Exit	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiway Exit	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Taxiway Exit	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiway Exit	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Taxiway Exit	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Taxiways	Construction	Skid Steer Loaders	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiways	Construction	Advance Joint Sealant Equipment	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Taxiways	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiways	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Bore Drill Rigs	1.95E+00	4.88E-01	1.46E-01	1.54E-03	9.65E-02	9.36E-02
Taxiways	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiways	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiways	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Trenchers	2.74E+00	5.87E-01	9.61E-02	1.57E-03	6.22E-02	6.03E-02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Rotary Cold Mill	2.29E+00	9.20E-01	1.80E-01	1.57E-03	1.90E-01	1.85E-01
Taxiways	Construction	Grooving Machine	2.67E+00	1.25E+00	1.78E-01	1.60E-03	1.79E-01	1.74E-01
Taxiways	Construction	Paint Sprayers <sup>5</sup>	1.78E+00	7.40E-01	8.87E-02	1.60E-03	1.22E-01	1.19E-01
Taxiways	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Taxiways	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiways	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Tack Truck	1.21E+00	5.14E-01	7.12E-02	1.48E-03	8.14E-02	7.90E-02
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Hoe Ram <sup>4</sup>	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	2.56E+00	2.40E-01	5.75E-02	1.72E-03	1.97E-02	1.91E-02
Taxiways	Construction	Asphalt Paver	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Concrete Pavers	2.86E+00	1.08E+00	2.32E-01	1.61E-03	1.75E-01	1.69E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.05E+00	2.27E-01	1.61E-03	1.71E-01	1.66E-01
Taxiways	Construction	Graders	2.60E+00	8.57E-01	2.17E-01	1.60E-03	1.30E-01	1.26E-01
Taxiways	Construction	Concrete Saw	2.94E+00	8.95E-01	1.41E-01	1.66E-03	1.14E-01	1.11E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Hoe Ram4	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Skid Steer Loaders	2.55E+00	3.11E-01	9.73E-02	1.72E-03	2.50E-02	2.43E-02
Taxiways	Construction	Tractor/Loader (Backhoe)	3.73E+00	3.83E+00	6.99E-01	2.08E-03	5.02E-01	4.87E-01
Taxiways	Construction	Excavators	2.63E+00	8.83E-01	1.97E-01	1.60E-03	1.37E-01	1.33E-01
Taxiways	Construction	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Taxiways	Construction	Large Concrete Crusher	6.48E-01	1.60E-01	4.30E-02	1.39E-03	2.89E-02	2.81E-02
Asphalt Plant	Plant Mobile Source	Generator	4.38E+00	2.10E+00	5.50E-01	2.03E-03	2.88E-01	2.79E-01
Asphalt Plant	Plant Mobile Source	Pumps	3.89E+00	1.66E+00	4.06E-01	2.03E-03	1.96E-01	1.90E-01
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	2.74E+00	7.88E-01	1.70E-01	1.59E-03	1.12E-01	1.08E-01
Concrete Plant	Plant Mobile Source	Generator	4.38E+00	2.10E+00	5.50E-01	2.03E-03	2.88E-01	2.79E-01
Concrete Plant	Plant Mobile Source	Pumps	3.89E+00	1.66E+00	4.06E-01	2.03E-03	1.96E-01	1.90E-01
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	7.76E-01	2.52E-01	4.01E-02	1.39E-03	6.16E-02	5.97E-02
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	2.74E+00	7.88E-01	1.70E-01	1.59E-03	1.12E-01	1.08E-01

**Table C3. 2023 construction-phase non-road equipment greenhouse gas emission factors.**

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Access Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Access Road	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Access Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Access Road	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Airfield Lighting	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Airfield Lighting	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Airfield Lighting	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Airfield Lighting	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Asphalt	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Asphalt	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Demolition - Asphalt	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Asphalt	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Asphalt	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Concrete	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Concrete	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Demolition - Concrete	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Concrete	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Paint Sprayers5	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Drainage System	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Drainage System	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Paint Sprayers5	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Fencing	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Fencing	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Landscaping	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Landscaping	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Paint Sprayers5	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Landscaping	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Landscaping	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
NAVAIDS	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Parking Lot	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Rehabilitate Runway	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Rehabilitate Runway	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Rehabilitate Runway	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Rehabilitate Runway	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Runway Drains	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Runway Drains	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Runway Drains	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Runway Drains	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Runway Drains	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Runway Markings	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Runway Markings	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Runway Markings	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Runway Markings	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Runway Markings	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Runway Safety Area	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Runway Safety Area	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Runway Safety Area	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Runway Safety Area	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Runway Safety Area	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Service Road	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Service Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Service Road	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Service Road	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Service Road	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Site Work - 10000 sqft	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Paint Sprayers5	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Taxiway Exit	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Taxiway Exit	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Taxiway Exit	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Taxiway Exit	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Taxiway Exit	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Taxiways	Construction	Skid Steer Loaders	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Advance Joint Sealant Equipment	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Bore Drill Rigs	8.36E-03	2.53E-02	5.31E+02	5.38E+02
Taxiways	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Trenchers	1.22E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rotary Cold Mill	9.66E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Grooving Machine	7.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Paint Sprayers <sup>5</sup>	6.44E-03	2.81E-02	5.90E+02	5.98E+02
Taxiways	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Tack Truck	5.88E-03	2.56E-02	5.37E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Hoe Ram <sup>4</sup>	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	9.57E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Asphalt Paver	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.33E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.59E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.39E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Hoe Ram4	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders	1.28E-02	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Tractor/Loader (Backhoe)	2.29E-02	3.32E-02	6.94E+02	7.05E+02
Taxiways	Construction	Excavators	8.49E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Taxiways	Construction	Large Concrete Crusher	3.78E-03	2.53E-02	5.31E+02	5.38E+02
Asphalt Plant	Plant Mobile Source	Generator	3.06E-02	2.81E-02	5.89E+02	5.99E+02
Asphalt Plant	Plant Mobile Source	Pumps	3.32E-02	2.81E-02	5.89E+02	6.00E+02
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	7.35E-03	2.53E-02	5.31E+02	5.38E+02
Concrete Plant	Plant Mobile Source	Generator	3.06E-02	2.81E-02	5.89E+02	5.99E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Concrete Plant	Plant Mobile Source	Pumps	3.32E-02	2.81E-02	5.89E+02	6.00E+02
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	3.51E-03	2.56E-02	5.37E+02	5.44E+02
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	7.35E-03	2.53E-02	5.31E+02	5.38E+02

**Table C4. 2024 construction-phase non-road equipment criteria air pollutant emission factors.**

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Access Road	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Access Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Access Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Access Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Access Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Access Road	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Access Road	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Access Road	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Access Road	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Access Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Access Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Access Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Access Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Access Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Access Road	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Access Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Access Road	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Access Road	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Airfield Lighting	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Airfield Lighting	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Airfield Lighting	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Airfield Lighting	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Airfield Lighting	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Airfield Lighting	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Airfield Lighting	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Airfield Lighting	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Airfield Lighting	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Airfield Lighting	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Airfield Lighting	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Airfield Lighting	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Airfield Lighting	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Airfield Lighting	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Airfield Lighting	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Demolition - Asphalt	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Demolition - Asphalt	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Asphalt	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Demolition - Asphalt	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Asphalt	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Asphalt	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Demolition - Asphalt	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Demolition - Asphalt	Construction	Paint Sprayers <sup>5</sup>	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Asphalt	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Asphalt	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Asphalt	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Asphalt	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Demolition - Asphalt	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Asphalt	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Demolition - Asphalt	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Demolition - Concrete	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Demolition - Concrete	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Concrete	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Demolition - Concrete	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Concrete	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Concrete	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Demolition - Concrete	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Demolition - Concrete	Construction	Paint Sprayers <sup>5</sup>	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Concrete	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Demolition - Concrete	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Demolition - Concrete	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Demolition - Concrete	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Demolition - Concrete	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Demolition - Concrete	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Demolition - Concrete	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Drainage System	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Drainage System	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Drainage System	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Drainage System	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Drainage System	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Drainage System	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Drainage System	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Drainage System	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Drainage System	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Drainage System	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Drainage System	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Drainage System	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Drainage System	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Drainage System	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Drainage System	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Drainage System	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Drainage System	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Drainage System	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Fencing	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Fencing	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Fencing	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Fencing	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Fencing	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Fencing	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Fencing	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Fencing	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Fencing	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Fencing	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Fencing	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Fencing	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Fencing	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Fencing	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Fencing	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Fencing	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Fencing	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Fencing	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Fencing	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Landscaping	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Landscaping	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Landscaping	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Landscaping	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Landscaping	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Landscaping	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Landscaping	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Landscaping	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Landscaping	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Landscaping	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Landscaping	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Landscaping	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Landscaping	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Landscaping	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Landscaping	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Landscaping	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Landscaping	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Landscaping	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Landscaping	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
NAVAIDS	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
NAVAIDS	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
NAVAIDS	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
NAVAIDS	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
NAVAIDS	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
NAVAIDS	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
NAVAIDS	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
NAVAIDS	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
NAVAIDS	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
NAVAIDS	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
NAVAIDS	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
NAVAIDS	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
NAVAIDS	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
NAVAIDS	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
NAVAIDS	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
NAVAIDS	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
NAVAIDS	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Parking Lot	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Parking Lot	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Parking Lot	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Parking Lot	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Parking Lot	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Parking Lot	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Parking Lot	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Parking Lot	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Parking Lot	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Parking Lot	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Parking Lot	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Parking Lot	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Parking Lot	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Parking Lot	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Parking Lot	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Parking Lot	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Parking Lot	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Parking Lot	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Parking Lot	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Rehabilitate Runway	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Rehabilitate Runway	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Rehabilitate Runway	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Rehabilitate Runway	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Rehabilitate Runway	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Rehabilitate Runway	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Rehabilitate Runway	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Rehabilitate Runway	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Rehabilitate Runway	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Rehabilitate Runway	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Rehabilitate Runway	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Rehabilitate Runway	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Rehabilitate Runway	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Rehabilitate Runway	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Rehabilitate Runway	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Rehabilitate Runway	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Runway Drains	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Drains	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Runway Drains	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Drains	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Runway Drains	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Drains	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Runway Drains	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Runway Drains	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Runway Drains	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Runway Drains	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Drains	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Drains	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Drains	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Drains	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Runway Drains	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Runway Drains	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Drains	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Runway Drains	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Runway Markings	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Markings	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Runway Markings	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Markings	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Runway Markings	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Markings	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Runway Markings	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Runway Markings	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Runway Markings	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Markings	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Markings	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Markings	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Markings	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Runway Markings	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Runway Markings	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Markings	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Runway Markings	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Runway Safety Area	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Safety Area	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Runway Safety Area	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Safety Area	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Safety Area	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Safety Area	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Runway Safety Area	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Runway Safety Area	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Runway Safety Area	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Safety Area	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Runway Safety Area	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Runway Safety Area	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Runway Safety Area	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Runway Safety Area	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Runway Safety Area	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Runway Safety Area	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Service Road	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Service Road	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Service Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Service Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Service Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Service Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Service Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Service Road	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Service Road	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Service Road	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Service Road	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Service Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Service Road	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Service Road	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Service Road	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Service Road	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Service Road	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Service Road	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Site Work - 10000 sqft	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Site Work - 10000 sqft	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Site Work - 10000 sqft	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Site Work - 10000 sqft	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Site Work - 10000 sqft	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Site Work - 10000 sqft	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Site Work - 10000 sqft	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Site Work - 10000 sqft	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Site Work - 10000 sqft	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Site Work - 10000 sqft	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Taxiway Exit	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Taxiway Exit	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiway Exit	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Taxiway Exit	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiway Exit	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiway Exit	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Taxiway Exit	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Taxiway Exit	Construction	Paint Sprayers5	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Taxiway Exit	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiway Exit	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiway Exit	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiway Exit	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiway Exit	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Taxiway Exit	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiway Exit	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Taxiway Exit	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Skid Steer Loaders	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiways	Construction	Advance Joint Sealant Equipment	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Taxiways	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiways	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Bore Drill Rigs	1.89E+00	4.77E-01	1.41E-01	1.53E-03	9.45E-02	9.17E-02
Taxiways	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiways	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiways	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Trenchers	2.68E+00	4.68E-01	8.28E-02	1.54E-03	4.92E-02	4.77E-02
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Rotary Cold Mill	2.24E+00	9.07E-01	1.76E-01	1.56E-03	1.88E-01	1.83E-01
Taxiways	Construction	Grooving Machine	2.68E+00	1.28E+00	1.82E-01	1.60E-03	1.85E-01	1.79E-01
Taxiways	Construction	Paint Sprayers <sup>5</sup>	1.63E+00	6.24E-01	7.36E-02	1.58E-03	1.04E-01	1.01E-01
Taxiways	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Taxiways	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiways	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Tack Truck	1.11E+00	4.64E-01	6.43E-02	1.47E-03	7.36E-02	7.14E-02
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Skid Steer Loaders4	2.55E+00	2.07E-01	5.29E-02	1.71E-03	1.67E-02	1.62E-02
Taxiways	Construction	Asphalt Paver	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Concrete Pavers	2.87E+00	1.11E+00	2.35E-01	1.61E-03	1.77E-01	1.72E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.84E+00	1.07E+00	2.30E-01	1.61E-03	1.73E-01	1.68E-01
Taxiways	Construction	Graders	2.61E+00	8.71E-01	2.21E-01	1.60E-03	1.32E-01	1.28E-01
Taxiways	Construction	Concrete Saw	2.90E+00	8.30E-01	1.31E-01	1.64E-03	1.03E-01	1.00E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Hoe Ram4	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Skid Steer Loaders	2.54E+00	2.91E-01	9.41E-02	1.71E-03	2.04E-02	1.98E-02
Taxiways	Construction	Tractor/Loader (Backhoe)	3.75E+00	3.84E+00	7.06E-01	2.08E-03	5.06E-01	4.90E-01
Taxiways	Construction	Excavators	2.65E+00	9.00E-01	1.99E-01	1.60E-03	1.39E-01	1.35E-01
Taxiways	Construction	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Large Concrete Crusher	5.53E-01	1.40E-01	3.80E-02	1.37E-03	2.55E-02	2.47E-02
Asphalt Plant	Plant Mobile Source	Generator	4.31E+00	2.03E+00	5.28E-01	2.03E-03	2.74E-01	2.66E-01
Asphalt Plant	Plant Mobile Source	Pumps	3.86E+00	1.61E+00	3.92E-01	2.03E-03	1.89E-01	1.83E-01
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	2.75E+00	8.03E-01	1.75E-01	1.59E-03	1.16E-01	1.12E-01
Concrete Plant	Plant Mobile Source	Generator	4.31E+00	2.03E+00	5.28E-01	2.03E-03	2.74E-01	2.66E-01
Concrete Plant	Plant Mobile Source	Pumps	3.86E+00	1.61E+00	3.92E-01	2.03E-03	1.89E-01	1.83E-01
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	6.47E-01	2.20E-01	3.44E-02	1.38E-03	5.37E-02	5.21E-02
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	2.75E+00	8.03E-01	1.75E-01	1.59E-03	1.16E-01	1.12E-01

**Table C5. 2024 construction-phase non-road equipment greenhouse gas emission factors.**

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Access Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Access Road	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Access Road	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Access Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Access Road	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Access Road	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Airfield Lighting	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Airfield Lighting	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Airfield Lighting	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Airfield Lighting	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Airfield Lighting	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Airfield Lighting	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Asphalt	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Asphalt	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Paint Sprayers5	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Demolition - Asphalt	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Asphalt	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Asphalt	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Asphalt	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Concrete	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Concrete	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Demolition - Concrete	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Concrete	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Demolition - Concrete	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Drainage System	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Drainage System	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Drainage System	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Drainage System	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Fencing	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Fencing	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Fencing	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Fencing	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Landscaping	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Landscaping	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Landscaping	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Landscaping	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Landscaping	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
NAVAIDS	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
NAVAIDS	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
NAVAIDS	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Parking Lot	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Parking Lot	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Parking Lot	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Rehabilitate Runway	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Rehabilitate Runway	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Paint Sprayers5	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Rehabilitate Runway	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Rehabilitate Runway	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Rehabilitate Runway	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Rehabilitate Runway	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Runway Drains	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Runway Drains	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Runway Drains	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Runway Drains	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Drains	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Runway Markings	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Runway Markings	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Runway Markings	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Markings	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Runway Markings	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Runway Markings	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Runway Safety Area	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Runway Safety Area	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Runway Safety Area	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Runway Safety Area	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Runway Safety Area	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Service Road	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Hoe Ram <sup>4</sup>	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Service Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Service Road	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Service Road	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Service Road	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Service Road	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Service Road	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Site Work - 10000 sqft	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Paint Sprayers <sup>5</sup>	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Site Work - 10000 sqft	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Site Work - 10000 sqft	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Taxiway Exit	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Taxiway Exit	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Paint Sprayers5	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Taxiway Exit	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Taxiway Exit	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiway Exit	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Taxiway Exit	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Taxiways	Construction	Skid Steer Loaders	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Advance Joint Sealant Equipment	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02



Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Bore Drill Rigs	7.99E-03	2.53E-02	5.31E+02	5.38E+02
Taxiways	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Trenchers	1.13E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rotary Cold Mill	9.35E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Grooving Machine	7.47E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Paint Sprayers5	5.49E-03	2.81E-02	5.90E+02	5.98E+02
Taxiways	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Tack Truck	5.39E-03	2.56E-02	5.37E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders4	9.14E-03	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Asphalt Paver	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Concrete Pavers	9.34E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.32E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Graders	8.58E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Concrete Saw	1.35E-02	2.84E-02	5.96E+02	6.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02

Project	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Hoe Ram4	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Skid Steer Loaders	1.25E-02	3.32E-02	6.96E+02	7.06E+02
Taxiways	Construction	Tractor/Loader (Backhoe)	2.28E-02	3.32E-02	6.94E+02	7.05E+02
Taxiways	Construction	Excavators	8.46E-03	2.56E-02	5.36E+02	5.44E+02
Taxiways	Construction	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Taxiways	Construction	Large Concrete Crusher	3.25E-03	2.53E-02	5.31E+02	5.38E+02
Asphalt Plant	Plant Mobile Source	Generator	3.09E-02	2.81E-02	5.89E+02	5.99E+02
Asphalt Plant	Plant Mobile Source	Pumps	3.26E-02	2.81E-02	5.89E+02	6.00E+02
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	7.35E-03	2.53E-02	5.31E+02	5.38E+02
Concrete Plant	Plant Mobile Source	Generator	3.09E-02	2.81E-02	5.89E+02	5.99E+02
Concrete Plant	Plant Mobile Source	Pumps	3.26E-02	2.81E-02	5.89E+02	6.00E+02
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	2.98E-03	2.56E-02	5.37E+02	5.44E+02
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	7.35E-03	2.53E-02	5.31E+02	5.38E+02

**Table C6. 2023 construction-phase non-road equipment criteria air pollutant emissions.**

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders	2.32E-03	2.17E-04	5.21E-05	1.56E-06	1.78E-05	1.73E-05
Access Road	Construction	Advance Joint Sealant Equipment	4.05E-03	1.62E-03	3.18E-04	2.77E-06	3.36E-04	3.26E-04
Access Road	Construction	Asphalt Paver	4.46E-03	1.69E-03	3.61E-04	2.51E-06	2.72E-04	2.64E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	1.31E-02	4.84E-03	1.05E-03	7.41E-06	7.89E-04	7.65E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Tack Truck	1.12E-02	4.79E-03	6.63E-04	1.38E-05	7.58E-04	7.35E-04
Access Road	Construction	Concrete Saw	2.94E-03	8.97E-04	1.42E-04	1.66E-06	1.14E-04	1.11E-04
Access Road	Construction	Concrete Pavers	4.73E-03	1.80E-03	3.83E-04	2.66E-06	2.89E-04	2.80E-04
Access Road	Construction	Concrete Saw	2.57E-04	7.83E-05	1.24E-05	1.45E-07	9.99E-06	9.69E-06
Access Road	Construction	Concrete Pavers	4.14E-04	1.57E-04	3.35E-05	2.33E-07	2.52E-05	2.45E-05
Access Road	Construction	Concrete Saw	5.53E-03	1.68E-03	2.66E-04	3.12E-06	2.15E-04	2.08E-04
Access Road	Construction	Excavators	8.13E-03	2.73E-03	6.08E-04	4.96E-06	4.23E-04	4.10E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	9.25E-03	3.43E-03	7.40E-04	5.24E-06	5.58E-04	5.42E-04
Access Road	Construction	Concrete Pavers	4.51E-03	1.71E-03	3.65E-04	2.54E-06	2.75E-04	2.67E-04
Access Road	Construction	Concrete Saw	2.81E-03	8.54E-04	1.35E-04	1.59E-06	1.09E-04	1.06E-04
Access Road	Construction	Excavators	4.13E-03	1.39E-03	3.09E-04	2.52E-06	2.15E-04	2.08E-04
Access Road	Construction	Skid Steer Loaders4	3.71E-04	3.47E-05	8.33E-06	2.49E-07	2.85E-06	2.77E-06
Access Road	Construction	Asphalt Paver	7.13E-04	2.71E-04	5.78E-05	4.01E-07	4.35E-05	4.22E-05
Access Road	Construction	Rollers (Compactor Roller incl.)	2.09E-03	7.74E-04	1.67E-04	1.18E-06	1.26E-04	1.22E-04
Access Road	Construction	Hoe Ram4	1.86E-03	6.26E-04	1.40E-04	1.14E-06	9.70E-05	9.41E-05
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Trenchers	8.64E-04	1.85E-04	3.03E-05	4.93E-07	1.96E-05	1.90E-05
Access Road	Construction	Trenchers	6.46E-04	1.38E-04	2.26E-05	3.69E-07	1.46E-05	1.42E-05
Access Road	Construction	Trenchers	8.64E-04	1.85E-04	3.03E-05	4.93E-07	1.96E-05	1.90E-05
Access Road	Construction	Excavators	4.50E-03	1.51E-03	3.37E-04	2.74E-06	2.34E-04	2.27E-04
Access Road	Construction	Trenchers	3.51E-04	7.52E-05	1.23E-05	2.01E-07	7.96E-06	7.72E-06
Access Road	Construction	Excavators	1.83E-03	6.15E-04	1.37E-04	1.12E-06	9.52E-05	9.24E-05
Access Road	Construction	Rotary Cold Mill	4.69E-03	1.88E-03	3.69E-04	3.21E-06	3.90E-04	3.78E-04
Access Road	Construction	Grooving Machine	4.54E-03	2.14E-03	3.03E-04	2.73E-06	3.05E-04	2.96E-04
Access Road	Construction	Paint Sprayers <sup>5</sup>	2.18E-04	9.08E-05	1.09E-05	1.97E-07	1.50E-05	1.46E-05
Access Road	Construction	Skid Steer Loaders	1.01E-02	1.24E-03	3.87E-04	6.84E-06	9.97E-05	9.67E-05
Access Road	Construction	Tractor/Loader (Backhoe)	2.73E-02	2.79E-02	5.10E-03	1.52E-05	3.66E-03	3.55E-03
Access Road	Construction	Excavators	3.66E-02	1.23E-02	2.74E-03	2.23E-05	1.90E-03	1.85E-03
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	9.69E-04	9.06E-05	2.17E-05	6.49E-07	7.44E-06	7.22E-06
Access Road	Construction	Asphalt Paver	1.86E-03	7.06E-04	1.51E-04	1.05E-06	1.14E-04	1.10E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	5.45E-03	2.02E-03	4.36E-04	3.09E-06	3.29E-04	3.19E-04
Access Road	Construction	Tack Truck	4.68E-03	2.00E-03	2.76E-04	5.75E-06	3.16E-04	3.07E-04
Access Road	Construction	Concrete Saw	5.03E-03	1.53E-03	2.42E-04	2.84E-06	1.95E-04	1.89E-04
Access Road	Construction	Concrete Pavers	8.09E-03	3.07E-03	6.55E-04	4.55E-06	4.94E-04	4.79E-04
Access Road	Construction	Concrete Saw	9.05E-03	2.76E-03	4.35E-04	5.12E-06	3.51E-04	3.41E-04
Access Road	Construction	Excavators	1.33E-02	4.47E-03	9.97E-04	8.12E-06	6.93E-04	6.72E-04
Access Road	Construction	Hoe Ram <sup>4</sup>	2.66E-02	8.95E-03	1.99E-03	1.62E-05	1.39E-03	1.34E-03
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	4.94E-04	4.62E-05	1.11E-05	3.31E-07	3.80E-06	3.68E-06
Access Road	Construction	Asphalt Paver	9.49E-04	3.60E-04	7.69E-05	5.34E-07	5.79E-05	5.62E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Rollers (Compactor Roller incl.)	2.78E-03	1.03E-03	2.22E-04	1.58E-06	1.68E-04	1.63E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	2.14E-05	6.53E-06	1.03E-06	1.21E-08	8.32E-07	8.07E-07
Access Road	Construction	Concrete Pavers	3.45E-05	1.31E-05	2.79E-06	1.94E-08	2.10E-06	2.04E-06
Access Road	Construction	Rollers (Compactor Roller incl.)	4.71E-05	1.74E-05	3.77E-06	2.67E-08	2.84E-06	2.76E-06
Access Road	Construction	Graders	2.70E-05	8.89E-06	2.25E-06	1.66E-08	1.35E-06	1.31E-06
Access Road	Construction	Concrete Saw	3.34E-05	1.02E-05	1.60E-06	1.88E-08	1.29E-06	1.26E-06
Access Road	Construction	Excavators	4.90E-05	1.65E-05	3.67E-06	2.99E-08	2.55E-06	2.48E-06
Access Road	Construction	Hoe Ram4	9.81E-04	3.30E-04	7.34E-05	5.98E-07	5.11E-05	4.95E-05
Access Road	Construction	Excavators	2.52E-03	8.48E-04	1.89E-04	1.54E-06	1.31E-04	1.27E-04
Access Road	Construction	Skid Steer Loaders	6.76E-03	8.25E-04	2.58E-04	4.56E-06	6.64E-05	6.44E-05
Access Road	Construction	Tractor/Loader (Backhoe)	1.82E-02	1.86E-02	3.40E-03	1.01E-05	2.44E-03	2.37E-03
Access Road	Construction	Excavators	2.44E-02	8.20E-03	1.83E-03	1.49E-05	1.27E-03	1.23E-03
Access Road	Construction	Rubber Tire Loader	6.50E-03	2.11E-03	3.36E-04	1.17E-05	5.15E-04	5.00E-04
Access Road	Construction	Large Concrete Crusher	6.15E-03	1.52E-03	4.08E-04	1.32E-05	2.75E-04	2.67E-04
Airfield Lighting	Construction	Skid Steer Loaders	6.36E-05	5.95E-06	1.43E-06	4.27E-08	4.89E-07	4.74E-07
Airfield Lighting	Construction	Advance Joint Sealant Equipment	1.11E-04	4.45E-05	8.73E-06	7.59E-08	9.22E-06	8.94E-06
Airfield Lighting	Construction	Asphalt Paver	1.22E-04	4.64E-05	9.90E-06	6.87E-08	7.46E-06	7.24E-06



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	3.58E-04	1.33E-04	2.86E-05	2.03E-07	2.16E-05	2.10E-05
Airfield Lighting	Construction	Tack Truck	3.07E-04	1.31E-04	1.82E-05	3.78E-07	2.08E-05	2.01E-05
Airfield Lighting	Construction	Concrete Saw	8.07E-05	2.46E-05	3.88E-06	4.56E-08	3.13E-06	3.04E-06
Airfield Lighting	Construction	Concrete Pavers	1.30E-04	4.92E-05	1.05E-05	7.29E-08	7.92E-06	7.68E-06
Airfield Lighting	Construction	Concrete Saw	7.05E-06	2.15E-06	3.39E-07	3.98E-09	2.74E-07	2.65E-07
Airfield Lighting	Construction	Concrete Pavers	1.13E-05	4.30E-06	9.18E-07	6.37E-09	6.92E-07	6.71E-07
Airfield Lighting	Construction	Concrete Saw	1.51E-04	4.61E-05	7.28E-06	8.56E-08	5.88E-06	5.70E-06
Airfield Lighting	Construction	Excavators	2.23E-04	7.49E-05	1.67E-05	1.36E-07	1.16E-05	1.12E-05
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.53E-04	9.39E-05	2.03E-05	1.44E-07	1.53E-05	1.48E-05
Airfield Lighting	Construction	Concrete Pavers	1.24E-04	4.69E-05	1.00E-05	6.95E-08	7.55E-06	7.32E-06
Airfield Lighting	Construction	Concrete Saw	7.69E-05	2.34E-05	3.70E-06	4.34E-08	2.98E-06	2.89E-06
Airfield Lighting	Construction	Excavators	1.13E-04	3.80E-05	8.46E-06	6.90E-08	5.89E-06	5.71E-06
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	1.02E-05	9.51E-07	2.28E-07	6.82E-09	7.82E-08	7.58E-08
Airfield Lighting	Construction	Asphalt Paver	1.95E-05	7.41E-06	1.58E-06	1.10E-08	1.19E-06	1.16E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	5.72E-05	2.12E-05	4.58E-06	3.24E-08	3.45E-06	3.35E-06
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	5.11E-05	1.72E-05	3.82E-06	3.11E-08	2.66E-06	2.58E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Trenchers	2.37E-05	5.07E-06	8.29E-07	1.35E-08	5.36E-07	5.20E-07
Airfield Lighting	Construction	Trenchers	1.77E-05	3.79E-06	6.20E-07	1.01E-08	4.01E-07	3.89E-07
Airfield Lighting	Construction	Trenchers	2.37E-05	5.07E-06	8.29E-07	1.35E-08	5.36E-07	5.20E-07
Airfield Lighting	Construction	Excavators	1.23E-04	4.14E-05	9.23E-06	7.52E-08	6.42E-06	6.22E-06
Airfield Lighting	Construction	Trenchers	9.62E-06	2.06E-06	3.37E-07	5.49E-09	2.18E-07	2.12E-07
Airfield Lighting	Construction	Excavators	5.01E-05	1.68E-05	3.75E-06	3.06E-08	2.61E-06	2.53E-06
Airfield Lighting	Construction	Rotary Cold Mill	1.28E-04	5.15E-05	1.01E-05	8.79E-08	1.07E-05	1.04E-05
Airfield Lighting	Construction	Grooving Machine	1.25E-04	5.86E-05	8.29E-06	7.49E-08	8.36E-06	8.11E-06
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	5.98E-06	2.49E-06	2.98E-07	5.40E-09	4.12E-07	4.00E-07
Airfield Lighting	Construction	Skid Steer Loaders	2.78E-04	3.39E-05	1.06E-05	1.87E-07	2.73E-06	2.65E-06
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	7.47E-04	7.66E-04	1.40E-04	4.16E-07	1.00E-04	9.73E-05
Airfield Lighting	Construction	Excavators	1.00E-03	3.37E-04	7.50E-05	6.11E-07	5.22E-05	5.06E-05
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	2.65E-05	2.48E-06	5.95E-07	1.78E-08	2.04E-07	1.98E-07
Airfield Lighting	Construction	Asphalt Paver	5.10E-05	1.93E-05	4.13E-06	2.87E-08	3.11E-06	3.02E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.49E-04	5.53E-05	1.19E-05	8.47E-08	9.01E-06	8.74E-06
Airfield Lighting	Construction	Tack Truck	1.28E-04	5.47E-05	7.57E-06	1.58E-07	8.66E-06	8.40E-06
Airfield Lighting	Construction	Concrete Saw	1.38E-04	4.20E-05	6.63E-06	7.79E-08	5.35E-06	5.19E-06
Airfield Lighting	Construction	Concrete Pavers	2.22E-04	8.41E-05	1.80E-05	1.25E-07	1.35E-05	1.31E-05
Airfield Lighting	Construction	Concrete Saw	2.48E-04	7.55E-05	1.19E-05	1.40E-07	9.63E-06	9.34E-06
Airfield Lighting	Construction	Excavators	3.65E-04	1.23E-04	2.73E-05	2.22E-07	1.90E-05	1.84E-05
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	7.30E-04	2.45E-04	5.46E-05	4.45E-07	3.80E-05	3.68E-05
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	1.35E-05	1.27E-06	3.04E-07	9.08E-09	1.04E-07	1.01E-07

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Asphalt Paver	2.60E-05	9.87E-06	2.11E-06	1.46E-08	1.59E-06	1.54E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	7.62E-05	2.82E-05	6.09E-06	4.32E-08	4.60E-06	4.46E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	5.88E-07	1.79E-07	2.82E-08	3.32E-10	2.28E-08	2.21E-08
Airfield Lighting	Construction	Concrete Pavers	9.45E-07	3.58E-07	7.65E-08	5.31E-10	5.77E-08	5.59E-08
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.29E-06	4.78E-07	1.03E-07	7.32E-10	7.79E-08	7.56E-08
Airfield Lighting	Construction	Graders	7.39E-07	2.44E-07	6.18E-08	4.56E-10	3.69E-08	3.58E-08
Airfield Lighting	Construction	Concrete Saw	9.14E-07	2.78E-07	4.39E-08	5.16E-10	3.55E-08	3.44E-08
Airfield Lighting	Construction	Excavators	1.34E-06	4.52E-07	1.01E-07	8.20E-10	7.00E-08	6.79E-08
Airfield Lighting	Construction	Hoe Ram4	2.69E-05	9.03E-06	2.01E-06	1.64E-08	1.40E-06	1.36E-06
Airfield Lighting	Construction	Excavators	6.91E-05	2.32E-05	5.17E-06	4.22E-08	3.60E-06	3.49E-06
Airfield Lighting	Construction	Skid Steer Loaders	1.85E-04	2.26E-05	7.07E-06	1.25E-07	1.82E-06	1.77E-06
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	4.98E-04	5.11E-04	9.31E-05	2.78E-07	6.69E-05	6.49E-05
Airfield Lighting	Construction	Excavators	6.68E-04	2.25E-04	5.00E-05	4.07E-07	3.48E-05	3.37E-05
Airfield Lighting	Construction	Rubber Tire Loader	1.78E-04	5.79E-05	9.21E-06	3.20E-07	1.41E-05	1.37E-05
Airfield Lighting	Construction	Large Concrete Crusher	1.69E-04	4.17E-05	1.12E-05	3.60E-07	7.53E-06	7.30E-06
Demolition - Asphalt	Construction	Skid Steer Loaders	5.14E-04	4.81E-05	1.15E-05	3.45E-07	3.95E-06	3.83E-06
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	8.96E-04	3.60E-04	7.05E-05	6.13E-07	7.45E-05	7.22E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Asphalt Paver	9.88E-04	3.75E-04	8.00E-05	5.55E-07	6.03E-05	5.85E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.89E-03	1.07E-03	2.31E-04	1.64E-06	1.75E-04	1.69E-04
Demolition - Asphalt	Construction	Tack Truck	2.48E-03	1.06E-03	1.47E-04	3.05E-06	1.68E-04	1.63E-04
Demolition - Asphalt	Construction	Concrete Saw	6.52E-04	1.98E-04	3.13E-05	3.68E-07	2.53E-05	2.45E-05
Demolition - Asphalt	Construction	Concrete Pavers	1.05E-03	3.98E-04	8.49E-05	5.89E-07	6.40E-05	6.21E-05
Demolition - Asphalt	Construction	Concrete Saw	5.70E-05	1.73E-05	2.74E-06	3.22E-08	2.21E-06	2.14E-06
Demolition - Asphalt	Construction	Concrete Pavers	9.16E-05	3.47E-05	7.42E-06	5.15E-08	5.59E-06	5.42E-06
Demolition - Asphalt	Construction	Concrete Saw	1.22E-03	3.73E-04	5.88E-05	6.91E-07	4.75E-05	4.61E-05
Demolition - Asphalt	Construction	Excavators	1.80E-03	6.05E-04	1.35E-04	1.10E-06	9.37E-05	9.09E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.05E-03	7.58E-04	1.64E-04	1.16E-06	1.24E-04	1.20E-04
Demolition - Asphalt	Construction	Concrete Pavers	9.99E-04	3.79E-04	8.09E-05	5.62E-07	6.10E-05	5.91E-05
Demolition - Asphalt	Construction	Concrete Saw	6.21E-04	1.89E-04	2.99E-05	3.51E-07	2.41E-05	2.34E-05
Demolition - Asphalt	Construction	Excavators	9.14E-04	3.07E-04	6.84E-05	5.57E-07	4.76E-05	4.61E-05
Demolition - Asphalt	Construction	Skid Steer Loaders4	8.22E-05	7.69E-06	1.84E-06	5.51E-08	6.32E-07	6.13E-07
Demolition - Asphalt	Construction	Asphalt Paver	1.58E-04	5.99E-05	1.28E-05	8.88E-08	9.64E-06	9.35E-06
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	4.62E-04	1.71E-04	3.70E-05	2.62E-07	2.79E-05	2.71E-05
Demolition - Asphalt	Construction	Hoe Ram4	4.13E-04	1.39E-04	3.09E-05	2.52E-07	2.15E-05	2.08E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Trenchers	1.91E-04	4.09E-05	6.70E-06	1.09E-07	4.33E-06	4.20E-06
Demolition - Asphalt	Construction	Trenchers	1.43E-04	3.06E-05	5.01E-06	8.16E-08	3.24E-06	3.14E-06
Demolition - Asphalt	Construction	Trenchers	1.91E-04	4.09E-05	6.70E-06	1.09E-07	4.33E-06	4.20E-06
Demolition - Asphalt	Construction	Excavators	9.96E-04	3.35E-04	7.45E-05	6.07E-07	5.19E-05	5.03E-05
Demolition - Asphalt	Construction	Trenchers	7.77E-05	1.66E-05	2.72E-06	4.44E-08	1.76E-06	1.71E-06
Demolition - Asphalt	Construction	Excavators	4.05E-04	1.36E-04	3.03E-05	2.47E-07	2.11E-05	2.04E-05
Demolition - Asphalt	Construction	Rotary Cold Mill	1.04E-03	4.16E-04	8.17E-05	7.10E-07	8.63E-05	8.37E-05
Demolition - Asphalt	Construction	Grooving Machine	1.01E-03	4.74E-04	6.70E-05	6.05E-07	6.75E-05	6.55E-05
Demolition - Asphalt	Construction	Paint Sprayers5	4.84E-05	2.01E-05	2.41E-06	4.36E-08	3.33E-06	3.23E-06
Demolition - Asphalt	Construction	Skid Steer Loaders	2.25E-03	2.74E-04	8.57E-05	1.51E-06	2.21E-05	2.14E-05
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	6.03E-03	6.19E-03	1.13E-03	3.36E-06	8.11E-04	7.86E-04
Demolition - Asphalt	Construction	Excavators	8.10E-03	2.72E-03	6.06E-04	4.94E-06	4.22E-04	4.09E-04
Demolition - Asphalt	Construction	Skid Steer Loaders4	2.14E-04	2.01E-05	4.81E-06	1.44E-07	1.65E-06	1.60E-06
Demolition - Asphalt	Construction	Asphalt Paver	4.12E-04	1.56E-04	3.34E-05	2.32E-07	2.51E-05	2.44E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	1.21E-03	4.47E-04	9.65E-05	6.84E-07	7.28E-05	7.06E-05
Demolition - Asphalt	Construction	Tack Truck	1.04E-03	4.42E-04	6.12E-05	1.27E-06	7.00E-05	6.79E-05
Demolition - Asphalt	Construction	Concrete Saw	1.11E-03	3.39E-04	5.35E-05	6.29E-07	4.32E-05	4.19E-05
Demolition - Asphalt	Construction	Concrete Pavers	1.79E-03	6.79E-04	1.45E-04	1.01E-06	1.09E-04	1.06E-04
Demolition - Asphalt	Construction	Concrete Saw	2.00E-03	6.10E-04	9.63E-05	1.13E-06	7.78E-05	7.54E-05
Demolition - Asphalt	Construction	Excavators	2.95E-03	9.91E-04	2.21E-04	1.80E-06	1.53E-04	1.49E-04
Demolition - Asphalt	Construction	Hoe Ram4	5.89E-03	1.98E-03	4.41E-04	3.59E-06	3.07E-04	2.98E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	1.09E-04	1.02E-05	2.45E-06	7.33E-08	8.40E-07	8.15E-07
Demolition - Asphalt	Construction	Asphalt Paver	2.10E-04	7.97E-05	1.70E-05	1.18E-07	1.28E-05	1.24E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	6.15E-04	2.28E-04	4.92E-05	3.49E-07	3.71E-05	3.60E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	4.75E-06	1.45E-06	2.28E-07	2.68E-09	1.84E-07	1.79E-07
Demolition - Asphalt	Construction	Concrete Pavers	7.63E-06	2.90E-06	6.18E-07	4.29E-09	4.66E-07	4.52E-07
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	1.04E-05	3.86E-06	8.35E-07	5.91E-09	6.30E-07	6.11E-07
Demolition - Asphalt	Construction	Graders	5.97E-06	1.97E-06	4.99E-07	3.68E-09	2.98E-07	2.90E-07
Demolition - Asphalt	Construction	Concrete Saw	7.38E-06	2.25E-06	3.55E-07	4.17E-09	2.87E-07	2.78E-07
Demolition - Asphalt	Construction	Excavators	1.09E-05	3.65E-06	8.13E-07	6.62E-09	5.65E-07	5.48E-07
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	2.17E-04	7.30E-05	1.63E-05	1.32E-07	1.13E-05	1.10E-05
Demolition - Asphalt	Construction	Excavators	5.58E-04	1.88E-04	4.18E-05	3.41E-07	2.91E-05	2.82E-05
Demolition - Asphalt	Construction	Skid Steer Loaders	1.50E-03	1.83E-04	5.71E-05	1.01E-06	1.47E-05	1.43E-05
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	4.02E-03	4.13E-03	7.53E-04	2.24E-06	5.40E-04	5.24E-04
Demolition - Asphalt	Construction	Excavators	5.40E-03	1.81E-03	4.04E-04	3.29E-06	2.81E-04	2.73E-04
Demolition - Asphalt	Construction	Rubber Tire Loader	1.44E-03	4.68E-04	7.44E-05	2.58E-06	1.14E-04	1.11E-04
Demolition - Asphalt	Construction	Large Concrete Crusher	1.36E-03	3.37E-04	9.03E-05	2.91E-06	6.08E-05	5.90E-05
Demolition - Concrete	Construction	Skid Steer Loaders	4.40E-04	4.11E-05	9.86E-06	2.95E-07	3.38E-06	3.28E-06



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	7.66E-04	3.08E-04	6.03E-05	5.24E-07	6.37E-05	6.18E-05
Demolition - Concrete	Construction	Asphalt Paver	8.45E-04	3.20E-04	6.84E-05	4.75E-07	5.16E-05	5.00E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.47E-03	9.16E-04	1.98E-04	1.40E-06	1.49E-04	1.45E-04
Demolition - Concrete	Construction	Tack Truck	2.12E-03	9.06E-04	1.25E-04	2.61E-06	1.43E-04	1.39E-04
Demolition - Concrete	Construction	Concrete Saw	5.58E-04	1.70E-04	2.68E-05	3.15E-07	2.16E-05	2.10E-05
Demolition - Concrete	Construction	Concrete Pavers	8.97E-04	3.40E-04	7.26E-05	5.04E-07	5.47E-05	5.31E-05
Demolition - Concrete	Construction	Concrete Saw	4.87E-05	1.48E-05	2.34E-06	2.75E-08	1.89E-06	1.83E-06
Demolition - Concrete	Construction	Concrete Pavers	7.83E-05	2.97E-05	6.34E-06	4.40E-08	4.78E-06	4.64E-06
Demolition - Concrete	Construction	Concrete Saw	1.05E-03	3.19E-04	5.03E-05	5.91E-07	4.06E-05	3.94E-05
Demolition - Concrete	Construction	Excavators	1.54E-03	5.17E-04	1.15E-04	9.39E-07	8.01E-05	7.77E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.75E-03	6.49E-04	1.40E-04	9.93E-07	1.06E-04	1.03E-04
Demolition - Concrete	Construction	Concrete Pavers	8.55E-04	3.24E-04	6.92E-05	4.80E-07	5.22E-05	5.06E-05
Demolition - Concrete	Construction	Concrete Saw	5.31E-04	1.62E-04	2.55E-05	3.00E-07	2.06E-05	2.00E-05
Demolition - Concrete	Construction	Excavators	7.82E-04	2.63E-04	5.85E-05	4.77E-07	4.07E-05	3.95E-05
Demolition - Concrete	Construction	Skid Steer Loaders4	7.03E-05	6.57E-06	1.58E-06	4.71E-08	5.40E-07	5.24E-07
Demolition - Concrete	Construction	Asphalt Paver	1.35E-04	5.12E-05	1.09E-05	7.59E-08	8.24E-06	8.00E-06
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	3.96E-04	1.46E-04	3.16E-05	2.24E-07	2.39E-05	2.32E-05
Demolition - Concrete	Construction	Hoe Ram4	3.53E-04	1.19E-04	2.64E-05	2.15E-07	1.84E-05	1.78E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Trenchers	1.64E-04	3.50E-05	5.73E-06	9.34E-08	3.71E-06	3.60E-06
Demolition - Concrete	Construction	Trenchers	1.22E-04	2.62E-05	4.29E-06	6.98E-08	2.77E-06	2.69E-06
Demolition - Concrete	Construction	Trenchers	1.64E-04	3.50E-05	5.73E-06	9.34E-08	3.71E-06	3.60E-06
Demolition - Concrete	Construction	Excavators	8.52E-04	2.86E-04	6.38E-05	5.19E-07	4.44E-05	4.30E-05
Demolition - Concrete	Construction	Trenchers	6.65E-05	1.42E-05	2.33E-06	3.80E-08	1.51E-06	1.46E-06
Demolition - Concrete	Construction	Excavators	3.46E-04	1.16E-04	2.59E-05	2.11E-07	1.80E-05	1.75E-05
Demolition - Concrete	Construction	Rotary Cold Mill	8.88E-04	3.56E-04	6.99E-05	6.07E-07	7.38E-05	7.16E-05
Demolition - Concrete	Construction	Grooving Machine	8.61E-04	4.05E-04	5.73E-05	5.17E-07	5.78E-05	5.60E-05
Demolition - Concrete	Construction	Paint Sprayers5	4.14E-05	1.72E-05	2.06E-06	3.73E-08	2.85E-06	2.76E-06
Demolition - Concrete	Construction	Skid Steer Loaders	1.92E-03	2.34E-04	7.33E-05	1.29E-06	1.89E-05	1.83E-05
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	5.16E-03	5.29E-03	9.65E-04	2.88E-06	6.93E-04	6.72E-04
Demolition - Concrete	Construction	Excavators	6.93E-03	2.33E-03	5.18E-04	4.22E-06	3.61E-04	3.50E-04
Demolition - Concrete	Construction	Skid Steer Loaders4	1.83E-04	1.72E-05	4.11E-06	1.23E-07	1.41E-06	1.37E-06
Demolition - Concrete	Construction	Asphalt Paver	3.52E-04	1.34E-04	2.85E-05	1.98E-07	2.15E-05	2.09E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.03E-03	3.82E-04	8.26E-05	5.85E-07	6.23E-05	6.04E-05
Demolition - Concrete	Construction	Tack Truck	8.86E-04	3.78E-04	5.23E-05	1.09E-06	5.98E-05	5.80E-05
Demolition - Concrete	Construction	Concrete Saw	9.53E-04	2.90E-04	4.58E-05	5.38E-07	3.70E-05	3.59E-05
Demolition - Concrete	Construction	Concrete Pavers	1.53E-03	5.81E-04	1.24E-04	8.61E-07	9.35E-05	9.07E-05
Demolition - Concrete	Construction	Concrete Saw	1.71E-03	5.22E-04	8.24E-05	9.69E-07	6.65E-05	6.45E-05
Demolition - Concrete	Construction	Excavators	2.52E-03	8.47E-04	1.89E-04	1.54E-06	1.31E-04	1.27E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Hoe Ram4	5.04E-03	1.69E-03	3.77E-04	3.07E-06	2.63E-04	2.55E-04
Demolition - Concrete	Construction	Skid Steer Loaders4	9.36E-05	8.75E-06	2.10E-06	6.27E-08	7.19E-07	6.97E-07
Demolition - Concrete	Construction	Asphalt Paver	1.80E-04	6.82E-05	1.46E-05	1.01E-07	1.10E-05	1.06E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	5.26E-04	1.95E-04	4.21E-05	2.98E-07	3.18E-05	3.08E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	4.06E-06	1.24E-06	1.95E-07	2.29E-09	1.58E-07	1.53E-07
Demolition - Concrete	Construction	Concrete Pavers	6.53E-06	2.48E-06	5.29E-07	3.67E-09	3.98E-07	3.86E-07
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	8.92E-06	3.30E-06	7.14E-07	5.06E-09	5.38E-07	5.22E-07
Demolition - Concrete	Construction	Graders	5.11E-06	1.68E-06	4.27E-07	3.15E-09	2.55E-07	2.48E-07
Demolition - Concrete	Construction	Concrete Saw	6.32E-06	1.92E-06	3.04E-07	3.57E-09	2.45E-07	2.38E-07
Demolition - Concrete	Construction	Excavators	9.29E-06	3.12E-06	6.95E-07	5.66E-09	4.84E-07	4.69E-07
Demolition - Concrete	Construction	Hoe Ram4	1.86E-04	6.24E-05	1.39E-05	1.13E-07	9.67E-06	9.38E-06
Demolition - Concrete	Construction	Excavators	4.78E-04	1.61E-04	3.58E-05	2.91E-07	2.49E-05	2.41E-05
Demolition - Concrete	Construction	Skid Steer Loaders	1.28E-03	1.56E-04	4.89E-05	8.63E-07	1.26E-05	1.22E-05
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.44E-03	3.53E-03	6.44E-04	1.92E-06	4.62E-04	4.48E-04
Demolition - Concrete	Construction	Excavators	4.62E-03	1.55E-03	3.46E-04	2.82E-06	2.40E-04	2.33E-04
Demolition - Concrete	Construction	Rubber Tire Loader	1.23E-03	4.00E-04	6.36E-05	2.21E-06	9.76E-05	9.47E-05
Demolition - Concrete	Construction	Large Concrete Crusher	1.17E-03	2.88E-04	7.72E-05	2.49E-06	5.20E-05	5.05E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Skid Steer Loaders	1.42E-04	1.33E-05	3.19E-06	9.53E-08	1.09E-06	1.06E-06
Drainage System	Construction	Advance Joint Sealant Equipment	2.48E-04	9.94E-05	1.95E-05	1.69E-07	2.06E-05	2.00E-05
Drainage System	Construction	Asphalt Paver	2.73E-04	1.04E-04	2.21E-05	1.53E-07	1.67E-05	1.62E-05
Drainage System	Construction	Rollers (Compactor Roller incl.)	7.99E-04	2.96E-04	6.40E-05	4.53E-07	4.82E-05	4.68E-05
Drainage System	Construction	Tack Truck	6.86E-04	2.93E-04	4.05E-05	8.44E-07	4.64E-05	4.50E-05
Drainage System	Construction	Concrete Saw	1.80E-04	5.48E-05	8.66E-06	1.02E-07	6.99E-06	6.78E-06
Drainage System	Construction	Concrete Pavers	2.90E-04	1.10E-04	2.35E-05	1.63E-07	1.77E-05	1.71E-05
Drainage System	Construction	Concrete Saw	1.57E-05	4.79E-06	7.56E-07	8.89E-09	6.11E-07	5.93E-07
Drainage System	Construction	Concrete Pavers	2.53E-05	9.60E-06	2.05E-06	1.42E-08	1.54E-06	1.50E-06
Drainage System	Construction	Concrete Saw	3.38E-04	1.03E-04	1.62E-05	1.91E-07	1.31E-05	1.27E-05
Drainage System	Construction	Excavators	4.97E-04	1.67E-04	3.72E-05	3.03E-07	2.59E-05	2.51E-05
Drainage System	Construction	Rollers (Compactor Roller incl.)	5.66E-04	2.10E-04	4.53E-05	3.21E-07	3.42E-05	3.31E-05
Drainage System	Construction	Concrete Pavers	2.76E-04	1.05E-04	2.24E-05	1.55E-07	1.68E-05	1.63E-05
Drainage System	Construction	Concrete Saw	1.72E-04	5.23E-05	8.25E-06	9.70E-08	6.66E-06	6.46E-06
Drainage System	Construction	Excavators	2.53E-04	8.49E-05	1.89E-05	1.54E-07	1.31E-05	1.28E-05
Drainage System	Construction	Skid Steer Loaders4	2.27E-05	2.12E-06	5.09E-07	1.52E-08	1.75E-07	1.69E-07
Drainage System	Construction	Asphalt Paver	4.36E-05	1.66E-05	3.53E-06	2.45E-08	2.66E-06	2.58E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.28E-04	4.73E-05	1.02E-05	7.24E-08	7.71E-06	7.48E-06
Drainage System	Construction	Hoe Ram4	1.14E-04	3.83E-05	8.54E-06	6.95E-08	5.94E-06	5.76E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Trenchers	5.28E-05	1.13E-05	1.85E-06	3.02E-08	1.20E-06	1.16E-06
Drainage System	Construction	Trenchers	3.95E-05	8.46E-06	1.38E-06	2.26E-08	8.96E-07	8.69E-07
Drainage System	Construction	Trenchers	5.28E-05	1.13E-05	1.85E-06	3.02E-08	1.20E-06	1.16E-06
Drainage System	Construction	Excavators	2.75E-04	9.25E-05	2.06E-05	1.68E-07	1.43E-05	1.39E-05
Drainage System	Construction	Trenchers	2.15E-05	4.60E-06	7.53E-07	1.23E-08	4.87E-07	4.72E-07
Drainage System	Construction	Excavators	1.12E-04	3.76E-05	8.38E-06	6.82E-08	5.83E-06	5.65E-06
Drainage System	Construction	Rotary Cold Mill	2.87E-04	1.15E-04	2.26E-05	1.96E-07	2.38E-05	2.31E-05
Drainage System	Construction	Grooving Machine	2.78E-04	1.31E-04	1.85E-05	1.67E-07	1.87E-05	1.81E-05
Drainage System	Construction	Paint Sprayers <sup>5</sup>	1.34E-05	5.56E-06	6.66E-07	1.20E-08	9.20E-07	8.92E-07
Drainage System	Construction	Skid Steer Loaders	6.21E-04	7.57E-05	2.37E-05	4.18E-07	6.10E-06	5.91E-06
Drainage System	Construction	Tractor/Loader (Backhoe)	1.67E-03	1.71E-03	3.12E-04	9.30E-07	2.24E-04	2.17E-04
Drainage System	Construction	Excavators	2.24E-03	7.52E-04	1.68E-04	1.36E-06	1.17E-04	1.13E-04
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	5.93E-05	5.54E-06	1.33E-06	3.97E-08	4.55E-07	4.42E-07
Drainage System	Construction	Asphalt Paver	1.14E-04	4.32E-05	9.22E-06	6.40E-08	6.95E-06	6.74E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	3.33E-04	1.23E-04	2.67E-05	1.89E-07	2.01E-05	1.95E-05
Drainage System	Construction	Tack Truck	2.86E-04	1.22E-04	1.69E-05	3.52E-07	1.93E-05	1.88E-05
Drainage System	Construction	Concrete Saw	3.08E-04	9.37E-05	1.48E-05	1.74E-07	1.19E-05	1.16E-05
Drainage System	Construction	Concrete Pavers	4.95E-04	1.88E-04	4.01E-05	2.78E-07	3.02E-05	2.93E-05
Drainage System	Construction	Concrete Saw	5.54E-04	1.69E-04	2.66E-05	3.13E-07	2.15E-05	2.09E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Excavators	8.15E-04	2.74E-04	6.10E-05	4.97E-07	4.24E-05	4.11E-05
Drainage System	Construction	Hoe Ram4	1.63E-03	5.48E-04	1.22E-04	9.93E-07	8.48E-05	8.23E-05
Drainage System	Construction	Skid Steer Loaders4	3.02E-05	2.83E-06	6.78E-07	2.03E-08	2.32E-07	2.25E-07
Drainage System	Construction	Asphalt Paver	5.81E-05	2.20E-05	4.70E-06	3.26E-08	3.54E-06	3.44E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.70E-04	6.30E-05	1.36E-05	9.64E-08	1.03E-05	9.96E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	1.31E-06	3.99E-07	6.30E-08	7.41E-10	5.09E-08	4.94E-08
Drainage System	Construction	Concrete Pavers	2.11E-06	8.00E-07	1.71E-07	1.19E-09	1.29E-07	1.25E-07
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.88E-06	1.07E-06	2.31E-07	1.63E-09	1.74E-07	1.69E-07
Drainage System	Construction	Graders	1.65E-06	5.44E-07	1.38E-07	1.02E-09	8.25E-08	8.00E-08
Drainage System	Construction	Concrete Saw	2.04E-06	6.21E-07	9.81E-08	1.15E-09	7.92E-08	7.68E-08
Drainage System	Construction	Excavators	3.00E-06	1.01E-06	2.25E-07	1.83E-09	1.56E-07	1.52E-07
Drainage System	Construction	Hoe Ram4	6.00E-05	2.02E-05	4.49E-06	3.66E-08	3.12E-06	3.03E-06
Drainage System	Construction	Excavators	1.54E-04	5.19E-05	1.16E-05	9.41E-08	8.03E-06	7.79E-06
Drainage System	Construction	Skid Steer Loaders	4.14E-04	5.05E-05	1.58E-05	2.79E-07	4.06E-06	3.94E-06
Drainage System	Construction	Tractor/Loader (Backhoe)	1.11E-03	1.14E-03	2.08E-04	6.20E-07	1.49E-04	1.45E-04
Drainage System	Construction	Excavators	1.49E-03	5.01E-04	1.12E-04	9.10E-07	7.77E-05	7.53E-05
Drainage System	Construction	Rubber Tire Loader	3.98E-04	1.29E-04	2.06E-05	7.14E-07	3.15E-05	3.06E-05



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Large Concrete Crusher	3.77E-04	9.32E-05	2.49E-05	8.05E-07	1.68E-05	1.63E-05
Fencing	Construction	Skid Steer Loaders	9.57E-05	8.95E-06	2.15E-06	6.42E-08	7.35E-07	7.13E-07
Fencing	Construction	Advance Joint Sealant Equipment	1.67E-04	6.69E-05	1.31E-05	1.14E-07	1.39E-05	1.34E-05
Fencing	Construction	Asphalt Paver	1.84E-04	6.98E-05	1.49E-05	1.03E-07	1.12E-05	1.09E-05
Fencing	Construction	Rollers (Compactor Roller incl.)	5.39E-04	1.99E-04	4.31E-05	3.05E-07	3.25E-05	3.15E-05
Fencing	Construction	Tack Truck	4.62E-04	1.97E-04	2.73E-05	5.69E-07	3.12E-05	3.03E-05
Fencing	Construction	Concrete Saw	1.21E-04	3.69E-05	5.83E-06	6.86E-08	4.71E-06	4.57E-06
Fencing	Construction	Concrete Pavers	1.95E-04	7.40E-05	1.58E-05	1.10E-07	1.19E-05	1.16E-05
Fencing	Construction	Concrete Saw	1.06E-05	3.23E-06	5.10E-07	5.99E-09	4.12E-07	3.99E-07
Fencing	Construction	Concrete Pavers	1.71E-05	6.47E-06	1.38E-06	9.59E-09	1.04E-06	1.01E-06
Fencing	Construction	Concrete Saw	2.28E-04	6.94E-05	1.09E-05	1.29E-07	8.84E-06	8.58E-06
Fencing	Construction	Excavators	3.35E-04	1.13E-04	2.51E-05	2.04E-07	1.74E-05	1.69E-05
Fencing	Construction	Rollers (Compactor Roller incl.)	3.81E-04	1.41E-04	3.05E-05	2.16E-07	2.30E-05	2.23E-05
Fencing	Construction	Concrete Pavers	1.86E-04	7.05E-05	1.51E-05	1.05E-07	1.14E-05	1.10E-05
Fencing	Construction	Concrete Saw	1.16E-04	3.52E-05	5.56E-06	6.54E-08	4.49E-06	4.35E-06
Fencing	Construction	Excavators	1.70E-04	5.72E-05	1.27E-05	1.04E-07	8.86E-06	8.59E-06
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	1.53E-05	1.43E-06	3.43E-07	1.03E-08	1.18E-07	1.14E-07
Fencing	Construction	Asphalt Paver	2.94E-05	1.12E-05	2.38E-06	1.65E-08	1.79E-06	1.74E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	8.61E-05	3.19E-05	6.89E-06	4.88E-08	5.20E-06	5.04E-06
Fencing	Construction	Hoe Ram <sup>4</sup>	7.68E-05	2.58E-05	5.75E-06	4.68E-08	4.00E-06	3.88E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Trenchers	3.56E-05	7.62E-06	1.25E-06	2.03E-08	8.07E-07	7.83E-07
Fencing	Construction	Trenchers	2.66E-05	5.70E-06	9.33E-07	1.52E-08	6.03E-07	5.85E-07
Fencing	Construction	Trenchers	3.56E-05	7.62E-06	1.25E-06	2.03E-08	8.07E-07	7.83E-07
Fencing	Construction	Excavators	1.85E-04	6.23E-05	1.39E-05	1.13E-07	9.65E-06	9.36E-06
Fencing	Construction	Trenchers	1.45E-05	3.10E-06	5.07E-07	8.26E-09	3.28E-07	3.18E-07
Fencing	Construction	Excavators	7.54E-05	2.53E-05	5.64E-06	4.60E-08	3.92E-06	3.81E-06
Fencing	Construction	Rotary Cold Mill	1.93E-04	7.75E-05	1.52E-05	1.32E-07	1.61E-05	1.56E-05
Fencing	Construction	Grooving Machine	1.87E-04	8.82E-05	1.25E-05	1.13E-07	1.26E-05	1.22E-05
Fencing	Construction	Paint Sprayers5	9.00E-06	3.74E-06	4.49E-07	8.12E-09	6.20E-07	6.01E-07
Fencing	Construction	Skid Steer Loaders	4.18E-04	5.10E-05	1.60E-05	2.82E-07	4.11E-06	3.98E-06
Fencing	Construction	Tractor/Loader (Backhoe)	1.12E-03	1.15E-03	2.10E-04	6.26E-07	1.51E-04	1.46E-04
Fencing	Construction	Excavators	1.51E-03	5.07E-04	1.13E-04	9.19E-07	7.85E-05	7.61E-05
Fencing	Construction	Skid Steer Loaders4	3.99E-05	3.73E-06	8.95E-07	2.68E-08	3.07E-07	2.98E-07
Fencing	Construction	Asphalt Paver	7.67E-05	2.91E-05	6.21E-06	4.31E-08	4.68E-06	4.54E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	2.25E-04	8.32E-05	1.80E-05	1.27E-07	1.36E-05	1.31E-05
Fencing	Construction	Tack Truck	1.93E-04	8.23E-05	1.14E-05	2.37E-07	1.30E-05	1.26E-05
Fencing	Construction	Concrete Saw	2.07E-04	6.31E-05	9.97E-06	1.17E-07	8.05E-06	7.81E-06
Fencing	Construction	Concrete Pavers	3.33E-04	1.26E-04	2.70E-05	1.87E-07	2.03E-05	1.97E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Concrete Saw	3.73E-04	1.14E-04	1.79E-05	2.11E-07	1.45E-05	1.40E-05
Fencing	Construction	Excavators	5.49E-04	1.84E-04	4.11E-05	3.35E-07	2.86E-05	2.77E-05
Fencing	Construction	Hoe Ram4	1.10E-03	3.69E-04	8.21E-05	6.69E-07	5.71E-05	5.54E-05
Fencing	Construction	Skid Steer Loaders4	2.04E-05	1.90E-06	4.57E-07	1.37E-08	1.56E-07	1.52E-07
Fencing	Construction	Asphalt Paver	3.91E-05	1.48E-05	3.17E-06	2.20E-08	2.39E-06	2.32E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	1.15E-04	4.24E-05	9.17E-06	6.49E-08	6.91E-06	6.71E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	8.84E-07	2.69E-07	4.25E-08	4.99E-10	3.43E-08	3.33E-08
Fencing	Construction	Concrete Pavers	1.42E-06	5.39E-07	1.15E-07	7.99E-10	8.67E-08	8.41E-08
Fencing	Construction	Rollers (Compactor Roller incl.)	1.94E-06	7.19E-07	1.55E-07	1.10E-09	1.17E-07	1.14E-07
Fencing	Construction	Graders	1.11E-06	3.66E-07	9.29E-08	6.86E-10	5.56E-08	5.39E-08
Fencing	Construction	Concrete Saw	1.37E-06	4.19E-07	6.61E-08	7.77E-10	5.33E-08	5.17E-08
Fencing	Construction	Excavators	2.02E-06	6.79E-07	1.51E-07	1.23E-09	1.05E-07	1.02E-07
Fencing	Construction	Hoe Ram4	4.04E-05	1.36E-05	3.03E-06	2.47E-08	2.10E-06	2.04E-06
Fencing	Construction	Excavators	1.04E-04	3.49E-05	7.78E-06	6.34E-08	5.41E-06	5.25E-06
Fencing	Construction	Skid Steer Loaders	2.79E-04	3.40E-05	1.06E-05	1.88E-07	2.74E-06	2.66E-06
Fencing	Construction	Tractor/Loader (Backhoe)	7.49E-04	7.68E-04	1.40E-04	4.17E-07	1.01E-04	9.76E-05
Fencing	Construction	Excavators	1.00E-03	3.38E-04	7.52E-05	6.13E-07	5.23E-05	5.08E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Rubber Tire Loader	2.68E-04	8.71E-05	1.38E-05	4.81E-07	2.12E-05	2.06E-05
Fencing	Construction	Large Concrete Crusher	2.54E-04	6.28E-05	1.68E-05	5.42E-07	1.13E-05	1.10E-05
Landscaping	Construction	Skid Steer Loaders	2.84E-04	2.66E-05	6.37E-06	1.91E-07	2.18E-06	2.12E-06
Landscaping	Construction	Advance Joint Sealant Equipment	4.95E-04	1.99E-04	3.90E-05	3.39E-07	4.12E-05	3.99E-05
Landscaping	Construction	Asphalt Paver	5.46E-04	2.07E-04	4.42E-05	3.07E-07	3.33E-05	3.23E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.60E-03	5.92E-04	1.28E-04	9.06E-07	9.65E-05	9.36E-05
Landscaping	Construction	Tack Truck	1.37E-03	5.86E-04	8.11E-05	1.69E-06	9.27E-05	8.99E-05
Landscaping	Construction	Concrete Saw	3.60E-04	1.10E-04	1.73E-05	2.04E-07	1.40E-05	1.36E-05
Landscaping	Construction	Concrete Pavers	5.79E-04	2.20E-04	4.69E-05	3.26E-07	3.54E-05	3.43E-05
Landscaping	Construction	Concrete Saw	3.15E-05	9.58E-06	1.51E-06	1.78E-08	1.22E-06	1.19E-06
Landscaping	Construction	Concrete Pavers	5.06E-05	1.92E-05	4.10E-06	2.85E-08	3.09E-06	3.00E-06
Landscaping	Construction	Concrete Saw	6.76E-04	2.06E-04	3.25E-05	3.82E-07	2.62E-05	2.55E-05
Landscaping	Construction	Excavators	9.94E-04	3.34E-04	7.44E-05	6.06E-07	5.18E-05	5.02E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.13E-03	4.19E-04	9.06E-05	6.42E-07	6.83E-05	6.63E-05
Landscaping	Construction	Concrete Pavers	5.52E-04	2.09E-04	4.47E-05	3.10E-07	3.37E-05	3.27E-05
Landscaping	Construction	Concrete Saw	3.43E-04	1.05E-04	1.65E-05	1.94E-07	1.33E-05	1.29E-05
Landscaping	Construction	Excavators	5.05E-04	1.70E-04	3.78E-05	3.08E-07	2.63E-05	2.55E-05
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	4.54E-05	4.25E-06	1.02E-06	3.05E-08	3.49E-07	3.39E-07
Landscaping	Construction	Asphalt Paver	8.73E-05	3.31E-05	7.07E-06	4.91E-08	5.33E-06	5.17E-06
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.56E-04	9.46E-05	2.04E-05	1.45E-07	1.54E-05	1.50E-05
Landscaping	Construction	Hoe Ram <sup>4</sup>	2.28E-04	7.66E-05	1.71E-05	1.39E-07	1.19E-05	1.15E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Trenchers	1.06E-04	2.26E-05	3.70E-06	6.03E-08	2.40E-06	2.32E-06
Landscaping	Construction	Trenchers	7.90E-05	1.69E-05	2.77E-06	4.51E-08	1.79E-06	1.74E-06
Landscaping	Construction	Trenchers	1.06E-04	2.26E-05	3.70E-06	6.03E-08	2.40E-06	2.32E-06
Landscaping	Construction	Excavators	5.50E-04	1.85E-04	4.12E-05	3.36E-07	2.87E-05	2.78E-05
Landscaping	Construction	Trenchers	4.30E-05	9.20E-06	1.51E-06	2.45E-08	9.74E-07	9.45E-07
Landscaping	Construction	Excavators	2.24E-04	7.52E-05	1.67E-05	1.36E-07	1.16E-05	1.13E-05
Landscaping	Construction	Rotary Cold Mill	5.73E-04	2.30E-04	4.51E-05	3.92E-07	4.77E-05	4.62E-05
Landscaping	Construction	Grooving Machine	5.56E-04	2.62E-04	3.70E-05	3.34E-07	3.73E-05	3.62E-05
Landscaping	Construction	Paint Sprayers <sup>5</sup>	2.67E-05	1.11E-05	1.33E-06	2.41E-08	1.84E-06	1.78E-06
Landscaping	Construction	Skid Steer Loaders	1.24E-03	1.51E-04	4.74E-05	8.37E-07	1.22E-05	1.18E-05
Landscaping	Construction	Tractor/Loader (Backhoe)	3.33E-03	3.42E-03	6.24E-04	1.86E-06	4.48E-04	4.34E-04
Landscaping	Construction	Excavators	4.48E-03	1.50E-03	3.35E-04	2.73E-06	2.33E-04	2.26E-04
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	1.18E-04	1.11E-05	2.66E-06	7.95E-08	9.11E-07	8.83E-07
Landscaping	Construction	Asphalt Paver	2.28E-04	8.64E-05	1.84E-05	1.28E-07	1.39E-05	1.35E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	6.67E-04	2.47E-04	5.33E-05	3.78E-07	4.02E-05	3.90E-05
Landscaping	Construction	Tack Truck	5.72E-04	2.44E-04	3.38E-05	7.04E-07	3.87E-05	3.75E-05
Landscaping	Construction	Concrete Saw	6.16E-04	1.87E-04	2.96E-05	3.48E-07	2.39E-05	2.32E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Concrete Pavers	9.90E-04	3.75E-04	8.02E-05	5.56E-07	6.04E-05	5.86E-05
Landscaping	Construction	Concrete Saw	1.11E-03	3.37E-04	5.32E-05	6.26E-07	4.30E-05	4.17E-05
Landscaping	Construction	Excavators	1.63E-03	5.47E-04	1.22E-04	9.93E-07	8.48E-05	8.23E-05
Landscaping	Construction	Hoe Ram4	3.26E-03	1.09E-03	2.44E-04	1.99E-06	1.70E-04	1.65E-04
Landscaping	Construction	Skid Steer Loaders4	6.04E-05	5.65E-06	1.36E-06	4.05E-08	4.64E-07	4.51E-07
Landscaping	Construction	Asphalt Paver	1.16E-04	4.41E-05	9.41E-06	6.53E-08	7.09E-06	6.88E-06
Landscaping	Construction	Rollers (Compactor Roller incl.)	3.40E-04	1.26E-04	2.72E-05	1.93E-07	2.05E-05	1.99E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	2.62E-06	7.99E-07	1.26E-07	1.48E-09	1.02E-07	9.88E-08
Landscaping	Construction	Concrete Pavers	4.22E-06	1.60E-06	3.42E-07	2.37E-09	2.57E-07	2.50E-07
Landscaping	Construction	Rollers (Compactor Roller incl.)	5.76E-06	2.13E-06	4.61E-07	3.27E-09	3.48E-07	3.37E-07
Landscaping	Construction	Graders	3.30E-06	1.09E-06	2.76E-07	2.04E-09	1.65E-07	1.60E-07
Landscaping	Construction	Concrete Saw	4.08E-06	1.24E-06	1.96E-07	2.31E-09	1.58E-07	1.54E-07
Landscaping	Construction	Excavators	6.00E-06	2.02E-06	4.49E-07	3.66E-09	3.12E-07	3.03E-07
Landscaping	Construction	Hoe Ram4	1.20E-04	4.03E-05	8.98E-06	7.32E-08	6.25E-06	6.06E-06
Landscaping	Construction	Excavators	3.09E-04	1.04E-04	2.31E-05	1.88E-07	1.61E-05	1.56E-05
Landscaping	Construction	Skid Steer Loaders	8.28E-04	1.01E-04	3.16E-05	5.58E-07	8.13E-06	7.88E-06
Landscaping	Construction	Tractor/Loader (Backhoe)	2.22E-03	2.28E-03	4.16E-04	1.24E-06	2.99E-04	2.90E-04



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Excavators	2.98E-03	1.00E-03	2.23E-04	1.82E-06	1.55E-04	1.51E-04
Landscaping	Construction	Rubber Tire Loader	7.95E-04	2.59E-04	4.11E-05	1.43E-06	6.31E-05	6.12E-05
Landscaping	Construction	Large Concrete Crusher	7.53E-04	1.86E-04	4.99E-05	1.61E-06	3.36E-05	3.26E-05
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Paint Sprayers <sup>5</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Skid Steer Loaders	7.44E-03	6.95E-04	1.67E-04	4.99E-06	5.71E-05	5.54E-05
Parking Lot	Construction	Advance Joint Sealant Equipment	1.30E-02	5.20E-03	1.02E-03	8.86E-06	1.08E-03	1.04E-03
Parking Lot	Construction	Asphalt Paver	1.43E-02	5.42E-03	1.16E-03	8.03E-06	8.72E-04	8.46E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	4.18E-02	1.55E-02	3.35E-03	2.37E-05	2.53E-03	2.45E-03
Parking Lot	Construction	Tack Truck	3.59E-02	1.53E-02	2.12E-03	4.42E-05	2.43E-03	2.35E-03
Parking Lot	Construction	Concrete Saw	9.43E-03	2.87E-03	4.53E-04	5.33E-06	3.66E-04	3.55E-04
Parking Lot	Construction	Concrete Pavers	1.52E-02	5.75E-03	1.23E-03	8.52E-06	9.25E-04	8.98E-04
Parking Lot	Construction	Concrete Saw	8.24E-04	2.51E-04	3.96E-05	4.66E-07	3.20E-05	3.10E-05
Parking Lot	Construction	Concrete Pavers	1.32E-03	5.03E-04	1.07E-04	7.45E-07	8.09E-05	7.84E-05
Parking Lot	Construction	Concrete Saw	1.77E-02	5.39E-03	8.51E-04	1.00E-05	6.87E-04	6.66E-04
Parking Lot	Construction	Excavators	2.60E-02	8.75E-03	1.95E-03	1.59E-05	1.36E-03	1.31E-03
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.96E-02	1.10E-02	2.37E-03	1.68E-05	1.79E-03	1.73E-03
Parking Lot	Construction	Concrete Pavers	1.45E-02	5.48E-03	1.17E-03	8.12E-06	8.82E-04	8.55E-04
Parking Lot	Construction	Concrete Saw	8.99E-03	2.74E-03	4.32E-04	5.08E-06	3.49E-04	3.38E-04
Parking Lot	Construction	Excavators	1.32E-02	4.44E-03	9.89E-04	8.06E-06	6.88E-04	6.67E-04
Parking Lot	Construction	Skid Steer Loaders4	1.19E-03	1.11E-04	2.67E-05	7.97E-07	9.13E-06	8.86E-06
Parking Lot	Construction	Asphalt Paver	2.28E-03	8.66E-04	1.85E-04	1.28E-06	1.39E-04	1.35E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	6.69E-03	2.48E-03	5.35E-04	3.79E-06	4.04E-04	3.92E-04
Parking Lot	Construction	Hoe Ram4	5.97E-03	2.01E-03	4.47E-04	3.64E-06	3.11E-04	3.01E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Trenchers	2.77E-03	5.92E-04	9.69E-05	1.58E-06	6.27E-05	6.08E-05
Parking Lot	Construction	Trenchers	2.07E-03	4.43E-04	7.25E-05	1.18E-06	4.69E-05	4.55E-05
Parking Lot	Construction	Trenchers	2.77E-03	5.92E-04	9.69E-05	1.58E-06	6.27E-05	6.08E-05
Parking Lot	Construction	Excavators	1.44E-02	4.84E-03	1.08E-03	8.78E-06	7.50E-04	7.28E-04
Parking Lot	Construction	Trenchers	1.12E-03	2.41E-04	3.94E-05	6.42E-07	2.55E-05	2.47E-05
Parking Lot	Construction	Excavators	5.86E-03	1.97E-03	4.38E-04	3.57E-06	3.05E-04	2.96E-04
Parking Lot	Construction	Rotary Cold Mill	1.50E-02	6.02E-03	1.18E-03	1.03E-05	1.25E-03	1.21E-03
Parking Lot	Construction	Grooving Machine	1.46E-02	6.85E-03	9.69E-04	8.75E-06	9.77E-04	9.48E-04
Parking Lot	Construction	Paint Sprayers <sup>5</sup>	6.99E-04	2.91E-04	3.49E-05	6.31E-07	4.82E-05	4.67E-05
Parking Lot	Construction	Skid Steer Loaders	3.25E-02	3.96E-03	1.24E-03	2.19E-05	3.19E-04	3.10E-04
Parking Lot	Construction	Tractor/Loader (Backhoe)	8.73E-02	8.95E-02	1.63E-02	4.87E-05	1.17E-02	1.14E-02
Parking Lot	Construction	Excavators	1.17E-01	3.94E-02	8.77E-03	7.14E-05	6.10E-03	5.92E-03
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	3.10E-03	2.90E-04	6.96E-05	2.08E-06	2.38E-05	2.31E-05
Parking Lot	Construction	Asphalt Paver	5.96E-03	2.26E-03	4.83E-04	3.35E-06	3.64E-04	3.53E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	1.75E-02	6.46E-03	1.40E-03	9.89E-06	1.05E-03	1.02E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Tack Truck	1.50E-02	6.39E-03	8.85E-04	1.84E-05	1.01E-03	9.82E-04
Parking Lot	Construction	Concrete Saw	1.61E-02	4.91E-03	7.74E-04	9.10E-06	6.25E-04	6.07E-04
Parking Lot	Construction	Concrete Pavers	2.59E-02	9.83E-03	2.10E-03	1.46E-05	1.58E-03	1.53E-03
Parking Lot	Construction	Concrete Saw	2.90E-02	8.83E-03	1.39E-03	1.64E-05	1.13E-03	1.09E-03
Parking Lot	Construction	Excavators	4.26E-02	1.43E-02	3.19E-03	2.60E-05	2.22E-03	2.15E-03
Parking Lot	Construction	Hoe Ram4	8.53E-02	2.87E-02	6.38E-03	5.20E-05	4.44E-03	4.31E-03
Parking Lot	Construction	Skid Steer Loaders4	1.58E-03	1.48E-04	3.55E-05	1.06E-06	1.22E-05	1.18E-05
Parking Lot	Construction	Asphalt Paver	3.04E-03	1.15E-03	2.46E-04	1.71E-06	1.86E-04	1.80E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	8.90E-03	3.30E-03	7.12E-04	5.05E-06	5.37E-04	5.21E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	6.87E-05	2.09E-05	3.30E-06	3.88E-08	2.66E-06	2.58E-06
Parking Lot	Construction	Concrete Pavers	1.10E-04	4.19E-05	8.94E-06	6.21E-08	6.74E-06	6.54E-06
Parking Lot	Construction	Rollers (Compactor Roller incl.)	1.51E-04	5.59E-05	1.21E-05	8.55E-08	9.11E-06	8.83E-06
Parking Lot	Construction	Graders	8.64E-05	2.85E-05	7.22E-06	5.33E-08	4.32E-06	4.19E-06
Parking Lot	Construction	Concrete Saw	1.07E-04	3.25E-05	5.13E-06	6.03E-08	4.15E-06	4.02E-06
Parking Lot	Construction	Excavators	1.57E-04	5.28E-05	1.18E-05	9.58E-08	8.18E-06	7.93E-06
Parking Lot	Construction	Hoe Ram4	3.14E-03	1.06E-03	2.35E-04	1.92E-06	1.64E-04	1.59E-04
Parking Lot	Construction	Excavators	8.08E-03	2.72E-03	6.05E-04	4.93E-06	4.21E-04	4.08E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Skid Steer Loaders	2.17E-02	2.64E-03	8.27E-04	1.46E-05	2.13E-04	2.06E-04
Parking Lot	Construction	Tractor/Loader (Backhoe)	5.82E-02	5.97E-02	1.09E-02	3.24E-05	7.82E-03	7.58E-03
Parking Lot	Construction	Excavators	7.81E-02	2.62E-02	5.85E-03	4.76E-05	4.07E-03	3.94E-03
Parking Lot	Construction	Rubber Tire Loader	2.08E-02	6.77E-03	1.08E-03	3.73E-05	1.65E-03	1.60E-03
Parking Lot	Construction	Large Concrete Crusher	1.97E-02	4.88E-03	1.31E-03	4.21E-05	8.80E-04	8.54E-04
Rehabilitate Runway	Construction	Skid Steer Loaders	7.01E-03	6.56E-04	1.57E-04	4.70E-06	5.39E-05	5.23E-05
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	1.22E-02	4.90E-03	9.62E-04	8.36E-06	1.02E-03	9.85E-04
Rehabilitate Runway	Construction	Asphalt Paver	1.35E-02	5.11E-03	1.09E-03	7.57E-06	8.22E-04	7.98E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	3.95E-02	1.46E-02	3.16E-03	2.24E-05	2.38E-03	2.31E-03
Rehabilitate Runway	Construction	Tack Truck	3.39E-02	1.44E-02	2.00E-03	4.17E-05	2.29E-03	2.22E-03
Rehabilitate Runway	Construction	Concrete Saw	8.89E-03	2.71E-03	4.27E-04	5.02E-06	3.45E-04	3.35E-04
Rehabilitate Runway	Construction	Concrete Pavers	1.43E-02	5.42E-03	1.16E-03	8.04E-06	8.72E-04	8.46E-04
Rehabilitate Runway	Construction	Concrete Saw	7.77E-04	2.37E-04	3.73E-05	4.39E-07	3.01E-05	2.92E-05
Rehabilitate Runway	Construction	Concrete Pavers	1.25E-03	4.74E-04	1.01E-04	7.02E-07	7.62E-05	7.39E-05
Rehabilitate Runway	Construction	Concrete Saw	1.67E-02	5.08E-03	8.02E-04	9.43E-06	6.48E-04	6.28E-04
Rehabilitate Runway	Construction	Excavators	2.45E-02	8.25E-03	1.84E-03	1.50E-05	1.28E-03	1.24E-03
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.79E-02	1.03E-02	2.23E-03	1.58E-05	1.69E-03	1.63E-03
Rehabilitate Runway	Construction	Concrete Pavers	1.36E-02	5.17E-03	1.10E-03	7.66E-06	8.31E-04	8.07E-04
Rehabilitate Runway	Construction	Concrete Saw	8.47E-03	2.58E-03	4.07E-04	4.79E-06	3.29E-04	3.19E-04
Rehabilitate Runway	Construction	Excavators	1.25E-02	4.19E-03	9.33E-04	7.60E-06	6.49E-04	6.29E-04
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	1.12E-03	1.05E-04	2.51E-05	7.52E-07	8.61E-06	8.35E-06
Rehabilitate Runway	Construction	Asphalt Paver	2.15E-03	8.17E-04	1.74E-04	1.21E-06	1.31E-04	1.27E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	6.31E-03	2.34E-03	5.05E-04	3.58E-06	3.81E-04	3.69E-04



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Hoe Ram4	5.63E-03	1.89E-03	4.21E-04	3.43E-06	2.93E-04	2.84E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Trenchers	2.61E-03	5.58E-04	9.14E-05	1.49E-06	5.91E-05	5.73E-05
Rehabilitate Runway	Construction	Trenchers	1.95E-03	4.17E-04	6.83E-05	1.11E-06	4.42E-05	4.29E-05
Rehabilitate Runway	Construction	Trenchers	2.61E-03	5.58E-04	9.14E-05	1.49E-06	5.91E-05	5.73E-05
Rehabilitate Runway	Construction	Excavators	1.36E-02	4.56E-03	1.02E-03	8.28E-06	7.07E-04	6.86E-04
Rehabilitate Runway	Construction	Trenchers	1.06E-03	2.27E-04	3.72E-05	6.05E-07	2.40E-05	2.33E-05
Rehabilitate Runway	Construction	Excavators	5.52E-03	1.86E-03	4.13E-04	3.37E-06	2.87E-04	2.79E-04
Rehabilitate Runway	Construction	Rotary Cold Mill	1.42E-02	5.68E-03	1.11E-03	9.68E-06	1.18E-03	1.14E-03
Rehabilitate Runway	Construction	Grooving Machine	1.37E-02	6.46E-03	9.14E-04	8.25E-06	9.21E-04	8.94E-04
Rehabilitate Runway	Construction	Paint Sprayers5	6.59E-04	2.74E-04	3.29E-05	5.95E-07	4.54E-05	4.40E-05
Rehabilitate Runway	Construction	Skid Steer Loaders	3.06E-02	3.74E-03	1.17E-03	2.06E-05	3.01E-04	2.92E-04
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	8.23E-02	8.44E-02	1.54E-02	4.59E-05	1.11E-02	1.07E-02
Rehabilitate Runway	Construction	Excavators	1.10E-01	3.71E-02	8.27E-03	6.73E-05	5.75E-03	5.58E-03
Rehabilitate Runway	Construction	Skid Steer Loaders4	2.92E-03	2.73E-04	6.56E-05	1.96E-06	2.25E-05	2.18E-05
Rehabilitate Runway	Construction	Asphalt Paver	5.62E-03	2.13E-03	4.55E-04	3.16E-06	3.43E-04	3.33E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	1.65E-02	6.09E-03	1.32E-03	9.33E-06	9.93E-04	9.63E-04
Rehabilitate Runway	Construction	Tack Truck	1.41E-02	6.03E-03	8.34E-04	1.74E-05	9.54E-04	9.25E-04
Rehabilitate Runway	Construction	Concrete Saw	1.52E-02	4.63E-03	7.30E-04	8.58E-06	5.90E-04	5.72E-04
Rehabilitate Runway	Construction	Concrete Pavers	2.44E-02	9.27E-03	1.98E-03	1.37E-05	1.49E-03	1.45E-03
Rehabilitate Runway	Construction	Concrete Saw	2.73E-02	8.32E-03	1.31E-03	1.54E-05	1.06E-03	1.03E-03
Rehabilitate Runway	Construction	Excavators	4.02E-02	1.35E-02	3.01E-03	2.45E-05	2.09E-03	2.03E-03
Rehabilitate Runway	Construction	Hoe Ram4	8.04E-02	2.70E-02	6.02E-03	4.90E-05	4.19E-03	4.06E-03
Rehabilitate Runway	Construction	Skid Steer Loaders4	1.49E-03	1.39E-04	3.35E-05	1.00E-06	1.15E-05	1.11E-05
Rehabilitate Runway	Construction	Asphalt Paver	2.87E-03	1.09E-03	2.32E-04	1.61E-06	1.75E-04	1.70E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	8.39E-03	3.11E-03	6.72E-04	4.76E-06	5.07E-04	4.91E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	6.47E-05	1.97E-05	3.11E-06	3.66E-08	2.51E-06	2.44E-06
Rehabilitate Runway	Construction	Concrete Pavers	1.04E-04	3.95E-05	8.43E-06	5.85E-08	6.35E-06	6.16E-06
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	1.42E-04	5.27E-05	1.14E-05	8.06E-08	8.59E-06	8.33E-06
Rehabilitate Runway	Construction	Graders	8.14E-05	2.68E-05	6.80E-06	5.02E-08	4.07E-06	3.95E-06
Rehabilitate Runway	Construction	Concrete Saw	1.01E-04	3.07E-05	4.84E-06	5.69E-08	3.91E-06	3.79E-06
Rehabilitate Runway	Construction	Excavators	1.48E-04	4.98E-05	1.11E-05	9.03E-08	7.71E-06	7.48E-06
Rehabilitate Runway	Construction	Hoe Ram4	2.96E-03	9.95E-04	2.22E-04	1.81E-06	1.54E-04	1.50E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Excavators	7.62E-03	2.56E-03	5.70E-04	4.64E-06	3.97E-04	3.85E-04
Rehabilitate Runway	Construction	Skid Steer Loaders	2.04E-02	2.49E-03	7.79E-04	1.38E-05	2.01E-04	1.95E-04
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	5.49E-02	5.63E-02	1.03E-02	3.06E-05	7.37E-03	7.15E-03
Rehabilitate Runway	Construction	Excavators	7.36E-02	2.47E-02	5.51E-03	4.49E-05	3.83E-03	3.72E-03
Rehabilitate Runway	Construction	Rubber Tire Loader	1.96E-02	6.38E-03	1.01E-03	3.52E-05	1.56E-03	1.51E-03
Rehabilitate Runway	Construction	Large Concrete Crusher	1.86E-02	4.60E-03	1.23E-03	3.97E-05	8.30E-04	8.05E-04
Runway Drains	Construction	Skid Steer Loaders	9.82E-04	9.18E-05	2.20E-05	6.58E-07	7.54E-06	7.32E-06
Runway Drains	Construction	Advance Joint Sealant Equipment	1.71E-03	6.87E-04	1.35E-04	1.17E-06	1.42E-04	1.38E-04
Runway Drains	Construction	Asphalt Paver	1.89E-03	7.16E-04	1.53E-04	1.06E-06	1.15E-04	1.12E-04
Runway Drains	Construction	Rollers (Compactor Roller incl.)	5.52E-03	2.05E-03	4.42E-04	3.13E-06	3.33E-04	3.23E-04
Runway Drains	Construction	Tack Truck	4.74E-03	2.02E-03	2.80E-04	5.83E-06	3.20E-04	3.11E-04
Runway Drains	Construction	Concrete Saw	1.24E-03	3.79E-04	5.98E-05	7.03E-07	4.83E-05	4.69E-05
Runway Drains	Construction	Concrete Pavers	2.00E-03	7.59E-04	1.62E-04	1.13E-06	1.22E-04	1.18E-04
Runway Drains	Construction	Concrete Saw	1.09E-04	3.31E-05	5.23E-06	6.15E-08	4.22E-06	4.09E-06
Runway Drains	Construction	Concrete Pavers	1.75E-04	6.63E-05	1.42E-05	9.83E-08	1.07E-05	1.04E-05
Runway Drains	Construction	Concrete Saw	2.34E-03	7.11E-04	1.12E-04	1.32E-06	9.07E-05	8.80E-05
Runway Drains	Construction	Excavators	3.44E-03	1.15E-03	2.57E-04	2.10E-06	1.79E-04	1.74E-04
Runway Drains	Construction	Rollers (Compactor Roller incl.)	3.91E-03	1.45E-03	3.13E-04	2.22E-06	2.36E-04	2.29E-04
Runway Drains	Construction	Concrete Pavers	1.91E-03	7.24E-04	1.55E-04	1.07E-06	1.16E-04	1.13E-04
Runway Drains	Construction	Concrete Saw	1.19E-03	3.61E-04	5.70E-05	6.70E-07	4.60E-05	4.47E-05
Runway Drains	Construction	Excavators	1.74E-03	5.86E-04	1.31E-04	1.06E-06	9.08E-05	8.81E-05
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	1.57E-04	1.47E-05	3.52E-06	1.05E-07	1.21E-06	1.17E-06
Runway Drains	Construction	Asphalt Paver	3.02E-04	1.14E-04	2.44E-05	1.70E-07	1.84E-05	1.79E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Rollers (Compactor Roller incl.)	8.83E-04	3.27E-04	7.07E-05	5.01E-07	5.33E-05	5.17E-05
Runway Drains	Construction	Hoe Ram4	7.88E-04	2.65E-04	5.90E-05	4.81E-07	4.10E-05	3.98E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Trenchers	3.65E-04	7.82E-05	1.28E-05	2.09E-07	8.28E-06	8.03E-06
Runway Drains	Construction	Trenchers	2.73E-04	5.84E-05	9.57E-06	1.56E-07	6.19E-06	6.00E-06
Runway Drains	Construction	Trenchers	3.65E-04	7.82E-05	1.28E-05	2.09E-07	8.28E-06	8.03E-06
Runway Drains	Construction	Excavators	1.90E-03	6.39E-04	1.42E-04	1.16E-06	9.90E-05	9.60E-05
Runway Drains	Construction	Trenchers	1.48E-04	3.18E-05	5.20E-06	8.48E-08	3.37E-06	3.26E-06
Runway Drains	Construction	Excavators	7.73E-04	2.60E-04	5.79E-05	4.71E-07	4.03E-05	3.90E-05
Runway Drains	Construction	Rotary Cold Mill	1.98E-03	7.95E-04	1.56E-04	1.36E-06	1.65E-04	1.60E-04
Runway Drains	Construction	Grooving Machine	1.92E-03	9.04E-04	1.28E-04	1.16E-06	1.29E-04	1.25E-04
Runway Drains	Construction	Paint Sprayers5	9.23E-05	3.84E-05	4.60E-06	8.32E-08	6.36E-06	6.17E-06
Runway Drains	Construction	Skid Steer Loaders	4.29E-03	5.23E-04	1.64E-04	2.89E-06	4.21E-05	4.09E-05
Runway Drains	Construction	Tractor/Loader (Backhoe)	1.15E-02	1.18E-02	2.16E-03	6.42E-06	1.55E-03	1.50E-03
Runway Drains	Construction	Excavators	1.55E-02	5.20E-03	1.16E-03	9.43E-06	8.05E-04	7.81E-04
Runway Drains	Construction	Skid Steer Loaders4	4.09E-04	3.83E-05	9.18E-06	2.75E-07	3.15E-06	3.05E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Asphalt Paver	7.87E-04	2.98E-04	6.37E-05	4.42E-07	4.80E-05	4.66E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.30E-03	8.53E-04	1.84E-04	1.31E-06	1.39E-04	1.35E-04
Runway Drains	Construction	Tack Truck	1.98E-03	8.44E-04	1.17E-04	2.43E-06	1.34E-04	1.30E-04
Runway Drains	Construction	Concrete Saw	2.13E-03	6.48E-04	1.02E-04	1.20E-06	8.26E-05	8.01E-05
Runway Drains	Construction	Concrete Pavers	3.42E-03	1.30E-03	2.77E-04	1.92E-06	2.09E-04	2.02E-04
Runway Drains	Construction	Concrete Saw	3.83E-03	1.17E-03	1.84E-04	2.16E-06	1.49E-04	1.44E-04
Runway Drains	Construction	Excavators	5.63E-03	1.89E-03	4.21E-04	3.43E-06	2.93E-04	2.84E-04
Runway Drains	Construction	Hoe Ram4	1.13E-02	3.78E-03	8.43E-04	6.86E-06	5.86E-04	5.68E-04
Runway Drains	Construction	Skid Steer Loaders4	2.09E-04	1.95E-05	4.68E-06	1.40E-07	1.60E-06	1.56E-06
Runway Drains	Construction	Asphalt Paver	4.01E-04	1.52E-04	3.25E-05	2.26E-07	2.45E-05	2.38E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.18E-03	4.35E-04	9.40E-05	6.66E-07	7.09E-05	6.88E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	9.07E-06	2.76E-06	4.36E-07	5.12E-09	3.52E-07	3.41E-07
Runway Drains	Construction	Concrete Pavers	1.46E-05	5.53E-06	1.18E-06	8.19E-09	8.90E-07	8.63E-07
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.99E-05	7.38E-06	1.59E-06	1.13E-08	1.20E-06	1.17E-06
Runway Drains	Construction	Graders	1.14E-05	3.76E-06	9.53E-07	7.03E-09	5.70E-07	5.53E-07
Runway Drains	Construction	Concrete Saw	1.41E-05	4.29E-06	6.78E-07	7.97E-09	5.47E-07	5.31E-07
Runway Drains	Construction	Excavators	2.07E-05	6.97E-06	1.55E-06	1.26E-08	1.08E-06	1.05E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Hoe Ram4	4.15E-04	1.39E-04	3.10E-05	2.53E-07	2.16E-05	2.09E-05
Runway Drains	Construction	Excavators	1.07E-03	3.58E-04	7.98E-05	6.50E-07	5.55E-05	5.39E-05
Runway Drains	Construction	Skid Steer Loaders	2.86E-03	3.49E-04	1.09E-04	1.93E-06	2.81E-05	2.72E-05
Runway Drains	Construction	Tractor/Loader (Backhoe)	7.68E-03	7.88E-03	1.44E-03	4.28E-06	1.03E-03	1.00E-03
Runway Drains	Construction	Excavators	1.03E-02	3.46E-03	7.72E-04	6.29E-06	5.37E-04	5.21E-04
Runway Drains	Construction	Rubber Tire Loader	2.75E-03	8.93E-04	1.42E-04	4.93E-06	2.18E-04	2.11E-04
Runway Drains	Construction	Large Concrete Crusher	2.60E-03	6.44E-04	1.72E-04	5.56E-06	1.16E-04	1.13E-04
Runway Markings	Construction	Skid Steer Loaders	3.72E-03	3.48E-04	8.35E-05	2.50E-06	2.86E-05	2.77E-05
Runway Markings	Construction	Advance Joint Sealant Equipment	6.48E-03	2.60E-03	5.10E-04	4.44E-06	5.39E-04	5.23E-04
Runway Markings	Construction	Asphalt Paver	7.15E-03	2.71E-03	5.79E-04	4.02E-06	4.36E-04	4.23E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.09E-02	7.75E-03	1.68E-03	1.19E-05	1.26E-03	1.23E-03
Runway Markings	Construction	Tack Truck	1.80E-02	7.67E-03	1.06E-03	2.21E-05	1.21E-03	1.18E-03
Runway Markings	Construction	Concrete Saw	4.72E-03	1.44E-03	2.27E-04	2.67E-06	1.83E-04	1.78E-04
Runway Markings	Construction	Concrete Pavers	7.59E-03	2.88E-03	6.14E-04	4.27E-06	4.63E-04	4.49E-04
Runway Markings	Construction	Concrete Saw	4.12E-04	1.26E-04	1.98E-05	2.33E-07	1.60E-05	1.55E-05
Runway Markings	Construction	Concrete Pavers	6.63E-04	2.51E-04	5.37E-05	3.73E-07	4.05E-05	3.92E-05
Runway Markings	Construction	Concrete Saw	8.86E-03	2.70E-03	4.26E-04	5.00E-06	3.44E-04	3.33E-04
Runway Markings	Construction	Excavators	1.30E-02	4.38E-03	9.75E-04	7.94E-06	6.78E-04	6.58E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	1.48E-02	5.49E-03	1.19E-03	8.40E-06	8.95E-04	8.68E-04
Runway Markings	Construction	Concrete Pavers	7.23E-03	2.74E-03	5.86E-04	4.07E-06	4.41E-04	4.28E-04
Runway Markings	Construction	Concrete Saw	4.50E-03	1.37E-03	2.16E-04	2.54E-06	1.75E-04	1.69E-04
Runway Markings	Construction	Excavators	6.61E-03	2.22E-03	4.95E-04	4.03E-06	3.44E-04	3.34E-04
Runway Markings	Construction	Skid Steer Loaders4	5.95E-04	5.56E-05	1.33E-05	3.99E-07	4.57E-06	4.43E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Asphalt Paver	1.14E-03	4.34E-04	9.26E-05	6.43E-07	6.98E-05	6.77E-05
Runway Markings	Construction	Rollers (Compactor Roller incl.)	3.35E-03	1.24E-03	2.68E-04	1.90E-06	2.02E-04	1.96E-04
Runway Markings	Construction	Hoe Ram4	2.99E-03	1.00E-03	2.24E-04	1.82E-06	1.56E-04	1.51E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Trenchers	1.38E-03	2.96E-04	4.85E-05	7.90E-07	3.14E-05	3.04E-05
Runway Markings	Construction	Trenchers	1.03E-03	2.21E-04	3.63E-05	5.91E-07	2.35E-05	2.28E-05
Runway Markings	Construction	Trenchers	1.38E-03	2.96E-04	4.85E-05	7.90E-07	3.14E-05	3.04E-05
Runway Markings	Construction	Excavators	7.21E-03	2.42E-03	5.40E-04	4.40E-06	3.75E-04	3.64E-04
Runway Markings	Construction	Trenchers	5.63E-04	1.20E-04	1.97E-05	3.21E-07	1.28E-05	1.24E-05
Runway Markings	Construction	Excavators	2.93E-03	9.85E-04	2.19E-04	1.79E-06	1.53E-04	1.48E-04
Runway Markings	Construction	Rotary Cold Mill	7.51E-03	3.01E-03	5.91E-04	5.14E-06	6.24E-04	6.06E-04
Runway Markings	Construction	Grooving Machine	7.28E-03	3.43E-03	4.85E-04	4.38E-06	4.89E-04	4.74E-04
Runway Markings	Construction	Paint Sprayers5	3.50E-04	1.46E-04	1.75E-05	3.16E-07	2.41E-05	2.34E-05
Runway Markings	Construction	Skid Steer Loaders	1.63E-02	1.98E-03	6.20E-04	1.10E-05	1.60E-04	1.55E-04
Runway Markings	Construction	Tractor/Loader (Backhoe)	4.37E-02	4.48E-02	8.17E-03	2.43E-05	5.87E-03	5.69E-03
Runway Markings	Construction	Excavators	5.86E-02	1.97E-02	4.39E-03	3.57E-05	3.05E-03	2.96E-03



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Skid Steer Loaders4	1.55E-03	1.45E-04	3.48E-05	1.04E-06	1.19E-05	1.16E-05
Runway Markings	Construction	Asphalt Paver	2.98E-03	1.13E-03	2.42E-04	1.68E-06	1.82E-04	1.77E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	8.73E-03	3.23E-03	6.99E-04	4.95E-06	5.27E-04	5.11E-04
Runway Markings	Construction	Tack Truck	7.50E-03	3.20E-03	4.43E-04	9.22E-06	5.06E-04	4.91E-04
Runway Markings	Construction	Concrete Saw	8.06E-03	2.45E-03	3.87E-04	4.56E-06	3.13E-04	3.04E-04
Runway Markings	Construction	Concrete Pavers	1.30E-02	4.92E-03	1.05E-03	7.29E-06	7.91E-04	7.67E-04
Runway Markings	Construction	Concrete Saw	1.45E-02	4.42E-03	6.97E-04	8.20E-06	5.63E-04	5.46E-04
Runway Markings	Construction	Excavators	2.13E-02	7.17E-03	1.60E-03	1.30E-05	1.11E-03	1.08E-03
Runway Markings	Construction	Hoe Ram4	4.27E-02	1.43E-02	3.19E-03	2.60E-05	2.22E-03	2.15E-03
Runway Markings	Construction	Skid Steer Loaders4	7.92E-04	7.40E-05	1.78E-05	5.31E-07	6.08E-06	5.90E-06
Runway Markings	Construction	Asphalt Paver	1.52E-03	5.77E-04	1.23E-04	8.55E-07	9.28E-05	9.01E-05
Runway Markings	Construction	Rollers (Compactor Roller incl.)	4.45E-03	1.65E-03	3.56E-04	2.53E-06	2.69E-04	2.61E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	3.44E-05	1.05E-05	1.65E-06	1.94E-08	1.33E-06	1.29E-06
Runway Markings	Construction	Concrete Pavers	5.52E-05	2.10E-05	4.47E-06	3.11E-08	3.37E-06	3.27E-06
Runway Markings	Construction	Rollers (Compactor Roller incl.)	7.55E-05	2.80E-05	6.04E-06	4.28E-08	4.56E-06	4.42E-06
Runway Markings	Construction	Graders	4.32E-05	1.42E-05	3.61E-06	2.67E-08	2.16E-06	2.10E-06
Runway Markings	Construction	Concrete Saw	5.34E-05	1.63E-05	2.57E-06	3.02E-08	2.07E-06	2.01E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Excavators	7.86E-05	2.64E-05	5.88E-06	4.79E-08	4.09E-06	3.97E-06
Runway Markings	Construction	Hoe Ram4	1.57E-03	5.28E-04	1.18E-04	9.59E-07	8.18E-05	7.94E-05
Runway Markings	Construction	Excavators	4.04E-03	1.36E-03	3.03E-04	2.47E-06	2.10E-04	2.04E-04
Runway Markings	Construction	Skid Steer Loaders	1.08E-02	1.32E-03	4.14E-04	7.30E-06	1.06E-04	1.03E-04
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.91E-02	2.99E-02	5.45E-03	1.62E-05	3.91E-03	3.79E-03
Runway Markings	Construction	Excavators	3.91E-02	1.31E-02	2.92E-03	2.38E-05	2.03E-03	1.97E-03
Runway Markings	Construction	Rubber Tire Loader	1.04E-02	3.39E-03	5.38E-04	1.87E-05	8.26E-04	8.01E-04
Runway Markings	Construction	Large Concrete Crusher	9.86E-03	2.44E-03	6.53E-04	2.11E-05	4.40E-04	4.27E-04
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Paint Sprayers <sup>5</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Skid Steer Loaders	5.95E-04	5.57E-05	1.34E-05	3.99E-07	4.57E-06	4.44E-06
Service Road	Construction	Advance Joint Sealant Equipment	1.04E-03	4.16E-04	8.16E-05	7.10E-07	8.62E-05	8.36E-05
Service Road	Construction	Asphalt Paver	1.14E-03	4.34E-04	9.26E-05	6.43E-07	6.98E-05	6.77E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	3.35E-03	1.24E-03	2.68E-04	1.90E-06	2.02E-04	1.96E-04
Service Road	Construction	Tack Truck	2.88E-03	1.23E-03	1.70E-04	3.54E-06	1.94E-04	1.88E-04
Service Road	Construction	Concrete Saw	7.55E-04	2.30E-04	3.63E-05	4.26E-07	2.93E-05	2.84E-05
Service Road	Construction	Concrete Pavers	1.21E-03	4.60E-04	9.83E-05	6.82E-07	7.41E-05	7.19E-05
Service Road	Construction	Concrete Saw	6.60E-05	2.01E-05	3.17E-06	3.73E-08	2.56E-06	2.48E-06
Service Road	Construction	Concrete Pavers	1.06E-04	4.02E-05	8.59E-06	5.96E-08	6.47E-06	6.28E-06
Service Road	Construction	Concrete Saw	1.42E-03	4.31E-04	6.81E-05	8.01E-07	5.50E-05	5.33E-05
Service Road	Construction	Excavators	2.08E-03	7.00E-04	1.56E-04	1.27E-06	1.08E-04	1.05E-04
Service Road	Construction	Rollers (Compactor Roller incl.)	2.37E-03	8.78E-04	1.90E-04	1.34E-06	1.43E-04	1.39E-04
Service Road	Construction	Concrete Pavers	1.16E-03	4.39E-04	9.37E-05	6.50E-07	7.06E-05	6.85E-05
Service Road	Construction	Concrete Saw	7.19E-04	2.19E-04	3.46E-05	4.06E-07	2.79E-05	2.71E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Excavators	1.06E-03	3.56E-04	7.92E-05	6.45E-07	5.51E-05	5.34E-05
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.52E-05	8.90E-06	2.13E-06	6.38E-08	7.31E-07	7.09E-07
Service Road	Construction	Asphalt Paver	1.83E-04	6.94E-05	1.48E-05	1.03E-07	1.12E-05	1.08E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	5.35E-04	1.98E-04	4.28E-05	3.04E-07	3.23E-05	3.13E-05
Service Road	Construction	Hoe Ram <sup>4</sup>	4.78E-04	1.61E-04	3.58E-05	2.91E-07	2.49E-05	2.41E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Trenchers	2.21E-04	4.74E-05	7.76E-06	1.26E-07	5.02E-06	4.87E-06
Service Road	Construction	Trenchers	1.66E-04	3.54E-05	5.80E-06	9.45E-08	3.75E-06	3.64E-06
Service Road	Construction	Trenchers	2.21E-04	4.74E-05	7.76E-06	1.26E-07	5.02E-06	4.87E-06
Service Road	Construction	Excavators	1.15E-03	3.88E-04	8.63E-05	7.03E-07	6.00E-05	5.82E-05
Service Road	Construction	Trenchers	9.00E-05	1.93E-05	3.15E-06	5.14E-08	2.04E-06	1.98E-06
Service Road	Construction	Excavators	4.69E-04	1.58E-04	3.51E-05	2.86E-07	2.44E-05	2.37E-05
Service Road	Construction	Rotary Cold Mill	1.20E-03	4.82E-04	9.46E-05	8.22E-07	9.99E-05	9.69E-05
Service Road	Construction	Grooving Machine	1.16E-03	5.48E-04	7.76E-05	7.00E-07	7.82E-05	7.59E-05
Service Road	Construction	Paint Sprayers <sup>5</sup>	5.60E-05	2.33E-05	2.79E-06	5.05E-08	3.85E-06	3.74E-06
Service Road	Construction	Skid Steer Loaders	2.60E-03	3.17E-04	9.92E-05	1.75E-06	2.55E-05	2.48E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Tractor/Loader (Backhoe)	6.99E-03	7.16E-03	1.31E-03	3.89E-06	9.38E-04	9.10E-04
Service Road	Construction	Excavators	9.38E-03	3.15E-03	7.02E-04	5.72E-06	4.88E-04	4.74E-04
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	2.48E-04	2.32E-05	5.57E-06	1.66E-07	1.91E-06	1.85E-06
Service Road	Construction	Asphalt Paver	4.77E-04	1.81E-04	3.86E-05	2.68E-07	2.91E-05	2.82E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	1.40E-03	5.17E-04	1.12E-04	7.92E-07	8.43E-05	8.18E-05
Service Road	Construction	Tack Truck	1.20E-03	5.12E-04	7.08E-05	1.47E-06	8.10E-05	7.86E-05
Service Road	Construction	Concrete Saw	1.29E-03	3.93E-04	6.20E-05	7.29E-07	5.01E-05	4.86E-05
Service Road	Construction	Concrete Pavers	2.07E-03	7.87E-04	1.68E-04	1.17E-06	1.27E-04	1.23E-04
Service Road	Construction	Concrete Saw	2.32E-03	7.07E-04	1.12E-04	1.31E-06	9.01E-05	8.74E-05
Service Road	Construction	Excavators	3.41E-03	1.15E-03	2.55E-04	2.08E-06	1.78E-04	1.72E-04
Service Road	Construction	Hoe Ram <sup>4</sup>	6.83E-03	2.29E-03	5.11E-04	4.16E-06	3.55E-04	3.45E-04
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	1.27E-04	1.18E-05	2.84E-06	8.49E-08	9.73E-07	9.44E-07
Service Road	Construction	Asphalt Paver	2.43E-04	9.23E-05	1.97E-05	1.37E-07	1.49E-05	1.44E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	7.13E-04	2.64E-04	5.70E-05	4.04E-07	4.30E-05	4.17E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	5.50E-06	1.67E-06	2.64E-07	3.11E-09	2.13E-07	2.07E-07
Service Road	Construction	Concrete Pavers	8.84E-06	3.35E-06	7.16E-07	4.97E-09	5.39E-07	5.23E-07
Service Road	Construction	Rollers (Compactor Roller incl.)	1.21E-05	4.47E-06	9.66E-07	6.85E-09	7.29E-07	7.07E-07



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Graders	6.91E-06	2.28E-06	5.78E-07	4.26E-09	3.46E-07	3.35E-07
Service Road	Construction	Concrete Saw	8.55E-06	2.60E-06	4.11E-07	4.83E-09	3.32E-07	3.22E-07
Service Road	Construction	Excavators	1.26E-05	4.23E-06	9.41E-07	7.67E-09	6.55E-07	6.35E-07
Service Road	Construction	Hoe Ram4	2.51E-04	8.45E-05	1.88E-05	1.53E-07	1.31E-05	1.27E-05
Service Road	Construction	Excavators	6.47E-04	2.17E-04	4.84E-05	3.94E-07	3.37E-05	3.27E-05
Service Road	Construction	Skid Steer Loaders	1.73E-03	2.12E-04	6.62E-05	1.17E-06	1.70E-05	1.65E-05
Service Road	Construction	Tractor/Loader (Backhoe)	4.66E-03	4.78E-03	8.71E-04	2.60E-06	6.26E-04	6.07E-04
Service Road	Construction	Excavators	6.25E-03	2.10E-03	4.68E-04	3.81E-06	3.25E-04	3.16E-04
Service Road	Construction	Rubber Tire Loader	1.67E-03	5.42E-04	8.61E-05	2.99E-06	1.32E-04	1.28E-04
Service Road	Construction	Large Concrete Crusher	1.58E-03	3.91E-04	1.05E-04	3.37E-06	7.04E-05	6.83E-05
Site Work - 10000 sqft	Construction	Skid Steer Loaders	4.05E-05	3.79E-06	9.09E-07	2.72E-08	3.11E-07	3.02E-07
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	7.06E-05	2.83E-05	5.56E-06	4.83E-08	5.87E-06	5.69E-06
Site Work - 10000 sqft	Construction	Asphalt Paver	7.79E-05	2.95E-05	6.31E-06	4.38E-08	4.75E-06	4.61E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.28E-04	8.44E-05	1.82E-05	1.29E-07	1.38E-05	1.33E-05
Site Work - 10000 sqft	Construction	Tack Truck	1.96E-04	8.35E-05	1.16E-05	2.41E-07	1.32E-05	1.28E-05
Site Work - 10000 sqft	Construction	Concrete Saw	5.14E-05	1.56E-05	2.47E-06	2.90E-08	1.99E-06	1.93E-06
Site Work - 10000 sqft	Construction	Concrete Pavers	8.26E-05	3.13E-05	6.69E-06	4.64E-08	5.04E-06	4.89E-06
Site Work - 10000 sqft	Construction	Concrete Saw	4.49E-06	1.37E-06	2.16E-07	2.54E-09	1.74E-07	1.69E-07
Site Work - 10000 sqft	Construction	Concrete Pavers	7.22E-06	2.74E-06	5.85E-07	4.06E-09	4.41E-07	4.27E-07
Site Work - 10000 sqft	Construction	Concrete Saw	9.64E-05	2.94E-05	4.63E-06	5.45E-08	3.74E-06	3.63E-06
Site Work - 10000 sqft	Construction	Excavators	1.42E-04	4.77E-05	1.06E-05	8.65E-08	7.38E-06	7.16E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	1.61E-04	5.98E-05	1.29E-05	9.15E-08	9.74E-06	9.45E-06
Site Work - 10000 sqft	Construction	Concrete Pavers	7.87E-05	2.99E-05	6.38E-06	4.43E-08	4.81E-06	4.66E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Concrete Saw	4.90E-05	1.49E-05	2.35E-06	2.77E-08	1.90E-06	1.84E-06
Site Work - 10000 sqft	Construction	Excavators	7.20E-05	2.42E-05	5.39E-06	4.39E-08	3.75E-06	3.64E-06
Site Work - 10000 sqft	Construction	Skid Steer Loaders <sup>4</sup>	6.48E-06	6.06E-07	1.45E-07	4.34E-09	4.98E-08	4.83E-08
Site Work - 10000 sqft	Construction	Asphalt Paver	1.24E-05	4.72E-06	1.01E-06	7.00E-09	7.60E-07	7.37E-07
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	3.64E-05	1.35E-05	2.92E-06	2.07E-08	2.20E-06	2.13E-06
Site Work - 10000 sqft	Construction	Hoe Ram <sup>4</sup>	3.25E-05	1.09E-05	2.43E-06	1.98E-08	1.69E-06	1.64E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Trenchers	1.51E-05	3.23E-06	5.28E-07	8.61E-09	3.42E-07	3.31E-07
Site Work - 10000 sqft	Construction	Trenchers	1.13E-05	2.41E-06	3.95E-07	6.43E-09	2.55E-07	2.48E-07
Site Work - 10000 sqft	Construction	Trenchers	1.51E-05	3.23E-06	5.28E-07	8.61E-09	3.42E-07	3.31E-07
Site Work - 10000 sqft	Construction	Excavators	7.85E-05	2.64E-05	5.88E-06	4.79E-08	4.09E-06	3.96E-06
Site Work - 10000 sqft	Construction	Trenchers	6.13E-06	1.31E-06	2.15E-07	3.50E-09	1.39E-07	1.35E-07
Site Work - 10000 sqft	Construction	Excavators	3.19E-05	1.07E-05	2.39E-06	1.95E-08	1.66E-06	1.61E-06
Site Work - 10000 sqft	Construction	Rotary Cold Mill	8.18E-05	3.28E-05	6.44E-06	5.59E-08	6.80E-06	6.59E-06
Site Work - 10000 sqft	Construction	Grooving Machine	7.93E-05	3.73E-05	5.28E-06	4.77E-08	5.32E-06	5.16E-06
Site Work - 10000 sqft	Construction	Paint Sprayers <sup>5</sup>	3.81E-06	1.59E-06	1.90E-07	3.44E-09	2.62E-07	2.55E-07

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.77E-04	2.16E-05	6.76E-06	1.19E-07	1.74E-06	1.69E-06
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	4.76E-04	4.88E-04	8.90E-05	2.65E-07	6.39E-05	6.20E-05
Site Work - 10000 sqft	Construction	Excavators	6.38E-04	2.15E-04	4.78E-05	3.89E-07	3.32E-05	3.22E-05
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	1.69E-05	1.58E-06	3.79E-07	1.13E-08	1.30E-07	1.26E-07
Site Work - 10000 sqft	Construction	Asphalt Paver	3.25E-05	1.23E-05	2.63E-06	1.83E-08	1.98E-06	1.92E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.51E-05	3.52E-05	7.61E-06	5.39E-08	5.74E-06	5.57E-06
Site Work - 10000 sqft	Construction	Tack Truck	8.16E-05	3.48E-05	4.82E-06	1.00E-07	5.51E-06	5.35E-06
Site Work - 10000 sqft	Construction	Concrete Saw	8.78E-05	2.67E-05	4.22E-06	4.96E-08	3.41E-06	3.31E-06
Site Work - 10000 sqft	Construction	Concrete Pavers	1.41E-04	5.35E-05	1.14E-05	7.94E-08	8.62E-06	8.36E-06
Site Work - 10000 sqft	Construction	Concrete Saw	1.58E-04	4.81E-05	7.59E-06	8.93E-08	6.13E-06	5.95E-06
Site Work - 10000 sqft	Construction	Excavators	2.32E-04	7.81E-05	1.74E-05	1.42E-07	1.21E-05	1.17E-05
Site Work - 10000 sqft	Construction	Hoe Ram4	4.65E-04	1.56E-04	3.48E-05	2.83E-07	2.42E-05	2.35E-05
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	8.62E-06	8.06E-07	1.93E-07	5.78E-09	6.62E-08	6.43E-08
Site Work - 10000 sqft	Construction	Asphalt Paver	1.66E-05	6.28E-06	1.34E-06	9.31E-09	1.01E-06	9.81E-07
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	4.85E-05	1.80E-05	3.88E-06	2.75E-08	2.93E-06	2.84E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	3.74E-07	1.14E-07	1.80E-08	2.11E-10	1.45E-08	1.41E-08
Site Work - 10000 sqft	Construction	Concrete Pavers	6.02E-07	2.28E-07	4.87E-08	3.38E-10	3.67E-08	3.56E-08

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	8.22E-07	3.04E-07	6.58E-08	4.66E-10	4.96E-08	4.81E-08
Site Work - 10000 sqft	Construction	Graders	4.71E-07	1.55E-07	3.93E-08	2.90E-10	2.35E-08	2.28E-08
Site Work - 10000 sqft	Construction	Concrete Saw	5.82E-07	1.77E-07	2.80E-08	3.29E-10	2.26E-08	2.19E-08
Site Work - 10000 sqft	Construction	Excavators	8.56E-07	2.88E-07	6.41E-08	5.22E-10	4.46E-08	4.32E-08
Site Work - 10000 sqft	Construction	Hoe Ram4	1.71E-05	5.75E-06	1.28E-06	1.04E-08	8.91E-07	8.64E-07
Site Work - 10000 sqft	Construction	Excavators	4.40E-05	1.48E-05	3.29E-06	2.68E-08	2.29E-06	2.22E-06
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.18E-04	1.44E-05	4.50E-06	7.95E-08	1.16E-06	1.12E-06
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	3.17E-04	3.25E-04	5.93E-05	1.77E-07	4.26E-05	4.13E-05
Site Work - 10000 sqft	Construction	Excavators	4.25E-04	1.43E-04	3.18E-05	2.59E-07	2.22E-05	2.15E-05
Site Work - 10000 sqft	Construction	Rubber Tire Loader	1.13E-04	3.69E-05	5.86E-06	2.04E-07	8.99E-06	8.72E-06
Site Work - 10000 sqft	Construction	Large Concrete Crusher	1.07E-04	2.66E-05	7.12E-06	2.29E-07	4.80E-06	4.65E-06
Taxiway Exit	Construction	Skid Steer Loaders	1.80E-03	1.69E-04	4.05E-05	1.21E-06	1.39E-05	1.34E-05
Taxiway Exit	Construction	Advance Joint Sealant Equipment	3.14E-03	1.26E-03	2.47E-04	2.15E-06	2.61E-04	2.53E-04
Taxiway Exit	Construction	Asphalt Paver	3.47E-03	1.31E-03	2.81E-04	1.95E-06	2.12E-04	2.05E-04
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.02E-02	3.76E-03	8.12E-04	5.75E-06	6.13E-04	5.94E-04
Taxiway Exit	Construction	Tack Truck	8.71E-03	3.72E-03	5.15E-04	1.07E-05	5.89E-04	5.71E-04
Taxiway Exit	Construction	Concrete Saw	2.29E-03	6.96E-04	1.10E-04	1.29E-06	8.88E-05	8.61E-05
Taxiway Exit	Construction	Concrete Pavers	3.68E-03	1.40E-03	2.98E-04	2.07E-06	2.24E-04	2.18E-04
Taxiway Exit	Construction	Concrete Saw	2.00E-04	6.08E-05	9.60E-06	1.13E-07	7.76E-06	7.52E-06
Taxiway Exit	Construction	Concrete Pavers	3.21E-04	1.22E-04	2.60E-05	1.81E-07	1.96E-05	1.90E-05
Taxiway Exit	Construction	Concrete Saw	4.29E-03	1.31E-03	2.06E-04	2.43E-06	1.67E-04	1.62E-04
Taxiway Exit	Construction	Excavators	6.31E-03	2.12E-03	4.73E-04	3.85E-06	3.29E-04	3.19E-04
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	7.19E-03	2.66E-03	5.75E-04	4.07E-06	4.34E-04	4.21E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Concrete Pavers	3.51E-03	1.33E-03	2.84E-04	1.97E-06	2.14E-04	2.08E-04
Taxiway Exit	Construction	Concrete Saw	2.18E-03	6.64E-04	1.05E-04	1.23E-06	8.46E-05	8.21E-05
Taxiway Exit	Construction	Excavators	3.21E-03	1.08E-03	2.40E-04	1.95E-06	1.67E-04	1.62E-04
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	2.88E-04	2.70E-05	6.47E-06	1.93E-07	2.22E-06	2.15E-06
Taxiway Exit	Construction	Asphalt Paver	5.54E-04	2.10E-04	4.49E-05	3.11E-07	3.38E-05	3.28E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.62E-03	6.01E-04	1.30E-04	9.20E-07	9.79E-05	9.50E-05
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	1.45E-03	4.87E-04	1.08E-04	8.83E-07	7.54E-05	7.31E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Trenchers	6.71E-04	1.44E-04	2.35E-05	3.83E-07	1.52E-05	1.48E-05
Taxiway Exit	Construction	Trenchers	5.02E-04	1.07E-04	1.76E-05	2.86E-07	1.14E-05	1.10E-05
Taxiway Exit	Construction	Trenchers	6.71E-04	1.44E-04	2.35E-05	3.83E-07	1.52E-05	1.48E-05
Taxiway Exit	Construction	Excavators	3.49E-03	1.17E-03	2.62E-04	2.13E-06	1.82E-04	1.76E-04
Taxiway Exit	Construction	Trenchers	2.73E-04	5.84E-05	9.56E-06	1.56E-07	6.18E-06	6.00E-06
Taxiway Exit	Construction	Excavators	1.42E-03	4.77E-04	1.06E-04	8.66E-07	7.40E-05	7.17E-05
Taxiway Exit	Construction	Rotary Cold Mill	3.64E-03	1.46E-03	2.87E-04	2.49E-06	3.03E-04	2.94E-04
Taxiway Exit	Construction	Grooving Machine	3.53E-03	1.66E-03	2.35E-04	2.12E-06	2.37E-04	2.30E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Paint Sprayers <sup>5</sup>	1.70E-04	7.06E-05	8.46E-06	1.53E-07	1.17E-05	1.13E-05
Taxiway Exit	Construction	Skid Steer Loaders	7.88E-03	9.61E-04	3.01E-04	5.31E-06	7.74E-05	7.51E-05
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	2.12E-02	2.17E-02	3.96E-03	1.18E-05	2.84E-03	2.76E-03
Taxiway Exit	Construction	Excavators	2.84E-02	9.55E-03	2.13E-03	1.73E-05	1.48E-03	1.43E-03
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	7.52E-04	7.04E-05	1.69E-05	5.04E-07	5.78E-06	5.61E-06
Taxiway Exit	Construction	Asphalt Paver	1.45E-03	5.48E-04	1.17E-04	8.13E-07	8.82E-05	8.56E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	4.23E-03	1.57E-03	3.39E-04	2.40E-06	2.55E-04	2.48E-04
Taxiway Exit	Construction	Tack Truck	3.63E-03	1.55E-03	2.15E-04	4.47E-06	2.45E-04	2.38E-04
Taxiway Exit	Construction	Concrete Saw	3.91E-03	1.19E-03	1.88E-04	2.21E-06	1.52E-04	1.47E-04
Taxiway Exit	Construction	Concrete Pavers	6.28E-03	2.38E-03	5.09E-04	3.53E-06	3.84E-04	3.72E-04
Taxiway Exit	Construction	Concrete Saw	7.03E-03	2.14E-03	3.38E-04	3.97E-06	2.73E-04	2.65E-04
Taxiway Exit	Construction	Excavators	1.03E-02	3.48E-03	7.74E-04	6.31E-06	5.38E-04	5.22E-04
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	2.07E-02	6.95E-03	1.55E-03	1.26E-05	1.08E-03	1.04E-03
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	3.84E-04	3.59E-05	8.61E-06	2.57E-07	2.95E-06	2.86E-06
Taxiway Exit	Construction	Asphalt Paver	7.37E-04	2.80E-04	5.97E-05	4.15E-07	4.50E-05	4.36E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.16E-03	8.00E-04	1.73E-04	1.22E-06	1.30E-04	1.26E-04
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	1.67E-05	5.07E-06	8.00E-07	9.41E-09	6.46E-07	6.27E-07

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Concrete Pavers	2.68E-05	1.02E-05	2.17E-06	1.51E-08	1.63E-06	1.59E-06
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	3.66E-05	1.36E-05	2.93E-06	2.07E-08	2.21E-06	2.14E-06
Taxiway Exit	Construction	Graders	2.09E-05	6.91E-06	1.75E-06	1.29E-08	1.05E-06	1.02E-06
Taxiway Exit	Construction	Concrete Saw	2.59E-05	7.89E-06	1.24E-06	1.46E-08	1.01E-06	9.75E-07
Taxiway Exit	Construction	Excavators	3.81E-05	1.28E-05	2.85E-06	2.32E-08	1.98E-06	1.92E-06
Taxiway Exit	Construction	Hoe Ram4	7.62E-04	2.56E-04	5.70E-05	4.65E-07	3.97E-05	3.85E-05
Taxiway Exit	Construction	Excavators	1.96E-03	6.59E-04	1.47E-04	1.19E-06	1.02E-04	9.90E-05
Taxiway Exit	Construction	Skid Steer Loaders	5.25E-03	6.41E-04	2.00E-04	3.54E-06	5.16E-05	5.01E-05
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	1.41E-02	1.45E-02	2.64E-03	7.87E-06	1.90E-03	1.84E-03
Taxiway Exit	Construction	Excavators	1.89E-02	6.37E-03	1.42E-03	1.16E-05	9.86E-04	9.57E-04
Taxiway Exit	Construction	Rubber Tire Loader	5.05E-03	1.64E-03	2.61E-04	9.06E-06	4.00E-04	3.88E-04
Taxiway Exit	Construction	Large Concrete Crusher	4.78E-03	1.18E-03	3.17E-04	1.02E-05	2.13E-04	2.07E-04
Taxiways	Construction	Skid Steer Loaders	2.48E-03	2.32E-04	5.57E-05	1.67E-06	1.91E-05	1.85E-05
Taxiways	Construction	Advance Joint Sealant Equipment	4.33E-03	1.74E-03	3.41E-04	2.96E-06	3.60E-04	3.49E-04
Taxiways	Construction	Asphalt Paver	4.77E-03	1.81E-03	3.87E-04	2.68E-06	2.91E-04	2.83E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	1.40E-02	5.18E-03	1.12E-03	7.93E-06	8.44E-04	8.18E-04
Taxiways	Construction	Tack Truck	1.20E-02	5.12E-03	7.09E-04	1.48E-05	8.11E-04	7.86E-04
Taxiways	Construction	Concrete Saw	3.15E-03	9.59E-04	1.51E-04	1.78E-06	1.22E-04	1.19E-04
Taxiways	Construction	Concrete Pavers	5.07E-03	1.92E-03	4.10E-04	2.85E-06	3.09E-04	3.00E-04
Taxiways	Construction	Concrete Saw	2.75E-04	8.38E-05	1.32E-05	1.56E-07	1.07E-05	1.04E-05
Taxiways	Construction	Concrete Pavers	4.43E-04	1.68E-04	3.58E-05	2.49E-07	2.70E-05	2.62E-05
Taxiways	Construction	Concrete Saw	5.91E-03	1.80E-03	2.84E-04	3.34E-06	2.29E-04	2.23E-04
Taxiways	Construction	Excavators	8.70E-03	2.92E-03	6.51E-04	5.30E-06	4.53E-04	4.39E-04



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.90E-03	3.67E-03	7.92E-04	5.61E-06	5.97E-04	5.79E-04
Taxiways	Construction	Concrete Pavers	4.83E-03	1.83E-03	3.91E-04	2.71E-06	2.95E-04	2.86E-04
Taxiways	Construction	Concrete Saw	3.00E-03	9.14E-04	1.44E-04	1.70E-06	1.17E-04	1.13E-04
Taxiways	Construction	Excavators	4.42E-03	1.48E-03	3.31E-04	2.69E-06	2.30E-04	2.23E-04
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	3.97E-04	3.71E-05	8.91E-06	2.66E-07	3.05E-06	2.96E-06
Taxiways	Construction	Asphalt Paver	7.63E-04	2.89E-04	6.18E-05	4.29E-07	4.66E-05	4.52E-05
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.23E-03	8.28E-04	1.79E-04	1.27E-06	1.35E-04	1.31E-04
Taxiways	Construction	Hoe Ram <sup>4</sup>	1.99E-03	6.70E-04	1.49E-04	1.22E-06	1.04E-04	1.01E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Trenchers	9.24E-04	1.98E-04	3.24E-05	5.28E-07	2.09E-05	2.03E-05
Taxiways	Construction	Trenchers	6.91E-04	1.48E-04	2.42E-05	3.95E-07	1.57E-05	1.52E-05
Taxiways	Construction	Trenchers	9.24E-04	1.98E-04	3.24E-05	5.28E-07	2.09E-05	2.03E-05
Taxiways	Construction	Excavators	4.81E-03	1.62E-03	3.60E-04	2.93E-06	2.51E-04	2.43E-04
Taxiways	Construction	Trenchers	3.76E-04	8.04E-05	1.32E-05	2.15E-07	8.52E-06	8.26E-06
Taxiways	Construction	Excavators	1.96E-03	6.58E-04	1.46E-04	1.19E-06	1.02E-04	9.88E-05
Taxiways	Construction	Rotary Cold Mill	5.01E-03	2.01E-03	3.95E-04	3.43E-06	4.17E-04	4.04E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Grooving Machine	4.86E-03	2.29E-03	3.24E-04	2.92E-06	3.26E-04	3.17E-04
Taxiways	Construction	Paint Sprayers <sup>5</sup>	2.34E-04	9.72E-05	1.17E-05	2.11E-07	1.61E-05	1.56E-05
Taxiways	Construction	Skid Steer Loaders	1.09E-02	1.32E-03	4.14E-04	7.31E-06	1.07E-04	1.03E-04
Taxiways	Construction	Tractor/Loader (Backhoe)	2.92E-02	2.99E-02	5.45E-03	1.63E-05	3.92E-03	3.80E-03
Taxiways	Construction	Excavators	3.91E-02	1.32E-02	2.93E-03	2.39E-05	2.04E-03	1.98E-03
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	1.04E-03	9.69E-05	2.32E-05	6.95E-07	7.96E-06	7.72E-06
Taxiways	Construction	Asphalt Paver	1.99E-03	7.55E-04	1.61E-04	1.12E-06	1.22E-04	1.18E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	5.83E-03	2.16E-03	4.67E-04	3.31E-06	3.52E-04	3.41E-04
Taxiways	Construction	Tack Truck	5.01E-03	2.14E-03	2.96E-04	6.16E-06	3.38E-04	3.28E-04
Taxiways	Construction	Concrete Saw	5.38E-03	1.64E-03	2.59E-04	3.04E-06	2.09E-04	2.03E-04
Taxiways	Construction	Concrete Pavers	8.66E-03	3.28E-03	7.01E-04	4.87E-06	5.28E-04	5.12E-04
Taxiways	Construction	Concrete Saw	9.69E-03	2.95E-03	4.65E-04	5.47E-06	3.76E-04	3.65E-04
Taxiways	Construction	Excavators	1.42E-02	4.79E-03	1.07E-03	8.69E-06	7.42E-04	7.19E-04
Taxiways	Construction	Hoe Ram <sup>4</sup>	2.85E-02	9.57E-03	2.13E-03	1.74E-05	1.48E-03	1.44E-03
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	5.29E-04	4.94E-05	1.19E-05	3.54E-07	4.06E-06	3.94E-06
Taxiways	Construction	Asphalt Paver	1.02E-03	3.85E-04	8.23E-05	5.71E-07	6.20E-05	6.01E-05
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.97E-03	1.10E-03	2.38E-04	1.69E-06	1.79E-04	1.74E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Concrete Saw	2.29E-05	6.98E-06	1.10E-06	1.30E-08	8.90E-07	8.64E-07
Taxiways	Construction	Concrete Pavers	3.69E-05	1.40E-05	2.99E-06	2.07E-08	2.25E-06	2.18E-06
Taxiways	Construction	Rollers (Compactor Roller incl.)	5.04E-05	1.87E-05	4.03E-06	2.86E-08	3.04E-06	2.95E-06
Taxiways	Construction	Graders	2.89E-05	9.51E-06	2.41E-06	1.78E-08	1.44E-06	1.40E-06
Taxiways	Construction	Concrete Saw	3.57E-05	1.09E-05	1.71E-06	2.02E-08	1.38E-06	1.34E-06
Taxiways	Construction	Excavators	5.25E-05	1.76E-05	3.93E-06	3.20E-08	2.73E-06	2.65E-06
Taxiways	Construction	Hoe Ram4	1.05E-03	3.53E-04	7.86E-05	6.40E-07	5.46E-05	5.30E-05
Taxiways	Construction	Excavators	2.70E-03	9.07E-04	2.02E-04	1.65E-06	1.41E-04	1.36E-04
Taxiways	Construction	Skid Steer Loaders	7.24E-03	8.83E-04	2.76E-04	4.88E-06	7.11E-05	6.89E-05
Taxiways	Construction	Tractor/Loader (Backhoe)	1.94E-02	1.99E-02	3.64E-03	1.08E-05	2.61E-03	2.53E-03
Taxiways	Construction	Excavators	2.61E-02	8.77E-03	1.95E-03	1.59E-05	1.36E-03	1.32E-03
Taxiways	Construction	Rubber Tire Loader	6.95E-03	2.26E-03	3.59E-04	1.25E-05	5.51E-04	5.35E-04
Taxiways	Construction	Large Concrete Crusher	6.58E-03	1.63E-03	4.36E-04	1.41E-05	2.94E-04	2.85E-04
Asphalt Plant	Plant Mobile Source	Generator	4.38E-02	2.10E-02	5.50E-03	2.03E-05	2.87E-03	2.79E-03
Asphalt Plant	Plant Mobile Source	Pumps	5.65E-02	2.41E-02	5.88E-03	2.95E-05	2.84E-03	2.75E-03
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	6.47E-02	2.10E-02	3.35E-03	1.16E-04	5.13E-03	4.98E-03
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	8.62E-01	2.48E-01	5.37E-02	5.00E-04	3.52E-02	3.42E-02
Concrete Plant	Plant Mobile Source	Generator	8.76E-02	4.20E-02	1.10E-02	4.06E-05	5.75E-03	5.58E-03
Concrete Plant	Plant Mobile Source	Pumps	1.13E-01	4.81E-02	1.18E-02	5.90E-05	5.68E-03	5.51E-03
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	1.29E-01	4.21E-02	6.69E-03	2.32E-04	1.03E-02	9.96E-03
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	1.72E+00	4.97E-01	1.07E-01	1.00E-03	7.04E-02	6.83E-02

**Table C7. 2023 construction-phase non-road equipment greenhouse gas emissions.**

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Skid Steer Loaders	8.67E-06	3.01E-05	6.31E-01	6.40E-01
Access Road	Construction	Advance Joint Sealant Equipment	1.71E-05	4.52E-05	9.47E-01	9.61E-01
Access Road	Construction	Asphalt Paver	1.46E-05	3.99E-05	8.37E-01	8.49E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	4.30E-05	1.18E-04	2.47E+00	2.51E+00
Access Road	Construction	Tack Truck	5.47E-05	2.38E-04	4.99E+00	5.06E+00
Access Road	Construction	Concrete Saw	1.39E-05	2.85E-05	5.97E-01	6.06E-01
Access Road	Construction	Concrete Pavers	1.55E-05	4.23E-05	8.88E-01	9.01E-01
Access Road	Construction	Concrete Saw	1.21E-06	2.49E-06	5.22E-02	5.29E-02
Access Road	Construction	Concrete Pavers	1.35E-06	3.70E-06	7.76E-02	7.87E-02
Access Road	Construction	Concrete Saw	2.61E-05	5.34E-05	1.12E+00	1.14E+00
Access Road	Construction	Excavators	2.63E-05	7.91E-05	1.66E+00	1.68E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	3.04E-05	8.34E-05	1.75E+00	1.77E+00
Access Road	Construction	Concrete Pavers	1.48E-05	4.04E-05	8.46E-01	8.58E-01
Access Road	Construction	Concrete Saw	1.32E-05	2.71E-05	5.69E-01	5.77E-01
Access Road	Construction	Excavators	1.33E-05	4.02E-05	8.42E-01	8.54E-01
Access Road	Construction	Skid Steer Loaders4	1.39E-06	4.80E-06	1.01E-01	1.02E-01
Access Road	Construction	Asphalt Paver	2.33E-06	6.38E-06	1.34E-01	1.36E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	6.87E-06	1.88E-05	3.95E-01	4.01E-01
Access Road	Construction	Hoe Ram4	6.02E-06	1.81E-05	3.80E-01	3.86E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Trenchers	3.85E-06	8.95E-06	1.88E-01	1.90E-01
Access Road	Construction	Trenchers	2.88E-06	6.69E-06	1.40E-01	1.42E-01
Access Road	Construction	Trenchers	3.85E-06	8.95E-06	1.88E-01	1.90E-01
Access Road	Construction	Excavators	1.45E-05	4.38E-05	9.18E-01	9.31E-01
Access Road	Construction	Trenchers	1.57E-06	3.64E-06	7.63E-02	7.74E-02
Access Road	Construction	Excavators	5.91E-06	1.78E-05	3.73E-01	3.79E-01
Access Road	Construction	Rotary Cold Mill	1.98E-05	5.23E-05	1.10E+00	1.11E+00
Access Road	Construction	Grooving Machine	1.27E-05	4.36E-05	9.14E-01	9.27E-01
Access Road	Construction	Paint Sprayers5	7.90E-07	3.45E-06	7.25E-02	7.35E-02
Access Road	Construction	Skid Steer Loaders	5.10E-05	1.32E-04	2.77E+00	2.81E+00
Access Road	Construction	Tractor/Loader (Backhoe)	1.67E-04	2.42E-04	5.06E+00	5.14E+00
Access Road	Construction	Excavators	1.18E-04	3.56E-04	7.46E+00	7.57E+00
Access Road	Construction	Skid Steer Loaders4	3.62E-06	1.25E-05	2.63E-01	2.67E-01
Access Road	Construction	Asphalt Paver	6.09E-06	1.66E-05	3.49E-01	3.54E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	1.79E-05	4.92E-05	1.03E+00	1.05E+00
Access Road	Construction	Tack Truck	2.28E-05	9.93E-05	2.08E+00	2.11E+00
Access Road	Construction	Concrete Saw	2.37E-05	4.86E-05	1.02E+00	1.04E+00
Access Road	Construction	Concrete Pavers	2.65E-05	7.24E-05	1.52E+00	1.54E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Concrete Saw	4.27E-05	8.75E-05	1.84E+00	1.86E+00
Access Road	Construction	Excavators	4.30E-05	1.30E-04	2.72E+00	2.76E+00
Access Road	Construction	Hoe Ram4	8.60E-05	2.59E-04	5.43E+00	5.51E+00
Access Road	Construction	Skid Steer Loaders4	1.84E-06	6.39E-06	1.34E-01	1.36E-01
Access Road	Construction	Asphalt Paver	3.10E-06	8.49E-06	1.78E-01	1.81E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	9.15E-06	2.51E-05	5.26E-01	5.33E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	1.01E-07	2.07E-07	4.35E-03	4.41E-03
Access Road	Construction	Concrete Pavers	1.13E-07	3.08E-07	6.46E-03	6.56E-03
Access Road	Construction	Rollers (Compactor Roller incl.)	1.55E-07	4.25E-07	8.91E-03	9.04E-03
Access Road	Construction	Graders	8.92E-08	2.66E-07	5.57E-03	5.65E-03
Access Road	Construction	Concrete Saw	1.57E-07	3.22E-07	6.76E-03	6.86E-03
Access Road	Construction	Excavators	1.58E-07	4.77E-07	1.00E-02	1.02E-02
Access Road	Construction	Hoe Ram4	3.17E-06	9.55E-06	2.00E-01	2.03E-01
Access Road	Construction	Excavators	8.15E-06	2.46E-05	5.15E-01	5.22E-01
Access Road	Construction	Skid Steer Loaders	3.40E-05	8.80E-05	1.85E+00	1.87E+00
Access Road	Construction	Tractor/Loader (Backhoe)	1.11E-04	1.61E-04	3.38E+00	3.43E+00
Access Road	Construction	Excavators	7.88E-05	2.37E-04	4.98E+00	5.05E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Rubber Tire Loader	2.94E-05	2.14E-04	4.49E+00	4.55E+00
Access Road	Construction	Large Concrete Crusher	3.59E-05	2.40E-04	5.04E+00	5.11E+00
Airfield Lighting	Construction	Skid Steer Loaders	2.38E-07	8.24E-07	1.73E-02	1.75E-02
Airfield Lighting	Construction	Advance Joint Sealant Equipment	4.67E-07	1.24E-06	2.60E-02	2.63E-02
Airfield Lighting	Construction	Asphalt Paver	4.00E-07	1.09E-06	2.29E-02	2.33E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.18E-06	3.23E-06	6.77E-02	6.87E-02
Airfield Lighting	Construction	Tack Truck	1.50E-06	6.52E-06	1.37E-01	1.39E-01
Airfield Lighting	Construction	Concrete Saw	3.81E-07	7.80E-07	1.64E-02	1.66E-02
Airfield Lighting	Construction	Concrete Pavers	4.24E-07	1.16E-06	2.43E-02	2.47E-02
Airfield Lighting	Construction	Concrete Saw	3.33E-08	6.81E-08	1.43E-03	1.45E-03
Airfield Lighting	Construction	Concrete Pavers	3.71E-08	1.01E-07	2.13E-03	2.16E-03
Airfield Lighting	Construction	Concrete Saw	7.15E-07	1.46E-06	3.07E-02	3.12E-02
Airfield Lighting	Construction	Excavators	7.19E-07	2.17E-06	4.54E-02	4.61E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	8.34E-07	2.29E-06	4.79E-02	4.86E-02
Airfield Lighting	Construction	Concrete Pavers	4.04E-07	1.11E-06	2.32E-02	2.35E-02
Airfield Lighting	Construction	Concrete Saw	3.63E-07	7.43E-07	1.56E-02	1.58E-02
Airfield Lighting	Construction	Excavators	3.65E-07	1.10E-06	2.31E-02	2.34E-02
Airfield Lighting	Construction	Skid Steer Loaders4	3.80E-08	1.32E-07	2.76E-03	2.80E-03
Airfield Lighting	Construction	Asphalt Paver	6.39E-08	1.75E-07	3.66E-03	3.72E-03
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.88E-07	5.16E-07	1.08E-02	1.10E-02
Airfield Lighting	Construction	Hoe Ram4	1.65E-07	4.97E-07	1.04E-02	1.06E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Trenchers	1.06E-07	2.45E-07	5.14E-03	5.22E-03
Airfield Lighting	Construction	Trenchers	7.89E-08	1.83E-07	3.85E-03	3.90E-03
Airfield Lighting	Construction	Trenchers	1.06E-07	2.45E-07	5.14E-03	5.22E-03
Airfield Lighting	Construction	Excavators	3.98E-07	1.20E-06	2.52E-02	2.55E-02
Airfield Lighting	Construction	Trenchers	4.29E-08	9.97E-08	2.09E-03	2.12E-03
Airfield Lighting	Construction	Excavators	1.62E-07	4.88E-07	1.02E-02	1.04E-02
Airfield Lighting	Construction	Rotary Cold Mill	5.41E-07	1.43E-06	3.01E-02	3.05E-02
Airfield Lighting	Construction	Grooving Machine	3.49E-07	1.19E-06	2.50E-02	2.54E-02
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	2.17E-08	9.46E-08	1.99E-03	2.01E-03
Airfield Lighting	Construction	Skid Steer Loaders	1.40E-06	3.62E-06	7.59E-02	7.70E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	4.58E-06	6.63E-06	1.39E-01	1.41E-01
Airfield Lighting	Construction	Excavators	3.24E-06	9.75E-06	2.05E-01	2.07E-01
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	9.91E-08	3.43E-07	7.21E-03	7.31E-03
Airfield Lighting	Construction	Asphalt Paver	1.67E-07	4.56E-07	9.56E-03	9.70E-03
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	4.91E-07	1.35E-06	2.82E-02	2.86E-02
Airfield Lighting	Construction	Tack Truck	6.25E-07	2.72E-06	5.71E-02	5.79E-02
Airfield Lighting	Construction	Concrete Saw	6.51E-07	1.33E-06	2.79E-02	2.84E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Concrete Pavers	7.25E-07	1.98E-06	4.16E-02	4.22E-02
Airfield Lighting	Construction	Concrete Saw	1.17E-06	2.40E-06	5.03E-02	5.10E-02
Airfield Lighting	Construction	Excavators	1.18E-06	3.55E-06	7.44E-02	7.55E-02
Airfield Lighting	Construction	Hoe Ram4	2.36E-06	7.10E-06	1.49E-01	1.51E-01
Airfield Lighting	Construction	Skid Steer Loaders4	5.05E-08	1.75E-07	3.68E-03	3.73E-03
Airfield Lighting	Construction	Asphalt Paver	8.51E-08	2.33E-07	4.88E-03	4.95E-03
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.51E-07	6.87E-07	1.44E-02	1.46E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	2.77E-09	5.68E-09	1.19E-04	1.21E-04
Airfield Lighting	Construction	Concrete Pavers	3.09E-09	8.45E-09	1.77E-04	1.80E-04
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	4.25E-09	1.16E-08	2.44E-04	2.48E-04
Airfield Lighting	Construction	Graders	2.44E-09	7.28E-09	1.53E-04	1.55E-04
Airfield Lighting	Construction	Concrete Saw	4.31E-09	8.83E-09	1.85E-04	1.88E-04
Airfield Lighting	Construction	Excavators	4.34E-09	1.31E-08	2.74E-04	2.78E-04
Airfield Lighting	Construction	Hoe Ram4	8.68E-08	2.62E-07	5.48E-03	5.56E-03
Airfield Lighting	Construction	Excavators	2.23E-07	6.73E-07	1.41E-02	1.43E-02
Airfield Lighting	Construction	Skid Steer Loaders	9.31E-07	2.41E-06	5.06E-02	5.13E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	3.05E-06	4.42E-06	9.25E-02	9.40E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Excavators	2.16E-06	6.50E-06	1.36E-01	1.38E-01
Airfield Lighting	Construction	Rubber Tire Loader	8.06E-07	5.87E-06	1.23E-01	1.25E-01
Airfield Lighting	Construction	Large Concrete Crusher	9.83E-07	6.58E-06	1.38E-01	1.40E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	1.92E-06	6.65E-06	1.40E-01	1.42E-01
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	3.78E-06	1.00E-05	2.10E-01	2.13E-01
Demolition - Asphalt	Construction	Asphalt Paver	3.23E-06	8.84E-06	1.85E-01	1.88E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.52E-06	2.61E-05	5.47E-01	5.55E-01
Demolition - Asphalt	Construction	Tack Truck	1.21E-05	5.27E-05	1.11E+00	1.12E+00
Demolition - Asphalt	Construction	Concrete Saw	3.08E-06	6.30E-06	1.32E-01	1.34E-01
Demolition - Asphalt	Construction	Concrete Pavers	3.43E-06	9.38E-06	1.97E-01	1.99E-01
Demolition - Asphalt	Construction	Concrete Saw	2.69E-07	5.51E-07	1.15E-02	1.17E-02
Demolition - Asphalt	Construction	Concrete Pavers	3.00E-07	8.19E-07	1.72E-02	1.74E-02
Demolition - Asphalt	Construction	Concrete Saw	5.77E-06	1.18E-05	2.48E-01	2.52E-01
Demolition - Asphalt	Construction	Excavators	5.81E-06	1.75E-05	3.67E-01	3.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	6.74E-06	1.85E-05	3.87E-01	3.93E-01
Demolition - Asphalt	Construction	Concrete Pavers	3.27E-06	8.94E-06	1.87E-01	1.90E-01
Demolition - Asphalt	Construction	Concrete Saw	2.93E-06	6.00E-06	1.26E-01	1.28E-01
Demolition - Asphalt	Construction	Excavators	2.95E-06	8.89E-06	1.86E-01	1.89E-01
Demolition - Asphalt	Construction	Skid Steer Loaders4	3.07E-07	1.06E-06	2.23E-02	2.26E-02
Demolition - Asphalt	Construction	Asphalt Paver	5.16E-07	1.41E-06	2.96E-02	3.00E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	1.52E-06	4.17E-06	8.74E-02	8.87E-02
Demolition - Asphalt	Construction	Hoe Ram4	1.33E-06	4.02E-06	8.42E-02	8.54E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Trenchers	8.53E-07	1.98E-06	4.16E-02	4.22E-02
Demolition - Asphalt	Construction	Trenchers	6.38E-07	1.48E-06	3.11E-02	3.15E-02
Demolition - Asphalt	Construction	Trenchers	8.53E-07	1.98E-06	4.16E-02	4.22E-02
Demolition - Asphalt	Construction	Excavators	3.22E-06	9.69E-06	2.03E-01	2.06E-01
Demolition - Asphalt	Construction	Trenchers	3.47E-07	8.05E-07	1.69E-02	1.71E-02
Demolition - Asphalt	Construction	Excavators	1.31E-06	3.94E-06	8.26E-02	8.38E-02
Demolition - Asphalt	Construction	Rotary Cold Mill	4.37E-06	1.16E-05	2.43E-01	2.46E-01
Demolition - Asphalt	Construction	Grooving Machine	2.82E-06	9.65E-06	2.02E-01	2.05E-01
Demolition - Asphalt	Construction	Paint Sprayers5	1.75E-07	7.65E-07	1.60E-02	1.63E-02
Demolition - Asphalt	Construction	Skid Steer Loaders	1.13E-05	2.92E-05	6.13E-01	6.22E-01
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	3.70E-05	5.36E-05	1.12E+00	1.14E+00
Demolition - Asphalt	Construction	Excavators	2.62E-05	7.88E-05	1.65E+00	1.68E+00
Demolition - Asphalt	Construction	Skid Steer Loaders4	8.01E-07	2.78E-06	5.82E-02	5.90E-02
Demolition - Asphalt	Construction	Asphalt Paver	1.35E-06	3.69E-06	7.72E-02	7.84E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	3.97E-06	1.09E-05	2.28E-01	2.31E-01
Demolition - Asphalt	Construction	Tack Truck	5.05E-06	2.20E-05	4.61E-01	4.68E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Concrete Saw	5.26E-06	1.08E-05	2.26E-01	2.29E-01
Demolition - Asphalt	Construction	Concrete Pavers	5.86E-06	1.60E-05	3.36E-01	3.41E-01
Demolition - Asphalt	Construction	Concrete Saw	9.46E-06	1.94E-05	4.06E-01	4.12E-01
Demolition - Asphalt	Construction	Excavators	9.52E-06	2.87E-05	6.01E-01	6.10E-01
Demolition - Asphalt	Construction	Hoe Ram4	1.90E-05	5.74E-05	1.20E+00	1.22E+00
Demolition - Asphalt	Construction	Skid Steer Loaders4	4.08E-07	1.42E-06	2.97E-02	3.01E-02
Demolition - Asphalt	Construction	Asphalt Paver	6.87E-07	1.88E-06	3.94E-02	4.00E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.03E-06	5.55E-06	1.16E-01	1.18E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	2.24E-08	4.59E-08	9.62E-04	9.77E-04
Demolition - Asphalt	Construction	Concrete Pavers	2.50E-08	6.83E-08	1.43E-03	1.45E-03
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	3.43E-08	9.41E-08	1.97E-03	2.00E-03
Demolition - Asphalt	Construction	Graders	1.97E-08	5.88E-08	1.23E-03	1.25E-03
Demolition - Asphalt	Construction	Concrete Saw	3.48E-08	7.14E-08	1.50E-03	1.52E-03
Demolition - Asphalt	Construction	Excavators	3.51E-08	1.06E-07	2.22E-03	2.25E-03
Demolition - Asphalt	Construction	Hoe Ram4	7.02E-07	2.11E-06	4.43E-02	4.50E-02
Demolition - Asphalt	Construction	Excavators	1.80E-06	5.44E-06	1.14E-01	1.16E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	7.52E-06	1.95E-05	4.09E-01	4.15E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	2.47E-05	3.57E-05	7.47E-01	7.59E-01
Demolition - Asphalt	Construction	Excavators	1.74E-05	5.25E-05	1.10E+00	1.12E+00
Demolition - Asphalt	Construction	Rubber Tire Loader	6.51E-06	4.74E-05	9.95E-01	1.01E+00
Demolition - Asphalt	Construction	Large Concrete Crusher	7.94E-06	5.32E-05	1.12E+00	1.13E+00
Demolition - Concrete	Construction	Skid Steer Loaders	1.64E-06	5.69E-06	1.19E-01	1.21E-01
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	3.23E-06	8.55E-06	1.79E-01	1.82E-01
Demolition - Concrete	Construction	Asphalt Paver	2.76E-06	7.56E-06	1.58E-01	1.61E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	8.14E-06	2.23E-05	4.68E-01	4.75E-01
Demolition - Concrete	Construction	Tack Truck	1.04E-05	4.51E-05	9.46E-01	9.59E-01
Demolition - Concrete	Construction	Concrete Saw	2.63E-06	5.39E-06	1.13E-01	1.15E-01
Demolition - Concrete	Construction	Concrete Pavers	2.93E-06	8.02E-06	1.68E-01	1.71E-01
Demolition - Concrete	Construction	Concrete Saw	2.30E-07	4.71E-07	9.88E-03	1.00E-02
Demolition - Concrete	Construction	Concrete Pavers	2.56E-07	7.01E-07	1.47E-02	1.49E-02
Demolition - Concrete	Construction	Concrete Saw	4.94E-06	1.01E-05	2.12E-01	2.15E-01
Demolition - Concrete	Construction	Excavators	4.97E-06	1.50E-05	3.14E-01	3.19E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	5.76E-06	1.58E-05	3.31E-01	3.36E-01
Demolition - Concrete	Construction	Concrete Pavers	2.79E-06	7.64E-06	1.60E-01	1.63E-01
Demolition - Concrete	Construction	Concrete Saw	2.51E-06	5.14E-06	1.08E-01	1.09E-01
Demolition - Concrete	Construction	Excavators	2.52E-06	7.61E-06	1.59E-01	1.62E-01
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	2.62E-07	9.10E-07	1.91E-02	1.94E-02
Demolition - Concrete	Construction	Asphalt Paver	4.42E-07	1.21E-06	2.53E-02	2.57E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.30E-06	3.57E-06	7.48E-02	7.59E-02
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	1.14E-06	3.44E-06	7.20E-02	7.31E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Trenchers	7.29E-07	1.69E-06	3.55E-02	3.61E-02
Demolition - Concrete	Construction	Trenchers	5.45E-07	1.27E-06	2.66E-02	2.70E-02
Demolition - Concrete	Construction	Trenchers	7.29E-07	1.69E-06	3.55E-02	3.61E-02
Demolition - Concrete	Construction	Excavators	2.75E-06	8.29E-06	1.74E-01	1.76E-01
Demolition - Concrete	Construction	Trenchers	2.97E-07	6.89E-07	1.45E-02	1.47E-02
Demolition - Concrete	Construction	Excavators	1.12E-06	3.37E-06	7.07E-02	7.17E-02
Demolition - Concrete	Construction	Rotary Cold Mill	3.74E-06	9.91E-06	2.08E-01	2.11E-01
Demolition - Concrete	Construction	Grooving Machine	2.41E-06	8.26E-06	1.73E-01	1.76E-01
Demolition - Concrete	Construction	Paint Sprayers5	1.50E-07	6.54E-07	1.37E-02	1.39E-02
Demolition - Concrete	Construction	Skid Steer Loaders	9.65E-06	2.50E-05	5.24E-01	5.32E-01
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.16E-05	4.58E-05	9.59E-01	9.74E-01
Demolition - Concrete	Construction	Excavators	2.24E-05	6.74E-05	1.41E+00	1.43E+00
Demolition - Concrete	Construction	Skid Steer Loaders4	6.85E-07	2.37E-06	4.98E-02	5.05E-02
Demolition - Concrete	Construction	Asphalt Paver	1.15E-06	3.15E-06	6.61E-02	6.70E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	3.40E-06	9.31E-06	1.95E-01	1.98E-01



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Tack Truck	4.32E-06	1.88E-05	3.94E-01	4.00E-01
Demolition - Concrete	Construction	Concrete Saw	4.50E-06	9.21E-06	1.93E-01	1.96E-01
Demolition - Concrete	Construction	Concrete Pavers	5.01E-06	1.37E-05	2.87E-01	2.91E-01
Demolition - Concrete	Construction	Concrete Saw	8.09E-06	1.66E-05	3.47E-01	3.53E-01
Demolition - Concrete	Construction	Excavators	8.14E-06	2.45E-05	5.14E-01	5.22E-01
Demolition - Concrete	Construction	Hoe Ram4	1.63E-05	4.91E-05	1.03E+00	1.04E+00
Demolition - Concrete	Construction	Skid Steer Loaders4	3.49E-07	1.21E-06	2.54E-02	2.58E-02
Demolition - Concrete	Construction	Asphalt Paver	5.88E-07	1.61E-06	3.37E-02	3.42E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.73E-06	4.75E-06	9.95E-02	1.01E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	1.92E-08	3.92E-08	8.23E-04	8.35E-04
Demolition - Concrete	Construction	Concrete Pavers	2.14E-08	5.84E-08	1.22E-03	1.24E-03
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.94E-08	8.05E-08	1.69E-03	1.71E-03
Demolition - Concrete	Construction	Graders	1.69E-08	5.03E-08	1.05E-03	1.07E-03
Demolition - Concrete	Construction	Concrete Saw	2.98E-08	6.10E-08	1.28E-03	1.30E-03
Demolition - Concrete	Construction	Excavators	3.00E-08	9.04E-08	1.90E-03	1.92E-03
Demolition - Concrete	Construction	Hoe Ram4	6.00E-07	1.81E-06	3.79E-02	3.84E-02
Demolition - Concrete	Construction	Excavators	1.54E-06	4.65E-06	9.75E-02	9.89E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Skid Steer Loaders	6.44E-06	1.67E-05	3.50E-01	3.55E-01
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	2.11E-05	3.05E-05	6.39E-01	6.49E-01
Demolition - Concrete	Construction	Excavators	1.49E-05	4.49E-05	9.42E-01	9.56E-01
Demolition - Concrete	Construction	Rubber Tire Loader	5.57E-06	4.06E-05	8.51E-01	8.62E-01
Demolition - Concrete	Construction	Large Concrete Crusher	6.80E-06	4.55E-05	9.55E-01	9.68E-01
Drainage System	Construction	Skid Steer Loaders	5.30E-07	1.84E-06	3.86E-02	3.91E-02
Drainage System	Construction	Advance Joint Sealant Equipment	1.04E-06	2.76E-06	5.79E-02	5.88E-02
Drainage System	Construction	Asphalt Paver	8.93E-07	2.44E-06	5.12E-02	5.19E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.63E-06	7.21E-06	1.51E-01	1.53E-01
Drainage System	Construction	Tack Truck	3.35E-06	1.46E-05	3.06E-01	3.10E-01
Drainage System	Construction	Concrete Saw	8.50E-07	1.74E-06	3.65E-02	3.71E-02
Drainage System	Construction	Concrete Pavers	9.47E-07	2.59E-06	5.43E-02	5.51E-02
Drainage System	Construction	Concrete Saw	7.43E-08	1.52E-07	3.19E-03	3.24E-03
Drainage System	Construction	Concrete Pavers	8.28E-08	2.26E-07	4.75E-03	4.81E-03
Drainage System	Construction	Concrete Saw	1.60E-06	3.27E-06	6.85E-02	6.96E-02
Drainage System	Construction	Excavators	1.61E-06	4.84E-06	1.01E-01	1.03E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.86E-06	5.10E-06	1.07E-01	1.09E-01
Drainage System	Construction	Concrete Pavers	9.03E-07	2.47E-06	5.18E-02	5.25E-02
Drainage System	Construction	Concrete Saw	8.10E-07	1.66E-06	3.48E-02	3.53E-02
Drainage System	Construction	Excavators	8.16E-07	2.46E-06	5.15E-02	5.23E-02
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	8.48E-08	2.94E-07	6.17E-03	6.25E-03
Drainage System	Construction	Asphalt Paver	1.43E-07	3.90E-07	8.18E-03	8.30E-03
Drainage System	Construction	Rollers (Compactor Roller incl.)	4.21E-07	1.15E-06	2.42E-02	2.45E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Hoe Ram4	3.68E-07	1.11E-06	2.33E-02	2.36E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Trenchers	2.36E-07	5.47E-07	1.15E-02	1.17E-02
Drainage System	Construction	Trenchers	1.76E-07	4.09E-07	8.59E-03	8.71E-03
Drainage System	Construction	Trenchers	2.36E-07	5.47E-07	1.15E-02	1.17E-02
Drainage System	Construction	Excavators	8.89E-07	2.68E-06	5.62E-02	5.70E-02
Drainage System	Construction	Trenchers	9.58E-08	2.23E-07	4.67E-03	4.74E-03
Drainage System	Construction	Excavators	3.61E-07	1.09E-06	2.28E-02	2.32E-02
Drainage System	Construction	Rotary Cold Mill	1.21E-06	3.20E-06	6.71E-02	6.81E-02
Drainage System	Construction	Grooving Machine	7.78E-07	2.67E-06	5.59E-02	5.67E-02
Drainage System	Construction	Paint Sprayers5	4.83E-08	2.11E-07	4.43E-03	4.49E-03
Drainage System	Construction	Skid Steer Loaders	3.12E-06	8.08E-06	1.69E-01	1.72E-01
Drainage System	Construction	Tractor/Loader (Backhoe)	1.02E-05	1.48E-05	3.10E-01	3.15E-01
Drainage System	Construction	Excavators	7.23E-06	2.18E-05	4.57E-01	4.63E-01
Drainage System	Construction	Skid Steer Loaders4	2.21E-07	7.67E-07	1.61E-02	1.63E-02
Drainage System	Construction	Asphalt Paver	3.72E-07	1.02E-06	2.13E-02	2.17E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.10E-06	3.01E-06	6.30E-02	6.39E-02
Drainage System	Construction	Tack Truck	1.40E-06	6.07E-06	1.27E-01	1.29E-01
Drainage System	Construction	Concrete Saw	1.45E-06	2.98E-06	6.24E-02	6.33E-02
Drainage System	Construction	Concrete Pavers	1.62E-06	4.43E-06	9.28E-02	9.41E-02
Drainage System	Construction	Concrete Saw	2.61E-06	5.35E-06	1.12E-01	1.14E-01
Drainage System	Construction	Excavators	2.63E-06	7.93E-06	1.66E-01	1.69E-01
Drainage System	Construction	Hoe Ram4	5.26E-06	1.59E-05	3.32E-01	3.37E-01
Drainage System	Construction	Skid Steer Loaders4	1.13E-07	3.91E-07	8.21E-03	8.32E-03
Drainage System	Construction	Asphalt Paver	1.90E-07	5.19E-07	1.09E-02	1.10E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	5.60E-07	1.53E-06	3.22E-02	3.26E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	6.19E-09	1.27E-08	2.66E-04	2.70E-04
Drainage System	Construction	Concrete Pavers	6.90E-09	1.89E-08	3.95E-04	4.01E-04
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.49E-09	2.60E-08	5.45E-04	5.53E-04
Drainage System	Construction	Graders	5.46E-09	1.62E-08	3.41E-04	3.45E-04
Drainage System	Construction	Concrete Saw	9.63E-09	1.97E-08	4.14E-04	4.20E-04
Drainage System	Construction	Excavators	9.69E-09	2.92E-08	6.12E-04	6.21E-04
Drainage System	Construction	Hoe Ram4	1.94E-07	5.84E-07	1.22E-02	1.24E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Excavators	4.98E-07	1.50E-06	3.15E-02	3.19E-02
Drainage System	Construction	Skid Steer Loaders	2.08E-06	5.38E-06	1.13E-01	1.15E-01
Drainage System	Construction	Tractor/Loader (Backhoe)	6.82E-06	9.87E-06	2.07E-01	2.10E-01
Drainage System	Construction	Excavators	4.82E-06	1.45E-05	3.04E-01	3.09E-01
Drainage System	Construction	Rubber Tire Loader	1.80E-06	1.31E-05	2.75E-01	2.79E-01
Drainage System	Construction	Large Concrete Crusher	2.20E-06	1.47E-05	3.08E-01	3.13E-01
Fencing	Construction	Skid Steer Loaders	3.57E-07	1.24E-06	2.60E-02	2.64E-02
Fencing	Construction	Advance Joint Sealant Equipment	7.03E-07	1.86E-06	3.90E-02	3.96E-02
Fencing	Construction	Asphalt Paver	6.01E-07	1.64E-06	3.45E-02	3.50E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	1.77E-06	4.86E-06	1.02E-01	1.03E-01
Fencing	Construction	Tack Truck	2.26E-06	9.81E-06	2.06E-01	2.09E-01
Fencing	Construction	Concrete Saw	5.73E-07	1.17E-06	2.46E-02	2.50E-02
Fencing	Construction	Concrete Pavers	6.38E-07	1.75E-06	3.66E-02	3.71E-02
Fencing	Construction	Concrete Saw	5.00E-08	1.02E-07	2.15E-03	2.18E-03
Fencing	Construction	Concrete Pavers	5.58E-08	1.53E-07	3.20E-03	3.24E-03
Fencing	Construction	Concrete Saw	1.08E-06	2.20E-06	4.62E-02	4.69E-02
Fencing	Construction	Excavators	1.08E-06	3.26E-06	6.84E-02	6.93E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	1.25E-06	3.44E-06	7.21E-02	7.31E-02
Fencing	Construction	Concrete Pavers	6.08E-07	1.66E-06	3.49E-02	3.54E-02
Fencing	Construction	Concrete Saw	5.46E-07	1.12E-06	2.34E-02	2.38E-02
Fencing	Construction	Excavators	5.49E-07	1.66E-06	3.47E-02	3.52E-02
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	5.71E-08	1.98E-07	4.15E-03	4.21E-03
Fencing	Construction	Asphalt Paver	9.62E-08	2.63E-07	5.51E-03	5.59E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Rollers (Compactor Roller incl.)	2.83E-07	7.76E-07	1.63E-02	1.65E-02
Fencing	Construction	Hoe Ram4	2.48E-07	7.48E-07	1.57E-02	1.59E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Trenchers	1.59E-07	3.69E-07	7.74E-03	7.85E-03
Fencing	Construction	Trenchers	1.19E-07	2.76E-07	5.78E-03	5.87E-03
Fencing	Construction	Trenchers	1.59E-07	3.69E-07	7.74E-03	7.85E-03
Fencing	Construction	Excavators	5.99E-07	1.80E-06	3.78E-02	3.84E-02
Fencing	Construction	Trenchers	6.45E-08	1.50E-07	3.14E-03	3.19E-03
Fencing	Construction	Excavators	2.43E-07	7.34E-07	1.54E-02	1.56E-02
Fencing	Construction	Rotary Cold Mill	8.14E-07	2.16E-06	4.52E-02	4.59E-02
Fencing	Construction	Grooving Machine	5.24E-07	1.80E-06	3.77E-02	3.82E-02
Fencing	Construction	Paint Sprayers5	3.26E-08	1.42E-07	2.99E-03	3.03E-03
Fencing	Construction	Skid Steer Loaders	2.10E-06	5.44E-06	1.14E-01	1.16E-01
Fencing	Construction	Tractor/Loader (Backhoe)	6.89E-06	9.97E-06	2.09E-01	2.12E-01
Fencing	Construction	Excavators	4.87E-06	1.47E-05	3.08E-01	3.12E-01
Fencing	Construction	Skid Steer Loaders4	1.49E-07	5.17E-07	1.08E-02	1.10E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Asphalt Paver	2.51E-07	6.86E-07	1.44E-02	1.46E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	7.39E-07	2.03E-06	4.25E-02	4.31E-02
Fencing	Construction	Tack Truck	9.41E-07	4.09E-06	8.59E-02	8.70E-02
Fencing	Construction	Concrete Saw	9.79E-07	2.00E-06	4.20E-02	4.27E-02
Fencing	Construction	Concrete Pavers	1.09E-06	2.98E-06	6.25E-02	6.34E-02
Fencing	Construction	Concrete Saw	1.76E-06	3.61E-06	7.56E-02	7.68E-02
Fencing	Construction	Excavators	1.77E-06	5.34E-06	1.12E-01	1.14E-01
Fencing	Construction	Hoe Ram4	3.54E-06	1.07E-05	2.24E-01	2.27E-01
Fencing	Construction	Skid Steer Loaders4	7.60E-08	2.64E-07	5.53E-03	5.61E-03
Fencing	Construction	Asphalt Paver	1.28E-07	3.50E-07	7.33E-03	7.44E-03
Fencing	Construction	Rollers (Compactor Roller incl.)	3.77E-07	1.03E-06	2.17E-02	2.20E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	4.17E-09	8.54E-09	1.79E-04	1.82E-04
Fencing	Construction	Concrete Pavers	4.65E-09	1.27E-08	2.66E-04	2.70E-04
Fencing	Construction	Rollers (Compactor Roller incl.)	6.39E-09	1.75E-08	3.67E-04	3.72E-04
Fencing	Construction	Graders	3.68E-09	1.09E-08	2.29E-04	2.33E-04
Fencing	Construction	Concrete Saw	6.49E-09	1.33E-08	2.79E-04	2.83E-04
Fencing	Construction	Excavators	6.53E-09	1.97E-08	4.12E-04	4.18E-04



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Hoe Ram4	1.31E-07	3.94E-07	8.25E-03	8.37E-03
Fencing	Construction	Excavators	3.36E-07	1.01E-06	2.12E-02	2.15E-02
Fencing	Construction	Skid Steer Loaders	1.40E-06	3.63E-06	7.61E-02	7.72E-02
Fencing	Construction	Tractor/Loader (Backhoe)	4.59E-06	6.65E-06	1.39E-01	1.41E-01
Fencing	Construction	Excavators	3.25E-06	9.78E-06	2.05E-01	2.08E-01
Fencing	Construction	Rubber Tire Loader	1.21E-06	8.83E-06	1.85E-01	1.88E-01
Fencing	Construction	Large Concrete Crusher	1.48E-06	9.90E-06	2.08E-01	2.11E-01
Landscaping	Construction	Skid Steer Loaders	1.06E-06	3.68E-06	7.72E-02	7.82E-02
Landscaping	Construction	Advance Joint Sealant Equipment	2.09E-06	5.53E-06	1.16E-01	1.18E-01
Landscaping	Construction	Asphalt Paver	1.79E-06	4.88E-06	1.02E-01	1.04E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	5.26E-06	1.44E-05	3.02E-01	3.07E-01
Landscaping	Construction	Tack Truck	6.69E-06	2.91E-05	6.11E-01	6.20E-01
Landscaping	Construction	Concrete Saw	1.70E-06	3.48E-06	7.30E-02	7.41E-02
Landscaping	Construction	Concrete Pavers	1.89E-06	5.18E-06	1.09E-01	1.10E-01
Landscaping	Construction	Concrete Saw	1.49E-07	3.04E-07	6.38E-03	6.48E-03
Landscaping	Construction	Concrete Pavers	1.66E-07	4.53E-07	9.49E-03	9.63E-03
Landscaping	Construction	Concrete Saw	3.19E-06	6.54E-06	1.37E-01	1.39E-01
Landscaping	Construction	Excavators	3.21E-06	9.68E-06	2.03E-01	2.06E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	3.72E-06	1.02E-05	2.14E-01	2.17E-01
Landscaping	Construction	Concrete Pavers	1.81E-06	4.94E-06	1.04E-01	1.05E-01
Landscaping	Construction	Concrete Saw	1.62E-06	3.32E-06	6.96E-02	7.06E-02
Landscaping	Construction	Excavators	1.63E-06	4.91E-06	1.03E-01	1.05E-01
Landscaping	Construction	Skid Steer Loaders4	1.70E-07	5.88E-07	1.23E-02	1.25E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Asphalt Paver	2.85E-07	7.81E-07	1.64E-02	1.66E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	8.41E-07	2.30E-06	4.83E-02	4.90E-02
Landscaping	Construction	Hoe Ram4	7.37E-07	2.22E-06	4.65E-02	4.72E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Trenchers	4.71E-07	1.09E-06	2.30E-02	2.33E-02
Landscaping	Construction	Trenchers	3.52E-07	8.19E-07	1.72E-02	1.74E-02
Landscaping	Construction	Trenchers	4.71E-07	1.09E-06	2.30E-02	2.33E-02
Landscaping	Construction	Excavators	1.78E-06	5.36E-06	1.12E-01	1.14E-01
Landscaping	Construction	Trenchers	1.92E-07	4.45E-07	9.34E-03	9.47E-03
Landscaping	Construction	Excavators	7.23E-07	2.18E-06	4.57E-02	4.63E-02
Landscaping	Construction	Rotary Cold Mill	2.42E-06	6.40E-06	1.34E-01	1.36E-01
Landscaping	Construction	Grooving Machine	1.56E-06	5.33E-06	1.12E-01	1.13E-01
Landscaping	Construction	Paint Sprayers5	9.67E-08	4.23E-07	8.86E-03	8.99E-03
Landscaping	Construction	Skid Steer Loaders	6.24E-06	1.61E-05	3.39E-01	3.44E-01
Landscaping	Construction	Tractor/Loader (Backhoe)	2.04E-05	2.96E-05	6.20E-01	6.29E-01
Landscaping	Construction	Excavators	1.45E-05	4.36E-05	9.13E-01	9.26E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	4.42E-07	1.53E-06	3.22E-02	3.26E-02
Landscaping	Construction	Asphalt Paver	7.45E-07	2.04E-06	4.27E-02	4.33E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.19E-06	6.01E-06	1.26E-01	1.28E-01
Landscaping	Construction	Tack Truck	2.79E-06	1.21E-05	2.55E-01	2.58E-01
Landscaping	Construction	Concrete Saw	2.91E-06	5.95E-06	1.25E-01	1.27E-01
Landscaping	Construction	Concrete Pavers	3.24E-06	8.85E-06	1.86E-01	1.88E-01
Landscaping	Construction	Concrete Saw	5.23E-06	1.07E-05	2.25E-01	2.28E-01
Landscaping	Construction	Excavators	5.26E-06	1.59E-05	3.32E-01	3.37E-01
Landscaping	Construction	Hoe Ram <sup>4</sup>	1.05E-05	3.17E-05	6.65E-01	6.74E-01
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	2.26E-07	7.82E-07	1.64E-02	1.66E-02
Landscaping	Construction	Asphalt Paver	3.80E-07	1.04E-06	2.18E-02	2.21E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.12E-06	3.07E-06	6.43E-02	6.52E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	1.24E-08	2.54E-08	5.32E-04	5.40E-04
Landscaping	Construction	Concrete Pavers	1.38E-08	3.77E-08	7.91E-04	8.02E-04
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.90E-08	5.20E-08	1.09E-03	1.11E-03
Landscaping	Construction	Graders	1.09E-08	3.25E-08	6.81E-04	6.91E-04
Landscaping	Construction	Concrete Saw	1.93E-08	3.94E-08	8.27E-04	8.39E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Excavators	1.94E-08	5.84E-08	1.22E-03	1.24E-03
Landscaping	Construction	Hoe Ram4	3.88E-07	1.17E-06	2.45E-02	2.48E-02
Landscaping	Construction	Excavators	9.97E-07	3.00E-06	6.30E-02	6.39E-02
Landscaping	Construction	Skid Steer Loaders	4.16E-06	1.08E-05	2.26E-01	2.29E-01
Landscaping	Construction	Tractor/Loader (Backhoe)	1.36E-05	1.97E-05	4.13E-01	4.20E-01
Landscaping	Construction	Excavators	9.64E-06	2.90E-05	6.09E-01	6.17E-01
Landscaping	Construction	Rubber Tire Loader	3.60E-06	2.62E-05	5.50E-01	5.57E-01
Landscaping	Construction	Large Concrete Crusher	4.39E-06	2.94E-05	6.17E-01	6.25E-01
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Paint Sprayers <sup>5</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Skid Steer Loaders	2.78E-05	9.62E-05	2.02E+00	2.05E+00
Parking Lot	Construction	Advance Joint Sealant Equipment	5.46E-05	1.45E-04	3.03E+00	3.08E+00
Parking Lot	Construction	Asphalt Paver	4.67E-05	1.28E-04	2.68E+00	2.72E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	1.38E-04	3.77E-04	7.91E+00	8.03E+00
Parking Lot	Construction	Tack Truck	1.75E-04	7.62E-04	1.60E+01	1.62E+01
Parking Lot	Construction	Concrete Saw	4.45E-05	9.11E-05	1.91E+00	1.94E+00
Parking Lot	Construction	Concrete Pavers	4.96E-05	1.36E-04	2.84E+00	2.88E+00
Parking Lot	Construction	Concrete Saw	3.89E-06	7.96E-06	1.67E-01	1.70E-01
Parking Lot	Construction	Concrete Pavers	4.33E-06	1.19E-05	2.48E-01	2.52E-01
Parking Lot	Construction	Concrete Saw	8.35E-05	1.71E-04	3.59E+00	3.64E+00
Parking Lot	Construction	Excavators	8.41E-05	2.53E-04	5.31E+00	5.39E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.75E-05	2.67E-04	5.60E+00	5.68E+00
Parking Lot	Construction	Concrete Pavers	4.73E-05	1.29E-04	2.71E+00	2.75E+00
Parking Lot	Construction	Concrete Saw	4.24E-05	8.69E-05	1.82E+00	1.85E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Excavators	4.27E-05	1.29E-04	2.70E+00	2.74E+00
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	4.44E-06	1.54E-05	3.23E-01	3.27E-01
Parking Lot	Construction	Asphalt Paver	7.47E-06	2.04E-05	4.28E-01	4.34E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.20E-05	6.03E-05	1.26E+00	1.28E+00
Parking Lot	Construction	Hoe Ram <sup>4</sup>	1.93E-05	5.81E-05	1.22E+00	1.24E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Trenchers	1.23E-05	2.87E-05	6.01E-01	6.10E-01
Parking Lot	Construction	Trenchers	9.22E-06	2.14E-05	4.49E-01	4.56E-01
Parking Lot	Construction	Trenchers	1.23E-05	2.87E-05	6.01E-01	6.10E-01
Parking Lot	Construction	Excavators	4.65E-05	1.40E-04	2.94E+00	2.98E+00
Parking Lot	Construction	Trenchers	5.01E-06	1.16E-05	2.44E-01	2.48E-01
Parking Lot	Construction	Excavators	1.89E-05	5.70E-05	1.20E+00	1.21E+00
Parking Lot	Construction	Rotary Cold Mill	6.33E-05	1.68E-04	3.51E+00	3.56E+00
Parking Lot	Construction	Grooving Machine	4.07E-05	1.40E-04	2.93E+00	2.97E+00
Parking Lot	Construction	Paint Sprayers <sup>5</sup>	2.53E-06	1.11E-05	2.32E-01	2.35E-01
Parking Lot	Construction	Skid Steer Loaders	1.63E-04	4.23E-04	8.87E+00	9.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Tractor/Loader (Backhoe)	5.35E-04	7.75E-04	1.62E+01	1.65E+01
Parking Lot	Construction	Excavators	3.78E-04	1.14E-03	2.39E+01	2.42E+01
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	1.16E-05	4.01E-05	8.42E-01	8.54E-01
Parking Lot	Construction	Asphalt Paver	1.95E-05	5.33E-05	1.12E+00	1.13E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	5.74E-05	1.57E-04	3.30E+00	3.35E+00
Parking Lot	Construction	Tack Truck	7.31E-05	3.18E-04	6.67E+00	6.76E+00
Parking Lot	Construction	Concrete Saw	7.60E-05	1.56E-04	3.27E+00	3.31E+00
Parking Lot	Construction	Concrete Pavers	8.47E-05	2.32E-04	4.86E+00	4.93E+00
Parking Lot	Construction	Concrete Saw	1.37E-04	2.80E-04	5.88E+00	5.96E+00
Parking Lot	Construction	Excavators	1.38E-04	4.15E-04	8.70E+00	8.82E+00
Parking Lot	Construction	Hoe Ram <sup>4</sup>	2.75E-04	8.30E-04	1.74E+01	1.76E+01
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	5.91E-06	2.05E-05	4.30E-01	4.36E-01
Parking Lot	Construction	Asphalt Paver	9.94E-06	2.72E-05	5.70E-01	5.78E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.93E-05	8.03E-05	1.68E+00	1.71E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	3.24E-07	6.64E-07	1.39E-02	1.41E-02
Parking Lot	Construction	Concrete Pavers	3.61E-07	9.88E-07	2.07E-02	2.10E-02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	4.97E-07	1.36E-06	2.85E-02	2.89E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Graders	2.86E-07	8.50E-07	1.78E-02	1.81E-02
Parking Lot	Construction	Concrete Saw	5.04E-07	1.03E-06	2.16E-02	2.20E-02
Parking Lot	Construction	Excavators	5.07E-07	1.53E-06	3.21E-02	3.25E-02
Parking Lot	Construction	Hoe Ram4	1.01E-05	3.06E-05	6.41E-01	6.50E-01
Parking Lot	Construction	Excavators	2.61E-05	7.86E-05	1.65E+00	1.67E+00
Parking Lot	Construction	Skid Steer Loaders	1.09E-04	2.82E-04	5.91E+00	6.00E+00
Parking Lot	Construction	Tractor/Loader (Backhoe)	3.57E-04	5.17E-04	1.08E+01	1.10E+01
Parking Lot	Construction	Excavators	2.52E-04	7.60E-04	1.59E+01	1.62E+01
Parking Lot	Construction	Rubber Tire Loader	9.42E-05	6.86E-04	1.44E+01	1.46E+01
Parking Lot	Construction	Large Concrete Crusher	1.15E-04	7.69E-04	1.61E+01	1.64E+01
Rehabilitate Runway	Construction	Skid Steer Loaders	2.62E-05	9.07E-05	1.90E+00	1.93E+00
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	5.15E-05	1.36E-04	2.86E+00	2.90E+00
Rehabilitate Runway	Construction	Asphalt Paver	4.41E-05	1.20E-04	2.53E+00	2.56E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	1.30E-04	3.56E-04	7.46E+00	7.57E+00
Rehabilitate Runway	Construction	Tack Truck	1.65E-04	7.19E-04	1.51E+01	1.53E+01
Rehabilitate Runway	Construction	Concrete Saw	4.20E-05	8.59E-05	1.80E+00	1.83E+00
Rehabilitate Runway	Construction	Concrete Pavers	4.68E-05	1.28E-04	2.68E+00	2.72E+00
Rehabilitate Runway	Construction	Concrete Saw	3.67E-06	7.51E-06	1.57E-01	1.60E-01
Rehabilitate Runway	Construction	Concrete Pavers	4.09E-06	1.12E-05	2.34E-01	2.38E-01
Rehabilitate Runway	Construction	Concrete Saw	7.88E-05	1.61E-04	3.38E+00	3.43E+00
Rehabilitate Runway	Construction	Excavators	7.93E-05	2.39E-04	5.01E+00	5.08E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.19E-05	2.52E-04	5.28E+00	5.36E+00
Rehabilitate Runway	Construction	Concrete Pavers	4.46E-05	1.22E-04	2.55E+00	2.59E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Concrete Saw	4.00E-05	8.19E-05	1.72E+00	1.74E+00
Rehabilitate Runway	Construction	Excavators	4.02E-05	1.21E-04	2.54E+00	2.58E+00
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	4.18E-06	1.45E-05	3.04E-01	3.09E-01
Rehabilitate Runway	Construction	Asphalt Paver	7.04E-06	1.93E-05	4.04E-01	4.10E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.08E-05	5.69E-05	1.19E+00	1.21E+00
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	1.82E-05	5.48E-05	1.15E+00	1.16E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Trenchers	1.16E-05	2.70E-05	5.67E-01	5.75E-01
Rehabilitate Runway	Construction	Trenchers	8.69E-06	2.02E-05	4.24E-01	4.30E-01
Rehabilitate Runway	Construction	Trenchers	1.16E-05	2.70E-05	5.67E-01	5.75E-01
Rehabilitate Runway	Construction	Excavators	4.39E-05	1.32E-04	2.77E+00	2.81E+00
Rehabilitate Runway	Construction	Trenchers	4.73E-06	1.10E-05	2.30E-01	2.34E-01
Rehabilitate Runway	Construction	Excavators	1.78E-05	5.37E-05	1.13E+00	1.14E+00
Rehabilitate Runway	Construction	Rotary Cold Mill	5.97E-05	1.58E-04	3.31E+00	3.36E+00
Rehabilitate Runway	Construction	Grooving Machine	3.84E-05	1.32E-04	2.76E+00	2.80E+00
Rehabilitate Runway	Construction	Paint Sprayers <sup>5</sup>	2.39E-06	1.04E-05	2.19E-01	2.22E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Skid Steer Loaders	1.54E-04	3.99E-04	8.36E+00	8.48E+00
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	5.05E-04	7.31E-04	1.53E+01	1.55E+01
Rehabilitate Runway	Construction	Excavators	3.57E-04	1.07E-03	2.25E+01	2.29E+01
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	1.09E-05	3.78E-05	7.94E-01	8.05E-01
Rehabilitate Runway	Construction	Asphalt Paver	1.84E-05	5.03E-05	1.05E+00	1.07E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	5.41E-05	1.48E-04	3.11E+00	3.16E+00
Rehabilitate Runway	Construction	Tack Truck	6.89E-05	3.00E-04	6.29E+00	6.38E+00
Rehabilitate Runway	Construction	Concrete Saw	7.17E-05	1.47E-04	3.08E+00	3.13E+00
Rehabilitate Runway	Construction	Concrete Pavers	7.99E-05	2.18E-04	4.58E+00	4.65E+00
Rehabilitate Runway	Construction	Concrete Saw	1.29E-04	2.64E-04	5.54E+00	5.62E+00
Rehabilitate Runway	Construction	Excavators	1.30E-04	3.91E-04	8.20E+00	8.32E+00
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	2.60E-04	7.82E-04	1.64E+01	1.66E+01
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	5.57E-06	1.93E-05	4.05E-01	4.11E-01
Rehabilitate Runway	Construction	Asphalt Paver	9.37E-06	2.56E-05	5.37E-01	5.45E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.76E-05	7.57E-05	1.59E+00	1.61E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	3.06E-07	6.26E-07	1.31E-02	1.33E-02
Rehabilitate Runway	Construction	Concrete Pavers	3.40E-07	9.31E-07	1.95E-02	1.98E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	4.68E-07	1.28E-06	2.69E-02	2.73E-02
Rehabilitate Runway	Construction	Graders	2.69E-07	8.02E-07	1.68E-02	1.70E-02
Rehabilitate Runway	Construction	Concrete Saw	4.75E-07	9.73E-07	2.04E-02	2.07E-02
Rehabilitate Runway	Construction	Excavators	4.78E-07	1.44E-06	3.02E-02	3.07E-02
Rehabilitate Runway	Construction	Hoe Ram4	9.57E-06	2.88E-05	6.04E-01	6.13E-01
Rehabilitate Runway	Construction	Excavators	2.46E-05	7.41E-05	1.55E+00	1.58E+00
Rehabilitate Runway	Construction	Skid Steer Loaders	1.03E-04	2.66E-04	5.57E+00	5.65E+00
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	3.36E-04	4.87E-04	1.02E+01	1.04E+01
Rehabilitate Runway	Construction	Excavators	2.38E-04	7.17E-04	1.50E+01	1.52E+01
Rehabilitate Runway	Construction	Rubber Tire Loader	8.88E-05	6.47E-04	1.36E+01	1.38E+01
Rehabilitate Runway	Construction	Large Concrete Crusher	1.08E-04	7.25E-04	1.52E+01	1.54E+01
Runway Drains	Construction	Skid Steer Loaders	3.67E-06	1.27E-05	2.67E-01	2.70E-01
Runway Drains	Construction	Advance Joint Sealant Equipment	7.21E-06	1.91E-05	4.00E-01	4.06E-01
Runway Drains	Construction	Asphalt Paver	6.17E-06	1.69E-05	3.54E-01	3.59E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.82E-05	4.98E-05	1.04E+00	1.06E+00
Runway Drains	Construction	Tack Truck	2.31E-05	1.01E-04	2.11E+00	2.14E+00
Runway Drains	Construction	Concrete Saw	5.88E-06	1.20E-05	2.52E-01	2.56E-01
Runway Drains	Construction	Concrete Pavers	6.55E-06	1.79E-05	3.75E-01	3.81E-01
Runway Drains	Construction	Concrete Saw	5.13E-07	1.05E-06	2.20E-02	2.24E-02
Runway Drains	Construction	Concrete Pavers	5.72E-07	1.56E-06	3.28E-02	3.33E-02
Runway Drains	Construction	Concrete Saw	1.10E-05	2.26E-05	4.74E-01	4.81E-01
Runway Drains	Construction	Excavators	1.11E-05	3.34E-05	7.01E-01	7.11E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.29E-05	3.53E-05	7.39E-01	7.50E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Concrete Pavers	6.24E-06	1.71E-05	3.58E-01	3.63E-01
Runway Drains	Construction	Concrete Saw	5.60E-06	1.15E-05	2.40E-01	2.44E-01
Runway Drains	Construction	Excavators	5.64E-06	1.70E-05	3.56E-01	3.61E-01
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	5.86E-07	2.03E-06	4.26E-02	4.32E-02
Runway Drains	Construction	Asphalt Paver	9.86E-07	2.70E-06	5.65E-02	5.74E-02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.91E-06	7.96E-06	1.67E-01	1.69E-01
Runway Drains	Construction	Hoe Ram <sup>4</sup>	2.55E-06	7.67E-06	1.61E-01	1.63E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Trenchers	1.63E-06	3.78E-06	7.94E-02	8.05E-02
Runway Drains	Construction	Trenchers	1.22E-06	2.83E-06	5.93E-02	6.02E-02
Runway Drains	Construction	Trenchers	1.63E-06	3.78E-06	7.94E-02	8.05E-02
Runway Drains	Construction	Excavators	6.14E-06	1.85E-05	3.88E-01	3.94E-01
Runway Drains	Construction	Trenchers	6.62E-07	1.54E-06	3.23E-02	3.27E-02
Runway Drains	Construction	Excavators	2.50E-06	7.53E-06	1.58E-01	1.60E-01
Runway Drains	Construction	Rotary Cold Mill	8.35E-06	2.21E-05	4.64E-01	4.71E-01
Runway Drains	Construction	Grooving Machine	5.38E-06	1.84E-05	3.86E-01	3.92E-01



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Paint Sprayers <sup>5</sup>	3.34E-07	1.46E-06	3.06E-02	3.11E-02
Runway Drains	Construction	Skid Steer Loaders	2.16E-05	5.58E-05	1.17E+00	1.19E+00
Runway Drains	Construction	Tractor/Loader (Backhoe)	7.07E-05	1.02E-04	2.14E+00	2.17E+00
Runway Drains	Construction	Excavators	4.99E-05	1.51E-04	3.16E+00	3.20E+00
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	1.53E-06	5.30E-06	1.11E-01	1.13E-01
Runway Drains	Construction	Asphalt Paver	2.57E-06	7.04E-06	1.48E-01	1.50E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	7.58E-06	2.08E-05	4.36E-01	4.42E-01
Runway Drains	Construction	Tack Truck	9.65E-06	4.20E-05	8.81E-01	8.93E-01
Runway Drains	Construction	Concrete Saw	1.00E-05	2.06E-05	4.31E-01	4.38E-01
Runway Drains	Construction	Concrete Pavers	1.12E-05	3.06E-05	6.41E-01	6.51E-01
Runway Drains	Construction	Concrete Saw	1.81E-05	3.70E-05	7.76E-01	7.87E-01
Runway Drains	Construction	Excavators	1.82E-05	5.48E-05	1.15E+00	1.16E+00
Runway Drains	Construction	Hoe Ram <sup>4</sup>	3.64E-05	1.10E-04	2.30E+00	2.33E+00
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	7.80E-07	2.70E-06	5.67E-02	5.75E-02
Runway Drains	Construction	Asphalt Paver	1.31E-06	3.59E-06	7.52E-02	7.63E-02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	3.87E-06	1.06E-05	2.22E-01	2.25E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	4.28E-08	8.76E-08	1.84E-03	1.86E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Concrete Pavers	4.77E-08	1.30E-07	2.73E-03	2.77E-03
Runway Drains	Construction	Rollers (Compactor Roller incl.)	6.56E-08	1.80E-07	3.77E-03	3.82E-03
Runway Drains	Construction	Graders	3.77E-08	1.12E-07	2.35E-03	2.39E-03
Runway Drains	Construction	Concrete Saw	6.65E-08	1.36E-07	2.86E-03	2.90E-03
Runway Drains	Construction	Excavators	6.70E-08	2.02E-07	4.23E-03	4.29E-03
Runway Drains	Construction	Hoe Ram4	1.34E-06	4.04E-06	8.46E-02	8.58E-02
Runway Drains	Construction	Excavators	3.44E-06	1.04E-05	2.18E-01	2.21E-01
Runway Drains	Construction	Skid Steer Loaders	1.44E-05	3.72E-05	7.80E-01	7.92E-01
Runway Drains	Construction	Tractor/Loader (Backhoe)	4.71E-05	6.82E-05	1.43E+00	1.45E+00
Runway Drains	Construction	Excavators	3.33E-05	1.00E-04	2.10E+00	2.13E+00
Runway Drains	Construction	Rubber Tire Loader	1.24E-05	9.05E-05	1.90E+00	1.93E+00
Runway Drains	Construction	Large Concrete Crusher	1.52E-05	1.02E-04	2.13E+00	2.16E+00
Runway Markings	Construction	Skid Steer Loaders	1.39E-05	4.82E-05	1.01E+00	1.02E+00
Runway Markings	Construction	Advance Joint Sealant Equipment	2.73E-05	7.24E-05	1.52E+00	1.54E+00
Runway Markings	Construction	Asphalt Paver	2.34E-05	6.40E-05	1.34E+00	1.36E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	6.89E-05	1.89E-04	3.96E+00	4.02E+00
Runway Markings	Construction	Tack Truck	8.77E-05	3.82E-04	8.00E+00	8.12E+00
Runway Markings	Construction	Concrete Saw	2.23E-05	4.56E-05	9.56E-01	9.71E-01
Runway Markings	Construction	Concrete Pavers	2.48E-05	6.79E-05	1.42E+00	1.44E+00
Runway Markings	Construction	Concrete Saw	1.95E-06	3.98E-06	8.36E-02	8.48E-02
Runway Markings	Construction	Concrete Pavers	2.17E-06	5.93E-06	1.24E-01	1.26E-01
Runway Markings	Construction	Concrete Saw	4.18E-05	8.56E-05	1.80E+00	1.82E+00
Runway Markings	Construction	Excavators	4.21E-05	1.27E-04	2.66E+00	2.70E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Rollers (Compactor Roller incl.)	4.88E-05	1.34E-04	2.80E+00	2.84E+00
Runway Markings	Construction	Concrete Pavers	2.37E-05	6.47E-05	1.36E+00	1.38E+00
Runway Markings	Construction	Concrete Saw	2.12E-05	4.35E-05	9.12E-01	9.25E-01
Runway Markings	Construction	Excavators	2.14E-05	6.44E-05	1.35E+00	1.37E+00
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.22E-06	7.70E-06	1.62E-01	1.64E-01
Runway Markings	Construction	Asphalt Paver	3.74E-06	1.02E-05	2.14E-01	2.17E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	1.10E-05	3.02E-05	6.33E-01	6.42E-01
Runway Markings	Construction	Hoe Ram <sup>4</sup>	9.65E-06	2.91E-05	6.09E-01	6.18E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Trenchers	6.17E-06	1.43E-05	3.01E-01	3.05E-01
Runway Markings	Construction	Trenchers	4.61E-06	1.07E-05	2.25E-01	2.28E-01
Runway Markings	Construction	Trenchers	6.17E-06	1.43E-05	3.01E-01	3.05E-01
Runway Markings	Construction	Excavators	2.33E-05	7.02E-05	1.47E+00	1.49E+00
Runway Markings	Construction	Trenchers	2.51E-06	5.83E-06	1.22E-01	1.24E-01
Runway Markings	Construction	Excavators	9.47E-06	2.85E-05	5.98E-01	6.07E-01
Runway Markings	Construction	Rotary Cold Mill	3.17E-05	8.38E-05	1.76E+00	1.78E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Grooving Machine	2.04E-05	6.99E-05	1.46E+00	1.49E+00
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	1.27E-06	5.53E-06	1.16E-01	1.18E-01
Runway Markings	Construction	Skid Steer Loaders	8.17E-05	2.12E-04	4.44E+00	4.50E+00
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.68E-04	3.88E-04	8.11E+00	8.24E+00
Runway Markings	Construction	Excavators	1.89E-04	5.70E-04	1.20E+01	1.21E+01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	5.79E-06	2.01E-05	4.21E-01	4.27E-01
Runway Markings	Construction	Asphalt Paver	9.75E-06	2.67E-05	5.59E-01	5.67E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.87E-05	7.88E-05	1.65E+00	1.67E+00
Runway Markings	Construction	Tack Truck	3.66E-05	1.59E-04	3.34E+00	3.38E+00
Runway Markings	Construction	Concrete Saw	3.81E-05	7.79E-05	1.63E+00	1.66E+00
Runway Markings	Construction	Concrete Pavers	4.24E-05	1.16E-04	2.43E+00	2.47E+00
Runway Markings	Construction	Concrete Saw	6.85E-05	1.40E-04	2.94E+00	2.98E+00
Runway Markings	Construction	Excavators	6.89E-05	2.08E-04	4.35E+00	4.42E+00
Runway Markings	Construction	Hoe Ram <sup>4</sup>	1.38E-04	4.15E-04	8.71E+00	8.83E+00
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.96E-06	1.02E-05	2.15E-01	2.18E-01
Runway Markings	Construction	Asphalt Paver	4.98E-06	1.36E-05	2.85E-01	2.89E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	1.47E-05	4.02E-05	8.42E-01	8.54E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Concrete Saw	1.62E-07	3.32E-07	6.96E-03	7.07E-03
Runway Markings	Construction	Concrete Pavers	1.81E-07	4.94E-07	1.04E-02	1.05E-02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.48E-07	6.81E-07	1.43E-02	1.45E-02
Runway Markings	Construction	Graders	1.43E-07	4.25E-07	8.92E-03	9.05E-03
Runway Markings	Construction	Concrete Saw	2.52E-07	5.17E-07	1.08E-02	1.10E-02
Runway Markings	Construction	Excavators	2.54E-07	7.65E-07	1.60E-02	1.63E-02
Runway Markings	Construction	Hoe Ram4	5.08E-06	1.53E-05	3.21E-01	3.25E-01
Runway Markings	Construction	Excavators	1.31E-05	3.93E-05	8.25E-01	8.37E-01
Runway Markings	Construction	Skid Steer Loaders	5.45E-05	1.41E-04	2.96E+00	3.00E+00
Runway Markings	Construction	Tractor/Loader (Backhoe)	1.79E-04	2.59E-04	5.41E+00	5.50E+00
Runway Markings	Construction	Excavators	1.26E-04	3.80E-04	7.97E+00	8.09E+00
Runway Markings	Construction	Rubber Tire Loader	4.71E-05	3.43E-04	7.20E+00	7.30E+00
Runway Markings	Construction	Large Concrete Crusher	5.75E-05	3.85E-04	8.08E+00	8.19E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Paint Sprayers5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Skid Steer Loaders	2.22E-06	7.70E-06	1.62E-01	1.64E-01
Service Road	Construction	Advance Joint Sealant Equipment	4.37E-06	1.16E-05	2.43E-01	2.46E-01
Service Road	Construction	Asphalt Paver	3.74E-06	1.02E-05	2.14E-01	2.18E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	1.10E-05	3.02E-05	6.33E-01	6.42E-01
Service Road	Construction	Tack Truck	1.40E-05	6.10E-05	1.28E+00	1.30E+00
Service Road	Construction	Concrete Saw	3.56E-06	7.30E-06	1.53E-01	1.55E-01
Service Road	Construction	Concrete Pavers	3.97E-06	1.09E-05	2.28E-01	2.31E-01
Service Road	Construction	Concrete Saw	3.11E-07	6.37E-07	1.34E-02	1.36E-02
Service Road	Construction	Concrete Pavers	3.47E-07	9.49E-07	1.99E-02	2.02E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Concrete Saw	6.69E-06	1.37E-05	2.87E-01	2.91E-01
Service Road	Construction	Excavators	6.73E-06	2.03E-05	4.25E-01	4.31E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	7.80E-06	2.14E-05	4.48E-01	4.55E-01
Service Road	Construction	Concrete Pavers	3.78E-06	1.03E-05	2.17E-01	2.20E-01
Service Road	Construction	Concrete Saw	3.40E-06	6.95E-06	1.46E-01	1.48E-01
Service Road	Construction	Excavators	3.42E-06	1.03E-05	2.16E-01	2.19E-01
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	3.55E-07	1.23E-06	2.58E-02	2.62E-02
Service Road	Construction	Asphalt Paver	5.98E-07	1.64E-06	3.43E-02	3.48E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	1.76E-06	4.83E-06	1.01E-01	1.03E-01
Service Road	Construction	Hoe Ram <sup>4</sup>	1.54E-06	4.65E-06	9.75E-02	9.89E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Trenchers	9.87E-07	2.29E-06	4.81E-02	4.88E-02
Service Road	Construction	Trenchers	7.38E-07	1.71E-06	3.60E-02	3.65E-02
Service Road	Construction	Trenchers	9.87E-07	2.29E-06	4.81E-02	4.88E-02
Service Road	Construction	Excavators	3.72E-06	1.12E-05	2.35E-01	2.39E-01
Service Road	Construction	Trenchers	4.01E-07	9.32E-07	1.96E-02	1.98E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Excavators	1.51E-06	4.56E-06	9.57E-02	9.70E-02
Service Road	Construction	Rotary Cold Mill	5.07E-06	1.34E-05	2.81E-01	2.85E-01
Service Road	Construction	Grooving Machine	3.26E-06	1.12E-05	2.34E-01	2.38E-01
Service Road	Construction	Paint Sprayers <sup>5</sup>	2.03E-07	8.85E-07	1.86E-02	1.88E-02
Service Road	Construction	Skid Steer Loaders	1.31E-05	3.38E-05	7.10E-01	7.20E-01
Service Road	Construction	Tractor/Loader (Backhoe)	4.28E-05	6.20E-05	1.30E+00	1.32E+00
Service Road	Construction	Excavators	3.03E-05	9.13E-05	1.91E+00	1.94E+00
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.27E-07	3.21E-06	6.74E-02	6.84E-02
Service Road	Construction	Asphalt Paver	1.56E-06	4.27E-06	8.94E-02	9.07E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	4.60E-06	1.26E-05	2.64E-01	2.68E-01
Service Road	Construction	Tack Truck	5.85E-06	2.55E-05	5.34E-01	5.41E-01
Service Road	Construction	Concrete Saw	6.09E-06	1.25E-05	2.61E-01	2.65E-01
Service Road	Construction	Concrete Pavers	6.78E-06	1.85E-05	3.89E-01	3.94E-01
Service Road	Construction	Concrete Saw	1.10E-05	2.24E-05	4.70E-01	4.77E-01
Service Road	Construction	Excavators	1.10E-05	3.32E-05	6.96E-01	7.06E-01
Service Road	Construction	Hoe Ram <sup>4</sup>	2.20E-05	6.64E-05	1.39E+00	1.41E+00
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	4.73E-07	1.64E-06	3.44E-02	3.49E-02
Service Road	Construction	Asphalt Paver	7.96E-07	2.18E-06	4.56E-02	4.63E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	2.35E-06	6.43E-06	1.35E-01	1.37E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	2.59E-08	5.31E-08	1.11E-03	1.13E-03
Service Road	Construction	Concrete Pavers	2.89E-08	7.90E-08	1.66E-03	1.68E-03
Service Road	Construction	Rollers (Compactor Roller incl.)	3.97E-08	1.09E-07	2.28E-03	2.32E-03
Service Road	Construction	Graders	2.29E-08	6.81E-08	1.43E-03	1.45E-03
Service Road	Construction	Concrete Saw	4.03E-08	8.26E-08	1.73E-03	1.76E-03
Service Road	Construction	Excavators	4.06E-08	1.22E-07	2.57E-03	2.60E-03
Service Road	Construction	Hoe Ram4	8.12E-07	2.45E-06	5.13E-02	5.20E-02
Service Road	Construction	Excavators	2.09E-06	6.29E-06	1.32E-01	1.34E-01
Service Road	Construction	Skid Steer Loaders	8.71E-06	2.26E-05	4.73E-01	4.80E-01
Service Road	Construction	Tractor/Loader (Backhoe)	2.86E-05	4.14E-05	8.65E-01	8.79E-01
Service Road	Construction	Excavators	2.02E-05	6.08E-05	1.28E+00	1.29E+00
Service Road	Construction	Rubber Tire Loader	7.54E-06	5.49E-05	1.15E+00	1.17E+00
Service Road	Construction	Large Concrete Crusher	9.20E-06	6.16E-05	1.29E+00	1.31E+00
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.51E-07	5.24E-07	1.10E-02	1.12E-02
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	2.98E-07	7.88E-07	1.65E-02	1.68E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.55E-07	6.96E-07	1.46E-02	1.48E-02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	7.50E-07	2.06E-06	4.31E-02	4.37E-02
Site Work - 10000 sqft	Construction	Tack Truck	9.55E-07	4.15E-06	8.72E-02	8.84E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.42E-07	4.97E-07	1.04E-02	1.06E-02
Site Work - 10000 sqft	Construction	Concrete Pavers	2.70E-07	7.39E-07	1.55E-02	1.57E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.12E-08	4.34E-08	9.10E-04	9.24E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Concrete Pavers	2.36E-08	6.46E-08	1.35E-03	1.37E-03
Site Work - 10000 sqft	Construction	Concrete Saw	4.55E-07	9.32E-07	1.95E-02	1.98E-02
Site Work - 10000 sqft	Construction	Excavators	4.58E-07	1.38E-06	2.89E-02	2.94E-02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	5.31E-07	1.46E-06	3.05E-02	3.10E-02
Site Work - 10000 sqft	Construction	Concrete Pavers	2.58E-07	7.04E-07	1.48E-02	1.50E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.31E-07	4.73E-07	9.93E-03	1.01E-02
Site Work - 10000 sqft	Construction	Excavators	2.33E-07	7.01E-07	1.47E-02	1.49E-02
Site Work - 10000 sqft	Construction	Skid Steer Loaders <sup>4</sup>	2.42E-08	8.38E-08	1.76E-03	1.78E-03
Site Work - 10000 sqft	Construction	Asphalt Paver	4.07E-08	1.11E-07	2.33E-03	2.37E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	1.20E-07	3.29E-07	6.89E-03	6.99E-03
Site Work - 10000 sqft	Construction	Hoe Ram <sup>4</sup>	1.05E-07	3.17E-07	6.64E-03	6.73E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Trenchers	6.72E-08	1.56E-07	3.28E-03	3.32E-03
Site Work - 10000 sqft	Construction	Trenchers	5.02E-08	1.17E-07	2.45E-03	2.48E-03
Site Work - 10000 sqft	Construction	Trenchers	6.72E-08	1.56E-07	3.28E-03	3.32E-03
Site Work - 10000 sqft	Construction	Excavators	2.54E-07	7.64E-07	1.60E-02	1.62E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Trenchers	2.73E-08	6.35E-08	1.33E-03	1.35E-03
Site Work - 10000 sqft	Construction	Excavators	1.03E-07	3.11E-07	6.51E-03	6.60E-03
Site Work - 10000 sqft	Construction	Rotary Cold Mill	3.45E-07	9.13E-07	1.91E-02	1.94E-02
Site Work - 10000 sqft	Construction	Grooving Machine	2.22E-07	7.61E-07	1.60E-02	1.62E-02
Site Work - 10000 sqft	Construction	Paint Sprayers5	1.38E-08	6.03E-08	1.26E-03	1.28E-03
Site Work - 10000 sqft	Construction	Skid Steer Loaders	8.90E-07	2.30E-06	4.83E-02	4.90E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	2.92E-06	4.22E-06	8.84E-02	8.98E-02
Site Work - 10000 sqft	Construction	Excavators	2.06E-06	6.21E-06	1.30E-01	1.32E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	6.31E-08	2.19E-07	4.59E-03	4.65E-03
Site Work - 10000 sqft	Construction	Asphalt Paver	1.06E-07	2.90E-07	6.09E-03	6.18E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	3.13E-07	8.58E-07	1.80E-02	1.82E-02
Site Work - 10000 sqft	Construction	Tack Truck	3.98E-07	1.73E-06	3.63E-02	3.69E-02
Site Work - 10000 sqft	Construction	Concrete Saw	4.14E-07	8.49E-07	1.78E-02	1.81E-02
Site Work - 10000 sqft	Construction	Concrete Pavers	4.62E-07	1.26E-06	2.65E-02	2.68E-02
Site Work - 10000 sqft	Construction	Concrete Saw	7.45E-07	1.53E-06	3.20E-02	3.25E-02
Site Work - 10000 sqft	Construction	Excavators	7.50E-07	2.26E-06	4.74E-02	4.81E-02
Site Work - 10000 sqft	Construction	Hoe Ram4	1.50E-06	4.52E-06	9.48E-02	9.62E-02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	3.22E-08	1.12E-07	2.34E-03	2.37E-03
Site Work - 10000 sqft	Construction	Asphalt Paver	5.42E-08	1.48E-07	3.11E-03	3.15E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	1.60E-07	4.37E-07	9.17E-03	9.30E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	1.77E-09	3.62E-09	7.58E-05	7.70E-05
Site Work - 10000 sqft	Construction	Concrete Pavers	1.97E-09	5.38E-09	1.13E-04	1.14E-04
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.71E-09	7.41E-09	1.55E-04	1.58E-04
Site Work - 10000 sqft	Construction	Graders	1.56E-09	4.63E-09	9.71E-05	9.85E-05
Site Work - 10000 sqft	Construction	Concrete Saw	2.75E-09	5.62E-09	1.18E-04	1.20E-04
Site Work - 10000 sqft	Construction	Excavators	2.76E-09	8.33E-09	1.75E-04	1.77E-04
Site Work - 10000 sqft	Construction	Hoe Ram4	5.53E-08	1.67E-07	3.49E-03	3.54E-03
Site Work - 10000 sqft	Construction	Excavators	1.42E-07	4.28E-07	8.98E-03	9.11E-03
Site Work - 10000 sqft	Construction	Skid Steer Loaders	5.93E-07	1.54E-06	3.22E-02	3.27E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	1.94E-06	2.81E-06	5.89E-02	5.98E-02
Site Work - 10000 sqft	Construction	Excavators	1.37E-06	4.14E-06	8.68E-02	8.81E-02
Site Work - 10000 sqft	Construction	Rubber Tire Loader	5.13E-07	3.74E-06	7.84E-02	7.95E-02
Site Work - 10000 sqft	Construction	Large Concrete Crusher	6.26E-07	4.19E-06	8.80E-02	8.91E-02
Taxiway Exit	Construction	Skid Steer Loaders	6.73E-06	2.33E-05	4.90E-01	4.97E-01
Taxiway Exit	Construction	Advance Joint Sealant Equipment	1.33E-05	3.51E-05	7.36E-01	7.46E-01
Taxiway Exit	Construction	Asphalt Paver	1.13E-05	3.10E-05	6.50E-01	6.59E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	3.34E-05	9.15E-05	1.92E+00	1.95E+00
Taxiway Exit	Construction	Tack Truck	4.25E-05	1.85E-04	3.88E+00	3.93E+00
Taxiway Exit	Construction	Concrete Saw	1.08E-05	2.21E-05	4.64E-01	4.71E-01
Taxiway Exit	Construction	Concrete Pavers	1.20E-05	3.29E-05	6.90E-01	6.99E-01



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Concrete Saw	9.43E-07	1.93E-06	4.05E-02	4.11E-02
Taxiway Exit	Construction	Concrete Pavers	1.05E-06	2.87E-06	6.02E-02	6.11E-02
Taxiway Exit	Construction	Concrete Saw	2.03E-05	4.15E-05	8.70E-01	8.83E-01
Taxiway Exit	Construction	Excavators	2.04E-05	6.15E-05	1.29E+00	1.31E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.36E-05	6.48E-05	1.36E+00	1.38E+00
Taxiway Exit	Construction	Concrete Pavers	1.15E-05	3.14E-05	6.57E-01	6.67E-01
Taxiway Exit	Construction	Concrete Saw	1.03E-05	2.11E-05	4.42E-01	4.48E-01
Taxiway Exit	Construction	Excavators	1.04E-05	3.12E-05	6.54E-01	6.64E-01
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	1.08E-06	3.73E-06	7.83E-02	7.94E-02
Taxiway Exit	Construction	Asphalt Paver	1.81E-06	4.96E-06	1.04E-01	1.05E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	5.34E-06	1.46E-05	3.07E-01	3.11E-01
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	4.68E-06	1.41E-05	2.95E-01	3.00E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Trenchers	2.99E-06	6.95E-06	1.46E-01	1.48E-01
Taxiway Exit	Construction	Trenchers	2.24E-06	5.20E-06	1.09E-01	1.11E-01
Taxiway Exit	Construction	Trenchers	2.99E-06	6.95E-06	1.46E-01	1.48E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Excavators	1.13E-05	3.40E-05	7.13E-01	7.23E-01
Taxiway Exit	Construction	Trenchers	1.22E-06	2.83E-06	5.93E-02	6.01E-02
Taxiway Exit	Construction	Excavators	4.59E-06	1.38E-05	2.90E-01	2.94E-01
Taxiway Exit	Construction	Rotary Cold Mill	1.53E-05	4.06E-05	8.52E-01	8.64E-01
Taxiway Exit	Construction	Grooving Machine	9.88E-06	3.39E-05	7.10E-01	7.20E-01
Taxiway Exit	Construction	Paint Sprayers <sup>5</sup>	6.14E-07	2.68E-06	5.63E-02	5.71E-02
Taxiway Exit	Construction	Skid Steer Loaders	3.96E-05	1.03E-04	2.15E+00	2.18E+00
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	1.30E-04	1.88E-04	3.93E+00	4.00E+00
Taxiway Exit	Construction	Excavators	9.18E-05	2.77E-04	5.80E+00	5.88E+00
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	2.81E-06	9.74E-06	2.04E-01	2.07E-01
Taxiway Exit	Construction	Asphalt Paver	4.73E-06	1.29E-05	2.71E-01	2.75E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.39E-05	3.82E-05	8.00E-01	8.12E-01
Taxiway Exit	Construction	Tack Truck	1.77E-05	7.71E-05	1.62E+00	1.64E+00
Taxiway Exit	Construction	Concrete Saw	1.84E-05	3.78E-05	7.92E-01	8.04E-01
Taxiway Exit	Construction	Concrete Pavers	2.06E-05	5.62E-05	1.18E+00	1.20E+00
Taxiway Exit	Construction	Concrete Saw	3.32E-05	6.80E-05	1.43E+00	1.45E+00
Taxiway Exit	Construction	Excavators	3.34E-05	1.01E-04	2.11E+00	2.14E+00
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	6.68E-05	2.01E-04	4.22E+00	4.28E+00
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	1.43E-06	4.97E-06	1.04E-01	1.06E-01
Taxiway Exit	Construction	Asphalt Paver	2.41E-06	6.59E-06	1.38E-01	1.40E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	7.11E-06	1.95E-05	4.08E-01	4.14E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	7.86E-08	1.61E-07	3.38E-03	3.43E-03
Taxiway Exit	Construction	Concrete Pavers	8.76E-08	2.40E-07	5.02E-03	5.09E-03
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.20E-07	3.30E-07	6.92E-03	7.02E-03
Taxiway Exit	Construction	Graders	6.93E-08	2.06E-07	4.32E-03	4.39E-03
Taxiway Exit	Construction	Concrete Saw	1.22E-07	2.50E-07	5.25E-03	5.33E-03
Taxiway Exit	Construction	Excavators	1.23E-07	3.71E-07	7.77E-03	7.89E-03
Taxiway Exit	Construction	Hoe Ram4	2.46E-06	7.42E-06	1.55E-01	1.58E-01
Taxiway Exit	Construction	Excavators	6.33E-06	1.91E-05	4.00E-01	4.06E-01
Taxiway Exit	Construction	Skid Steer Loaders	2.64E-05	6.84E-05	1.43E+00	1.45E+00
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	8.65E-05	1.25E-04	2.62E+00	2.66E+00
Taxiway Exit	Construction	Excavators	6.12E-05	1.84E-04	3.86E+00	3.92E+00
Taxiway Exit	Construction	Rubber Tire Loader	2.29E-05	1.66E-04	3.49E+00	3.54E+00
Taxiway Exit	Construction	Large Concrete Crusher	2.79E-05	1.87E-04	3.92E+00	3.97E+00
Taxiways	Construction	Skid Steer Loaders	9.28E-06	3.22E-05	6.75E-01	6.84E-01
Taxiways	Construction	Advance Joint Sealant Equipment	1.83E-05	4.83E-05	1.01E+00	1.03E+00
Taxiways	Construction	Asphalt Paver	1.56E-05	4.27E-05	8.95E-01	9.08E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	4.60E-05	1.26E-04	2.64E+00	2.68E+00
Taxiways	Construction	Tack Truck	5.85E-05	2.55E-04	5.34E+00	5.42E+00
Taxiways	Construction	Concrete Saw	1.49E-05	3.04E-05	6.39E-01	6.48E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Concrete Pavers	1.66E-05	4.53E-05	9.50E-01	9.63E-01
Taxiways	Construction	Concrete Saw	1.30E-06	2.66E-06	5.58E-02	5.66E-02
Taxiways	Construction	Concrete Pavers	1.45E-06	3.96E-06	8.30E-02	8.42E-02
Taxiways	Construction	Concrete Saw	2.79E-05	5.72E-05	1.20E+00	1.22E+00
Taxiways	Construction	Excavators	2.81E-05	8.46E-05	1.77E+00	1.80E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	3.26E-05	8.93E-05	1.87E+00	1.90E+00
Taxiways	Construction	Concrete Pavers	1.58E-05	4.32E-05	9.05E-01	9.18E-01
Taxiways	Construction	Concrete Saw	1.42E-05	2.90E-05	6.09E-01	6.18E-01
Taxiways	Construction	Excavators	1.43E-05	4.30E-05	9.01E-01	9.14E-01
Taxiways	Construction	Skid Steer Loaders4	1.48E-06	5.14E-06	1.08E-01	1.09E-01
Taxiways	Construction	Asphalt Paver	2.50E-06	6.83E-06	1.43E-01	1.45E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	7.35E-06	2.02E-05	4.22E-01	4.29E-01
Taxiways	Construction	Hoe Ram4	6.44E-06	1.94E-05	4.07E-01	4.13E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Trenchers	4.12E-06	9.57E-06	2.01E-01	2.04E-01
Taxiways	Construction	Trenchers	3.08E-06	7.16E-06	1.50E-01	1.52E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Trenchers	4.12E-06	9.57E-06	2.01E-01	2.04E-01
Taxiways	Construction	Excavators	1.55E-05	4.68E-05	9.82E-01	9.96E-01
Taxiways	Construction	Trenchers	1.68E-06	3.89E-06	8.16E-02	8.28E-02
Taxiways	Construction	Excavators	6.32E-06	1.90E-05	3.99E-01	4.05E-01
Taxiways	Construction	Rotary Cold Mill	2.11E-05	5.60E-05	1.17E+00	1.19E+00
Taxiways	Construction	Grooving Machine	1.36E-05	4.66E-05	9.78E-01	9.92E-01
Taxiways	Construction	Paint Sprayers <sup>5</sup>	8.45E-07	3.70E-06	7.75E-02	7.86E-02
Taxiways	Construction	Skid Steer Loaders	5.45E-05	1.41E-04	2.96E+00	3.01E+00
Taxiways	Construction	Tractor/Loader (Backhoe)	1.79E-04	2.59E-04	5.42E+00	5.50E+00
Taxiways	Construction	Excavators	1.26E-04	3.81E-04	7.99E+00	8.10E+00
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	3.87E-06	1.34E-05	2.81E-01	2.85E-01
Taxiways	Construction	Asphalt Paver	6.51E-06	1.78E-05	3.73E-01	3.79E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	1.92E-05	5.26E-05	1.10E+00	1.12E+00
Taxiways	Construction	Tack Truck	2.44E-05	1.06E-04	2.23E+00	2.26E+00
Taxiways	Construction	Concrete Saw	2.54E-05	5.20E-05	1.09E+00	1.11E+00
Taxiways	Construction	Concrete Pavers	2.83E-05	7.74E-05	1.62E+00	1.65E+00
Taxiways	Construction	Concrete Saw	4.57E-05	9.36E-05	1.96E+00	1.99E+00
Taxiways	Construction	Excavators	4.60E-05	1.39E-04	2.91E+00	2.95E+00
Taxiways	Construction	Hoe Ram <sup>4</sup>	9.20E-05	2.77E-04	5.81E+00	5.90E+00
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	1.97E-06	6.84E-06	1.44E-01	1.46E-01
Taxiways	Construction	Asphalt Paver	3.32E-06	9.08E-06	1.90E-01	1.93E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.79E-06	2.68E-05	5.62E-01	5.70E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	1.08E-07	2.22E-07	4.65E-03	4.72E-03
Taxiways	Construction	Concrete Pavers	1.21E-07	3.30E-07	6.92E-03	7.02E-03
Taxiways	Construction	Rollers (Compactor Roller incl.)	1.66E-07	4.55E-07	9.53E-03	9.67E-03
Taxiways	Construction	Graders	9.54E-08	2.84E-07	5.95E-03	6.04E-03
Taxiways	Construction	Concrete Saw	1.68E-07	3.45E-07	7.23E-03	7.34E-03
Taxiways	Construction	Excavators	1.70E-07	5.11E-07	1.07E-02	1.09E-02
Taxiways	Construction	Hoe Ram4	3.39E-06	1.02E-05	2.14E-01	2.17E-01
Taxiways	Construction	Excavators	8.72E-06	2.63E-05	5.51E-01	5.59E-01
Taxiways	Construction	Skid Steer Loaders	3.64E-05	9.41E-05	1.98E+00	2.00E+00
Taxiways	Construction	Tractor/Loader (Backhoe)	1.19E-04	1.73E-04	3.61E+00	3.67E+00
Taxiways	Construction	Excavators	8.43E-05	2.54E-04	5.32E+00	5.40E+00
Taxiways	Construction	Rubber Tire Loader	3.15E-05	2.29E-04	4.81E+00	4.87E+00
Taxiways	Construction	Large Concrete Crusher	3.84E-05	2.57E-04	5.39E+00	5.47E+00
Asphalt Plant	Plant Mobile Source	Generator	3.06E-04	2.81E-04	5.89E+00	5.99E+00
Asphalt Plant	Plant Mobile Source	Pumps	4.81E-04	4.08E-04	8.54E+00	8.69E+00
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	2.93E-04	2.13E-03	4.48E+01	4.54E+01
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	2.32E-03	7.98E-03	1.67E+02	1.70E+02
Concrete Plant	Plant Mobile Source	Generator	6.11E-04	5.63E-04	1.18E+01	1.20E+01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Concrete Plant	Plant Mobile Source	Pumps	9.62E-04	8.16E-04	1.71E+01	1.74E+01
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	5.86E-04	4.27E-03	8.95E+01	9.07E+01
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	4.63E-03	1.60E-02	3.34E+02	3.39E+02

**Table C8. 2024 construction-phase non-road equipment criteria air pollutant emissions.**

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders	2.31E-03	1.87E-04	4.80E-05	1.55E-06	1.51E-05	1.47E-05
Access Road	Construction	Advance Joint Sealant Equipment	3.95E-03	1.60E-03	3.11E-04	2.76E-06	3.33E-04	3.23E-04
Access Road	Construction	Asphalt Paver	4.48E-03	1.73E-03	3.66E-04	2.51E-06	2.76E-04	2.68E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	1.31E-02	4.92E-03	1.06E-03	7.40E-06	7.98E-04	7.74E-04
Access Road	Construction	Tack Truck	1.03E-02	4.32E-03	5.99E-04	1.36E-05	6.85E-04	6.64E-04
Access Road	Construction	Concrete Saw	2.90E-03	8.32E-04	1.32E-04	1.64E-06	1.04E-04	1.00E-04
Access Road	Construction	Concrete Pavers	4.75E-03	1.83E-03	3.89E-04	2.66E-06	2.93E-04	2.84E-04
Access Road	Construction	Concrete Saw	2.54E-04	7.27E-05	1.15E-05	1.43E-07	9.05E-06	8.78E-06
Access Road	Construction	Concrete Pavers	4.15E-04	1.60E-04	3.40E-05	2.32E-07	2.56E-05	2.48E-05
Access Road	Construction	Concrete Saw	5.45E-03	1.56E-03	2.47E-04	3.08E-06	1.94E-04	1.89E-04
Access Road	Construction	Excavators	8.18E-03	2.78E-03	6.15E-04	4.95E-06	4.31E-04	4.18E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	9.28E-03	3.49E-03	7.49E-04	5.24E-06	5.65E-04	5.48E-04
Access Road	Construction	Concrete Pavers	4.53E-03	1.75E-03	3.71E-04	2.54E-06	2.79E-04	2.71E-04
Access Road	Construction	Concrete Saw	2.77E-03	7.93E-04	1.25E-04	1.56E-06	9.87E-05	9.57E-05
Access Road	Construction	Excavators	4.15E-03	1.41E-03	3.12E-04	2.52E-06	2.19E-04	2.12E-04
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	3.70E-04	3.00E-05	7.67E-06	2.48E-07	2.42E-06	2.34E-06



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Asphalt Paver	7.16E-04	2.76E-04	5.86E-05	4.01E-07	4.41E-05	4.28E-05
Access Road	Construction	Rollers (Compactor Roller incl.)	2.10E-03	7.87E-04	1.69E-04	1.18E-06	1.28E-04	1.24E-04
Access Road	Construction	Hoe Ram4	1.88E-03	6.39E-04	1.41E-04	1.14E-06	9.89E-05	9.59E-05
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Trenchers	8.44E-04	1.47E-04	2.61E-05	4.86E-07	1.55E-05	1.50E-05
Access Road	Construction	Trenchers	6.31E-04	1.10E-04	1.95E-05	3.63E-07	1.16E-05	1.12E-05
Access Road	Construction	Trenchers	8.44E-04	1.47E-04	2.61E-05	4.86E-07	1.55E-05	1.50E-05
Access Road	Construction	Excavators	4.53E-03	1.54E-03	3.40E-04	2.74E-06	2.39E-04	2.31E-04
Access Road	Construction	Trenchers	3.43E-04	5.99E-05	1.06E-05	1.97E-07	6.30E-06	6.11E-06
Access Road	Construction	Excavators	1.84E-03	6.27E-04	1.38E-04	1.11E-06	9.70E-05	9.41E-05
Access Road	Construction	Rotary Cold Mill	4.58E-03	1.85E-03	3.60E-04	3.19E-06	3.85E-04	3.74E-04
Access Road	Construction	Grooving Machine	4.57E-03	2.18E-03	3.10E-04	2.73E-06	3.15E-04	3.05E-04
Access Road	Construction	Paint Sprayers5	2.00E-04	7.66E-05	9.03E-06	1.94E-07	1.28E-05	1.24E-05
Access Road	Construction	Skid Steer Loaders	1.01E-02	1.16E-03	3.75E-04	6.82E-06	8.13E-05	7.89E-05
Access Road	Construction	Tractor/Loader (Backhoe)	2.73E-02	2.80E-02	5.15E-03	1.52E-05	3.69E-03	3.58E-03
Access Road	Construction	Excavators	3.68E-02	1.25E-02	2.77E-03	2.23E-05	1.94E-03	1.88E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Skid Steer Loaders4	9.64E-04	7.81E-05	2.00E-05	6.48E-07	6.30E-06	6.11E-06
Access Road	Construction	Asphalt Paver	1.87E-03	7.20E-04	1.53E-04	1.05E-06	1.15E-04	1.12E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	5.47E-03	2.05E-03	4.41E-04	3.09E-06	3.33E-04	3.23E-04
Access Road	Construction	Tack Truck	4.30E-03	1.80E-03	2.50E-04	5.69E-06	2.86E-04	2.77E-04
Access Road	Construction	Concrete Saw	4.96E-03	1.42E-03	2.25E-04	2.80E-06	1.77E-04	1.72E-04
Access Road	Construction	Concrete Pavers	8.12E-03	3.13E-03	6.64E-04	4.55E-06	5.01E-04	4.86E-04
Access Road	Construction	Concrete Saw	8.93E-03	2.56E-03	4.05E-04	5.04E-06	3.18E-04	3.09E-04
Access Road	Construction	Excavators	1.34E-02	4.56E-03	1.01E-03	8.12E-06	7.06E-04	6.85E-04
Access Road	Construction	Hoe Ram4	2.68E-02	9.12E-03	2.01E-03	1.62E-05	1.41E-03	1.37E-03
Access Road	Construction	Skid Steer Loaders4	4.92E-04	3.99E-05	1.02E-05	3.31E-07	3.22E-06	3.12E-06
Access Road	Construction	Asphalt Paver	9.53E-04	3.67E-04	7.80E-05	5.33E-07	5.87E-05	5.70E-05
Access Road	Construction	Rollers (Compactor Roller incl.)	2.79E-03	1.05E-03	2.25E-04	1.58E-06	1.70E-04	1.65E-04
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	2.12E-05	6.06E-06	9.58E-07	1.19E-08	7.54E-07	7.32E-07
Access Road	Construction	Concrete Pavers	3.46E-05	1.33E-05	2.83E-06	1.94E-08	2.13E-06	2.07E-06
Access Road	Construction	Rollers (Compactor Roller incl.)	4.73E-05	1.78E-05	3.82E-06	2.67E-08	2.88E-06	2.79E-06
Access Road	Construction	Graders	2.71E-05	9.04E-06	2.29E-06	1.66E-08	1.37E-06	1.33E-06
Access Road	Construction	Concrete Saw	3.29E-05	9.42E-06	1.49E-06	1.86E-08	1.17E-06	1.14E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Construction	Excavators	4.94E-05	1.68E-05	3.71E-06	2.99E-08	2.60E-06	2.52E-06
Access Road	Construction	Hoe Ram4	9.88E-04	3.36E-04	7.42E-05	5.98E-07	5.20E-05	5.05E-05
Access Road	Construction	Excavators	2.54E-03	8.64E-04	1.91E-04	1.54E-06	1.34E-04	1.30E-04
Access Road	Construction	Skid Steer Loaders	6.73E-03	7.72E-04	2.50E-04	4.55E-06	5.42E-05	5.26E-05
Access Road	Construction	Tractor/Loader (Backhoe)	1.82E-02	1.87E-02	3.43E-03	1.01E-05	2.46E-03	2.39E-03
Access Road	Construction	Excavators	2.45E-02	8.35E-03	1.84E-03	1.49E-05	1.29E-03	1.25E-03
Access Road	Construction	Rubber Tire Loader	5.42E-03	1.84E-03	2.88E-04	1.16E-05	4.49E-04	4.36E-04
Access Road	Construction	Large Concrete Crusher	5.25E-03	1.32E-03	3.61E-04	1.30E-05	2.42E-04	2.35E-04
Airfield Lighting	Construction	Skid Steer Loaders	6.33E-05	5.13E-06	1.31E-06	4.26E-08	4.14E-07	4.02E-07
Airfield Lighting	Construction	Advance Joint Sealant Equipment	1.08E-04	4.39E-05	8.51E-06	7.55E-08	9.11E-06	8.84E-06
Airfield Lighting	Construction	Asphalt Paver	1.23E-04	4.73E-05	1.00E-05	6.87E-08	7.57E-06	7.34E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	3.59E-04	1.35E-04	2.90E-05	2.03E-07	2.19E-05	2.12E-05
Airfield Lighting	Construction	Tack Truck	2.83E-04	1.18E-04	1.64E-05	3.74E-07	1.88E-05	1.82E-05
Airfield Lighting	Construction	Concrete Saw	7.96E-05	2.28E-05	3.61E-06	4.50E-08	2.84E-06	2.75E-06
Airfield Lighting	Construction	Concrete Pavers	1.30E-04	5.02E-05	1.07E-05	7.29E-08	8.03E-06	7.79E-06
Airfield Lighting	Construction	Concrete Saw	6.95E-06	1.99E-06	3.15E-07	3.93E-09	2.48E-07	2.41E-07
Airfield Lighting	Construction	Concrete Pavers	1.14E-05	4.39E-06	9.31E-07	6.37E-09	7.01E-07	6.80E-07
Airfield Lighting	Construction	Concrete Saw	1.49E-04	4.28E-05	6.77E-06	8.44E-08	5.33E-06	5.17E-06
Airfield Lighting	Construction	Excavators	2.24E-04	7.63E-05	1.68E-05	1.36E-07	1.18E-05	1.15E-05
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.54E-04	9.55E-05	2.05E-05	1.44E-07	1.55E-05	1.50E-05
Airfield Lighting	Construction	Concrete Pavers	1.24E-04	4.78E-05	1.02E-05	6.95E-08	7.65E-06	7.42E-06
Airfield Lighting	Construction	Concrete Saw	7.59E-05	2.17E-05	3.44E-06	4.28E-08	2.70E-06	2.62E-06
Airfield Lighting	Construction	Excavators	1.14E-04	3.87E-05	8.55E-06	6.89E-08	6.00E-06	5.82E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	1.01E-05	8.21E-07	2.10E-07	6.81E-09	6.62E-08	6.42E-08
Airfield Lighting	Construction	Asphalt Paver	1.96E-05	7.56E-06	1.61E-06	1.10E-08	1.21E-06	1.17E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	5.74E-05	2.16E-05	4.64E-06	3.24E-08	3.50E-06	3.39E-06
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	5.14E-05	1.75E-05	3.86E-06	3.11E-08	2.71E-06	2.63E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Trenchers	2.31E-05	4.04E-06	7.15E-07	1.33E-08	4.25E-07	4.12E-07
Airfield Lighting	Construction	Trenchers	1.73E-05	3.02E-06	5.34E-07	9.95E-09	3.18E-07	3.08E-07
Airfield Lighting	Construction	Trenchers	2.31E-05	4.04E-06	7.15E-07	1.33E-08	4.25E-07	4.12E-07
Airfield Lighting	Construction	Excavators	1.24E-04	4.22E-05	9.32E-06	7.51E-08	6.54E-06	6.34E-06
Airfield Lighting	Construction	Trenchers	9.41E-06	1.64E-06	2.91E-07	5.41E-09	1.73E-07	1.68E-07
Airfield Lighting	Construction	Excavators	5.04E-05	1.72E-05	3.79E-06	3.05E-08	2.66E-06	2.58E-06
Airfield Lighting	Construction	Rotary Cold Mill	1.25E-04	5.08E-05	9.86E-06	8.75E-08	1.06E-05	1.02E-05
Airfield Lighting	Construction	Grooving Machine	1.25E-04	5.98E-05	8.50E-06	7.48E-08	8.63E-06	8.37E-06
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	5.48E-06	2.10E-06	2.47E-07	5.31E-09	3.51E-07	3.40E-07
Airfield Lighting	Construction	Skid Steer Loaders	2.77E-04	3.17E-05	1.03E-05	1.87E-07	2.23E-06	2.16E-06
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	7.49E-04	7.69E-04	1.41E-04	4.16E-07	1.01E-04	9.80E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Excavators	1.01E-03	3.43E-04	7.58E-05	6.11E-07	5.32E-05	5.16E-05
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	2.64E-05	2.14E-06	5.48E-07	1.78E-08	1.73E-07	1.68E-07
Airfield Lighting	Construction	Asphalt Paver	5.12E-05	1.97E-05	4.19E-06	2.87E-08	3.16E-06	3.06E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.50E-04	5.63E-05	1.21E-05	8.46E-08	9.12E-06	8.85E-06
Airfield Lighting	Construction	Tack Truck	1.18E-04	4.93E-05	6.84E-06	1.56E-07	7.83E-06	7.59E-06
Airfield Lighting	Construction	Concrete Saw	1.36E-04	3.89E-05	6.16E-06	7.68E-08	4.85E-06	4.70E-06
Airfield Lighting	Construction	Concrete Pavers	2.23E-04	8.58E-05	1.82E-05	1.25E-07	1.37E-05	1.33E-05
Airfield Lighting	Construction	Concrete Saw	2.45E-04	7.01E-05	1.11E-05	1.38E-07	8.72E-06	8.46E-06
Airfield Lighting	Construction	Excavators	3.67E-04	1.25E-04	2.76E-05	2.22E-07	1.94E-05	1.88E-05
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	7.34E-04	2.50E-04	5.52E-05	4.45E-07	3.87E-05	3.75E-05
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	1.35E-05	1.09E-06	2.80E-07	9.06E-09	8.81E-08	8.55E-08
Airfield Lighting	Construction	Asphalt Paver	2.61E-05	1.01E-05	2.14E-06	1.46E-08	1.61E-06	1.56E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	7.64E-05	2.87E-05	6.17E-06	4.32E-08	4.65E-06	4.51E-06
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	5.80E-07	1.66E-07	2.63E-08	3.27E-10	2.07E-08	2.00E-08
Airfield Lighting	Construction	Concrete Pavers	9.48E-07	3.65E-07	7.76E-08	5.31E-10	5.85E-08	5.67E-08
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.30E-06	4.86E-07	1.05E-07	7.31E-10	7.89E-08	7.65E-08
Airfield Lighting	Construction	Graders	7.43E-07	2.48E-07	6.29E-08	4.56E-10	3.75E-08	3.63E-08

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Airfield Lighting	Construction	Concrete Saw	9.02E-07	2.58E-07	4.08E-08	5.09E-10	3.21E-08	3.12E-08
Airfield Lighting	Construction	Excavators	1.35E-06	4.60E-07	1.02E-07	8.19E-10	7.13E-08	6.92E-08
Airfield Lighting	Construction	Hoe Ram4	2.71E-05	9.21E-06	2.03E-06	1.64E-08	1.43E-06	1.38E-06
Airfield Lighting	Construction	Excavators	6.96E-05	2.37E-05	5.23E-06	4.21E-08	3.67E-06	3.56E-06
Airfield Lighting	Construction	Skid Steer Loaders	1.84E-04	2.11E-05	6.84E-06	1.25E-07	1.49E-06	1.44E-06
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	4.99E-04	5.12E-04	9.41E-05	2.77E-07	6.74E-05	6.54E-05
Airfield Lighting	Construction	Excavators	6.73E-04	2.29E-04	5.05E-05	4.07E-07	3.54E-05	3.44E-05
Airfield Lighting	Construction	Rubber Tire Loader	1.48E-04	5.04E-05	7.88E-06	3.17E-07	1.23E-05	1.19E-05
Airfield Lighting	Construction	Large Concrete Crusher	1.44E-04	3.63E-05	9.88E-06	3.58E-07	6.63E-06	6.43E-06
Demolition - Asphalt	Construction	Skid Steer Loaders	5.12E-04	4.15E-05	1.06E-05	3.44E-07	3.35E-06	3.25E-06
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	8.75E-04	3.54E-04	6.88E-05	6.10E-07	7.36E-05	7.14E-05
Demolition - Asphalt	Construction	Asphalt Paver	9.92E-04	3.82E-04	8.11E-05	5.55E-07	6.11E-05	5.93E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.90E-03	1.09E-03	2.34E-04	1.64E-06	1.77E-04	1.71E-04
Demolition - Asphalt	Construction	Tack Truck	2.28E-03	9.55E-04	1.33E-04	3.02E-06	1.52E-04	1.47E-04
Demolition - Asphalt	Construction	Concrete Saw	6.43E-04	1.84E-04	2.91E-05	3.63E-07	2.29E-05	2.22E-05
Demolition - Asphalt	Construction	Concrete Pavers	1.05E-03	4.06E-04	8.61E-05	5.89E-07	6.49E-05	6.29E-05
Demolition - Asphalt	Construction	Concrete Saw	5.62E-05	1.61E-05	2.55E-06	3.17E-08	2.00E-06	1.94E-06
Demolition - Asphalt	Construction	Concrete Pavers	9.19E-05	3.54E-05	7.52E-06	5.15E-08	5.67E-06	5.50E-06
Demolition - Asphalt	Construction	Concrete Saw	1.21E-03	3.46E-04	5.47E-05	6.82E-07	4.30E-05	4.17E-05
Demolition - Asphalt	Construction	Excavators	1.81E-03	6.16E-04	1.36E-04	1.10E-06	9.55E-05	9.26E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.05E-03	7.72E-04	1.66E-04	1.16E-06	1.25E-04	1.21E-04
Demolition - Asphalt	Construction	Concrete Pavers	1.00E-03	3.86E-04	8.20E-05	5.61E-07	6.18E-05	6.00E-05
Demolition - Asphalt	Construction	Concrete Saw	6.13E-04	1.76E-04	2.78E-05	3.46E-07	2.19E-05	2.12E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Excavators	9.20E-04	3.13E-04	6.91E-05	5.57E-07	4.85E-05	4.70E-05
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	8.18E-05	6.63E-06	1.70E-06	5.50E-08	5.35E-07	5.19E-07
Demolition - Asphalt	Construction	Asphalt Paver	1.59E-04	6.11E-05	1.30E-05	8.87E-08	9.77E-06	9.48E-06
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	4.64E-04	1.74E-04	3.75E-05	2.62E-07	2.82E-05	2.74E-05
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	4.15E-04	1.41E-04	3.12E-05	2.52E-07	2.19E-05	2.12E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Trenchers	1.87E-04	3.26E-05	5.78E-06	1.08E-07	3.43E-06	3.33E-06
Demolition - Asphalt	Construction	Trenchers	1.40E-04	2.44E-05	4.32E-06	8.04E-08	2.57E-06	2.49E-06
Demolition - Asphalt	Construction	Trenchers	1.87E-04	3.26E-05	5.78E-06	1.08E-07	3.43E-06	3.33E-06
Demolition - Asphalt	Construction	Excavators	1.00E-03	3.41E-04	7.53E-05	6.07E-07	5.28E-05	5.13E-05
Demolition - Asphalt	Construction	Trenchers	7.60E-05	1.33E-05	2.35E-06	4.37E-08	1.40E-06	1.35E-06
Demolition - Asphalt	Construction	Excavators	4.08E-04	1.39E-04	3.06E-05	2.47E-07	2.15E-05	2.08E-05
Demolition - Asphalt	Construction	Rotary Cold Mill	1.01E-03	4.11E-04	7.97E-05	7.07E-07	8.53E-05	8.27E-05
Demolition - Asphalt	Construction	Grooving Machine	1.01E-03	4.83E-04	6.87E-05	6.05E-07	6.97E-05	6.76E-05
Demolition - Asphalt	Construction	Paint Sprayers <sup>5</sup>	4.43E-05	1.70E-05	2.00E-06	4.29E-08	2.83E-06	2.75E-06
Demolition - Asphalt	Construction	Skid Steer Loaders	2.23E-03	2.56E-04	8.29E-05	1.51E-06	1.80E-05	1.75E-05



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	6.05E-03	6.21E-03	1.14E-03	3.36E-06	8.17E-04	7.92E-04
Demolition - Asphalt	Construction	Excavators	8.15E-03	2.77E-03	6.12E-04	4.94E-06	4.30E-04	4.17E-04
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	2.13E-04	1.73E-05	4.43E-06	1.43E-07	1.40E-06	1.35E-06
Demolition - Asphalt	Construction	Asphalt Paver	4.14E-04	1.59E-04	3.38E-05	2.31E-07	2.55E-05	2.47E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	1.21E-03	4.55E-04	9.77E-05	6.84E-07	7.37E-05	7.15E-05
Demolition - Asphalt	Construction	Tack Truck	9.53E-04	3.98E-04	5.53E-05	1.26E-06	6.32E-05	6.13E-05
Demolition - Asphalt	Construction	Concrete Saw	1.10E-03	3.15E-04	4.98E-05	6.21E-07	3.92E-05	3.80E-05
Demolition - Asphalt	Construction	Concrete Pavers	1.80E-03	6.93E-04	1.47E-04	1.01E-06	1.11E-04	1.08E-04
Demolition - Asphalt	Construction	Concrete Saw	1.98E-03	5.66E-04	8.96E-05	1.12E-06	7.05E-05	6.84E-05
Demolition - Asphalt	Construction	Excavators	2.97E-03	1.01E-03	2.23E-04	1.80E-06	1.56E-04	1.52E-04
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	5.93E-03	2.02E-03	4.46E-04	3.59E-06	3.13E-04	3.03E-04
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	1.09E-04	8.82E-06	2.26E-06	7.32E-08	7.12E-07	6.91E-07
Demolition - Asphalt	Construction	Asphalt Paver	2.11E-04	8.13E-05	1.73E-05	1.18E-07	1.30E-05	1.26E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	6.17E-04	2.32E-04	4.99E-05	3.49E-07	3.76E-05	3.65E-05
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	4.68E-06	1.34E-06	2.12E-07	2.64E-09	1.67E-07	1.62E-07
Demolition - Asphalt	Construction	Concrete Pavers	7.66E-06	2.95E-06	6.27E-07	4.29E-09	4.72E-07	4.58E-07
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	1.05E-05	3.93E-06	8.45E-07	5.91E-09	6.37E-07	6.18E-07

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Construction	Graders	6.00E-06	2.00E-06	5.08E-07	3.68E-09	3.03E-07	2.94E-07
Demolition - Asphalt	Construction	Concrete Saw	7.28E-06	2.09E-06	3.30E-07	4.11E-09	2.60E-07	2.52E-07
Demolition - Asphalt	Construction	Excavators	1.09E-05	3.72E-06	8.21E-07	6.62E-09	5.76E-07	5.59E-07
Demolition - Asphalt	Construction	Hoe Ram4	2.19E-04	7.44E-05	1.64E-05	1.32E-07	1.15E-05	1.12E-05
Demolition - Asphalt	Construction	Excavators	5.62E-04	1.91E-04	4.22E-05	3.40E-07	2.96E-05	2.87E-05
Demolition - Asphalt	Construction	Skid Steer Loaders	1.49E-03	1.71E-04	5.53E-05	1.01E-06	1.20E-05	1.16E-05
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	4.03E-03	4.14E-03	7.60E-04	2.24E-06	5.44E-04	5.28E-04
Demolition - Asphalt	Construction	Excavators	5.43E-03	1.85E-03	4.08E-04	3.29E-06	2.86E-04	2.78E-04
Demolition - Asphalt	Construction	Rubber Tire Loader	1.20E-03	4.07E-04	6.37E-05	2.56E-06	9.95E-05	9.65E-05
Demolition - Asphalt	Construction	Large Concrete Crusher	1.16E-03	2.93E-04	7.98E-05	2.89E-06	5.36E-05	5.20E-05
Demolition - Concrete	Construction	Skid Steer Loaders	4.38E-04	3.55E-05	9.08E-06	2.94E-07	2.86E-06	2.78E-06
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	7.48E-04	3.03E-04	5.88E-05	5.22E-07	6.30E-05	6.11E-05
Demolition - Concrete	Construction	Asphalt Paver	8.48E-04	3.27E-04	6.94E-05	4.75E-07	5.23E-05	5.07E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.48E-03	9.32E-04	2.00E-04	1.40E-06	1.51E-04	1.47E-04
Demolition - Concrete	Construction	Tack Truck	1.95E-03	8.17E-04	1.13E-04	2.58E-06	1.30E-04	1.26E-04
Demolition - Concrete	Construction	Concrete Saw	5.50E-04	1.58E-04	2.49E-05	3.11E-07	1.96E-05	1.90E-05
Demolition - Concrete	Construction	Concrete Pavers	9.00E-04	3.47E-04	7.36E-05	5.04E-07	5.55E-05	5.38E-05
Demolition - Concrete	Construction	Concrete Saw	4.81E-05	1.38E-05	2.18E-06	2.71E-08	1.71E-06	1.66E-06
Demolition - Concrete	Construction	Concrete Pavers	7.86E-05	3.03E-05	6.43E-06	4.40E-08	4.85E-06	4.70E-06
Demolition - Concrete	Construction	Concrete Saw	1.03E-03	2.96E-04	4.68E-05	5.83E-07	3.68E-05	3.57E-05
Demolition - Concrete	Construction	Excavators	1.55E-03	5.27E-04	1.16E-04	9.38E-07	8.17E-05	7.92E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.76E-03	6.60E-04	1.42E-04	9.92E-07	1.07E-04	1.04E-04
Demolition - Concrete	Construction	Concrete Pavers	8.58E-04	3.31E-04	7.02E-05	4.80E-07	5.29E-05	5.13E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Concrete Saw	5.24E-04	1.50E-04	2.38E-05	2.96E-07	1.87E-05	1.81E-05
Demolition - Concrete	Construction	Excavators	7.87E-04	2.68E-04	5.91E-05	4.76E-07	4.15E-05	4.02E-05
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	7.00E-05	5.67E-06	1.45E-06	4.70E-08	4.58E-07	4.44E-07
Demolition - Concrete	Construction	Asphalt Paver	1.36E-04	5.23E-05	1.11E-05	7.59E-08	8.36E-06	8.11E-06
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	3.97E-04	1.49E-04	3.20E-05	2.24E-07	2.42E-05	2.34E-05
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	3.55E-04	1.21E-04	2.67E-05	2.15E-07	1.87E-05	1.82E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Trenchers	1.60E-04	2.79E-05	4.94E-06	9.20E-08	2.94E-06	2.85E-06
Demolition - Concrete	Construction	Trenchers	1.20E-04	2.09E-05	3.69E-06	6.88E-08	2.20E-06	2.13E-06
Demolition - Concrete	Construction	Trenchers	1.60E-04	2.79E-05	4.94E-06	9.20E-08	2.94E-06	2.85E-06
Demolition - Concrete	Construction	Excavators	8.58E-04	2.92E-04	6.44E-05	5.19E-07	4.52E-05	4.38E-05
Demolition - Concrete	Construction	Trenchers	6.50E-05	1.13E-05	2.01E-06	3.74E-08	1.19E-06	1.16E-06
Demolition - Concrete	Construction	Excavators	3.49E-04	1.19E-04	2.62E-05	2.11E-07	1.84E-05	1.78E-05
Demolition - Concrete	Construction	Rotary Cold Mill	8.66E-04	3.51E-04	6.81E-05	6.05E-07	7.29E-05	7.07E-05
Demolition - Concrete	Construction	Grooving Machine	8.65E-04	4.13E-04	5.87E-05	5.17E-07	5.96E-05	5.78E-05
Demolition - Concrete	Construction	Paint Sprayers <sup>5</sup>	3.79E-05	1.45E-05	1.71E-06	3.67E-08	2.42E-06	2.35E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Skid Steer Loaders	1.91E-03	2.19E-04	7.09E-05	1.29E-06	1.54E-05	1.49E-05
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	5.18E-03	5.31E-03	9.75E-04	2.88E-06	6.99E-04	6.78E-04
Demolition - Concrete	Construction	Excavators	6.97E-03	2.37E-03	5.24E-04	4.22E-06	3.67E-04	3.56E-04
Demolition - Concrete	Construction	Skid Steer Loaders4	1.83E-04	1.48E-05	3.79E-06	1.23E-07	1.19E-06	1.16E-06
Demolition - Concrete	Construction	Asphalt Paver	3.54E-04	1.36E-04	2.89E-05	1.98E-07	2.18E-05	2.12E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.04E-03	3.89E-04	8.36E-05	5.85E-07	6.30E-05	6.11E-05
Demolition - Concrete	Construction	Tack Truck	8.15E-04	3.41E-04	4.73E-05	1.08E-06	5.41E-05	5.25E-05
Demolition - Concrete	Construction	Concrete Saw	9.40E-04	2.69E-04	4.26E-05	5.31E-07	3.35E-05	3.25E-05
Demolition - Concrete	Construction	Concrete Pavers	1.54E-03	5.93E-04	1.26E-04	8.61E-07	9.48E-05	9.20E-05
Demolition - Concrete	Construction	Concrete Saw	1.69E-03	4.84E-04	7.66E-05	9.55E-07	6.03E-05	5.85E-05
Demolition - Concrete	Construction	Excavators	2.54E-03	8.64E-04	1.91E-04	1.54E-06	1.34E-04	1.30E-04
Demolition - Concrete	Construction	Hoe Ram4	5.08E-03	1.73E-03	3.81E-04	3.07E-06	2.67E-04	2.59E-04
Demolition - Concrete	Construction	Skid Steer Loaders4	9.31E-05	7.55E-06	1.93E-06	6.26E-08	6.09E-07	5.91E-07
Demolition - Concrete	Construction	Asphalt Paver	1.80E-04	6.95E-05	1.48E-05	1.01E-07	1.11E-05	1.08E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	5.28E-04	1.98E-04	4.26E-05	2.98E-07	3.22E-05	3.12E-05
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	4.01E-06	1.15E-06	1.81E-07	2.26E-09	1.43E-07	1.39E-07
Demolition - Concrete	Construction	Concrete Pavers	6.55E-06	2.53E-06	5.36E-07	3.67E-09	4.04E-07	3.92E-07

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	8.95E-06	3.36E-06	7.23E-07	5.06E-09	5.45E-07	5.29E-07
Demolition - Concrete	Construction	Graders	5.14E-06	1.71E-06	4.34E-07	3.15E-09	2.59E-07	2.51E-07
Demolition - Concrete	Construction	Concrete Saw	6.23E-06	1.78E-06	2.82E-07	3.52E-09	2.22E-07	2.15E-07
Demolition - Concrete	Construction	Excavators	9.35E-06	3.18E-06	7.02E-07	5.66E-09	4.93E-07	4.78E-07
Demolition - Concrete	Construction	Hoe Ram4	1.87E-04	6.36E-05	1.40E-05	1.13E-07	9.86E-06	9.56E-06
Demolition - Concrete	Construction	Excavators	4.81E-04	1.64E-04	3.61E-05	2.91E-07	2.53E-05	2.46E-05
Demolition - Concrete	Construction	Skid Steer Loaders	1.27E-03	1.46E-04	4.73E-05	8.61E-07	1.03E-05	9.96E-06
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.45E-03	3.54E-03	6.50E-04	1.92E-06	4.66E-04	4.52E-04
Demolition - Concrete	Construction	Excavators	4.65E-03	1.58E-03	3.49E-04	2.81E-06	2.45E-04	2.38E-04
Demolition - Concrete	Construction	Rubber Tire Loader	1.03E-03	3.48E-04	5.45E-05	2.19E-06	8.51E-05	8.25E-05
Demolition - Concrete	Construction	Large Concrete Crusher	9.93E-04	2.51E-04	6.83E-05	2.47E-06	4.58E-05	4.44E-05
Drainage System	Construction	Skid Steer Loaders	1.41E-04	1.15E-05	2.93E-06	9.51E-08	9.25E-07	8.97E-07
Drainage System	Construction	Advance Joint Sealant Equipment	2.42E-04	9.80E-05	1.90E-05	1.69E-07	2.03E-05	1.97E-05
Drainage System	Construction	Asphalt Paver	2.74E-04	1.06E-04	2.24E-05	1.53E-07	1.69E-05	1.64E-05
Drainage System	Construction	Rollers (Compactor Roller incl.)	8.02E-04	3.01E-04	6.48E-05	4.53E-07	4.88E-05	4.74E-05
Drainage System	Construction	Tack Truck	6.31E-04	2.64E-04	3.66E-05	8.35E-07	4.19E-05	4.06E-05
Drainage System	Construction	Concrete Saw	1.78E-04	5.09E-05	8.05E-06	1.00E-07	6.34E-06	6.15E-06
Drainage System	Construction	Concrete Pavers	2.91E-04	1.12E-04	2.38E-05	1.63E-07	1.79E-05	1.74E-05
Drainage System	Construction	Concrete Saw	1.55E-05	4.45E-06	7.04E-07	8.77E-09	5.54E-07	5.37E-07
Drainage System	Construction	Concrete Pavers	2.54E-05	9.79E-06	2.08E-06	1.42E-08	1.57E-06	1.52E-06
Drainage System	Construction	Concrete Saw	3.34E-04	9.55E-05	1.51E-05	1.88E-07	1.19E-05	1.15E-05
Drainage System	Construction	Excavators	5.01E-04	1.70E-04	3.76E-05	3.03E-07	2.64E-05	2.56E-05
Drainage System	Construction	Rollers (Compactor Roller incl.)	5.68E-04	2.13E-04	4.58E-05	3.21E-07	3.46E-05	3.35E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Concrete Pavers	2.77E-04	1.07E-04	2.27E-05	1.55E-07	1.71E-05	1.66E-05
Drainage System	Construction	Concrete Saw	1.69E-04	4.85E-05	7.67E-06	9.57E-08	6.04E-06	5.86E-06
Drainage System	Construction	Excavators	2.54E-04	8.65E-05	1.91E-05	1.54E-07	1.34E-05	1.30E-05
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	2.26E-05	1.83E-06	4.69E-07	1.52E-08	1.48E-07	1.43E-07
Drainage System	Construction	Asphalt Paver	4.38E-05	1.69E-05	3.58E-06	2.45E-08	2.70E-06	2.62E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.28E-04	4.82E-05	1.04E-05	7.24E-08	7.81E-06	7.57E-06
Drainage System	Construction	Hoe Ram <sup>4</sup>	1.15E-04	3.91E-05	8.62E-06	6.95E-08	6.05E-06	5.87E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Trenchers	5.17E-05	9.01E-06	1.60E-06	2.97E-08	9.49E-07	9.20E-07
Drainage System	Construction	Trenchers	3.86E-05	6.74E-06	1.19E-06	2.22E-08	7.09E-07	6.88E-07
Drainage System	Construction	Trenchers	5.17E-05	9.01E-06	1.60E-06	2.97E-08	9.49E-07	9.20E-07
Drainage System	Construction	Excavators	2.77E-04	9.43E-05	2.08E-05	1.68E-07	1.46E-05	1.42E-05
Drainage System	Construction	Trenchers	2.10E-05	3.66E-06	6.49E-07	1.21E-08	3.86E-07	3.74E-07
Drainage System	Construction	Excavators	1.13E-04	3.83E-05	8.46E-06	6.82E-08	5.94E-06	5.76E-06
Drainage System	Construction	Rotary Cold Mill	2.80E-04	1.13E-04	2.20E-05	1.95E-07	2.36E-05	2.29E-05
Drainage System	Construction	Grooving Machine	2.80E-04	1.34E-04	1.90E-05	1.67E-07	1.93E-05	1.87E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Paint Sprayers <sup>5</sup>	1.22E-05	4.69E-06	5.53E-07	1.19E-08	7.83E-07	7.59E-07
Drainage System	Construction	Skid Steer Loaders	6.18E-04	7.08E-05	2.29E-05	4.17E-07	4.97E-06	4.82E-06
Drainage System	Construction	Tractor/Loader (Backhoe)	1.67E-03	1.72E-03	3.15E-04	9.29E-07	2.26E-04	2.19E-04
Drainage System	Construction	Excavators	2.25E-03	7.67E-04	1.69E-04	1.36E-06	1.19E-04	1.15E-04
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	5.90E-05	4.78E-06	1.22E-06	3.97E-08	3.86E-07	3.74E-07
Drainage System	Construction	Asphalt Paver	1.14E-04	4.40E-05	9.35E-06	6.40E-08	7.04E-06	6.83E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	3.34E-04	1.26E-04	2.70E-05	1.89E-07	2.04E-05	1.98E-05
Drainage System	Construction	Tack Truck	2.63E-04	1.10E-04	1.53E-05	3.48E-07	1.75E-05	1.69E-05
Drainage System	Construction	Concrete Saw	3.04E-04	8.70E-05	1.38E-05	1.72E-07	1.08E-05	1.05E-05
Drainage System	Construction	Concrete Pavers	4.97E-04	1.91E-04	4.07E-05	2.78E-07	3.06E-05	2.97E-05
Drainage System	Construction	Concrete Saw	5.46E-04	1.56E-04	2.48E-05	3.09E-07	1.95E-05	1.89E-05
Drainage System	Construction	Excavators	8.20E-04	2.79E-04	6.16E-05	4.97E-07	4.32E-05	4.19E-05
Drainage System	Construction	Hoe Ram <sup>4</sup>	1.64E-03	5.58E-04	1.23E-04	9.93E-07	8.64E-05	8.38E-05
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	3.01E-05	2.44E-06	6.24E-07	2.02E-08	1.97E-07	1.91E-07
Drainage System	Construction	Asphalt Paver	5.83E-05	2.25E-05	4.77E-06	3.26E-08	3.59E-06	3.49E-06
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.71E-04	6.41E-05	1.38E-05	9.64E-08	1.04E-05	1.01E-05
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	1.29E-06	3.71E-07	5.86E-08	7.31E-10	4.61E-08	4.48E-08



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Drainage System	Construction	Concrete Pavers	2.12E-06	8.16E-07	1.73E-07	1.19E-09	1.31E-07	1.27E-07
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.89E-06	1.09E-06	2.33E-07	1.63E-09	1.76E-07	1.71E-07
Drainage System	Construction	Graders	1.66E-06	5.53E-07	1.40E-07	1.02E-09	8.37E-08	8.12E-08
Drainage System	Construction	Concrete Saw	2.01E-06	5.76E-07	9.12E-08	1.14E-09	7.18E-08	6.96E-08
Drainage System	Construction	Excavators	3.02E-06	1.03E-06	2.27E-07	1.83E-09	1.59E-07	1.54E-07
Drainage System	Construction	Hoe Ram4	6.04E-05	2.06E-05	4.54E-06	3.66E-08	3.18E-06	3.09E-06
Drainage System	Construction	Excavators	1.55E-04	5.29E-05	1.17E-05	9.41E-08	8.19E-06	7.94E-06
Drainage System	Construction	Skid Steer Loaders	4.12E-04	4.72E-05	1.53E-05	2.78E-07	3.32E-06	3.22E-06
Drainage System	Construction	Tractor/Loader (Backhoe)	1.11E-03	1.14E-03	2.10E-04	6.19E-07	1.50E-04	1.46E-04
Drainage System	Construction	Excavators	1.50E-03	5.11E-04	1.13E-04	9.09E-07	7.91E-05	7.68E-05
Drainage System	Construction	Rubber Tire Loader	3.31E-04	1.12E-04	1.76E-05	7.07E-07	2.75E-05	2.67E-05
Drainage System	Construction	Large Concrete Crusher	3.21E-04	8.11E-05	2.21E-05	7.98E-07	1.48E-05	1.44E-05
Fencing	Construction	Skid Steer Loaders	9.53E-05	7.72E-06	1.98E-06	6.40E-08	6.23E-07	6.04E-07
Fencing	Construction	Advance Joint Sealant Equipment	1.63E-04	6.60E-05	1.28E-05	1.14E-07	1.37E-05	1.33E-05
Fencing	Construction	Asphalt Paver	1.85E-04	7.11E-05	1.51E-05	1.03E-07	1.14E-05	1.10E-05
Fencing	Construction	Rollers (Compactor Roller incl.)	5.40E-04	2.03E-04	4.36E-05	3.05E-07	3.29E-05	3.19E-05
Fencing	Construction	Tack Truck	4.25E-04	1.78E-04	2.47E-05	5.62E-07	2.82E-05	2.74E-05
Fencing	Construction	Concrete Saw	1.20E-04	3.43E-05	5.42E-06	6.76E-08	4.27E-06	4.14E-06
Fencing	Construction	Concrete Pavers	1.96E-04	7.55E-05	1.60E-05	1.10E-07	1.21E-05	1.17E-05
Fencing	Construction	Concrete Saw	1.05E-05	3.00E-06	4.74E-07	5.91E-09	3.73E-07	3.62E-07
Fencing	Construction	Concrete Pavers	1.71E-05	6.60E-06	1.40E-06	9.58E-09	1.06E-06	1.02E-06
Fencing	Construction	Concrete Saw	2.25E-04	6.43E-05	1.02E-05	1.27E-07	8.01E-06	7.77E-06
Fencing	Construction	Excavators	3.37E-04	1.15E-04	2.53E-05	2.04E-07	1.78E-05	1.72E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Rollers (Compactor Roller incl.)	3.82E-04	1.44E-04	3.09E-05	2.16E-07	2.33E-05	2.26E-05
Fencing	Construction	Concrete Pavers	1.87E-04	7.19E-05	1.53E-05	1.04E-07	1.15E-05	1.12E-05
Fencing	Construction	Concrete Saw	1.14E-04	3.27E-05	5.17E-06	6.44E-08	4.07E-06	3.95E-06
Fencing	Construction	Excavators	1.71E-04	5.83E-05	1.29E-05	1.04E-07	9.02E-06	8.75E-06
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	1.52E-05	1.23E-06	3.16E-07	1.02E-08	9.96E-08	9.66E-08
Fencing	Construction	Asphalt Paver	2.95E-05	1.14E-05	2.41E-06	1.65E-08	1.82E-06	1.76E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	8.64E-05	3.24E-05	6.97E-06	4.88E-08	5.26E-06	5.10E-06
Fencing	Construction	Hoe Ram <sup>4</sup>	7.73E-05	2.63E-05	5.81E-06	4.68E-08	4.08E-06	3.95E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Trenchers	3.48E-05	6.07E-06	1.08E-06	2.00E-08	6.39E-07	6.20E-07
Fencing	Construction	Trenchers	2.60E-05	4.54E-06	8.04E-07	1.50E-08	4.78E-07	4.63E-07
Fencing	Construction	Trenchers	3.48E-05	6.07E-06	1.08E-06	2.00E-08	6.39E-07	6.20E-07
Fencing	Construction	Excavators	1.87E-04	6.35E-05	1.40E-05	1.13E-07	9.84E-06	9.54E-06
Fencing	Construction	Trenchers	1.41E-05	2.47E-06	4.37E-07	8.14E-09	2.60E-07	2.52E-07
Fencing	Construction	Excavators	7.59E-05	2.58E-05	5.70E-06	4.59E-08	4.00E-06	3.88E-06
Fencing	Construction	Rotary Cold Mill	1.89E-04	7.64E-05	1.48E-05	1.32E-07	1.59E-05	1.54E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Grooving Machine	1.88E-04	8.99E-05	1.28E-05	1.13E-07	1.30E-05	1.26E-05
Fencing	Construction	Paint Sprayers5	8.24E-06	3.16E-06	3.72E-07	7.99E-09	5.27E-07	5.12E-07
Fencing	Construction	Skid Steer Loaders	4.16E-04	4.77E-05	1.54E-05	2.81E-07	3.35E-06	3.25E-06
Fencing	Construction	Tractor/Loader (Backhoe)	1.13E-03	1.16E-03	2.12E-04	6.26E-07	1.52E-04	1.47E-04
Fencing	Construction	Excavators	1.52E-03	5.16E-04	1.14E-04	9.19E-07	8.00E-05	7.76E-05
Fencing	Construction	Skid Steer Loaders4	3.97E-05	3.22E-06	8.24E-07	2.67E-08	2.60E-07	2.52E-07
Fencing	Construction	Asphalt Paver	7.70E-05	2.97E-05	6.30E-06	4.31E-08	4.75E-06	4.60E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	2.25E-04	8.46E-05	1.82E-05	1.27E-07	1.37E-05	1.33E-05
Fencing	Construction	Tack Truck	1.77E-04	7.42E-05	1.03E-05	2.35E-07	1.18E-05	1.14E-05
Fencing	Construction	Concrete Saw	2.05E-04	5.86E-05	9.27E-06	1.16E-07	7.29E-06	7.07E-06
Fencing	Construction	Concrete Pavers	3.35E-04	1.29E-04	2.74E-05	1.87E-07	2.06E-05	2.00E-05
Fencing	Construction	Concrete Saw	3.68E-04	1.05E-04	1.67E-05	2.08E-07	1.31E-05	1.27E-05
Fencing	Construction	Excavators	5.52E-04	1.88E-04	4.15E-05	3.34E-07	2.91E-05	2.82E-05
Fencing	Construction	Hoe Ram4	1.10E-03	3.76E-04	8.30E-05	6.69E-07	5.82E-05	5.65E-05
Fencing	Construction	Skid Steer Loaders4	2.03E-05	1.64E-06	4.20E-07	1.36E-08	1.33E-07	1.29E-07
Fencing	Construction	Asphalt Paver	3.93E-05	1.51E-05	3.21E-06	2.20E-08	2.42E-06	2.35E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	1.15E-04	4.32E-05	9.28E-06	6.49E-08	7.00E-06	6.79E-06
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Fencing	Construction	Concrete Saw	8.72E-07	2.50E-07	3.95E-08	4.92E-10	3.11E-08	3.01E-08
Fencing	Construction	Concrete Pavers	1.43E-06	5.50E-07	1.17E-07	7.98E-10	8.79E-08	8.53E-08
Fencing	Construction	Rollers (Compactor Roller incl.)	1.95E-06	7.32E-07	1.57E-07	1.10E-09	1.19E-07	1.15E-07
Fencing	Construction	Graders	1.12E-06	3.73E-07	9.45E-08	6.85E-10	5.64E-08	5.47E-08
Fencing	Construction	Concrete Saw	1.36E-06	3.88E-07	6.14E-08	7.66E-10	4.83E-08	4.69E-08
Fencing	Construction	Excavators	2.04E-06	6.93E-07	1.53E-07	1.23E-09	1.07E-07	1.04E-07
Fencing	Construction	Hoe Ram4	4.07E-05	1.39E-05	3.06E-06	2.46E-08	2.14E-06	2.08E-06
Fencing	Construction	Excavators	1.05E-04	3.56E-05	7.86E-06	6.34E-08	5.52E-06	5.35E-06
Fencing	Construction	Skid Steer Loaders	2.77E-04	3.18E-05	1.03E-05	1.87E-07	2.23E-06	2.17E-06
Fencing	Construction	Tractor/Loader (Backhoe)	7.51E-04	7.71E-04	1.42E-04	4.17E-07	1.01E-04	9.83E-05
Fencing	Construction	Excavators	1.01E-03	3.44E-04	7.60E-05	6.13E-07	5.33E-05	5.17E-05
Fencing	Construction	Rubber Tire Loader	2.23E-04	7.57E-05	1.19E-05	4.77E-07	1.85E-05	1.80E-05
Fencing	Construction	Large Concrete Crusher	2.16E-04	5.46E-05	1.49E-05	5.38E-07	9.97E-06	9.67E-06
Landscaping	Construction	Skid Steer Loaders	2.83E-04	2.29E-05	5.87E-06	1.90E-07	1.85E-06	1.79E-06
Landscaping	Construction	Advance Joint Sealant Equipment	4.83E-04	1.96E-04	3.80E-05	3.37E-07	4.07E-05	3.95E-05
Landscaping	Construction	Asphalt Paver	5.48E-04	2.11E-04	4.48E-05	3.07E-07	3.38E-05	3.28E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.60E-03	6.02E-04	1.30E-04	9.06E-07	9.77E-05	9.47E-05
Landscaping	Construction	Tack Truck	1.26E-03	5.28E-04	7.32E-05	1.67E-06	8.38E-05	8.13E-05
Landscaping	Construction	Concrete Saw	3.55E-04	1.02E-04	1.61E-05	2.01E-07	1.27E-05	1.23E-05
Landscaping	Construction	Concrete Pavers	5.82E-04	2.24E-04	4.76E-05	3.25E-07	3.58E-05	3.48E-05
Landscaping	Construction	Concrete Saw	3.11E-05	8.89E-06	1.41E-06	1.75E-08	1.11E-06	1.07E-06
Landscaping	Construction	Concrete Pavers	5.08E-05	1.96E-05	4.16E-06	2.84E-08	3.13E-06	3.04E-06
Landscaping	Construction	Concrete Saw	6.67E-04	1.91E-04	3.02E-05	3.77E-07	2.38E-05	2.31E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Excavators	1.00E-03	3.41E-04	7.52E-05	6.06E-07	5.28E-05	5.12E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.14E-03	4.26E-04	9.17E-05	6.41E-07	6.91E-05	6.71E-05
Landscaping	Construction	Concrete Pavers	5.54E-04	2.14E-04	4.53E-05	3.10E-07	3.42E-05	3.31E-05
Landscaping	Construction	Concrete Saw	3.39E-04	9.70E-05	1.53E-05	1.91E-07	1.21E-05	1.17E-05
Landscaping	Construction	Excavators	5.08E-04	1.73E-04	3.82E-05	3.08E-07	2.68E-05	2.60E-05
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	4.52E-05	3.66E-06	9.38E-07	3.04E-08	2.96E-07	2.87E-07
Landscaping	Construction	Asphalt Paver	8.76E-05	3.38E-05	7.17E-06	4.90E-08	5.40E-06	5.24E-06
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.56E-04	9.63E-05	2.07E-05	1.45E-07	1.56E-05	1.51E-05
Landscaping	Construction	Hoe Ram <sup>4</sup>	2.30E-04	7.81E-05	1.72E-05	1.39E-07	1.21E-05	1.17E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Trenchers	1.03E-04	1.80E-05	3.19E-06	5.94E-08	1.90E-06	1.84E-06
Landscaping	Construction	Trenchers	7.73E-05	1.35E-05	2.39E-06	4.44E-08	1.42E-06	1.38E-06
Landscaping	Construction	Trenchers	1.03E-04	1.80E-05	3.19E-06	5.94E-08	1.90E-06	1.84E-06
Landscaping	Construction	Excavators	5.54E-04	1.89E-04	4.16E-05	3.36E-07	2.92E-05	2.83E-05
Landscaping	Construction	Trenchers	4.20E-05	7.33E-06	1.30E-06	2.42E-08	7.71E-07	7.48E-07
Landscaping	Construction	Excavators	2.25E-04	7.67E-05	1.69E-05	1.36E-07	1.19E-05	1.15E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Rotary Cold Mill	5.60E-04	2.27E-04	4.40E-05	3.91E-07	4.71E-05	4.57E-05
Landscaping	Construction	Grooving Machine	5.59E-04	2.67E-04	3.79E-05	3.34E-07	3.85E-05	3.74E-05
Landscaping	Construction	Paint Sprayers5	2.45E-05	9.37E-06	1.10E-06	2.37E-08	1.57E-06	1.52E-06
Landscaping	Construction	Skid Steer Loaders	1.23E-03	1.42E-04	4.58E-05	8.35E-07	9.95E-06	9.65E-06
Landscaping	Construction	Tractor/Loader (Backhoe)	3.34E-03	3.43E-03	6.30E-04	1.86E-06	4.51E-04	4.38E-04
Landscaping	Construction	Excavators	4.51E-03	1.53E-03	3.38E-04	2.73E-06	2.37E-04	2.30E-04
Landscaping	Construction	Skid Steer Loaders4	1.18E-04	9.56E-06	2.45E-06	7.93E-08	7.71E-07	7.48E-07
Landscaping	Construction	Asphalt Paver	2.29E-04	8.81E-05	1.87E-05	1.28E-07	1.41E-05	1.37E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	6.69E-04	2.51E-04	5.40E-05	3.78E-07	4.07E-05	3.95E-05
Landscaping	Construction	Tack Truck	5.27E-04	2.20E-04	3.05E-05	6.96E-07	3.49E-05	3.39E-05
Landscaping	Construction	Concrete Saw	6.07E-04	1.74E-04	2.75E-05	3.43E-07	2.17E-05	2.10E-05
Landscaping	Construction	Concrete Pavers	9.94E-04	3.83E-04	8.13E-05	5.56E-07	6.12E-05	5.94E-05
Landscaping	Construction	Concrete Saw	1.09E-03	3.13E-04	4.95E-05	6.17E-07	3.90E-05	3.78E-05
Landscaping	Construction	Excavators	1.64E-03	5.58E-04	1.23E-04	9.93E-07	8.64E-05	8.38E-05
Landscaping	Construction	Hoe Ram4	3.28E-03	1.12E-03	2.46E-04	1.99E-06	1.73E-04	1.68E-04
Landscaping	Construction	Skid Steer Loaders4	6.02E-05	4.88E-06	1.25E-06	4.04E-08	3.93E-07	3.82E-07
Landscaping	Construction	Asphalt Paver	1.17E-04	4.49E-05	9.54E-06	6.53E-08	7.19E-06	6.97E-06
Landscaping	Construction	Rollers (Compactor Roller incl.)	3.41E-04	1.28E-04	2.76E-05	1.93E-07	2.08E-05	2.02E-05
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	2.59E-06	7.41E-07	1.17E-07	1.46E-09	9.23E-08	8.95E-08
Landscaping	Construction	Concrete Pavers	4.23E-06	1.63E-06	3.46E-07	2.37E-09	2.61E-07	2.53E-07
Landscaping	Construction	Rollers (Compactor Roller incl.)	5.78E-06	2.17E-06	4.67E-07	3.27E-09	3.52E-07	3.42E-07
Landscaping	Construction	Graders	3.32E-06	1.11E-06	2.81E-07	2.03E-09	1.67E-07	1.62E-07
Landscaping	Construction	Concrete Saw	4.03E-06	1.15E-06	1.82E-07	2.27E-09	1.44E-07	1.39E-07
Landscaping	Construction	Excavators	6.04E-06	2.06E-06	4.54E-07	3.66E-09	3.18E-07	3.09E-07
Landscaping	Construction	Hoe Ram4	1.21E-04	4.11E-05	9.08E-06	7.32E-08	6.37E-06	6.18E-06
Landscaping	Construction	Excavators	3.11E-04	1.06E-04	2.33E-05	1.88E-07	1.64E-05	1.59E-05
Landscaping	Construction	Skid Steer Loaders	8.23E-04	9.44E-05	3.06E-05	5.57E-07	6.63E-06	6.43E-06
Landscaping	Construction	Tractor/Loader (Backhoe)	2.23E-03	2.29E-03	4.20E-04	1.24E-06	3.01E-04	2.92E-04
Landscaping	Construction	Excavators	3.00E-03	1.02E-03	2.26E-04	1.82E-06	1.58E-04	1.54E-04
Landscaping	Construction	Rubber Tire Loader	6.63E-04	2.25E-04	3.52E-05	1.41E-06	5.50E-05	5.33E-05
Landscaping	Construction	Large Concrete Crusher	6.42E-04	1.62E-04	4.41E-05	1.60E-06	2.96E-05	2.87E-05
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Paint Sprayers5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Skid Steer Loaders	7.40E-03	6.00E-04	1.54E-04	4.98E-06	4.84E-05	4.69E-05
Parking Lot	Construction	Advance Joint Sealant Equipment	1.27E-02	5.13E-03	9.95E-04	8.83E-06	1.06E-03	1.03E-03
Parking Lot	Construction	Asphalt Paver	1.43E-02	5.53E-03	1.17E-03	8.03E-06	8.84E-04	8.58E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	4.20E-02	1.58E-02	3.39E-03	2.37E-05	2.56E-03	2.48E-03
Parking Lot	Construction	Tack Truck	3.30E-02	1.38E-02	1.92E-03	4.37E-05	2.19E-03	2.13E-03
Parking Lot	Construction	Concrete Saw	9.30E-03	2.66E-03	4.21E-04	5.25E-06	3.32E-04	3.22E-04
Parking Lot	Construction	Concrete Pavers	1.52E-02	5.87E-03	1.25E-03	8.52E-06	9.38E-04	9.10E-04
Parking Lot	Construction	Concrete Saw	8.13E-04	2.33E-04	3.68E-05	4.59E-07	2.90E-05	2.81E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Concrete Pavers	1.33E-03	5.13E-04	1.09E-04	7.44E-07	8.20E-05	7.95E-05
Parking Lot	Construction	Concrete Saw	1.75E-02	5.00E-03	7.91E-04	9.86E-06	6.23E-04	6.04E-04
Parking Lot	Construction	Excavators	2.62E-02	8.92E-03	1.97E-03	1.59E-05	1.38E-03	1.34E-03
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.97E-02	1.12E-02	2.40E-03	1.68E-05	1.81E-03	1.76E-03
Parking Lot	Construction	Concrete Pavers	1.45E-02	5.59E-03	1.19E-03	8.12E-06	8.94E-04	8.67E-04
Parking Lot	Construction	Concrete Saw	8.87E-03	2.54E-03	4.02E-04	5.01E-06	3.16E-04	3.07E-04
Parking Lot	Construction	Excavators	1.33E-02	4.53E-03	9.99E-04	8.06E-06	7.01E-04	6.80E-04
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	1.18E-03	9.59E-05	2.45E-05	7.95E-07	7.74E-06	7.51E-06
Parking Lot	Construction	Asphalt Paver	2.29E-03	8.84E-04	1.88E-04	1.28E-06	1.41E-04	1.37E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	6.71E-03	2.52E-03	5.42E-04	3.79E-06	4.09E-04	3.96E-04
Parking Lot	Construction	Hoe Ram <sup>4</sup>	6.01E-03	2.04E-03	4.51E-04	3.64E-06	3.17E-04	3.07E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Trenchers	2.70E-03	4.72E-04	8.35E-05	1.56E-06	4.96E-05	4.82E-05
Parking Lot	Construction	Trenchers	2.02E-03	3.53E-04	6.25E-05	1.16E-06	3.71E-05	3.60E-05
Parking Lot	Construction	Trenchers	2.70E-03	4.72E-04	8.35E-05	1.56E-06	4.96E-05	4.82E-05
Parking Lot	Construction	Excavators	1.45E-02	4.94E-03	1.09E-03	8.78E-06	7.64E-04	7.41E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Trenchers	1.10E-03	1.92E-04	3.40E-05	6.32E-07	2.02E-05	1.96E-05
Parking Lot	Construction	Excavators	5.90E-03	2.01E-03	4.43E-04	3.57E-06	3.11E-04	3.01E-04
Parking Lot	Construction	Rotary Cold Mill	1.47E-02	5.94E-03	1.15E-03	1.02E-05	1.23E-03	1.20E-03
Parking Lot	Construction	Grooving Machine	1.46E-02	6.99E-03	9.93E-04	8.75E-06	1.01E-03	9.78E-04
Parking Lot	Construction	Paint Sprayers5	6.40E-04	2.45E-04	2.89E-05	6.21E-07	4.10E-05	3.97E-05
Parking Lot	Construction	Skid Steer Loaders	3.23E-02	3.71E-03	1.20E-03	2.18E-05	2.60E-04	2.53E-04
Parking Lot	Construction	Tractor/Loader (Backhoe)	8.75E-02	8.98E-02	1.65E-02	4.86E-05	1.18E-02	1.15E-02
Parking Lot	Construction	Excavators	1.18E-01	4.01E-02	8.86E-03	7.14E-05	6.21E-03	6.03E-03
Parking Lot	Construction	Skid Steer Loaders4	3.09E-03	2.50E-04	6.40E-05	2.08E-06	2.02E-05	1.96E-05
Parking Lot	Construction	Asphalt Paver	5.98E-03	2.31E-03	4.89E-04	3.35E-06	3.69E-04	3.58E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	1.75E-02	6.58E-03	1.41E-03	9.89E-06	1.07E-03	1.03E-03
Parking Lot	Construction	Tack Truck	1.38E-02	5.76E-03	8.00E-04	1.82E-05	9.15E-04	8.87E-04
Parking Lot	Construction	Concrete Saw	1.59E-02	4.55E-03	7.20E-04	8.98E-06	5.67E-04	5.50E-04
Parking Lot	Construction	Concrete Pavers	2.60E-02	1.00E-02	2.13E-03	1.46E-05	1.60E-03	1.56E-03
Parking Lot	Construction	Concrete Saw	2.86E-02	8.19E-03	1.30E-03	1.62E-05	1.02E-03	9.89E-04
Parking Lot	Construction	Excavators	4.29E-02	1.46E-02	3.22E-03	2.60E-05	2.26E-03	2.19E-03
Parking Lot	Construction	Hoe Ram4	8.58E-02	2.92E-02	6.45E-03	5.20E-05	4.52E-03	4.39E-03
Parking Lot	Construction	Skid Steer Loaders4	1.58E-03	1.28E-04	3.27E-05	1.06E-06	1.03E-05	9.99E-06
Parking Lot	Construction	Asphalt Paver	3.05E-03	1.18E-03	2.50E-04	1.71E-06	1.88E-04	1.82E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	8.93E-03	3.35E-03	7.21E-04	5.04E-06	5.44E-04	5.27E-04
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	6.77E-05	1.94E-05	3.07E-06	3.83E-08	2.41E-06	2.34E-06
Parking Lot	Construction	Concrete Pavers	1.11E-04	4.27E-05	9.07E-06	6.20E-08	6.83E-06	6.63E-06
Parking Lot	Construction	Rollers (Compactor Roller incl.)	1.51E-04	5.69E-05	1.22E-05	8.55E-08	9.22E-06	8.94E-06
Parking Lot	Construction	Graders	8.68E-05	2.90E-05	7.35E-06	5.32E-08	4.38E-06	4.25E-06
Parking Lot	Construction	Concrete Saw	1.05E-04	3.02E-05	4.77E-06	5.95E-08	3.76E-06	3.64E-06
Parking Lot	Construction	Excavators	1.58E-04	5.38E-05	1.19E-05	9.58E-08	8.33E-06	8.08E-06
Parking Lot	Construction	Hoe Ram4	3.16E-03	1.08E-03	2.38E-04	1.92E-06	1.67E-04	1.62E-04
Parking Lot	Construction	Excavators	8.13E-03	2.77E-03	6.11E-04	4.92E-06	4.29E-04	4.16E-04
Parking Lot	Construction	Skid Steer Loaders	2.15E-02	2.47E-03	8.00E-04	1.46E-05	1.74E-04	1.68E-04
Parking Lot	Construction	Tractor/Loader (Backhoe)	5.84E-02	5.99E-02	1.10E-02	3.24E-05	7.88E-03	7.64E-03
Parking Lot	Construction	Excavators	7.86E-02	2.68E-02	5.90E-03	4.76E-05	4.14E-03	4.02E-03
Parking Lot	Construction	Rubber Tire Loader	1.73E-02	5.89E-03	9.21E-04	3.70E-05	1.44E-03	1.40E-03
Parking Lot	Construction	Large Concrete Crusher	1.68E-02	4.24E-03	1.15E-03	4.18E-05	7.75E-04	7.52E-04
Rehabilitate Runway	Construction	Skid Steer Loaders	6.98E-03	5.66E-04	1.45E-04	4.69E-06	4.56E-05	4.43E-05
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	1.19E-02	4.83E-03	9.38E-04	8.32E-06	1.00E-03	9.74E-04
Rehabilitate Runway	Construction	Asphalt Paver	1.35E-02	5.21E-03	1.11E-03	7.57E-06	8.34E-04	8.09E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	3.96E-02	1.49E-02	3.20E-03	2.24E-05	2.41E-03	2.34E-03
Rehabilitate Runway	Construction	Tack Truck	3.12E-02	1.30E-02	1.81E-03	4.12E-05	2.07E-03	2.01E-03
Rehabilitate Runway	Construction	Concrete Saw	8.77E-03	2.51E-03	3.97E-04	4.95E-06	3.13E-04	3.03E-04
Rehabilitate Runway	Construction	Concrete Pavers	1.43E-02	5.53E-03	1.17E-03	8.03E-06	8.85E-04	8.58E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Concrete Saw	7.66E-04	2.19E-04	3.47E-05	4.33E-07	2.73E-05	2.65E-05
Rehabilitate Runway	Construction	Concrete Pavers	1.25E-03	4.83E-04	1.03E-04	7.02E-07	7.73E-05	7.50E-05
Rehabilitate Runway	Construction	Concrete Saw	1.65E-02	4.71E-03	7.46E-04	9.30E-06	5.87E-04	5.69E-04
Rehabilitate Runway	Construction	Excavators	2.47E-02	8.41E-03	1.86E-03	1.50E-05	1.30E-03	1.26E-03
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.80E-02	1.05E-02	2.26E-03	1.58E-05	1.71E-03	1.65E-03
Rehabilitate Runway	Construction	Concrete Pavers	1.37E-02	5.27E-03	1.12E-03	7.66E-06	8.43E-04	8.18E-04
Rehabilitate Runway	Construction	Concrete Saw	8.36E-03	2.39E-03	3.79E-04	4.72E-06	2.98E-04	2.89E-04
Rehabilitate Runway	Construction	Excavators	1.25E-02	4.27E-03	9.42E-04	7.60E-06	6.61E-04	6.41E-04
Rehabilitate Runway	Construction	Skid Steer Loaders4	1.12E-03	9.04E-05	2.31E-05	7.50E-07	7.29E-06	7.08E-06
Rehabilitate Runway	Construction	Asphalt Paver	2.16E-03	8.33E-04	1.77E-04	1.21E-06	1.33E-04	1.29E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	6.33E-03	2.38E-03	5.11E-04	3.57E-06	3.85E-04	3.74E-04
Rehabilitate Runway	Construction	Hoe Ram4	5.67E-03	1.93E-03	4.26E-04	3.43E-06	2.99E-04	2.90E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Trenchers	2.55E-03	4.45E-04	7.88E-05	1.47E-06	4.68E-05	4.54E-05
Rehabilitate Runway	Construction	Trenchers	1.91E-03	3.32E-04	5.89E-05	1.10E-06	3.50E-05	3.39E-05
Rehabilitate Runway	Construction	Trenchers	2.55E-03	4.45E-04	7.88E-05	1.47E-06	4.68E-05	4.54E-05



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Excavators	1.37E-02	4.65E-03	1.03E-03	8.28E-06	7.21E-04	6.99E-04
Rehabilitate Runway	Construction	Trenchers	1.04E-03	1.81E-04	3.20E-05	5.96E-07	1.90E-05	1.85E-05
Rehabilitate Runway	Construction	Excavators	5.56E-03	1.89E-03	4.18E-04	3.37E-06	2.93E-04	2.84E-04
Rehabilitate Runway	Construction	Rotary Cold Mill	1.38E-02	5.60E-03	1.09E-03	9.64E-06	1.16E-03	1.13E-03
Rehabilitate Runway	Construction	Grooving Machine	1.38E-02	6.59E-03	9.36E-04	8.25E-06	9.51E-04	9.22E-04
Rehabilitate Runway	Construction	Paint Sprayers <sup>5</sup>	6.04E-04	2.31E-04	2.73E-05	5.85E-07	3.86E-05	3.75E-05
Rehabilitate Runway	Construction	Skid Steer Loaders	3.05E-02	3.49E-03	1.13E-03	2.06E-05	2.45E-04	2.38E-04
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	8.25E-02	8.47E-02	1.55E-02	4.58E-05	1.11E-02	1.08E-02
Rehabilitate Runway	Construction	Excavators	1.11E-01	3.78E-02	8.35E-03	6.73E-05	5.86E-03	5.68E-03
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	2.91E-03	2.36E-04	6.04E-05	1.96E-06	1.90E-05	1.85E-05
Rehabilitate Runway	Construction	Asphalt Paver	5.64E-03	2.17E-03	4.61E-04	3.16E-06	3.48E-04	3.37E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	1.65E-02	6.20E-03	1.33E-03	9.32E-06	1.01E-03	9.75E-04
Rehabilitate Runway	Construction	Tack Truck	1.30E-02	5.43E-03	7.54E-04	1.72E-05	8.62E-04	8.36E-04
Rehabilitate Runway	Construction	Concrete Saw	1.50E-02	4.29E-03	6.79E-04	8.46E-06	5.34E-04	5.18E-04
Rehabilitate Runway	Construction	Concrete Pavers	2.45E-02	9.45E-03	2.01E-03	1.37E-05	1.51E-03	1.47E-03
Rehabilitate Runway	Construction	Concrete Saw	2.70E-02	7.72E-03	1.22E-03	1.52E-05	9.61E-04	9.32E-04
Rehabilitate Runway	Construction	Excavators	4.05E-02	1.38E-02	3.04E-03	2.45E-05	2.13E-03	2.07E-03
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	8.09E-02	2.75E-02	6.08E-03	4.90E-05	4.26E-03	4.14E-03
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	1.48E-03	1.20E-04	3.08E-05	9.98E-07	9.71E-06	9.42E-06
Rehabilitate Runway	Construction	Asphalt Paver	2.88E-03	1.11E-03	2.35E-04	1.61E-06	1.77E-04	1.72E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	8.42E-03	3.16E-03	6.80E-04	4.76E-06	5.13E-04	4.97E-04
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	6.39E-05	1.83E-05	2.89E-06	3.61E-08	2.28E-06	2.21E-06
Rehabilitate Runway	Construction	Concrete Pavers	1.04E-04	4.03E-05	8.55E-06	5.85E-08	6.44E-06	6.25E-06
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	1.43E-04	5.36E-05	1.15E-05	8.06E-08	8.69E-06	8.43E-06
Rehabilitate Runway	Construction	Graders	8.19E-05	2.73E-05	6.93E-06	5.02E-08	4.13E-06	4.01E-06
Rehabilitate Runway	Construction	Concrete Saw	9.93E-05	2.84E-05	4.50E-06	5.61E-08	3.54E-06	3.44E-06
Rehabilitate Runway	Construction	Excavators	1.49E-04	5.07E-05	1.12E-05	9.03E-08	7.86E-06	7.62E-06
Rehabilitate Runway	Construction	Hoe Ram4	2.98E-03	1.01E-03	2.24E-04	1.81E-06	1.57E-04	1.52E-04
Rehabilitate Runway	Construction	Excavators	7.67E-03	2.61E-03	5.76E-04	4.64E-06	4.04E-04	3.92E-04
Rehabilitate Runway	Construction	Skid Steer Loaders	2.03E-02	2.33E-03	7.54E-04	1.37E-05	1.64E-04	1.59E-04
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	5.50E-02	5.65E-02	1.04E-02	3.06E-05	7.42E-03	7.20E-03
Rehabilitate Runway	Construction	Excavators	7.41E-02	2.52E-02	5.57E-03	4.49E-05	3.91E-03	3.79E-03
Rehabilitate Runway	Construction	Rubber Tire Loader	1.64E-02	5.55E-03	8.68E-04	3.49E-05	1.36E-03	1.32E-03
Rehabilitate Runway	Construction	Large Concrete Crusher	1.58E-02	4.00E-03	1.09E-03	3.94E-05	7.31E-04	7.09E-04
Runway Drains	Construction	Skid Steer Loaders	9.77E-04	7.92E-05	2.03E-05	6.57E-07	6.39E-06	6.20E-06
Runway Drains	Construction	Advance Joint Sealant Equipment	1.67E-03	6.77E-04	1.31E-04	1.17E-06	1.41E-04	1.36E-04
Runway Drains	Construction	Asphalt Paver	1.89E-03	7.30E-04	1.55E-04	1.06E-06	1.17E-04	1.13E-04
Runway Drains	Construction	Rollers (Compactor Roller incl.)	5.54E-03	2.08E-03	4.47E-04	3.13E-06	3.37E-04	3.27E-04
Runway Drains	Construction	Tack Truck	4.36E-03	1.82E-03	2.53E-04	5.77E-06	2.89E-04	2.81E-04
Runway Drains	Construction	Concrete Saw	1.23E-03	3.52E-04	5.56E-05	6.94E-07	4.38E-05	4.25E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Concrete Pavers	2.01E-03	7.74E-04	1.64E-04	1.12E-06	1.24E-04	1.20E-04
Runway Drains	Construction	Concrete Saw	1.07E-04	3.07E-05	4.86E-06	6.06E-08	3.83E-06	3.71E-06
Runway Drains	Construction	Concrete Pavers	1.76E-04	6.77E-05	1.44E-05	9.83E-08	1.08E-05	1.05E-05
Runway Drains	Construction	Concrete Saw	2.31E-03	6.60E-04	1.04E-04	1.30E-06	8.22E-05	7.97E-05
Runway Drains	Construction	Excavators	3.46E-03	1.18E-03	2.60E-04	2.09E-06	1.82E-04	1.77E-04
Runway Drains	Construction	Rollers (Compactor Roller incl.)	3.92E-03	1.47E-03	3.17E-04	2.22E-06	2.39E-04	2.32E-04
Runway Drains	Construction	Concrete Pavers	1.92E-03	7.38E-04	1.57E-04	1.07E-06	1.18E-04	1.15E-04
Runway Drains	Construction	Concrete Saw	1.17E-03	3.35E-04	5.30E-05	6.61E-07	4.17E-05	4.05E-05
Runway Drains	Construction	Excavators	1.76E-03	5.98E-04	1.32E-04	1.06E-06	9.26E-05	8.98E-05
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	1.56E-04	1.27E-05	3.24E-06	1.05E-07	1.02E-06	9.91E-07
Runway Drains	Construction	Asphalt Paver	3.03E-04	1.17E-04	2.48E-05	1.69E-07	1.87E-05	1.81E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	8.86E-04	3.33E-04	7.15E-05	5.00E-07	5.39E-05	5.23E-05
Runway Drains	Construction	Hoe Ram <sup>4</sup>	7.93E-04	2.70E-04	5.96E-05	4.80E-07	4.18E-05	4.05E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Trenchers	3.57E-04	6.23E-05	1.10E-05	2.05E-07	6.55E-06	6.36E-06
Runway Drains	Construction	Trenchers	2.67E-04	4.66E-05	8.25E-06	1.53E-07	4.90E-06	4.75E-06

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Trenchers	3.57E-04	6.23E-05	1.10E-05	2.05E-07	6.55E-06	6.36E-06
Runway Drains	Construction	Excavators	1.91E-03	6.52E-04	1.44E-04	1.16E-06	1.01E-04	9.79E-05
Runway Drains	Construction	Trenchers	1.45E-04	2.53E-05	4.48E-06	8.35E-08	2.66E-06	2.58E-06
Runway Drains	Construction	Excavators	7.78E-04	2.65E-04	5.85E-05	4.71E-07	4.10E-05	3.98E-05
Runway Drains	Construction	Rotary Cold Mill	1.93E-03	7.84E-04	1.52E-04	1.35E-06	1.63E-04	1.58E-04
Runway Drains	Construction	Grooving Machine	1.93E-03	9.23E-04	1.31E-04	1.15E-06	1.33E-04	1.29E-04
Runway Drains	Construction	Paint Sprayers <sup>5</sup>	8.46E-05	3.24E-05	3.82E-06	8.19E-08	5.41E-06	5.25E-06
Runway Drains	Construction	Skid Steer Loaders	4.27E-03	4.89E-04	1.58E-04	2.88E-06	3.44E-05	3.33E-05
Runway Drains	Construction	Tractor/Loader (Backhoe)	1.16E-02	1.19E-02	2.18E-03	6.42E-06	1.56E-03	1.51E-03
Runway Drains	Construction	Excavators	1.56E-02	5.30E-03	1.17E-03	9.43E-06	8.20E-04	7.96E-04
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	4.08E-04	3.30E-05	8.46E-06	2.74E-07	2.67E-06	2.59E-06
Runway Drains	Construction	Asphalt Paver	7.90E-04	3.04E-04	6.46E-05	4.42E-07	4.87E-05	4.72E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.31E-03	8.68E-04	1.87E-04	1.31E-06	1.41E-04	1.37E-04
Runway Drains	Construction	Tack Truck	1.82E-03	7.61E-04	1.06E-04	2.41E-06	1.21E-04	1.17E-04
Runway Drains	Construction	Concrete Saw	2.10E-03	6.01E-04	9.51E-05	1.19E-06	7.48E-05	7.26E-05
Runway Drains	Construction	Concrete Pavers	3.43E-03	1.32E-03	2.81E-04	1.92E-06	2.12E-04	2.05E-04
Runway Drains	Construction	Concrete Saw	3.78E-03	1.08E-03	1.71E-04	2.13E-06	1.35E-04	1.31E-04
Runway Drains	Construction	Excavators	5.67E-03	1.93E-03	4.26E-04	3.43E-06	2.99E-04	2.90E-04
Runway Drains	Construction	Hoe Ram <sup>4</sup>	1.13E-02	3.86E-03	8.51E-04	6.86E-06	5.97E-04	5.79E-04
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	2.08E-04	1.69E-05	4.31E-06	1.40E-07	1.36E-06	1.32E-06
Runway Drains	Construction	Asphalt Paver	4.03E-04	1.55E-04	3.30E-05	2.25E-07	2.48E-05	2.41E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.18E-03	4.43E-04	9.52E-05	6.66E-07	7.18E-05	6.96E-05
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	8.94E-06	2.56E-06	4.05E-07	5.05E-09	3.19E-07	3.09E-07
Runway Drains	Construction	Concrete Pavers	1.46E-05	5.64E-06	1.20E-06	8.19E-09	9.02E-07	8.75E-07
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.00E-05	7.51E-06	1.61E-06	1.13E-08	1.22E-06	1.18E-06
Runway Drains	Construction	Graders	1.15E-05	3.82E-06	9.70E-07	7.03E-09	5.78E-07	5.61E-07
Runway Drains	Construction	Concrete Saw	1.39E-05	3.98E-06	6.30E-07	7.86E-09	4.96E-07	4.81E-07
Runway Drains	Construction	Excavators	2.09E-05	7.10E-06	1.57E-06	1.26E-08	1.10E-06	1.07E-06
Runway Drains	Construction	Hoe Ram4	4.18E-04	1.42E-04	3.14E-05	2.53E-07	2.20E-05	2.13E-05
Runway Drains	Construction	Excavators	1.07E-03	3.65E-04	8.06E-05	6.50E-07	5.66E-05	5.49E-05
Runway Drains	Construction	Skid Steer Loaders	2.84E-03	3.26E-04	1.06E-04	1.92E-06	2.29E-05	2.22E-05
Runway Drains	Construction	Tractor/Loader (Backhoe)	7.70E-03	7.90E-03	1.45E-03	4.28E-06	1.04E-03	1.01E-03
Runway Drains	Construction	Excavators	1.04E-02	3.53E-03	7.80E-04	6.28E-06	5.47E-04	5.31E-04
Runway Drains	Construction	Rubber Tire Loader	2.29E-03	7.77E-04	1.22E-04	4.89E-06	1.90E-04	1.84E-04
Runway Drains	Construction	Large Concrete Crusher	2.22E-03	5.60E-04	1.52E-04	5.52E-06	1.02E-04	9.92E-05
Runway Markings	Construction	Skid Steer Loaders	3.70E-03	3.00E-04	7.68E-05	2.49E-06	2.42E-05	2.35E-05
Runway Markings	Construction	Advance Joint Sealant Equipment	6.33E-03	2.57E-03	4.98E-04	4.42E-06	5.33E-04	5.17E-04
Runway Markings	Construction	Asphalt Paver	7.18E-03	2.77E-03	5.87E-04	4.02E-06	4.42E-04	4.29E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.10E-02	7.89E-03	1.70E-03	1.19E-05	1.28E-03	1.24E-03
Runway Markings	Construction	Tack Truck	1.65E-02	6.92E-03	9.59E-04	2.19E-05	1.10E-03	1.06E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Concrete Saw	4.65E-03	1.33E-03	2.11E-04	2.63E-06	1.66E-04	1.61E-04
Runway Markings	Construction	Concrete Pavers	7.62E-03	2.94E-03	6.23E-04	4.26E-06	4.69E-04	4.55E-04
Runway Markings	Construction	Concrete Saw	4.07E-04	1.16E-04	1.84E-05	2.30E-07	1.45E-05	1.41E-05
Runway Markings	Construction	Concrete Pavers	6.66E-04	2.56E-04	5.44E-05	3.73E-07	4.10E-05	3.98E-05
Runway Markings	Construction	Concrete Saw	8.74E-03	2.50E-03	3.96E-04	4.93E-06	3.12E-04	3.02E-04
Runway Markings	Construction	Excavators	1.31E-02	4.46E-03	9.85E-04	7.94E-06	6.91E-04	6.70E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	1.49E-02	5.59E-03	1.20E-03	8.40E-06	9.05E-04	8.78E-04
Runway Markings	Construction	Concrete Pavers	7.26E-03	2.80E-03	5.94E-04	4.06E-06	4.47E-04	4.34E-04
Runway Markings	Construction	Concrete Saw	4.44E-03	1.27E-03	2.01E-04	2.51E-06	1.58E-04	1.53E-04
Runway Markings	Construction	Excavators	6.66E-03	2.27E-03	5.00E-04	4.03E-06	3.51E-04	3.40E-04
Runway Markings	Construction	Skid Steer Loaders4	5.92E-04	4.80E-05	1.23E-05	3.98E-07	3.87E-06	3.76E-06
Runway Markings	Construction	Asphalt Paver	1.15E-03	4.42E-04	9.39E-05	6.42E-07	7.07E-05	6.86E-05
Runway Markings	Construction	Rollers (Compactor Roller incl.)	3.36E-03	1.26E-03	2.71E-04	1.90E-06	2.04E-04	1.98E-04
Runway Markings	Construction	Hoe Ram4	3.01E-03	1.02E-03	2.26E-04	1.82E-06	1.58E-04	1.54E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Trenchers	1.35E-03	2.36E-04	4.18E-05	7.78E-07	2.48E-05	2.41E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Trenchers	1.01E-03	1.76E-04	3.13E-05	5.82E-07	1.86E-05	1.80E-05
Runway Markings	Construction	Trenchers	1.35E-03	2.36E-04	4.18E-05	7.78E-07	2.48E-05	2.41E-05
Runway Markings	Construction	Excavators	7.26E-03	2.47E-03	5.45E-04	4.39E-06	3.82E-04	3.71E-04
Runway Markings	Construction	Trenchers	5.50E-04	9.60E-05	1.70E-05	3.16E-07	1.01E-05	9.80E-06
Runway Markings	Construction	Excavators	2.95E-03	1.00E-03	2.22E-04	1.79E-06	1.55E-04	1.51E-04
Runway Markings	Construction	Rotary Cold Mill	7.33E-03	2.97E-03	5.77E-04	5.12E-06	6.17E-04	5.99E-04
Runway Markings	Construction	Grooving Machine	7.32E-03	3.50E-03	4.97E-04	4.38E-06	5.05E-04	4.89E-04
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	3.20E-04	1.23E-04	1.45E-05	3.11E-07	2.05E-05	1.99E-05
Runway Markings	Construction	Skid Steer Loaders	1.62E-02	1.85E-03	6.00E-04	1.09E-05	1.30E-04	1.26E-04
Runway Markings	Construction	Tractor/Loader (Backhoe)	4.38E-02	4.49E-02	8.25E-03	2.43E-05	5.91E-03	5.73E-03
Runway Markings	Construction	Excavators	5.90E-02	2.01E-02	4.43E-03	3.57E-05	3.11E-03	3.02E-03
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	1.55E-03	1.25E-04	3.20E-05	1.04E-06	1.01E-05	9.80E-06
Runway Markings	Construction	Asphalt Paver	2.99E-03	1.15E-03	2.45E-04	1.68E-06	1.85E-04	1.79E-04
Runway Markings	Construction	Rollers (Compactor Roller incl.)	8.76E-03	3.29E-03	7.07E-04	4.95E-06	5.33E-04	5.17E-04
Runway Markings	Construction	Tack Truck	6.90E-03	2.88E-03	4.00E-04	9.12E-06	4.58E-04	4.44E-04
Runway Markings	Construction	Concrete Saw	7.95E-03	2.28E-03	3.60E-04	4.49E-06	2.84E-04	2.75E-04
Runway Markings	Construction	Concrete Pavers	1.30E-02	5.02E-03	1.06E-03	7.28E-06	8.02E-04	7.78E-04
Runway Markings	Construction	Concrete Saw	1.43E-02	4.10E-03	6.48E-04	8.08E-06	5.10E-04	4.95E-04
Runway Markings	Construction	Excavators	2.15E-02	7.31E-03	1.61E-03	1.30E-05	1.13E-03	1.10E-03
Runway Markings	Construction	Hoe Ram <sup>4</sup>	4.30E-02	1.46E-02	3.23E-03	2.60E-05	2.26E-03	2.20E-03
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	7.88E-04	6.39E-05	1.63E-05	5.30E-07	5.15E-06	5.00E-06
Runway Markings	Construction	Asphalt Paver	1.53E-03	5.88E-04	1.25E-04	8.55E-07	9.41E-05	9.13E-05
Runway Markings	Construction	Rollers (Compactor Roller incl.)	4.47E-03	1.68E-03	3.61E-04	2.52E-06	2.72E-04	2.64E-04



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	3.39E-05	9.71E-06	1.54E-06	1.91E-08	1.21E-06	1.17E-06
Runway Markings	Construction	Concrete Pavers	5.55E-05	2.14E-05	4.54E-06	3.10E-08	3.42E-06	3.32E-06
Runway Markings	Construction	Rollers (Compactor Roller incl.)	7.57E-05	2.85E-05	6.12E-06	4.28E-08	4.61E-06	4.47E-06
Runway Markings	Construction	Graders	4.35E-05	1.45E-05	3.68E-06	2.66E-08	2.19E-06	2.13E-06
Runway Markings	Construction	Concrete Saw	5.27E-05	1.51E-05	2.39E-06	2.98E-08	1.88E-06	1.82E-06
Runway Markings	Construction	Excavators	7.91E-05	2.69E-05	5.94E-06	4.79E-08	4.17E-06	4.04E-06
Runway Markings	Construction	Hoe Ram4	1.58E-03	5.39E-04	1.19E-04	9.58E-07	8.34E-05	8.09E-05
Runway Markings	Construction	Excavators	4.07E-03	1.38E-03	3.06E-04	2.46E-06	2.14E-04	2.08E-04
Runway Markings	Construction	Skid Steer Loaders	1.08E-02	1.24E-03	4.00E-04	7.29E-06	8.69E-05	8.43E-05
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.92E-02	3.00E-02	5.50E-03	1.62E-05	3.94E-03	3.82E-03
Runway Markings	Construction	Excavators	3.93E-02	1.34E-02	2.95E-03	2.38E-05	2.07E-03	2.01E-03
Runway Markings	Construction	Rubber Tire Loader	8.68E-03	2.95E-03	4.61E-04	1.85E-05	7.20E-04	6.98E-04
Runway Markings	Construction	Large Concrete Crusher	8.41E-03	2.12E-03	5.78E-04	2.09E-05	3.88E-04	3.76E-04
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Paint Sprayers5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Skid Steer Loaders	5.93E-04	4.80E-05	1.23E-05	3.98E-07	3.87E-06	3.76E-06
Service Road	Construction	Advance Joint Sealant Equipment	1.01E-03	4.10E-04	7.96E-05	7.07E-07	8.52E-05	8.27E-05
Service Road	Construction	Asphalt Paver	1.15E-03	4.42E-04	9.39E-05	6.43E-07	7.08E-05	6.87E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Rollers (Compactor Roller incl.)	3.36E-03	1.26E-03	2.71E-04	1.90E-06	2.05E-04	1.98E-04
Service Road	Construction	Tack Truck	2.65E-03	1.11E-03	1.53E-04	3.50E-06	1.76E-04	1.70E-04
Service Road	Construction	Concrete Saw	7.45E-04	2.13E-04	3.37E-05	4.21E-07	2.65E-05	2.58E-05
Service Road	Construction	Concrete Pavers	1.22E-03	4.70E-04	9.97E-05	6.82E-07	7.51E-05	7.28E-05
Service Road	Construction	Concrete Saw	6.51E-05	1.86E-05	2.95E-06	3.67E-08	2.32E-06	2.25E-06
Service Road	Construction	Concrete Pavers	1.06E-04	4.10E-05	8.71E-06	5.96E-08	6.56E-06	6.37E-06
Service Road	Construction	Concrete Saw	1.40E-03	4.00E-04	6.33E-05	7.89E-07	4.98E-05	4.83E-05
Service Road	Construction	Excavators	2.10E-03	7.14E-04	1.58E-04	1.27E-06	1.11E-04	1.07E-04
Service Road	Construction	Rollers (Compactor Roller incl.)	2.38E-03	8.94E-04	1.92E-04	1.34E-06	1.45E-04	1.40E-04
Service Road	Construction	Concrete Pavers	1.16E-03	4.47E-04	9.50E-05	6.50E-07	7.16E-05	6.94E-05
Service Road	Construction	Concrete Saw	7.10E-04	2.03E-04	3.22E-05	4.01E-07	2.53E-05	2.45E-05
Service Road	Construction	Excavators	1.07E-03	3.62E-04	8.00E-05	6.45E-07	5.61E-05	5.44E-05
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	9.47E-05	7.68E-06	1.96E-06	6.37E-08	6.19E-07	6.01E-07
Service Road	Construction	Asphalt Paver	1.84E-04	7.07E-05	1.50E-05	1.03E-07	1.13E-05	1.10E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	5.37E-04	2.02E-04	4.34E-05	3.03E-07	3.27E-05	3.17E-05
Service Road	Construction	Hoe Ram <sup>4</sup>	4.81E-04	1.64E-04	3.61E-05	2.91E-07	2.53E-05	2.46E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Trenchers	2.16E-04	3.78E-05	6.69E-06	1.24E-07	3.97E-06	3.86E-06
Service Road	Construction	Trenchers	1.62E-04	2.82E-05	5.00E-06	9.31E-08	2.97E-06	2.88E-06
Service Road	Construction	Trenchers	2.16E-04	3.78E-05	6.69E-06	1.24E-07	3.97E-06	3.86E-06
Service Road	Construction	Excavators	1.16E-03	3.95E-04	8.72E-05	7.03E-07	6.12E-05	5.93E-05
Service Road	Construction	Trenchers	8.80E-05	1.53E-05	2.72E-06	5.06E-08	1.62E-06	1.57E-06
Service Road	Construction	Excavators	4.72E-04	1.61E-04	3.54E-05	2.86E-07	2.49E-05	2.41E-05
Service Road	Construction	Rotary Cold Mill	1.17E-03	4.75E-04	9.22E-05	8.19E-07	9.87E-05	9.58E-05
Service Road	Construction	Grooving Machine	1.17E-03	5.59E-04	7.95E-05	7.00E-07	8.07E-05	7.83E-05
Service Road	Construction	Paint Sprayers <sup>5</sup>	5.13E-05	1.96E-05	2.32E-06	4.97E-08	3.28E-06	3.18E-06
Service Road	Construction	Skid Steer Loaders	2.59E-03	2.97E-04	9.60E-05	1.75E-06	2.08E-05	2.02E-05
Service Road	Construction	Tractor/Loader (Backhoe)	7.01E-03	7.19E-03	1.32E-03	3.89E-06	9.46E-04	9.17E-04
Service Road	Construction	Excavators	9.44E-03	3.21E-03	7.09E-04	5.72E-06	4.97E-04	4.83E-04
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	2.47E-04	2.00E-05	5.13E-06	1.66E-07	1.62E-06	1.57E-06
Service Road	Construction	Asphalt Paver	4.79E-04	1.85E-04	3.92E-05	2.68E-07	2.95E-05	2.86E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	1.40E-03	5.26E-04	1.13E-04	7.92E-07	8.53E-05	8.28E-05
Service Road	Construction	Tack Truck	1.10E-03	4.61E-04	6.40E-05	1.46E-06	7.32E-05	7.10E-05
Service Road	Construction	Concrete Saw	1.27E-03	3.64E-04	5.76E-05	7.19E-07	4.54E-05	4.40E-05
Service Road	Construction	Concrete Pavers	2.08E-03	8.02E-04	1.70E-04	1.17E-06	1.28E-04	1.24E-04
Service Road	Construction	Concrete Saw	2.29E-03	6.56E-04	1.04E-04	1.29E-06	8.16E-05	7.92E-05
Service Road	Construction	Excavators	3.44E-03	1.17E-03	2.58E-04	2.08E-06	1.81E-04	1.76E-04
Service Road	Construction	Hoe Ram <sup>4</sup>	6.87E-03	2.34E-03	5.16E-04	4.16E-06	3.62E-04	3.51E-04
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	1.26E-04	1.02E-05	2.62E-06	8.47E-08	8.24E-07	8.00E-07

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Service Road	Construction	Asphalt Paver	2.44E-04	9.41E-05	2.00E-05	1.37E-07	1.51E-05	1.46E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	7.15E-04	2.69E-04	5.77E-05	4.04E-07	4.35E-05	4.22E-05
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	5.42E-06	1.55E-06	2.46E-07	3.06E-09	1.93E-07	1.88E-07
Service Road	Construction	Concrete Pavers	8.87E-06	3.42E-06	7.26E-07	4.97E-09	5.47E-07	5.30E-07
Service Road	Construction	Rollers (Compactor Roller incl.)	1.21E-05	4.55E-06	9.78E-07	6.84E-09	7.38E-07	7.16E-07
Service Road	Construction	Graders	6.95E-06	2.32E-06	5.88E-07	4.26E-09	3.51E-07	3.40E-07
Service Road	Construction	Concrete Saw	8.43E-06	2.42E-06	3.82E-07	4.76E-09	3.01E-07	2.92E-07
Service Road	Construction	Excavators	1.27E-05	4.31E-06	9.51E-07	7.66E-09	6.67E-07	6.47E-07
Service Road	Construction	Hoe Ram4	2.53E-04	8.61E-05	1.90E-05	1.53E-07	1.33E-05	1.29E-05
Service Road	Construction	Excavators	6.51E-04	2.22E-04	4.89E-05	3.94E-07	3.43E-05	3.33E-05
Service Road	Construction	Skid Steer Loaders	1.73E-03	1.98E-04	6.40E-05	1.17E-06	1.39E-05	1.35E-05
Service Road	Construction	Tractor/Loader (Backhoe)	4.67E-03	4.79E-03	8.80E-04	2.60E-06	6.30E-04	6.11E-04
Service Road	Construction	Excavators	6.29E-03	2.14E-03	4.73E-04	3.81E-06	3.32E-04	3.22E-04
Service Road	Construction	Rubber Tire Loader	1.39E-03	4.71E-04	7.37E-05	2.96E-06	1.15E-04	1.12E-04
Service Road	Construction	Large Concrete Crusher	1.34E-03	3.40E-04	9.24E-05	3.34E-06	6.20E-05	6.02E-05
Site Work - 10000 sqft	Construction	Skid Steer Loaders	4.03E-05	3.27E-06	8.37E-07	2.71E-08	2.64E-07	2.56E-07
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	6.89E-05	2.79E-05	5.42E-06	4.81E-08	5.80E-06	5.63E-06



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Asphalt Paver	7.82E-05	3.01E-05	6.39E-06	4.37E-08	4.82E-06	4.67E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.29E-04	8.59E-05	1.85E-05	1.29E-07	1.39E-05	1.35E-05
Site Work - 10000 sqft	Construction	Tack Truck	1.80E-04	7.53E-05	1.04E-05	2.38E-07	1.19E-05	1.16E-05
Site Work - 10000 sqft	Construction	Concrete Saw	5.07E-05	1.45E-05	2.30E-06	2.86E-08	1.81E-06	1.75E-06
Site Work - 10000 sqft	Construction	Concrete Pavers	8.29E-05	3.20E-05	6.78E-06	4.64E-08	5.11E-06	4.96E-06
Site Work - 10000 sqft	Construction	Concrete Saw	4.43E-06	1.27E-06	2.01E-07	2.50E-09	1.58E-07	1.53E-07
Site Work - 10000 sqft	Construction	Concrete Pavers	7.25E-06	2.79E-06	5.93E-07	4.06E-09	4.47E-07	4.33E-07
Site Work - 10000 sqft	Construction	Concrete Saw	9.51E-05	2.72E-05	4.31E-06	5.37E-08	3.39E-06	3.29E-06
Site Work - 10000 sqft	Construction	Excavators	1.43E-04	4.86E-05	1.07E-05	8.65E-08	7.52E-06	7.30E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	1.62E-04	6.08E-05	1.31E-05	9.15E-08	9.86E-06	9.56E-06
Site Work - 10000 sqft	Construction	Concrete Pavers	7.90E-05	3.05E-05	6.47E-06	4.42E-08	4.87E-06	4.73E-06
Site Work - 10000 sqft	Construction	Concrete Saw	4.83E-05	1.38E-05	2.19E-06	2.73E-08	1.72E-06	1.67E-06
Site Work - 10000 sqft	Construction	Excavators	7.25E-05	2.47E-05	5.45E-06	4.39E-08	3.82E-06	3.71E-06
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	6.45E-06	5.23E-07	1.34E-07	4.33E-09	4.22E-08	4.09E-08
Site Work - 10000 sqft	Construction	Asphalt Paver	1.25E-05	4.81E-06	1.02E-06	6.99E-09	7.70E-07	7.47E-07
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	3.66E-05	1.37E-05	2.95E-06	2.07E-08	2.23E-06	2.16E-06
Site Work - 10000 sqft	Construction	Hoe Ram4	3.27E-05	1.11E-05	2.46E-06	1.98E-08	1.73E-06	1.67E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Trenchers	1.47E-05	2.57E-06	4.55E-07	8.47E-09	2.71E-07	2.62E-07
Site Work - 10000 sqft	Construction	Trenchers	1.10E-05	1.92E-06	3.40E-07	6.34E-09	2.02E-07	1.96E-07
Site Work - 10000 sqft	Construction	Trenchers	1.47E-05	2.57E-06	4.55E-07	8.47E-09	2.71E-07	2.62E-07
Site Work - 10000 sqft	Construction	Excavators	7.90E-05	2.69E-05	5.94E-06	4.78E-08	4.16E-06	4.04E-06
Site Work - 10000 sqft	Construction	Trenchers	5.99E-06	1.04E-06	1.85E-07	3.44E-09	1.10E-07	1.07E-07
Site Work - 10000 sqft	Construction	Excavators	3.21E-05	1.09E-05	2.41E-06	1.95E-08	1.69E-06	1.64E-06
Site Work - 10000 sqft	Construction	Rotary Cold Mill	7.98E-05	3.24E-05	6.28E-06	5.57E-08	6.72E-06	6.52E-06
Site Work - 10000 sqft	Construction	Grooving Machine	7.97E-05	3.81E-05	5.41E-06	4.77E-08	5.49E-06	5.33E-06
Site Work - 10000 sqft	Construction	Paint Sprayers5	3.49E-06	1.34E-06	1.58E-07	3.38E-09	2.23E-07	2.17E-07
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.76E-04	2.02E-05	6.54E-06	1.19E-07	1.42E-06	1.38E-06
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	4.77E-04	4.89E-04	8.99E-05	2.65E-07	6.44E-05	6.24E-05
Site Work - 10000 sqft	Construction	Excavators	6.42E-04	2.19E-04	4.83E-05	3.89E-07	3.39E-05	3.28E-05
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	1.68E-05	1.36E-06	3.49E-07	1.13E-08	1.10E-07	1.07E-07
Site Work - 10000 sqft	Construction	Asphalt Paver	3.26E-05	1.26E-05	2.67E-06	1.82E-08	2.01E-06	1.95E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	9.54E-05	3.58E-05	7.70E-06	5.39E-08	5.81E-06	5.63E-06
Site Work - 10000 sqft	Construction	Tack Truck	7.51E-05	3.14E-05	4.36E-06	9.93E-08	4.98E-06	4.83E-06
Site Work - 10000 sqft	Construction	Concrete Saw	8.66E-05	2.48E-05	3.92E-06	4.89E-08	3.09E-06	3.00E-06
Site Work - 10000 sqft	Construction	Concrete Pavers	1.42E-04	5.46E-05	1.16E-05	7.93E-08	8.73E-06	8.47E-06
Site Work - 10000 sqft	Construction	Concrete Saw	1.56E-04	4.46E-05	7.06E-06	8.80E-08	5.56E-06	5.39E-06
Site Work - 10000 sqft	Construction	Excavators	2.34E-04	7.96E-05	1.76E-05	1.42E-07	1.23E-05	1.20E-05
Site Work - 10000 sqft	Construction	Hoe Ram4	4.68E-04	1.59E-04	3.51E-05	2.83E-07	2.46E-05	2.39E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	8.58E-06	6.95E-07	1.78E-07	5.77E-09	5.61E-08	5.44E-08
Site Work - 10000 sqft	Construction	Asphalt Paver	1.66E-05	6.41E-06	1.36E-06	9.31E-09	1.02E-06	9.94E-07
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	4.87E-05	1.83E-05	3.93E-06	2.75E-08	2.96E-06	2.87E-06
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	3.69E-07	1.06E-07	1.67E-08	2.08E-10	1.32E-08	1.28E-08
Site Work - 10000 sqft	Construction	Concrete Pavers	6.04E-07	2.33E-07	4.94E-08	3.38E-10	3.72E-08	3.61E-08
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	8.25E-07	3.10E-07	6.66E-08	4.66E-10	5.02E-08	4.87E-08
Site Work - 10000 sqft	Construction	Graders	4.73E-07	1.58E-07	4.00E-08	2.90E-10	2.39E-08	2.31E-08
Site Work - 10000 sqft	Construction	Concrete Saw	5.74E-07	1.64E-07	2.60E-08	3.24E-10	2.05E-08	1.99E-08
Site Work - 10000 sqft	Construction	Excavators	8.62E-07	2.93E-07	6.47E-08	5.22E-10	4.54E-08	4.40E-08
Site Work - 10000 sqft	Construction	Hoe Ram4	1.72E-05	5.86E-06	1.29E-06	1.04E-08	9.08E-07	8.81E-07
Site Work - 10000 sqft	Construction	Excavators	4.43E-05	1.51E-05	3.33E-06	2.68E-08	2.34E-06	2.27E-06
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.17E-04	1.35E-05	4.36E-06	7.94E-08	9.46E-07	9.17E-07
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	3.18E-04	3.26E-04	5.99E-05	1.77E-07	4.29E-05	4.16E-05
Site Work - 10000 sqft	Construction	Excavators	4.28E-04	1.46E-04	3.22E-05	2.59E-07	2.26E-05	2.19E-05
Site Work - 10000 sqft	Construction	Rubber Tire Loader	9.45E-05	3.21E-05	5.02E-06	2.02E-07	7.84E-06	7.60E-06
Site Work - 10000 sqft	Construction	Large Concrete Crusher	9.15E-05	2.31E-05	6.29E-06	2.28E-07	4.22E-06	4.10E-06
Taxiway Exit	Construction	Skid Steer Loaders	1.80E-03	1.46E-04	3.72E-05	1.21E-06	1.17E-05	1.14E-05

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Advance Joint Sealant Equipment	3.07E-03	1.24E-03	2.41E-04	2.14E-06	2.58E-04	2.51E-04
Taxiway Exit	Construction	Asphalt Paver	3.48E-03	1.34E-03	2.85E-04	1.95E-06	2.14E-04	2.08E-04
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.02E-02	3.82E-03	8.22E-04	5.75E-06	6.20E-04	6.01E-04
Taxiway Exit	Construction	Tack Truck	8.02E-03	3.35E-03	4.65E-04	1.06E-05	5.32E-04	5.16E-04
Taxiway Exit	Construction	Concrete Saw	2.26E-03	6.46E-04	1.02E-04	1.27E-06	8.04E-05	7.80E-05
Taxiway Exit	Construction	Concrete Pavers	3.69E-03	1.42E-03	3.02E-04	2.07E-06	2.28E-04	2.21E-04
Taxiway Exit	Construction	Concrete Saw	1.97E-04	5.65E-05	8.93E-06	1.11E-07	7.03E-06	6.82E-06
Taxiway Exit	Construction	Concrete Pavers	3.23E-04	1.24E-04	2.64E-05	1.81E-07	1.99E-05	1.93E-05
Taxiway Exit	Construction	Concrete Saw	4.24E-03	1.21E-03	1.92E-04	2.39E-06	1.51E-04	1.46E-04
Taxiway Exit	Construction	Excavators	6.36E-03	2.16E-03	4.77E-04	3.85E-06	3.35E-04	3.25E-04
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	7.21E-03	2.71E-03	5.82E-04	4.07E-06	4.39E-04	4.26E-04
Taxiway Exit	Construction	Concrete Pavers	3.52E-03	1.36E-03	2.88E-04	1.97E-06	2.17E-04	2.10E-04
Taxiway Exit	Construction	Concrete Saw	2.15E-03	6.16E-04	9.74E-05	1.21E-06	7.67E-05	7.44E-05
Taxiway Exit	Construction	Excavators	3.23E-03	1.10E-03	2.42E-04	1.95E-06	1.70E-04	1.65E-04
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	2.87E-04	2.33E-05	5.95E-06	1.93E-07	1.88E-06	1.82E-06
Taxiway Exit	Construction	Asphalt Paver	5.56E-04	2.14E-04	4.55E-05	3.11E-07	3.43E-05	3.33E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.63E-03	6.11E-04	1.31E-04	9.19E-07	9.91E-05	9.61E-05
Taxiway Exit	Construction	Hoe Ram <sup>4</sup>	1.46E-03	4.96E-04	1.09E-04	8.83E-07	7.68E-05	7.45E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Trenchers	6.56E-04	1.14E-04	2.03E-05	3.77E-07	1.20E-05	1.17E-05
Taxiway Exit	Construction	Trenchers	4.90E-04	8.55E-05	1.52E-05	2.82E-07	9.00E-06	8.73E-06
Taxiway Exit	Construction	Trenchers	6.56E-04	1.14E-04	2.03E-05	3.77E-07	1.20E-05	1.17E-05
Taxiway Exit	Construction	Excavators	3.52E-03	1.20E-03	2.64E-04	2.13E-06	1.85E-04	1.80E-04
Taxiway Exit	Construction	Trenchers	2.67E-04	4.65E-05	8.24E-06	1.53E-07	4.90E-06	4.75E-06
Taxiway Exit	Construction	Excavators	1.43E-03	4.87E-04	1.07E-04	8.66E-07	7.54E-05	7.31E-05
Taxiway Exit	Construction	Rotary Cold Mill	3.55E-03	1.44E-03	2.79E-04	2.48E-06	2.99E-04	2.90E-04
Taxiway Exit	Construction	Grooving Machine	3.55E-03	1.70E-03	2.41E-04	2.12E-06	2.45E-04	2.37E-04
Taxiway Exit	Construction	Paint Sprayers5	1.55E-04	5.95E-05	7.02E-06	1.51E-07	9.94E-06	9.64E-06
Taxiway Exit	Construction	Skid Steer Loaders	7.84E-03	8.99E-04	2.91E-04	5.30E-06	6.32E-05	6.13E-05
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	2.12E-02	2.18E-02	4.00E-03	1.18E-05	2.87E-03	2.78E-03
Taxiway Exit	Construction	Excavators	2.86E-02	9.73E-03	2.15E-03	1.73E-05	1.51E-03	1.46E-03
Taxiway Exit	Construction	Skid Steer Loaders4	7.49E-04	6.07E-05	1.55E-05	5.03E-07	4.90E-06	4.75E-06
Taxiway Exit	Construction	Asphalt Paver	1.45E-03	5.59E-04	1.19E-04	8.12E-07	8.94E-05	8.68E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	4.25E-03	1.60E-03	3.43E-04	2.40E-06	2.59E-04	2.51E-04
Taxiway Exit	Construction	Tack Truck	3.34E-03	1.40E-03	1.94E-04	4.42E-06	2.22E-04	2.15E-04
Taxiway Exit	Construction	Concrete Saw	3.86E-03	1.10E-03	1.75E-04	2.18E-06	1.37E-04	1.33E-04
Taxiway Exit	Construction	Concrete Pavers	6.31E-03	2.43E-03	5.16E-04	3.53E-06	3.89E-04	3.77E-04
Taxiway Exit	Construction	Concrete Saw	6.94E-03	1.99E-03	3.14E-04	3.92E-06	2.47E-04	2.40E-04
Taxiway Exit	Construction	Excavators	1.04E-02	3.54E-03	7.82E-04	6.30E-06	5.49E-04	5.32E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiway Exit	Construction	Hoe Ram4	2.08E-02	7.09E-03	1.56E-03	1.26E-05	1.10E-03	1.06E-03
Taxiway Exit	Construction	Skid Steer Loaders4	3.82E-04	3.10E-05	7.92E-06	2.57E-07	2.50E-06	2.42E-06
Taxiway Exit	Construction	Asphalt Paver	7.40E-04	2.85E-04	6.06E-05	4.14E-07	4.56E-05	4.43E-05
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.17E-03	8.14E-04	1.75E-04	1.22E-06	1.32E-04	1.28E-04
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	1.64E-05	4.70E-06	7.44E-07	9.28E-09	5.86E-07	5.68E-07
Taxiway Exit	Construction	Concrete Pavers	2.69E-05	1.04E-05	2.20E-06	1.50E-08	1.66E-06	1.61E-06
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	3.67E-05	1.38E-05	2.96E-06	2.07E-08	2.24E-06	2.17E-06
Taxiway Exit	Construction	Graders	2.11E-05	7.02E-06	1.78E-06	1.29E-08	1.06E-06	1.03E-06
Taxiway Exit	Construction	Concrete Saw	2.56E-05	7.32E-06	1.16E-06	1.44E-08	9.11E-07	8.84E-07
Taxiway Exit	Construction	Excavators	3.84E-05	1.31E-05	2.88E-06	2.32E-08	2.02E-06	1.96E-06
Taxiway Exit	Construction	Hoe Ram4	7.67E-04	2.61E-04	5.76E-05	4.65E-07	4.04E-05	3.92E-05
Taxiway Exit	Construction	Excavators	1.97E-03	6.71E-04	1.48E-04	1.19E-06	1.04E-04	1.01E-04
Taxiway Exit	Construction	Skid Steer Loaders	5.23E-03	5.99E-04	1.94E-04	3.53E-06	4.21E-05	4.08E-05
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	1.42E-02	1.45E-02	2.67E-03	7.86E-06	1.91E-03	1.85E-03
Taxiway Exit	Construction	Excavators	1.91E-02	6.49E-03	1.43E-03	1.15E-05	1.00E-03	9.75E-04
Taxiway Exit	Construction	Rubber Tire Loader	4.21E-03	1.43E-03	2.23E-04	8.98E-06	3.49E-04	3.39E-04
Taxiway Exit	Construction	Large Concrete Crusher	4.07E-03	1.03E-03	2.80E-04	1.01E-05	1.88E-04	1.82E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Skid Steer Loaders	2.47E-03	2.00E-04	5.13E-05	1.66E-06	1.62E-05	1.57E-05
Taxiways	Construction	Advance Joint Sealant Equipment	4.23E-03	1.71E-03	3.32E-04	2.95E-06	3.56E-04	3.45E-04
Taxiways	Construction	Asphalt Paver	4.79E-03	1.85E-03	3.92E-04	2.68E-06	2.95E-04	2.87E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	1.40E-02	5.27E-03	1.13E-03	7.92E-06	8.54E-04	8.28E-04
Taxiways	Construction	Tack Truck	1.10E-02	4.62E-03	6.40E-04	1.46E-05	7.33E-04	7.11E-04
Taxiways	Construction	Concrete Saw	3.11E-03	8.90E-04	1.41E-04	1.76E-06	1.11E-04	1.07E-04
Taxiways	Construction	Concrete Pavers	5.09E-03	1.96E-03	4.16E-04	2.85E-06	3.13E-04	3.04E-04
Taxiways	Construction	Concrete Saw	2.72E-04	7.78E-05	1.23E-05	1.53E-07	9.68E-06	9.39E-06
Taxiways	Construction	Concrete Pavers	4.44E-04	1.71E-04	3.64E-05	2.49E-07	2.74E-05	2.66E-05
Taxiways	Construction	Concrete Saw	5.83E-03	1.67E-03	2.64E-04	3.29E-06	2.08E-04	2.02E-04
Taxiways	Construction	Excavators	8.75E-03	2.98E-03	6.58E-04	5.30E-06	4.61E-04	4.48E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.93E-03	3.73E-03	8.02E-04	5.61E-06	6.05E-04	5.86E-04
Taxiways	Construction	Concrete Pavers	4.85E-03	1.87E-03	3.96E-04	2.71E-06	2.99E-04	2.90E-04
Taxiways	Construction	Concrete Saw	2.96E-03	8.48E-04	1.34E-04	1.67E-06	1.06E-04	1.02E-04
Taxiways	Construction	Excavators	4.45E-03	1.51E-03	3.34E-04	2.69E-06	2.34E-04	2.27E-04
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	3.95E-04	3.20E-05	8.20E-06	2.66E-07	2.58E-06	2.51E-06
Taxiways	Construction	Asphalt Paver	7.66E-04	2.95E-04	6.27E-05	4.29E-07	4.72E-05	4.58E-05
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.24E-03	8.42E-04	1.81E-04	1.27E-06	1.37E-04	1.32E-04
Taxiways	Construction	Hoe Ram <sup>4</sup>	2.01E-03	6.83E-04	1.51E-04	1.22E-06	1.06E-04	1.03E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Trenchers	9.04E-04	1.58E-04	2.79E-05	5.20E-07	1.66E-05	1.61E-05
Taxiways	Construction	Trenchers	6.76E-04	1.18E-04	2.09E-05	3.88E-07	1.24E-05	1.20E-05
Taxiways	Construction	Trenchers	9.04E-04	1.58E-04	2.79E-05	5.20E-07	1.66E-05	1.61E-05
Taxiways	Construction	Excavators	4.85E-03	1.65E-03	3.64E-04	2.93E-06	2.55E-04	2.48E-04
Taxiways	Construction	Trenchers	3.67E-04	6.41E-05	1.13E-05	2.11E-07	6.74E-06	6.54E-06
Taxiways	Construction	Excavators	1.97E-03	6.70E-04	1.48E-04	1.19E-06	1.04E-04	1.01E-04
Taxiways	Construction	Rotary Cold Mill	4.90E-03	1.98E-03	3.85E-04	3.42E-06	4.12E-04	4.00E-04
Taxiways	Construction	Grooving Machine	4.89E-03	2.33E-03	3.32E-04	2.92E-06	3.37E-04	3.27E-04
Taxiways	Construction	Paint Sprayers <sup>5</sup>	2.14E-04	8.20E-05	9.66E-06	2.07E-07	1.37E-05	1.33E-05
Taxiways	Construction	Skid Steer Loaders	1.08E-02	1.24E-03	4.01E-04	7.30E-06	8.70E-05	8.44E-05
Taxiways	Construction	Tractor/Loader (Backhoe)	2.92E-02	3.00E-02	5.51E-03	1.62E-05	3.95E-03	3.83E-03
Taxiways	Construction	Excavators	3.94E-02	1.34E-02	2.96E-03	2.39E-05	2.08E-03	2.01E-03
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	1.03E-03	8.36E-05	2.14E-05	6.93E-07	6.74E-06	6.54E-06
Taxiways	Construction	Asphalt Paver	2.00E-03	7.70E-04	1.64E-04	1.12E-06	1.23E-04	1.20E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	5.85E-03	2.20E-03	4.72E-04	3.30E-06	3.56E-04	3.45E-04
Taxiways	Construction	Tack Truck	4.60E-03	1.93E-03	2.67E-04	6.09E-06	3.06E-04	2.96E-04
Taxiways	Construction	Concrete Saw	5.31E-03	1.52E-03	2.41E-04	3.00E-06	1.89E-04	1.84E-04
Taxiways	Construction	Concrete Pavers	8.69E-03	3.35E-03	7.11E-04	4.86E-06	5.36E-04	5.20E-04
Taxiways	Construction	Concrete Saw	9.55E-03	2.74E-03	4.33E-04	5.40E-06	3.41E-04	3.30E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Excavators	1.43E-02	4.88E-03	1.08E-03	8.68E-06	7.56E-04	7.33E-04
Taxiways	Construction	Hoe Ram4	2.87E-02	9.76E-03	2.15E-03	1.74E-05	1.51E-03	1.47E-03
Taxiways	Construction	Skid Steer Loaders4	5.26E-04	4.26E-05	1.09E-05	3.54E-07	3.44E-06	3.34E-06
Taxiways	Construction	Asphalt Paver	1.02E-03	3.93E-04	8.34E-05	5.71E-07	6.28E-05	6.10E-05
Taxiways	Construction	Rollers (Compactor Roller incl.)	2.98E-03	1.12E-03	2.41E-04	1.69E-06	1.82E-04	1.76E-04
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	2.26E-05	6.48E-06	1.03E-06	1.28E-08	8.07E-07	7.83E-07
Taxiways	Construction	Concrete Pavers	3.70E-05	1.43E-05	3.03E-06	2.07E-08	2.28E-06	2.21E-06
Taxiways	Construction	Rollers (Compactor Roller incl.)	5.06E-05	1.90E-05	4.08E-06	2.86E-08	3.08E-06	2.99E-06
Taxiways	Construction	Graders	2.90E-05	9.67E-06	2.45E-06	1.78E-08	1.46E-06	1.42E-06
Taxiways	Construction	Concrete Saw	3.52E-05	1.01E-05	1.59E-06	1.99E-08	1.26E-06	1.22E-06
Taxiways	Construction	Excavators	5.28E-05	1.80E-05	3.97E-06	3.20E-08	2.78E-06	2.70E-06
Taxiways	Construction	Hoe Ram4	1.06E-03	3.60E-04	7.94E-05	6.40E-07	5.57E-05	5.40E-05
Taxiways	Construction	Excavators	2.72E-03	9.25E-04	2.04E-04	1.65E-06	1.43E-04	1.39E-04
Taxiways	Construction	Skid Steer Loaders	7.20E-03	8.25E-04	2.67E-04	4.87E-06	5.80E-05	5.62E-05
Taxiways	Construction	Tractor/Loader (Backhoe)	1.95E-02	2.00E-02	3.67E-03	1.08E-05	2.63E-03	2.55E-03
Taxiways	Construction	Excavators	2.63E-02	8.94E-03	1.97E-03	1.59E-05	1.38E-03	1.34E-03
Taxiways	Construction	Rubber Tire Loader	5.79E-03	1.97E-03	3.08E-04	1.24E-05	4.81E-04	4.66E-04

Project	Construction Activity	Equipment Type	Emissions (tons/yr)					
			NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Taxiways	Construction	Large Concrete Crusher	5.61E-03	1.42E-03	3.86E-04	1.40E-05	2.59E-04	2.51E-04
Asphalt Plant	Plant Mobile Source	Generator	4.31E-02	2.03E-02	5.28E-03	2.03E-05	2.74E-03	2.66E-03
Asphalt Plant	Plant Mobile Source	Pumps	5.60E-02	2.34E-02	5.68E-03	2.95E-05	2.74E-03	2.65E-03
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	5.39E-02	1.83E-02	2.86E-03	1.15E-04	4.48E-03	4.34E-03
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	8.67E-01	2.53E-01	5.50E-02	5.00E-04	3.65E-02	3.54E-02
Concrete Plant	Plant Mobile Source	Generator	8.62E-02	4.07E-02	1.06E-02	4.06E-05	5.48E-03	5.31E-03
Concrete Plant	Plant Mobile Source	Pumps	1.12E-01	4.68E-02	1.14E-02	5.90E-05	5.47E-03	5.31E-03
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	1.08E-01	3.66E-02	5.73E-03	2.30E-04	8.95E-03	8.68E-03
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	1.73E+00	5.06E-01	1.10E-01	9.99E-04	7.31E-02	7.09E-02

**Table C9. 2024 construction-phase non-road equipment greenhouse gas emissions.**

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Skid Steer Loaders	8.29E-06	3.01E-05	6.31E-01	6.40E-01
Access Road	Construction	Advance Joint Sealant Equipment	1.65E-05	4.52E-05	9.47E-01	9.61E-01
Access Road	Construction	Asphalt Paver	1.46E-05	3.99E-05	8.37E-01	8.49E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	4.29E-05	1.18E-04	2.47E+00	2.51E+00
Access Road	Construction	Tack Truck	5.02E-05	2.38E-04	4.99E+00	5.06E+00
Access Road	Construction	Concrete Saw	1.35E-05	2.85E-05	5.97E-01	6.06E-01
Access Road	Construction	Concrete Pavers	1.55E-05	4.23E-05	8.88E-01	9.01E-01
Access Road	Construction	Concrete Saw	1.18E-06	2.49E-06	5.22E-02	5.29E-02
Access Road	Construction	Concrete Pavers	1.35E-06	3.70E-06	7.76E-02	7.87E-02
Access Road	Construction	Concrete Saw	2.53E-05	5.34E-05	1.12E+00	1.14E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Excavators	2.62E-05	7.91E-05	1.66E+00	1.68E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	3.04E-05	8.34E-05	1.75E+00	1.77E+00
Access Road	Construction	Concrete Pavers	1.47E-05	4.04E-05	8.46E-01	8.58E-01
Access Road	Construction	Concrete Saw	1.29E-05	2.71E-05	5.69E-01	5.77E-01
Access Road	Construction	Excavators	1.33E-05	4.02E-05	8.42E-01	8.54E-01
Access Road	Construction	Skid Steer Loaders <sup>4</sup>	1.32E-06	4.80E-06	1.01E-01	1.02E-01
Access Road	Construction	Asphalt Paver	2.33E-06	6.38E-06	1.34E-01	1.36E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	6.86E-06	1.88E-05	3.95E-01	4.01E-01
Access Road	Construction	Hoe Ram <sup>4</sup>	6.00E-06	1.81E-05	3.80E-01	3.86E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Trenchers	3.55E-06	8.95E-06	1.88E-01	1.90E-01
Access Road	Construction	Trenchers	2.66E-06	6.69E-06	1.40E-01	1.42E-01
Access Road	Construction	Trenchers	3.55E-06	8.95E-06	1.88E-01	1.90E-01
Access Road	Construction	Excavators	1.45E-05	4.38E-05	9.18E-01	9.31E-01
Access Road	Construction	Trenchers	1.44E-06	3.64E-06	7.63E-02	7.74E-02
Access Road	Construction	Excavators	5.89E-06	1.78E-05	3.73E-01	3.79E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Rotary Cold Mill	1.91E-05	5.23E-05	1.10E+00	1.11E+00
Access Road	Construction	Grooving Machine	1.27E-05	4.36E-05	9.14E-01	9.27E-01
Access Road	Construction	Paint Sprayers5	6.74E-07	3.45E-06	7.25E-02	7.35E-02
Access Road	Construction	Skid Steer Loaders	4.99E-05	1.32E-04	2.77E+00	2.81E+00
Access Road	Construction	Tractor/Loader (Backhoe)	1.66E-04	2.42E-04	5.06E+00	5.14E+00
Access Road	Construction	Excavators	1.18E-04	3.56E-04	7.46E+00	7.57E+00
Access Road	Construction	Skid Steer Loaders4	3.46E-06	1.25E-05	2.63E-01	2.67E-01
Access Road	Construction	Asphalt Paver	6.08E-06	1.66E-05	3.49E-01	3.54E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	1.79E-05	4.92E-05	1.03E+00	1.05E+00
Access Road	Construction	Tack Truck	2.09E-05	9.93E-05	2.08E+00	2.11E+00
Access Road	Construction	Concrete Saw	2.31E-05	4.86E-05	1.02E+00	1.04E+00
Access Road	Construction	Concrete Pavers	2.64E-05	7.24E-05	1.52E+00	1.54E+00
Access Road	Construction	Concrete Saw	4.15E-05	8.75E-05	1.84E+00	1.86E+00
Access Road	Construction	Excavators	4.29E-05	1.30E-04	2.72E+00	2.76E+00
Access Road	Construction	Hoe Ram4	8.58E-05	2.59E-04	5.43E+00	5.51E+00
Access Road	Construction	Skid Steer Loaders4	1.76E-06	6.39E-06	1.34E-01	1.36E-01
Access Road	Construction	Asphalt Paver	3.10E-06	8.49E-06	1.78E-01	1.81E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	9.14E-06	2.51E-05	5.26E-01	5.33E-01
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Construction	Concrete Saw	9.83E-08	2.07E-07	4.35E-03	4.41E-03
Access Road	Construction	Concrete Pavers	1.13E-07	3.08E-07	6.46E-03	6.56E-03
Access Road	Construction	Rollers (Compactor Roller incl.)	1.55E-07	4.25E-07	8.91E-03	9.04E-03
Access Road	Construction	Graders	8.90E-08	2.66E-07	5.57E-03	5.65E-03
Access Road	Construction	Concrete Saw	1.53E-07	3.22E-07	6.76E-03	6.86E-03
Access Road	Construction	Excavators	1.58E-07	4.77E-07	1.00E-02	1.02E-02
Access Road	Construction	Hoe Ram4	3.16E-06	9.55E-06	2.00E-01	2.03E-01
Access Road	Construction	Excavators	8.12E-06	2.46E-05	5.15E-01	5.22E-01
Access Road	Construction	Skid Steer Loaders	3.33E-05	8.80E-05	1.85E+00	1.87E+00
Access Road	Construction	Tractor/Loader (Backhoe)	1.11E-04	1.61E-04	3.38E+00	3.43E+00
Access Road	Construction	Excavators	7.85E-05	2.37E-04	4.98E+00	5.05E+00
Access Road	Construction	Rubber Tire Loader	2.49E-05	2.14E-04	4.49E+00	4.55E+00
Access Road	Construction	Large Concrete Crusher	3.08E-05	2.40E-04	5.04E+00	5.11E+00
Airfield Lighting	Construction	Skid Steer Loaders	2.27E-07	8.24E-07	1.73E-02	1.75E-02
Airfield Lighting	Construction	Advance Joint Sealant Equipment	4.52E-07	1.24E-06	2.60E-02	2.63E-02
Airfield Lighting	Construction	Asphalt Paver	3.99E-07	1.09E-06	2.29E-02	2.33E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.18E-06	3.23E-06	6.77E-02	6.87E-02
Airfield Lighting	Construction	Tack Truck	1.37E-06	6.52E-06	1.37E-01	1.39E-01
Airfield Lighting	Construction	Concrete Saw	3.70E-07	7.80E-07	1.64E-02	1.66E-02
Airfield Lighting	Construction	Concrete Pavers	4.24E-07	1.16E-06	2.43E-02	2.47E-02
Airfield Lighting	Construction	Concrete Saw	3.23E-08	6.81E-08	1.43E-03	1.45E-03
Airfield Lighting	Construction	Concrete Pavers	3.70E-08	1.01E-07	2.13E-03	2.16E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Concrete Saw	6.94E-07	1.46E-06	3.07E-02	3.12E-02
Airfield Lighting	Construction	Excavators	7.17E-07	2.17E-06	4.54E-02	4.61E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	8.33E-07	2.29E-06	4.79E-02	4.86E-02
Airfield Lighting	Construction	Concrete Pavers	4.04E-07	1.11E-06	2.32E-02	2.35E-02
Airfield Lighting	Construction	Concrete Saw	3.53E-07	7.43E-07	1.56E-02	1.58E-02
Airfield Lighting	Construction	Excavators	3.64E-07	1.10E-06	2.31E-02	2.34E-02
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	3.63E-08	1.32E-07	2.76E-03	2.80E-03
Airfield Lighting	Construction	Asphalt Paver	6.39E-08	1.75E-07	3.66E-03	3.72E-03
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	1.88E-07	5.16E-07	1.08E-02	1.10E-02
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	1.64E-07	4.97E-07	1.04E-02	1.06E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Trenchers	9.73E-08	2.45E-07	5.14E-03	5.22E-03
Airfield Lighting	Construction	Trenchers	7.28E-08	1.83E-07	3.85E-03	3.90E-03
Airfield Lighting	Construction	Trenchers	9.73E-08	2.45E-07	5.14E-03	5.22E-03
Airfield Lighting	Construction	Excavators	3.97E-07	1.20E-06	2.52E-02	2.55E-02
Airfield Lighting	Construction	Trenchers	3.96E-08	9.97E-08	2.09E-03	2.12E-03



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Excavators	1.61E-07	4.88E-07	1.02E-02	1.04E-02
Airfield Lighting	Construction	Rotary Cold Mill	5.24E-07	1.43E-06	3.01E-02	3.05E-02
Airfield Lighting	Construction	Grooving Machine	3.49E-07	1.19E-06	2.50E-02	2.54E-02
Airfield Lighting	Construction	Paint Sprayers <sup>5</sup>	1.85E-08	9.46E-08	1.99E-03	2.01E-03
Airfield Lighting	Construction	Skid Steer Loaders	1.37E-06	3.62E-06	7.59E-02	7.70E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	4.56E-06	6.63E-06	1.39E-01	1.41E-01
Airfield Lighting	Construction	Excavators	3.23E-06	9.75E-06	2.05E-01	2.07E-01
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	9.47E-08	3.43E-07	7.21E-03	7.31E-03
Airfield Lighting	Construction	Asphalt Paver	1.67E-07	4.56E-07	9.56E-03	9.70E-03
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	4.91E-07	1.35E-06	2.82E-02	2.86E-02
Airfield Lighting	Construction	Tack Truck	5.73E-07	2.72E-06	5.71E-02	5.79E-02
Airfield Lighting	Construction	Concrete Saw	6.32E-07	1.33E-06	2.79E-02	2.84E-02
Airfield Lighting	Construction	Concrete Pavers	7.24E-07	1.98E-06	4.16E-02	4.22E-02
Airfield Lighting	Construction	Concrete Saw	1.14E-06	2.40E-06	5.03E-02	5.10E-02
Airfield Lighting	Construction	Excavators	1.17E-06	3.55E-06	7.44E-02	7.55E-02
Airfield Lighting	Construction	Hoe Ram <sup>4</sup>	2.35E-06	7.10E-06	1.49E-01	1.51E-01
Airfield Lighting	Construction	Skid Steer Loaders <sup>4</sup>	4.83E-08	1.75E-07	3.68E-03	3.73E-03
Airfield Lighting	Construction	Asphalt Paver	8.50E-08	2.33E-07	4.88E-03	4.95E-03
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	2.50E-07	6.87E-07	1.44E-02	1.46E-02
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Airfield Lighting	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Construction	Concrete Saw	2.69E-09	5.68E-09	1.19E-04	1.21E-04
Airfield Lighting	Construction	Concrete Pavers	3.09E-09	8.45E-09	1.77E-04	1.80E-04
Airfield Lighting	Construction	Rollers (Compactor Roller incl.)	4.24E-09	1.16E-08	2.44E-04	2.48E-04
Airfield Lighting	Construction	Graders	2.44E-09	7.28E-09	1.53E-04	1.55E-04
Airfield Lighting	Construction	Concrete Saw	4.19E-09	8.83E-09	1.85E-04	1.88E-04
Airfield Lighting	Construction	Excavators	4.33E-09	1.31E-08	2.74E-04	2.78E-04
Airfield Lighting	Construction	Hoe Ram4	8.66E-08	2.62E-07	5.48E-03	5.56E-03
Airfield Lighting	Construction	Excavators	2.23E-07	6.73E-07	1.41E-02	1.43E-02
Airfield Lighting	Construction	Skid Steer Loaders	9.11E-07	2.41E-06	5.06E-02	5.13E-02
Airfield Lighting	Construction	Tractor/Loader (Backhoe)	3.04E-06	4.42E-06	9.25E-02	9.40E-02
Airfield Lighting	Construction	Excavators	2.15E-06	6.50E-06	1.36E-01	1.38E-01
Airfield Lighting	Construction	Rubber Tire Loader	6.83E-07	5.87E-06	1.23E-01	1.25E-01
Airfield Lighting	Construction	Large Concrete Crusher	8.45E-07	6.58E-06	1.38E-01	1.40E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	1.83E-06	6.65E-06	1.40E-01	1.42E-01
Demolition - Asphalt	Construction	Advance Joint Sealant Equipment	3.65E-06	1.00E-05	2.10E-01	2.13E-01
Demolition - Asphalt	Construction	Asphalt Paver	3.23E-06	8.84E-06	1.85E-01	1.88E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	9.51E-06	2.61E-05	5.47E-01	5.55E-01
Demolition - Asphalt	Construction	Tack Truck	1.11E-05	5.27E-05	1.11E+00	1.12E+00
Demolition - Asphalt	Construction	Concrete Saw	2.99E-06	6.30E-06	1.32E-01	1.34E-01
Demolition - Asphalt	Construction	Concrete Pavers	3.42E-06	9.38E-06	1.97E-01	1.99E-01
Demolition - Asphalt	Construction	Concrete Saw	2.61E-07	5.51E-07	1.15E-02	1.17E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Concrete Pavers	2.99E-07	8.19E-07	1.72E-02	1.74E-02
Demolition - Asphalt	Construction	Concrete Saw	5.61E-06	1.18E-05	2.48E-01	2.52E-01
Demolition - Asphalt	Construction	Excavators	5.80E-06	1.75E-05	3.67E-01	3.72E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	6.73E-06	1.85E-05	3.87E-01	3.93E-01
Demolition - Asphalt	Construction	Concrete Pavers	3.26E-06	8.94E-06	1.87E-01	1.90E-01
Demolition - Asphalt	Construction	Concrete Saw	2.85E-06	6.00E-06	1.26E-01	1.28E-01
Demolition - Asphalt	Construction	Excavators	2.94E-06	8.89E-06	1.86E-01	1.89E-01
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	2.93E-07	1.06E-06	2.23E-02	2.26E-02
Demolition - Asphalt	Construction	Asphalt Paver	5.16E-07	1.41E-06	2.96E-02	3.00E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	1.52E-06	4.17E-06	8.74E-02	8.87E-02
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	1.33E-06	4.02E-06	8.42E-02	8.54E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Trenchers	7.87E-07	1.98E-06	4.16E-02	4.22E-02
Demolition - Asphalt	Construction	Trenchers	5.88E-07	1.48E-06	3.11E-02	3.15E-02
Demolition - Asphalt	Construction	Trenchers	7.87E-07	1.98E-06	4.16E-02	4.22E-02
Demolition - Asphalt	Construction	Excavators	3.21E-06	9.69E-06	2.03E-01	2.06E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Trenchers	3.20E-07	8.05E-07	1.69E-02	1.71E-02
Demolition - Asphalt	Construction	Excavators	1.30E-06	3.94E-06	8.26E-02	8.38E-02
Demolition - Asphalt	Construction	Rotary Cold Mill	4.23E-06	1.16E-05	2.43E-01	2.46E-01
Demolition - Asphalt	Construction	Grooving Machine	2.82E-06	9.65E-06	2.02E-01	2.05E-01
Demolition - Asphalt	Construction	Paint Sprayers <sup>5</sup>	1.49E-07	7.65E-07	1.60E-02	1.63E-02
Demolition - Asphalt	Construction	Skid Steer Loaders	1.10E-05	2.92E-05	6.13E-01	6.22E-01
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	3.68E-05	5.36E-05	1.12E+00	1.14E+00
Demolition - Asphalt	Construction	Excavators	2.61E-05	7.88E-05	1.65E+00	1.68E+00
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	7.65E-07	2.78E-06	5.82E-02	5.90E-02
Demolition - Asphalt	Construction	Asphalt Paver	1.35E-06	3.69E-06	7.72E-02	7.84E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	3.97E-06	1.09E-05	2.28E-01	2.31E-01
Demolition - Asphalt	Construction	Tack Truck	4.63E-06	2.20E-05	4.61E-01	4.68E-01
Demolition - Asphalt	Construction	Concrete Saw	5.11E-06	1.08E-05	2.26E-01	2.29E-01
Demolition - Asphalt	Construction	Concrete Pavers	5.85E-06	1.60E-05	3.36E-01	3.41E-01
Demolition - Asphalt	Construction	Concrete Saw	9.19E-06	1.94E-05	4.06E-01	4.12E-01
Demolition - Asphalt	Construction	Excavators	9.49E-06	2.87E-05	6.01E-01	6.10E-01
Demolition - Asphalt	Construction	Hoe Ram <sup>4</sup>	1.90E-05	5.74E-05	1.20E+00	1.22E+00
Demolition - Asphalt	Construction	Skid Steer Loaders <sup>4</sup>	3.90E-07	1.42E-06	2.97E-02	3.01E-02
Demolition - Asphalt	Construction	Asphalt Paver	6.87E-07	1.88E-06	3.94E-02	4.00E-02
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	2.02E-06	5.55E-06	1.16E-01	1.18E-01
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Construction	Concrete Saw	2.18E-08	4.59E-08	9.62E-04	9.77E-04
Demolition - Asphalt	Construction	Concrete Pavers	2.49E-08	6.83E-08	1.43E-03	1.45E-03
Demolition - Asphalt	Construction	Rollers (Compactor Roller incl.)	3.43E-08	9.41E-08	1.97E-03	2.00E-03
Demolition - Asphalt	Construction	Graders	1.97E-08	5.88E-08	1.23E-03	1.25E-03
Demolition - Asphalt	Construction	Concrete Saw	3.39E-08	7.14E-08	1.50E-03	1.52E-03
Demolition - Asphalt	Construction	Excavators	3.50E-08	1.06E-07	2.22E-03	2.25E-03
Demolition - Asphalt	Construction	Hoe Ram4	6.99E-07	2.11E-06	4.43E-02	4.50E-02
Demolition - Asphalt	Construction	Excavators	1.80E-06	5.44E-06	1.14E-01	1.16E-01
Demolition - Asphalt	Construction	Skid Steer Loaders	7.36E-06	1.95E-05	4.09E-01	4.15E-01
Demolition - Asphalt	Construction	Tractor/Loader (Backhoe)	2.45E-05	3.57E-05	7.47E-01	7.59E-01
Demolition - Asphalt	Construction	Excavators	1.74E-05	5.25E-05	1.10E+00	1.12E+00
Demolition - Asphalt	Construction	Rubber Tire Loader	5.52E-06	4.74E-05	9.95E-01	1.01E+00
Demolition - Asphalt	Construction	Large Concrete Crusher	6.83E-06	5.32E-05	1.12E+00	1.13E+00
Demolition - Concrete	Construction	Skid Steer Loaders	1.57E-06	5.69E-06	1.19E-01	1.21E-01
Demolition - Concrete	Construction	Advance Joint Sealant Equipment	3.13E-06	8.55E-06	1.79E-01	1.82E-01
Demolition - Concrete	Construction	Asphalt Paver	2.76E-06	7.56E-06	1.58E-01	1.61E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	8.13E-06	2.23E-05	4.68E-01	4.75E-01
Demolition - Concrete	Construction	Tack Truck	9.50E-06	4.51E-05	9.46E-01	9.59E-01
Demolition - Concrete	Construction	Concrete Saw	2.56E-06	5.39E-06	1.13E-01	1.15E-01
Demolition - Concrete	Construction	Concrete Pavers	2.93E-06	8.02E-06	1.68E-01	1.71E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Concrete Saw	2.23E-07	4.71E-07	9.88E-03	1.00E-02
Demolition - Concrete	Construction	Concrete Pavers	2.56E-07	7.01E-07	1.47E-02	1.49E-02
Demolition - Concrete	Construction	Concrete Saw	4.80E-06	1.01E-05	2.12E-01	2.15E-01
Demolition - Concrete	Construction	Excavators	4.96E-06	1.50E-05	3.14E-01	3.19E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	5.76E-06	1.58E-05	3.31E-01	3.36E-01
Demolition - Concrete	Construction	Concrete Pavers	2.79E-06	7.64E-06	1.60E-01	1.63E-01
Demolition - Concrete	Construction	Concrete Saw	2.44E-06	5.14E-06	1.08E-01	1.09E-01
Demolition - Concrete	Construction	Excavators	2.52E-06	7.61E-06	1.59E-01	1.62E-01
Demolition - Concrete	Construction	Skid Steer Loaders4	2.51E-07	9.10E-07	1.91E-02	1.94E-02
Demolition - Concrete	Construction	Asphalt Paver	4.41E-07	1.21E-06	2.53E-02	2.57E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.30E-06	3.57E-06	7.48E-02	7.59E-02
Demolition - Concrete	Construction	Hoe Ram4	1.14E-06	3.44E-06	7.20E-02	7.31E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Trenchers	6.73E-07	1.69E-06	3.55E-02	3.61E-02
Demolition - Concrete	Construction	Trenchers	5.03E-07	1.27E-06	2.66E-02	2.70E-02
Demolition - Concrete	Construction	Trenchers	6.73E-07	1.69E-06	3.55E-02	3.61E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Excavators	2.74E-06	8.29E-06	1.74E-01	1.76E-01
Demolition - Concrete	Construction	Trenchers	2.74E-07	6.89E-07	1.45E-02	1.47E-02
Demolition - Concrete	Construction	Excavators	1.12E-06	3.37E-06	7.07E-02	7.17E-02
Demolition - Concrete	Construction	Rotary Cold Mill	3.62E-06	9.91E-06	2.08E-01	2.11E-01
Demolition - Concrete	Construction	Grooving Machine	2.41E-06	8.26E-06	1.73E-01	1.76E-01
Demolition - Concrete	Construction	Paint Sprayers <sup>5</sup>	1.28E-07	6.54E-07	1.37E-02	1.39E-02
Demolition - Concrete	Construction	Skid Steer Loaders	9.45E-06	2.50E-05	5.24E-01	5.32E-01
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	3.15E-05	4.58E-05	9.59E-01	9.74E-01
Demolition - Concrete	Construction	Excavators	2.23E-05	6.74E-05	1.41E+00	1.43E+00
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	6.54E-07	2.37E-06	4.98E-02	5.05E-02
Demolition - Concrete	Construction	Asphalt Paver	1.15E-06	3.15E-06	6.61E-02	6.70E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	3.39E-06	9.31E-06	1.95E-01	1.98E-01
Demolition - Concrete	Construction	Tack Truck	3.96E-06	1.88E-05	3.94E-01	4.00E-01
Demolition - Concrete	Construction	Concrete Saw	4.37E-06	9.21E-06	1.93E-01	1.96E-01
Demolition - Concrete	Construction	Concrete Pavers	5.01E-06	1.37E-05	2.87E-01	2.91E-01
Demolition - Concrete	Construction	Concrete Saw	7.86E-06	1.66E-05	3.48E-01	3.53E-01
Demolition - Concrete	Construction	Excavators	8.12E-06	2.45E-05	5.14E-01	5.22E-01
Demolition - Concrete	Construction	Hoe Ram <sup>4</sup>	1.62E-05	4.91E-05	1.03E+00	1.04E+00
Demolition - Concrete	Construction	Skid Steer Loaders <sup>4</sup>	3.34E-07	1.21E-06	2.54E-02	2.58E-02
Demolition - Concrete	Construction	Asphalt Paver	5.87E-07	1.61E-06	3.37E-02	3.42E-02
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	1.73E-06	4.75E-06	9.95E-02	1.01E-01
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Construction	Concrete Saw	1.86E-08	3.92E-08	8.23E-04	8.35E-04
Demolition - Concrete	Construction	Concrete Pavers	2.13E-08	5.84E-08	1.22E-03	1.24E-03
Demolition - Concrete	Construction	Rollers (Compactor Roller incl.)	2.93E-08	8.05E-08	1.69E-03	1.71E-03
Demolition - Concrete	Construction	Graders	1.69E-08	5.03E-08	1.05E-03	1.07E-03
Demolition - Concrete	Construction	Concrete Saw	2.90E-08	6.10E-08	1.28E-03	1.30E-03
Demolition - Concrete	Construction	Excavators	2.99E-08	9.04E-08	1.90E-03	1.92E-03
Demolition - Concrete	Construction	Hoe Ram4	5.98E-07	1.81E-06	3.79E-02	3.84E-02
Demolition - Concrete	Construction	Excavators	1.54E-06	4.65E-06	9.75E-02	9.89E-02
Demolition - Concrete	Construction	Skid Steer Loaders	6.30E-06	1.67E-05	3.50E-01	3.55E-01
Demolition - Concrete	Construction	Tractor/Loader (Backhoe)	2.10E-05	3.05E-05	6.39E-01	6.49E-01
Demolition - Concrete	Construction	Excavators	1.49E-05	4.49E-05	9.42E-01	9.56E-01
Demolition - Concrete	Construction	Rubber Tire Loader	4.72E-06	4.06E-05	8.51E-01	8.62E-01
Demolition - Concrete	Construction	Large Concrete Crusher	5.84E-06	4.55E-05	9.55E-01	9.67E-01
Drainage System	Construction	Skid Steer Loaders	5.07E-07	1.84E-06	3.86E-02	3.91E-02
Drainage System	Construction	Advance Joint Sealant Equipment	1.01E-06	2.76E-06	5.79E-02	5.88E-02
Drainage System	Construction	Asphalt Paver	8.92E-07	2.44E-06	5.12E-02	5.19E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	2.63E-06	7.21E-06	1.51E-01	1.53E-01
Drainage System	Construction	Tack Truck	3.07E-06	1.46E-05	3.06E-01	3.10E-01
Drainage System	Construction	Concrete Saw	8.26E-07	1.74E-06	3.65E-02	3.71E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Concrete Pavers	9.46E-07	2.59E-06	5.43E-02	5.51E-02
Drainage System	Construction	Concrete Saw	7.22E-08	1.52E-07	3.19E-03	3.24E-03
Drainage System	Construction	Concrete Pavers	8.27E-08	2.26E-07	4.75E-03	4.81E-03
Drainage System	Construction	Concrete Saw	1.55E-06	3.27E-06	6.85E-02	6.96E-02
Drainage System	Construction	Excavators	1.60E-06	4.84E-06	1.01E-01	1.03E-01
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.86E-06	5.10E-06	1.07E-01	1.09E-01
Drainage System	Construction	Concrete Pavers	9.02E-07	2.47E-06	5.18E-02	5.25E-02
Drainage System	Construction	Concrete Saw	7.87E-07	1.66E-06	3.48E-02	3.53E-02
Drainage System	Construction	Excavators	8.13E-07	2.46E-06	5.15E-02	5.23E-02
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	8.10E-08	2.94E-07	6.17E-03	6.25E-03
Drainage System	Construction	Asphalt Paver	1.43E-07	3.90E-07	8.18E-03	8.30E-03
Drainage System	Construction	Rollers (Compactor Roller incl.)	4.20E-07	1.15E-06	2.42E-02	2.45E-02
Drainage System	Construction	Hoe Ram <sup>4</sup>	3.67E-07	1.11E-06	2.33E-02	2.36E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Trenchers	2.17E-07	5.47E-07	1.15E-02	1.17E-02
Drainage System	Construction	Trenchers	1.63E-07	4.09E-07	8.59E-03	8.71E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Trenchers	2.17E-07	5.47E-07	1.15E-02	1.17E-02
Drainage System	Construction	Excavators	8.86E-07	2.68E-06	5.62E-02	5.70E-02
Drainage System	Construction	Trenchers	8.84E-08	2.23E-07	4.67E-03	4.74E-03
Drainage System	Construction	Excavators	3.60E-07	1.09E-06	2.28E-02	2.32E-02
Drainage System	Construction	Rotary Cold Mill	1.17E-06	3.20E-06	6.71E-02	6.81E-02
Drainage System	Construction	Grooving Machine	7.79E-07	2.67E-06	5.59E-02	5.67E-02
Drainage System	Construction	Paint Sprayers <sup>5</sup>	4.12E-08	2.11E-07	4.43E-03	4.49E-03
Drainage System	Construction	Skid Steer Loaders	3.05E-06	8.08E-06	1.69E-01	1.72E-01
Drainage System	Construction	Tractor/Loader (Backhoe)	1.02E-05	1.48E-05	3.10E-01	3.15E-01
Drainage System	Construction	Excavators	7.21E-06	2.18E-05	4.57E-01	4.63E-01
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	2.11E-07	7.67E-07	1.61E-02	1.63E-02
Drainage System	Construction	Asphalt Paver	3.72E-07	1.02E-06	2.13E-02	2.17E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	1.10E-06	3.01E-06	6.30E-02	6.39E-02
Drainage System	Construction	Tack Truck	1.28E-06	6.07E-06	1.27E-01	1.29E-01
Drainage System	Construction	Concrete Saw	1.41E-06	2.98E-06	6.24E-02	6.33E-02
Drainage System	Construction	Concrete Pavers	1.62E-06	4.43E-06	9.28E-02	9.41E-02
Drainage System	Construction	Concrete Saw	2.54E-06	5.35E-06	1.12E-01	1.14E-01
Drainage System	Construction	Excavators	2.62E-06	7.93E-06	1.66E-01	1.69E-01
Drainage System	Construction	Hoe Ram <sup>4</sup>	5.25E-06	1.59E-05	3.32E-01	3.37E-01
Drainage System	Construction	Skid Steer Loaders <sup>4</sup>	1.08E-07	3.91E-07	8.21E-03	8.32E-03
Drainage System	Construction	Asphalt Paver	1.90E-07	5.19E-07	1.09E-02	1.10E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	5.59E-07	1.53E-06	3.22E-02	3.26E-02
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Construction	Concrete Saw	6.02E-09	1.27E-08	2.66E-04	2.70E-04
Drainage System	Construction	Concrete Pavers	6.89E-09	1.89E-08	3.95E-04	4.01E-04
Drainage System	Construction	Rollers (Compactor Roller incl.)	9.47E-09	2.60E-08	5.45E-04	5.53E-04
Drainage System	Construction	Graders	5.45E-09	1.62E-08	3.41E-04	3.45E-04
Drainage System	Construction	Concrete Saw	9.36E-09	1.97E-08	4.14E-04	4.20E-04
Drainage System	Construction	Excavators	9.67E-09	2.92E-08	6.12E-04	6.21E-04
Drainage System	Construction	Hoe Ram4	1.93E-07	5.84E-07	1.22E-02	1.24E-02
Drainage System	Construction	Excavators	4.97E-07	1.50E-06	3.15E-02	3.19E-02
Drainage System	Construction	Skid Steer Loaders	2.03E-06	5.38E-06	1.13E-01	1.15E-01
Drainage System	Construction	Tractor/Loader (Backhoe)	6.78E-06	9.87E-06	2.07E-01	2.10E-01
Drainage System	Construction	Excavators	4.80E-06	1.45E-05	3.04E-01	3.09E-01
Drainage System	Construction	Rubber Tire Loader	1.52E-06	1.31E-05	2.75E-01	2.79E-01
Drainage System	Construction	Large Concrete Crusher	1.89E-06	1.47E-05	3.08E-01	3.13E-01
Fencing	Construction	Skid Steer Loaders	3.41E-07	1.24E-06	2.60E-02	2.64E-02
Fencing	Construction	Advance Joint Sealant Equipment	6.80E-07	1.86E-06	3.90E-02	3.96E-02
Fencing	Construction	Asphalt Paver	6.01E-07	1.64E-06	3.45E-02	3.50E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	1.77E-06	4.86E-06	1.02E-01	1.03E-01
Fencing	Construction	Tack Truck	2.07E-06	9.81E-06	2.06E-01	2.09E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Concrete Saw	5.57E-07	1.17E-06	2.46E-02	2.50E-02
Fencing	Construction	Concrete Pavers	6.38E-07	1.75E-06	3.66E-02	3.71E-02
Fencing	Construction	Concrete Saw	4.86E-08	1.02E-07	2.15E-03	2.18E-03
Fencing	Construction	Concrete Pavers	5.57E-08	1.53E-07	3.20E-03	3.24E-03
Fencing	Construction	Concrete Saw	1.04E-06	2.20E-06	4.62E-02	4.69E-02
Fencing	Construction	Excavators	1.08E-06	3.26E-06	6.84E-02	6.93E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	1.25E-06	3.44E-06	7.21E-02	7.31E-02
Fencing	Construction	Concrete Pavers	6.08E-07	1.66E-06	3.49E-02	3.54E-02
Fencing	Construction	Concrete Saw	5.30E-07	1.12E-06	2.34E-02	2.38E-02
Fencing	Construction	Excavators	5.48E-07	1.66E-06	3.47E-02	3.52E-02
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	5.46E-08	1.98E-07	4.15E-03	4.21E-03
Fencing	Construction	Asphalt Paver	9.60E-08	2.63E-07	5.51E-03	5.59E-03
Fencing	Construction	Rollers (Compactor Roller incl.)	2.83E-07	7.76E-07	1.63E-02	1.65E-02
Fencing	Construction	Hoe Ram <sup>4</sup>	2.47E-07	7.48E-07	1.57E-02	1.59E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Trenchers	1.46E-07	3.69E-07	7.74E-03	7.85E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Trenchers	1.09E-07	2.76E-07	5.78E-03	5.87E-03
Fencing	Construction	Trenchers	1.46E-07	3.69E-07	7.74E-03	7.85E-03
Fencing	Construction	Excavators	5.97E-07	1.80E-06	3.78E-02	3.84E-02
Fencing	Construction	Trenchers	5.95E-08	1.50E-07	3.15E-03	3.19E-03
Fencing	Construction	Excavators	2.43E-07	7.34E-07	1.54E-02	1.56E-02
Fencing	Construction	Rotary Cold Mill	7.88E-07	2.16E-06	4.52E-02	4.59E-02
Fencing	Construction	Grooving Machine	5.25E-07	1.80E-06	3.77E-02	3.82E-02
Fencing	Construction	Paint Sprayers <sup>5</sup>	2.78E-08	1.42E-07	2.99E-03	3.03E-03
Fencing	Construction	Skid Steer Loaders	2.06E-06	5.44E-06	1.14E-01	1.16E-01
Fencing	Construction	Tractor/Loader (Backhoe)	6.86E-06	9.97E-06	2.09E-01	2.12E-01
Fencing	Construction	Excavators	4.86E-06	1.47E-05	3.08E-01	3.12E-01
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	1.42E-07	5.17E-07	1.08E-02	1.10E-02
Fencing	Construction	Asphalt Paver	2.51E-07	6.86E-07	1.44E-02	1.46E-02
Fencing	Construction	Rollers (Compactor Roller incl.)	7.38E-07	2.03E-06	4.25E-02	4.31E-02
Fencing	Construction	Tack Truck	8.62E-07	4.09E-06	8.59E-02	8.70E-02
Fencing	Construction	Concrete Saw	9.51E-07	2.00E-06	4.20E-02	4.27E-02
Fencing	Construction	Concrete Pavers	1.09E-06	2.98E-06	6.25E-02	6.34E-02
Fencing	Construction	Concrete Saw	1.71E-06	3.61E-06	7.56E-02	7.68E-02
Fencing	Construction	Excavators	1.77E-06	5.34E-06	1.12E-01	1.14E-01
Fencing	Construction	Hoe Ram <sup>4</sup>	3.53E-06	1.07E-05	2.24E-01	2.27E-01
Fencing	Construction	Skid Steer Loaders <sup>4</sup>	7.26E-08	2.64E-07	5.53E-03	5.61E-03
Fencing	Construction	Asphalt Paver	1.28E-07	3.50E-07	7.33E-03	7.44E-03
Fencing	Construction	Rollers (Compactor Roller incl.)	3.77E-07	1.03E-06	2.17E-02	2.20E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Construction	Concrete Saw	4.05E-09	8.54E-09	1.79E-04	1.82E-04
Fencing	Construction	Concrete Pavers	4.64E-09	1.27E-08	2.66E-04	2.70E-04
Fencing	Construction	Rollers (Compactor Roller incl.)	6.38E-09	1.75E-08	3.67E-04	3.72E-04
Fencing	Construction	Graders	3.67E-09	1.09E-08	2.29E-04	2.33E-04
Fencing	Construction	Concrete Saw	6.30E-09	1.33E-08	2.79E-04	2.83E-04
Fencing	Construction	Excavators	6.51E-09	1.97E-08	4.12E-04	4.18E-04
Fencing	Construction	Hoe Ram4	1.30E-07	3.94E-07	8.25E-03	8.37E-03
Fencing	Construction	Excavators	3.35E-07	1.01E-06	2.12E-02	2.15E-02
Fencing	Construction	Skid Steer Loaders	1.37E-06	3.63E-06	7.61E-02	7.72E-02
Fencing	Construction	Tractor/Loader (Backhoe)	4.57E-06	6.65E-06	1.39E-01	1.41E-01
Fencing	Construction	Excavators	3.24E-06	9.78E-06	2.05E-01	2.08E-01
Fencing	Construction	Rubber Tire Loader	1.03E-06	8.83E-06	1.85E-01	1.88E-01
Fencing	Construction	Large Concrete Crusher	1.27E-06	9.90E-06	2.08E-01	2.11E-01
Landscaping	Construction	Skid Steer Loaders	1.01E-06	3.68E-06	7.72E-02	7.82E-02
Landscaping	Construction	Advance Joint Sealant Equipment	2.02E-06	5.53E-06	1.16E-01	1.18E-01
Landscaping	Construction	Asphalt Paver	1.78E-06	4.88E-06	1.02E-01	1.04E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	5.25E-06	1.44E-05	3.02E-01	3.07E-01



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Tack Truck	6.14E-06	2.91E-05	6.11E-01	6.20E-01
Landscaping	Construction	Concrete Saw	1.65E-06	3.48E-06	7.30E-02	7.41E-02
Landscaping	Construction	Concrete Pavers	1.89E-06	5.18E-06	1.09E-01	1.10E-01
Landscaping	Construction	Concrete Saw	1.44E-07	3.04E-07	6.38E-03	6.48E-03
Landscaping	Construction	Concrete Pavers	1.65E-07	4.53E-07	9.49E-03	9.63E-03
Landscaping	Construction	Concrete Saw	3.10E-06	6.54E-06	1.37E-01	1.39E-01
Landscaping	Construction	Excavators	3.20E-06	9.68E-06	2.03E-01	2.06E-01
Landscaping	Construction	Rollers (Compactor Roller incl.)	3.72E-06	1.02E-05	2.14E-01	2.17E-01
Landscaping	Construction	Concrete Pavers	1.80E-06	4.94E-06	1.04E-01	1.05E-01
Landscaping	Construction	Concrete Saw	1.57E-06	3.32E-06	6.96E-02	7.06E-02
Landscaping	Construction	Excavators	1.63E-06	4.91E-06	1.03E-01	1.05E-01
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	1.62E-07	5.88E-07	1.23E-02	1.25E-02
Landscaping	Construction	Asphalt Paver	2.85E-07	7.81E-07	1.64E-02	1.66E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	8.40E-07	2.30E-06	4.83E-02	4.90E-02
Landscaping	Construction	Hoe Ram <sup>4</sup>	7.34E-07	2.22E-06	4.65E-02	4.72E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Trenchers	4.35E-07	1.09E-06	2.30E-02	2.33E-02
Landscaping	Construction	Trenchers	3.25E-07	8.19E-07	1.72E-02	1.74E-02
Landscaping	Construction	Trenchers	4.35E-07	1.09E-06	2.30E-02	2.33E-02
Landscaping	Construction	Excavators	1.77E-06	5.36E-06	1.12E-01	1.14E-01
Landscaping	Construction	Trenchers	1.77E-07	4.45E-07	9.34E-03	9.47E-03
Landscaping	Construction	Excavators	7.21E-07	2.18E-06	4.57E-02	4.63E-02
Landscaping	Construction	Rotary Cold Mill	2.34E-06	6.40E-06	1.34E-01	1.36E-01
Landscaping	Construction	Grooving Machine	1.56E-06	5.33E-06	1.12E-01	1.13E-01
Landscaping	Construction	Paint Sprayers <sup>5</sup>	8.24E-08	4.23E-07	8.87E-03	8.99E-03
Landscaping	Construction	Skid Steer Loaders	6.10E-06	1.61E-05	3.39E-01	3.44E-01
Landscaping	Construction	Tractor/Loader (Backhoe)	2.04E-05	2.96E-05	6.20E-01	6.29E-01
Landscaping	Construction	Excavators	1.44E-05	4.36E-05	9.13E-01	9.26E-01
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	4.23E-07	1.53E-06	3.22E-02	3.26E-02
Landscaping	Construction	Asphalt Paver	7.44E-07	2.04E-06	4.27E-02	4.33E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	2.19E-06	6.01E-06	1.26E-01	1.28E-01
Landscaping	Construction	Tack Truck	2.56E-06	1.21E-05	2.55E-01	2.58E-01
Landscaping	Construction	Concrete Saw	2.82E-06	5.95E-06	1.25E-01	1.27E-01
Landscaping	Construction	Concrete Pavers	3.23E-06	8.85E-06	1.86E-01	1.88E-01
Landscaping	Construction	Concrete Saw	5.08E-06	1.07E-05	2.25E-01	2.28E-01
Landscaping	Construction	Excavators	5.25E-06	1.59E-05	3.32E-01	3.37E-01
Landscaping	Construction	Hoe Ram <sup>4</sup>	1.05E-05	3.17E-05	6.65E-01	6.74E-01
Landscaping	Construction	Skid Steer Loaders <sup>4</sup>	2.16E-07	7.82E-07	1.64E-02	1.66E-02
Landscaping	Construction	Asphalt Paver	3.79E-07	1.04E-06	2.18E-02	2.21E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.12E-06	3.07E-06	6.43E-02	6.52E-02
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Construction	Concrete Saw	1.20E-08	2.54E-08	5.32E-04	5.40E-04
Landscaping	Construction	Concrete Pavers	1.38E-08	3.77E-08	7.91E-04	8.02E-04
Landscaping	Construction	Rollers (Compactor Roller incl.)	1.89E-08	5.20E-08	1.09E-03	1.11E-03
Landscaping	Construction	Graders	1.09E-08	3.25E-08	6.81E-04	6.91E-04
Landscaping	Construction	Concrete Saw	1.87E-08	3.94E-08	8.27E-04	8.39E-04
Landscaping	Construction	Excavators	1.93E-08	5.84E-08	1.22E-03	1.24E-03
Landscaping	Construction	Hoe Ram4	3.87E-07	1.17E-06	2.45E-02	2.48E-02
Landscaping	Construction	Excavators	9.94E-07	3.00E-06	6.30E-02	6.39E-02
Landscaping	Construction	Skid Steer Loaders	4.07E-06	1.08E-05	2.26E-01	2.29E-01
Landscaping	Construction	Tractor/Loader (Backhoe)	1.36E-05	1.97E-05	4.13E-01	4.20E-01
Landscaping	Construction	Excavators	9.61E-06	2.90E-05	6.09E-01	6.17E-01
Landscaping	Construction	Rubber Tire Loader	3.05E-06	2.62E-05	5.50E-01	5.57E-01
Landscaping	Construction	Large Concrete Crusher	3.77E-06	2.94E-05	6.17E-01	6.25E-01
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Paint Sprayers <sup>5</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
NAVAIDS	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Skid Steer Loaders	2.65E-05	9.62E-05	2.02E+00	2.05E+00
Parking Lot	Construction	Advance Joint Sealant Equipment	5.29E-05	1.45E-04	3.03E+00	3.08E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Asphalt Paver	4.67E-05	1.28E-04	2.68E+00	2.72E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	1.38E-04	3.77E-04	7.91E+00	8.03E+00
Parking Lot	Construction	Tack Truck	1.61E-04	7.62E-04	1.60E+01	1.62E+01
Parking Lot	Construction	Concrete Saw	4.32E-05	9.11E-05	1.91E+00	1.94E+00
Parking Lot	Construction	Concrete Pavers	4.95E-05	1.36E-04	2.84E+00	2.88E+00
Parking Lot	Construction	Concrete Saw	3.78E-06	7.96E-06	1.67E-01	1.70E-01
Parking Lot	Construction	Concrete Pavers	4.33E-06	1.19E-05	2.48E-01	2.52E-01
Parking Lot	Construction	Concrete Saw	8.12E-05	1.71E-04	3.59E+00	3.64E+00
Parking Lot	Construction	Excavators	8.38E-05	2.53E-04	5.31E+00	5.39E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	9.74E-05	2.67E-04	5.60E+00	5.68E+00
Parking Lot	Construction	Concrete Pavers	4.72E-05	1.29E-04	2.71E+00	2.75E+00
Parking Lot	Construction	Concrete Saw	4.12E-05	8.69E-05	1.82E+00	1.85E+00
Parking Lot	Construction	Excavators	4.26E-05	1.29E-04	2.70E+00	2.74E+00
Parking Lot	Construction	Skid Steer Loaders4	4.24E-06	1.54E-05	3.23E-01	3.27E-01
Parking Lot	Construction	Asphalt Paver	7.46E-06	2.04E-05	4.28E-01	4.34E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.20E-05	6.03E-05	1.26E+00	1.28E+00
Parking Lot	Construction	Hoe Ram4	1.92E-05	5.81E-05	1.22E+00	1.24E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Trenchers	1.14E-05	2.87E-05	6.01E-01	6.10E-01
Parking Lot	Construction	Trenchers	8.51E-06	2.14E-05	4.49E-01	4.56E-01
Parking Lot	Construction	Trenchers	1.14E-05	2.87E-05	6.01E-01	6.10E-01
Parking Lot	Construction	Excavators	4.64E-05	1.40E-04	2.94E+00	2.98E+00
Parking Lot	Construction	Trenchers	4.63E-06	1.16E-05	2.44E-01	2.48E-01
Parking Lot	Construction	Excavators	1.89E-05	5.70E-05	1.20E+00	1.21E+00
Parking Lot	Construction	Rotary Cold Mill	6.12E-05	1.68E-04	3.51E+00	3.56E+00
Parking Lot	Construction	Grooving Machine	4.08E-05	1.40E-04	2.93E+00	2.97E+00
Parking Lot	Construction	Paint Sprayers5	2.16E-06	1.11E-05	2.32E-01	2.35E-01
Parking Lot	Construction	Skid Steer Loaders	1.60E-04	4.23E-04	8.87E+00	9.00E+00
Parking Lot	Construction	Tractor/Loader (Backhoe)	5.33E-04	7.75E-04	1.62E+01	1.65E+01
Parking Lot	Construction	Excavators	3.77E-04	1.14E-03	2.39E+01	2.42E+01
Parking Lot	Construction	Skid Steer Loaders4	1.11E-05	4.01E-05	8.42E-01	8.54E-01
Parking Lot	Construction	Asphalt Paver	1.95E-05	5.33E-05	1.12E+00	1.13E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	5.74E-05	1.57E-04	3.30E+00	3.35E+00
Parking Lot	Construction	Tack Truck	6.70E-05	3.18E-04	6.67E+00	6.76E+00
Parking Lot	Construction	Concrete Saw	7.39E-05	1.56E-04	3.27E+00	3.31E+00
Parking Lot	Construction	Concrete Pavers	8.46E-05	2.32E-04	4.86E+00	4.93E+00
Parking Lot	Construction	Concrete Saw	1.33E-04	2.80E-04	5.88E+00	5.96E+00
Parking Lot	Construction	Excavators	1.37E-04	4.15E-04	8.70E+00	8.82E+00
Parking Lot	Construction	Hoe Ram4	2.75E-04	8.30E-04	1.74E+01	1.76E+01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Parking Lot	Construction	Skid Steer Loaders <sup>4</sup>	5.64E-06	2.05E-05	4.30E-01	4.36E-01
Parking Lot	Construction	Asphalt Paver	9.93E-06	2.72E-05	5.70E-01	5.78E-01
Parking Lot	Construction	Rollers (Compactor Roller incl.)	2.93E-05	8.03E-05	1.68E+00	1.71E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Construction	Concrete Saw	3.15E-07	6.64E-07	1.39E-02	1.41E-02
Parking Lot	Construction	Concrete Pavers	3.61E-07	9.88E-07	2.07E-02	2.10E-02
Parking Lot	Construction	Rollers (Compactor Roller incl.)	4.96E-07	1.36E-06	2.85E-02	2.89E-02
Parking Lot	Construction	Graders	2.85E-07	8.50E-07	1.78E-02	1.81E-02
Parking Lot	Construction	Concrete Saw	4.90E-07	1.03E-06	2.17E-02	2.20E-02
Parking Lot	Construction	Excavators	5.06E-07	1.53E-06	3.21E-02	3.25E-02
Parking Lot	Construction	Hoe Ram <sup>4</sup>	1.01E-05	3.06E-05	6.41E-01	6.50E-01
Parking Lot	Construction	Excavators	2.60E-05	7.86E-05	1.65E+00	1.67E+00
Parking Lot	Construction	Skid Steer Loaders	1.07E-04	2.82E-04	5.91E+00	6.00E+00
Parking Lot	Construction	Tractor/Loader (Backhoe)	3.55E-04	5.17E-04	1.08E+01	1.10E+01
Parking Lot	Construction	Excavators	2.52E-04	7.60E-04	1.59E+01	1.62E+01
Parking Lot	Construction	Rubber Tire Loader	7.98E-05	6.86E-04	1.44E+01	1.46E+01
Parking Lot	Construction	Large Concrete Crusher	9.87E-05	7.69E-04	1.61E+01	1.64E+01
Rehabilitate Runway	Construction	Skid Steer Loaders	2.50E-05	9.07E-05	1.90E+00	1.93E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Advance Joint Sealant Equipment	4.98E-05	1.36E-04	2.86E+00	2.90E+00
Rehabilitate Runway	Construction	Asphalt Paver	4.40E-05	1.20E-04	2.53E+00	2.56E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	1.30E-04	3.56E-04	7.46E+00	7.57E+00
Rehabilitate Runway	Construction	Tack Truck	1.51E-04	7.19E-04	1.51E+01	1.53E+01
Rehabilitate Runway	Construction	Concrete Saw	4.08E-05	8.59E-05	1.80E+00	1.83E+00
Rehabilitate Runway	Construction	Concrete Pavers	4.67E-05	1.28E-04	2.68E+00	2.72E+00
Rehabilitate Runway	Construction	Concrete Saw	3.56E-06	7.51E-06	1.57E-01	1.60E-01
Rehabilitate Runway	Construction	Concrete Pavers	4.08E-06	1.12E-05	2.34E-01	2.38E-01
Rehabilitate Runway	Construction	Concrete Saw	7.65E-05	1.61E-04	3.38E+00	3.43E+00
Rehabilitate Runway	Construction	Excavators	7.90E-05	2.39E-04	5.01E+00	5.08E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	9.18E-05	2.52E-04	5.28E+00	5.36E+00
Rehabilitate Runway	Construction	Concrete Pavers	4.45E-05	1.22E-04	2.55E+00	2.59E+00
Rehabilitate Runway	Construction	Concrete Saw	3.89E-05	8.19E-05	1.72E+00	1.74E+00
Rehabilitate Runway	Construction	Excavators	4.01E-05	1.21E-04	2.54E+00	2.58E+00
Rehabilitate Runway	Construction	Skid Steer Loaders <sup>4</sup>	4.00E-06	1.45E-05	3.04E-01	3.09E-01
Rehabilitate Runway	Construction	Asphalt Paver	7.04E-06	1.93E-05	4.04E-01	4.10E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.07E-05	5.69E-05	1.19E+00	1.21E+00
Rehabilitate Runway	Construction	Hoe Ram <sup>4</sup>	1.81E-05	5.48E-05	1.15E+00	1.16E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Trenchers	1.07E-05	2.70E-05	5.67E-01	5.75E-01
Rehabilitate Runway	Construction	Trenchers	8.02E-06	2.02E-05	4.24E-01	4.30E-01
Rehabilitate Runway	Construction	Trenchers	1.07E-05	2.70E-05	5.67E-01	5.75E-01
Rehabilitate Runway	Construction	Excavators	4.37E-05	1.32E-04	2.77E+00	2.81E+00
Rehabilitate Runway	Construction	Trenchers	4.36E-06	1.10E-05	2.30E-01	2.34E-01
Rehabilitate Runway	Construction	Excavators	1.78E-05	5.37E-05	1.13E+00	1.14E+00
Rehabilitate Runway	Construction	Rotary Cold Mill	5.77E-05	1.58E-04	3.31E+00	3.36E+00
Rehabilitate Runway	Construction	Grooving Machine	3.84E-05	1.32E-04	2.76E+00	2.80E+00
Rehabilitate Runway	Construction	Paint Sprayers5	2.03E-06	1.04E-05	2.19E-01	2.22E-01
Rehabilitate Runway	Construction	Skid Steer Loaders	1.51E-04	3.99E-04	8.36E+00	8.48E+00
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	5.02E-04	7.31E-04	1.53E+01	1.55E+01
Rehabilitate Runway	Construction	Excavators	3.56E-04	1.07E-03	2.25E+01	2.29E+01
Rehabilitate Runway	Construction	Skid Steer Loaders4	1.04E-05	3.78E-05	7.94E-01	8.05E-01
Rehabilitate Runway	Construction	Asphalt Paver	1.84E-05	5.03E-05	1.05E+00	1.07E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	5.41E-05	1.48E-04	3.11E+00	3.16E+00
Rehabilitate Runway	Construction	Tack Truck	6.32E-05	3.00E-04	6.29E+00	6.38E+00
Rehabilitate Runway	Construction	Concrete Saw	6.97E-05	1.47E-04	3.08E+00	3.13E+00
Rehabilitate Runway	Construction	Concrete Pavers	7.98E-05	2.18E-04	4.58E+00	4.65E+00
Rehabilitate Runway	Construction	Concrete Saw	1.25E-04	2.64E-04	5.54E+00	5.62E+00
Rehabilitate Runway	Construction	Excavators	1.29E-04	3.91E-04	8.20E+00	8.32E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Rehabilitate Runway	Construction	Hoe Ram4	2.59E-04	7.82E-04	1.64E+01	1.66E+01
Rehabilitate Runway	Construction	Skid Steer Loaders4	5.32E-06	1.93E-05	4.05E-01	4.11E-01
Rehabilitate Runway	Construction	Asphalt Paver	9.36E-06	2.56E-05	5.37E-01	5.45E-01
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	2.76E-05	7.57E-05	1.59E+00	1.61E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Construction	Concrete Saw	2.97E-07	6.26E-07	1.31E-02	1.33E-02
Rehabilitate Runway	Construction	Concrete Pavers	3.40E-07	9.31E-07	1.95E-02	1.98E-02
Rehabilitate Runway	Construction	Rollers (Compactor Roller incl.)	4.67E-07	1.28E-06	2.69E-02	2.73E-02
Rehabilitate Runway	Construction	Graders	2.69E-07	8.02E-07	1.68E-02	1.70E-02
Rehabilitate Runway	Construction	Concrete Saw	4.62E-07	9.73E-07	2.04E-02	2.07E-02
Rehabilitate Runway	Construction	Excavators	4.77E-07	1.44E-06	3.02E-02	3.07E-02
Rehabilitate Runway	Construction	Hoe Ram4	9.54E-06	2.88E-05	6.04E-01	6.13E-01
Rehabilitate Runway	Construction	Excavators	2.45E-05	7.41E-05	1.55E+00	1.58E+00
Rehabilitate Runway	Construction	Skid Steer Loaders	1.00E-04	2.66E-04	5.57E+00	5.65E+00
Rehabilitate Runway	Construction	Tractor/Loader (Backhoe)	3.35E-04	4.87E-04	1.02E+01	1.04E+01
Rehabilitate Runway	Construction	Excavators	2.37E-04	7.17E-04	1.50E+01	1.52E+01
Rehabilitate Runway	Construction	Rubber Tire Loader	7.52E-05	6.47E-04	1.36E+01	1.38E+01
Rehabilitate Runway	Construction	Large Concrete Crusher	9.31E-05	7.25E-04	1.52E+01	1.54E+01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Skid Steer Loaders	3.50E-06	1.27E-05	2.67E-01	2.70E-01
Runway Drains	Construction	Advance Joint Sealant Equipment	6.98E-06	1.91E-05	4.00E-01	4.06E-01
Runway Drains	Construction	Asphalt Paver	6.16E-06	1.69E-05	3.54E-01	3.59E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.82E-05	4.98E-05	1.04E+00	1.06E+00
Runway Drains	Construction	Tack Truck	2.12E-05	1.01E-04	2.11E+00	2.14E+00
Runway Drains	Construction	Concrete Saw	5.71E-06	1.20E-05	2.52E-01	2.56E-01
Runway Drains	Construction	Concrete Pavers	6.54E-06	1.79E-05	3.75E-01	3.81E-01
Runway Drains	Construction	Concrete Saw	4.99E-07	1.05E-06	2.20E-02	2.24E-02
Runway Drains	Construction	Concrete Pavers	5.71E-07	1.56E-06	3.28E-02	3.33E-02
Runway Drains	Construction	Concrete Saw	1.07E-05	2.26E-05	4.74E-01	4.81E-01
Runway Drains	Construction	Excavators	1.11E-05	3.34E-05	7.01E-01	7.11E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	1.29E-05	3.53E-05	7.39E-01	7.50E-01
Runway Drains	Construction	Concrete Pavers	6.23E-06	1.71E-05	3.58E-01	3.63E-01
Runway Drains	Construction	Concrete Saw	5.44E-06	1.15E-05	2.41E-01	2.44E-01
Runway Drains	Construction	Excavators	5.62E-06	1.70E-05	3.56E-01	3.61E-01
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	5.60E-07	2.03E-06	4.26E-02	4.32E-02
Runway Drains	Construction	Asphalt Paver	9.85E-07	2.70E-06	5.65E-02	5.74E-02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	2.90E-06	7.96E-06	1.67E-01	1.69E-01
Runway Drains	Construction	Hoe Ram <sup>4</sup>	2.54E-06	7.67E-06	1.61E-01	1.63E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Trenchers	1.50E-06	3.78E-06	7.94E-02	8.05E-02
Runway Drains	Construction	Trenchers	1.12E-06	2.83E-06	5.93E-02	6.02E-02
Runway Drains	Construction	Trenchers	1.50E-06	3.78E-06	7.94E-02	8.05E-02
Runway Drains	Construction	Excavators	6.13E-06	1.85E-05	3.88E-01	3.94E-01
Runway Drains	Construction	Trenchers	6.11E-07	1.54E-06	3.23E-02	3.27E-02
Runway Drains	Construction	Excavators	2.49E-06	7.53E-06	1.58E-01	1.60E-01
Runway Drains	Construction	Rotary Cold Mill	8.08E-06	2.21E-05	4.64E-01	4.70E-01
Runway Drains	Construction	Grooving Machine	5.38E-06	1.84E-05	3.86E-01	3.92E-01
Runway Drains	Construction	Paint Sprayers <sup>5</sup>	2.85E-07	1.46E-06	3.06E-02	3.11E-02
Runway Drains	Construction	Skid Steer Loaders	2.11E-05	5.58E-05	1.17E+00	1.19E+00
Runway Drains	Construction	Tractor/Loader (Backhoe)	7.03E-05	1.02E-04	2.14E+00	2.17E+00
Runway Drains	Construction	Excavators	4.98E-05	1.51E-04	3.16E+00	3.20E+00
Runway Drains	Construction	Skid Steer Loaders <sup>4</sup>	1.46E-06	5.30E-06	1.11E-01	1.13E-01
Runway Drains	Construction	Asphalt Paver	2.57E-06	7.04E-06	1.47E-01	1.50E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	7.57E-06	2.08E-05	4.36E-01	4.42E-01
Runway Drains	Construction	Tack Truck	8.85E-06	4.20E-05	8.81E-01	8.93E-01
Runway Drains	Construction	Concrete Saw	9.75E-06	2.06E-05	4.31E-01	4.38E-01
Runway Drains	Construction	Concrete Pavers	1.12E-05	3.06E-05	6.41E-01	6.51E-01
Runway Drains	Construction	Concrete Saw	1.76E-05	3.70E-05	7.76E-01	7.87E-01



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Excavators	1.81E-05	5.48E-05	1.15E+00	1.16E+00
Runway Drains	Construction	Hoe Ram4	3.63E-05	1.10E-04	2.30E+00	2.33E+00
Runway Drains	Construction	Skid Steer Loaders4	7.45E-07	2.70E-06	5.67E-02	5.75E-02
Runway Drains	Construction	Asphalt Paver	1.31E-06	3.59E-06	7.52E-02	7.63E-02
Runway Drains	Construction	Rollers (Compactor Roller incl.)	3.86E-06	1.06E-05	2.22E-01	2.25E-01
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Construction	Concrete Saw	4.16E-08	8.76E-08	1.84E-03	1.86E-03
Runway Drains	Construction	Concrete Pavers	4.76E-08	1.30E-07	2.73E-03	2.77E-03
Runway Drains	Construction	Rollers (Compactor Roller incl.)	6.55E-08	1.80E-07	3.77E-03	3.82E-03
Runway Drains	Construction	Graders	3.76E-08	1.12E-07	2.35E-03	2.39E-03
Runway Drains	Construction	Concrete Saw	6.47E-08	1.36E-07	2.86E-03	2.90E-03
Runway Drains	Construction	Excavators	6.68E-08	2.02E-07	4.23E-03	4.29E-03
Runway Drains	Construction	Hoe Ram4	1.34E-06	4.04E-06	8.46E-02	8.58E-02
Runway Drains	Construction	Excavators	3.43E-06	1.04E-05	2.18E-01	2.21E-01
Runway Drains	Construction	Skid Steer Loaders	1.41E-05	3.72E-05	7.80E-01	7.92E-01
Runway Drains	Construction	Tractor/Loader (Backhoe)	4.69E-05	6.82E-05	1.43E+00	1.45E+00
Runway Drains	Construction	Excavators	3.32E-05	1.00E-04	2.10E+00	2.13E+00
Runway Drains	Construction	Rubber Tire Loader	1.05E-05	9.05E-05	1.90E+00	1.93E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Construction	Large Concrete Crusher	1.30E-05	1.02E-04	2.13E+00	2.16E+00
Runway Markings	Construction	Skid Steer Loaders	1.33E-05	4.82E-05	1.01E+00	1.02E+00
Runway Markings	Construction	Advance Joint Sealant Equipment	2.64E-05	7.24E-05	1.52E+00	1.54E+00
Runway Markings	Construction	Asphalt Paver	2.34E-05	6.40E-05	1.34E+00	1.36E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	6.88E-05	1.89E-04	3.96E+00	4.02E+00
Runway Markings	Construction	Tack Truck	8.04E-05	3.82E-04	8.00E+00	8.11E+00
Runway Markings	Construction	Concrete Saw	2.16E-05	4.56E-05	9.56E-01	9.71E-01
Runway Markings	Construction	Concrete Pavers	2.48E-05	6.79E-05	1.42E+00	1.44E+00
Runway Markings	Construction	Concrete Saw	1.89E-06	3.98E-06	8.36E-02	8.48E-02
Runway Markings	Construction	Concrete Pavers	2.17E-06	5.93E-06	1.24E-01	1.26E-01
Runway Markings	Construction	Concrete Saw	4.06E-05	8.56E-05	1.80E+00	1.82E+00
Runway Markings	Construction	Excavators	4.20E-05	1.27E-04	2.66E+00	2.70E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	4.87E-05	1.34E-04	2.80E+00	2.84E+00
Runway Markings	Construction	Concrete Pavers	2.36E-05	6.47E-05	1.36E+00	1.38E+00
Runway Markings	Construction	Concrete Saw	2.06E-05	4.35E-05	9.12E-01	9.25E-01
Runway Markings	Construction	Excavators	2.13E-05	6.44E-05	1.35E+00	1.37E+00
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	2.12E-06	7.70E-06	1.62E-01	1.64E-01
Runway Markings	Construction	Asphalt Paver	3.73E-06	1.02E-05	2.14E-01	2.17E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	1.10E-05	3.02E-05	6.33E-01	6.42E-01
Runway Markings	Construction	Hoe Ram <sup>4</sup>	9.62E-06	2.91E-05	6.09E-01	6.18E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Trenchers	5.69E-06	1.43E-05	3.01E-01	3.05E-01
Runway Markings	Construction	Trenchers	4.26E-06	1.07E-05	2.25E-01	2.28E-01
Runway Markings	Construction	Trenchers	5.69E-06	1.43E-05	3.01E-01	3.05E-01
Runway Markings	Construction	Excavators	2.32E-05	7.02E-05	1.47E+00	1.49E+00
Runway Markings	Construction	Trenchers	2.31E-06	5.83E-06	1.22E-01	1.24E-01
Runway Markings	Construction	Excavators	9.44E-06	2.85E-05	5.98E-01	6.07E-01
Runway Markings	Construction	Rotary Cold Mill	3.06E-05	8.38E-05	1.76E+00	1.78E+00
Runway Markings	Construction	Grooving Machine	2.04E-05	6.99E-05	1.46E+00	1.49E+00
Runway Markings	Construction	Paint Sprayers <sup>5</sup>	1.08E-06	5.53E-06	1.16E-01	1.18E-01
Runway Markings	Construction	Skid Steer Loaders	7.99E-05	2.12E-04	4.44E+00	4.50E+00
Runway Markings	Construction	Tractor/Loader (Backhoe)	2.67E-04	3.88E-04	8.11E+00	8.24E+00
Runway Markings	Construction	Excavators	1.89E-04	5.70E-04	1.20E+01	1.21E+01
Runway Markings	Construction	Skid Steer Loaders <sup>4</sup>	5.54E-06	2.01E-05	4.21E-01	4.27E-01
Runway Markings	Construction	Asphalt Paver	9.74E-06	2.67E-05	5.59E-01	5.67E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.87E-05	7.88E-05	1.65E+00	1.67E+00
Runway Markings	Construction	Tack Truck	3.35E-05	1.59E-04	3.34E+00	3.38E+00
Runway Markings	Construction	Concrete Saw	3.70E-05	7.79E-05	1.63E+00	1.66E+00
Runway Markings	Construction	Concrete Pavers	4.24E-05	1.16E-04	2.43E+00	2.47E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Concrete Saw	6.65E-05	1.40E-04	2.94E+00	2.98E+00
Runway Markings	Construction	Excavators	6.87E-05	2.08E-04	4.35E+00	4.42E+00
Runway Markings	Construction	Hoe Ram4	1.37E-04	4.15E-04	8.71E+00	8.83E+00
Runway Markings	Construction	Skid Steer Loaders4	2.82E-06	1.02E-05	2.15E-01	2.18E-01
Runway Markings	Construction	Asphalt Paver	4.97E-06	1.36E-05	2.85E-01	2.89E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	1.46E-05	4.02E-05	8.42E-01	8.54E-01
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Markings	Construction	Concrete Saw	1.58E-07	3.32E-07	6.96E-03	7.07E-03
Runway Markings	Construction	Concrete Pavers	1.80E-07	4.94E-07	1.04E-02	1.05E-02
Runway Markings	Construction	Rollers (Compactor Roller incl.)	2.48E-07	6.81E-07	1.43E-02	1.45E-02
Runway Markings	Construction	Graders	1.43E-07	4.25E-07	8.92E-03	9.05E-03
Runway Markings	Construction	Concrete Saw	2.45E-07	5.17E-07	1.08E-02	1.10E-02
Runway Markings	Construction	Excavators	2.53E-07	7.65E-07	1.60E-02	1.63E-02
Runway Markings	Construction	Hoe Ram4	5.06E-06	1.53E-05	3.21E-01	3.25E-01
Runway Markings	Construction	Excavators	1.30E-05	3.93E-05	8.25E-01	8.37E-01
Runway Markings	Construction	Skid Steer Loaders	5.33E-05	1.41E-04	2.96E+00	3.00E+00
Runway Markings	Construction	Tractor/Loader (Backhoe)	1.78E-04	2.59E-04	5.41E+00	5.49E+00
Runway Markings	Construction	Excavators	1.26E-04	3.80E-04	7.97E+00	8.09E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Markings	Construction	Rubber Tire Loader	3.99E-05	3.43E-04	7.20E+00	7.30E+00
Runway Markings	Construction	Large Concrete Crusher	4.94E-05	3.85E-04	8.08E+00	8.19E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Advance Joint Sealant Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Trenchers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rotary Cold Mill	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Grooving Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Paint Sprayers <sup>5</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders <sup>4</sup>	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tack Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Asphalt Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Pavers	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Hoe Ram4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Skid Steer Loaders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Tractor/Loader (Backhoe)	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Safety Area	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Rubber Tire Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Construction	Large Concrete Crusher	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Skid Steer Loaders	2.12E-06	7.70E-06	1.62E-01	1.64E-01
Service Road	Construction	Advance Joint Sealant Equipment	4.23E-06	1.16E-05	2.43E-01	2.46E-01
Service Road	Construction	Asphalt Paver	3.74E-06	1.02E-05	2.14E-01	2.18E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	1.10E-05	3.02E-05	6.33E-01	6.42E-01
Service Road	Construction	Tack Truck	1.29E-05	6.10E-05	1.28E+00	1.30E+00
Service Road	Construction	Concrete Saw	3.46E-06	7.30E-06	1.53E-01	1.55E-01
Service Road	Construction	Concrete Pavers	3.97E-06	1.09E-05	2.28E-01	2.31E-01
Service Road	Construction	Concrete Saw	3.02E-07	6.37E-07	1.34E-02	1.36E-02
Service Road	Construction	Concrete Pavers	3.46E-07	9.49E-07	1.99E-02	2.02E-02
Service Road	Construction	Concrete Saw	6.50E-06	1.37E-05	2.87E-01	2.91E-01
Service Road	Construction	Excavators	6.71E-06	2.03E-05	4.25E-01	4.31E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	7.79E-06	2.14E-05	4.48E-01	4.55E-01
Service Road	Construction	Concrete Pavers	3.78E-06	1.03E-05	2.17E-01	2.20E-01
Service Road	Construction	Concrete Saw	3.30E-06	6.95E-06	1.46E-01	1.48E-01
Service Road	Construction	Excavators	3.41E-06	1.03E-05	2.16E-01	2.19E-01
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	3.40E-07	1.23E-06	2.58E-02	2.62E-02
Service Road	Construction	Asphalt Paver	5.97E-07	1.64E-06	3.43E-02	3.48E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	1.76E-06	4.83E-06	1.01E-01	1.03E-01
Service Road	Construction	Hoe Ram <sup>4</sup>	1.54E-06	4.65E-06	9.75E-02	9.89E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Trenchers	9.11E-07	2.29E-06	4.81E-02	4.88E-02
Service Road	Construction	Trenchers	6.81E-07	1.71E-06	3.60E-02	3.65E-02
Service Road	Construction	Trenchers	9.11E-07	2.29E-06	4.81E-02	4.88E-02
Service Road	Construction	Excavators	3.71E-06	1.12E-05	2.35E-01	2.39E-01
Service Road	Construction	Trenchers	3.70E-07	9.33E-07	1.96E-02	1.98E-02
Service Road	Construction	Excavators	1.51E-06	4.56E-06	9.57E-02	9.70E-02
Service Road	Construction	Rotary Cold Mill	4.90E-06	1.34E-05	2.81E-01	2.85E-01
Service Road	Construction	Grooving Machine	3.26E-06	1.12E-05	2.34E-01	2.38E-01
Service Road	Construction	Paint Sprayers <sup>5</sup>	1.73E-07	8.85E-07	1.86E-02	1.88E-02
Service Road	Construction	Skid Steer Loaders	1.28E-05	3.38E-05	7.10E-01	7.20E-01
Service Road	Construction	Tractor/Loader (Backhoe)	4.26E-05	6.20E-05	1.30E+00	1.32E+00
Service Road	Construction	Excavators	3.02E-05	9.13E-05	1.91E+00	1.94E+00
Service Road	Construction	Skid Steer Loaders <sup>4</sup>	8.86E-07	3.21E-06	6.74E-02	6.84E-02
Service Road	Construction	Asphalt Paver	1.56E-06	4.27E-06	8.94E-02	9.07E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	4.59E-06	1.26E-05	2.64E-01	2.68E-01
Service Road	Construction	Tack Truck	5.36E-06	2.55E-05	5.34E-01	5.41E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Concrete Saw	5.91E-06	1.25E-05	2.61E-01	2.65E-01
Service Road	Construction	Concrete Pavers	6.78E-06	1.85E-05	3.89E-01	3.94E-01
Service Road	Construction	Concrete Saw	1.06E-05	2.24E-05	4.70E-01	4.77E-01
Service Road	Construction	Excavators	1.10E-05	3.32E-05	6.96E-01	7.06E-01
Service Road	Construction	Hoe Ram4	2.20E-05	6.64E-05	1.39E+00	1.41E+00
Service Road	Construction	Skid Steer Loaders4	4.52E-07	1.64E-06	3.44E-02	3.49E-02
Service Road	Construction	Asphalt Paver	7.95E-07	2.18E-06	4.56E-02	4.63E-02
Service Road	Construction	Rollers (Compactor Roller incl.)	2.34E-06	6.43E-06	1.35E-01	1.37E-01
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Construction	Concrete Saw	2.52E-08	5.31E-08	1.11E-03	1.13E-03
Service Road	Construction	Concrete Pavers	2.89E-08	7.90E-08	1.66E-03	1.68E-03
Service Road	Construction	Rollers (Compactor Roller incl.)	3.97E-08	1.09E-07	2.28E-03	2.32E-03
Service Road	Construction	Graders	2.28E-08	6.81E-08	1.43E-03	1.45E-03
Service Road	Construction	Concrete Saw	3.92E-08	8.26E-08	1.73E-03	1.76E-03
Service Road	Construction	Excavators	4.05E-08	1.22E-07	2.57E-03	2.60E-03
Service Road	Construction	Hoe Ram4	8.10E-07	2.45E-06	5.13E-02	5.20E-02
Service Road	Construction	Excavators	2.08E-06	6.29E-06	1.32E-01	1.34E-01
Service Road	Construction	Skid Steer Loaders	8.53E-06	2.26E-05	4.73E-01	4.80E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Service Road	Construction	Tractor/Loader (Backhoe)	2.84E-05	4.14E-05	8.65E-01	8.79E-01
Service Road	Construction	Excavators	2.01E-05	6.08E-05	1.28E+00	1.29E+00
Service Road	Construction	Rubber Tire Loader	6.39E-06	5.49E-05	1.15E+00	1.17E+00
Service Road	Construction	Large Concrete Crusher	7.90E-06	6.16E-05	1.29E+00	1.31E+00
Site Work - 10000 sqft	Construction	Skid Steer Loaders	1.45E-07	5.24E-07	1.10E-02	1.12E-02
Site Work - 10000 sqft	Construction	Advance Joint Sealant Equipment	2.88E-07	7.88E-07	1.65E-02	1.68E-02
Site Work - 10000 sqft	Construction	Asphalt Paver	2.54E-07	6.96E-07	1.46E-02	1.48E-02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	7.49E-07	2.06E-06	4.31E-02	4.37E-02
Site Work - 10000 sqft	Construction	Tack Truck	8.75E-07	4.15E-06	8.72E-02	8.84E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.36E-07	4.97E-07	1.04E-02	1.06E-02
Site Work - 10000 sqft	Construction	Concrete Pavers	2.70E-07	7.39E-07	1.55E-02	1.57E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.06E-08	4.34E-08	9.10E-04	9.24E-04
Site Work - 10000 sqft	Construction	Concrete Pavers	2.36E-08	6.46E-08	1.35E-03	1.37E-03
Site Work - 10000 sqft	Construction	Concrete Saw	4.42E-07	9.32E-07	1.95E-02	1.98E-02
Site Work - 10000 sqft	Construction	Excavators	4.57E-07	1.38E-06	2.89E-02	2.94E-02
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	5.30E-07	1.46E-06	3.05E-02	3.10E-02
Site Work - 10000 sqft	Construction	Concrete Pavers	2.57E-07	7.04E-07	1.48E-02	1.50E-02
Site Work - 10000 sqft	Construction	Concrete Saw	2.25E-07	4.73E-07	9.93E-03	1.01E-02
Site Work - 10000 sqft	Construction	Excavators	2.32E-07	7.01E-07	1.47E-02	1.49E-02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	2.31E-08	8.38E-08	1.76E-03	1.78E-03
Site Work - 10000 sqft	Construction	Asphalt Paver	4.07E-08	1.11E-07	2.33E-03	2.37E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	1.20E-07	3.29E-07	6.89E-03	6.99E-03
Site Work - 10000 sqft	Construction	Hoe Ram4	1.05E-07	3.17E-07	6.64E-03	6.73E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Trenchers	6.20E-08	1.56E-07	3.28E-03	3.32E-03
Site Work - 10000 sqft	Construction	Trenchers	4.63E-08	1.17E-07	2.45E-03	2.48E-03
Site Work - 10000 sqft	Construction	Trenchers	6.20E-08	1.56E-07	3.28E-03	3.32E-03
Site Work - 10000 sqft	Construction	Excavators	2.53E-07	7.64E-07	1.60E-02	1.62E-02
Site Work - 10000 sqft	Construction	Trenchers	2.52E-08	6.35E-08	1.33E-03	1.35E-03
Site Work - 10000 sqft	Construction	Excavators	1.03E-07	3.11E-07	6.51E-03	6.60E-03
Site Work - 10000 sqft	Construction	Rotary Cold Mill	3.34E-07	9.13E-07	1.91E-02	1.94E-02
Site Work - 10000 sqft	Construction	Grooving Machine	2.22E-07	7.61E-07	1.60E-02	1.62E-02
Site Work - 10000 sqft	Construction	Paint Sprayers <sup>5</sup>	1.18E-08	6.03E-08	1.26E-03	1.28E-03
Site Work - 10000 sqft	Construction	Skid Steer Loaders	8.70E-07	2.30E-06	4.83E-02	4.90E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	2.90E-06	4.22E-06	8.84E-02	8.97E-02
Site Work - 10000 sqft	Construction	Excavators	2.06E-06	6.21E-06	1.30E-01	1.32E-01
Site Work - 10000 sqft	Construction	Skid Steer Loaders <sup>4</sup>	6.03E-08	2.19E-07	4.59E-03	4.65E-03
Site Work - 10000 sqft	Construction	Asphalt Paver	1.06E-07	2.90E-07	6.09E-03	6.18E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	3.13E-07	8.58E-07	1.80E-02	1.82E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Tack Truck	3.65E-07	1.73E-06	3.63E-02	3.69E-02
Site Work - 10000 sqft	Construction	Concrete Saw	4.03E-07	8.49E-07	1.78E-02	1.81E-02
Site Work - 10000 sqft	Construction	Concrete Pavers	4.61E-07	1.26E-06	2.65E-02	2.68E-02
Site Work - 10000 sqft	Construction	Concrete Saw	7.24E-07	1.53E-06	3.20E-02	3.25E-02
Site Work - 10000 sqft	Construction	Excavators	7.48E-07	2.26E-06	4.74E-02	4.81E-02
Site Work - 10000 sqft	Construction	Hoe Ram4	1.50E-06	4.52E-06	9.48E-02	9.62E-02
Site Work - 10000 sqft	Construction	Skid Steer Loaders4	3.08E-08	1.12E-07	2.34E-03	2.37E-03
Site Work - 10000 sqft	Construction	Asphalt Paver	5.41E-08	1.48E-07	3.11E-03	3.15E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	1.59E-07	4.37E-07	9.17E-03	9.30E-03
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction	Concrete Saw	1.72E-09	3.62E-09	7.58E-05	7.70E-05
Site Work - 10000 sqft	Construction	Concrete Pavers	1.97E-09	5.38E-09	1.13E-04	1.14E-04
Site Work - 10000 sqft	Construction	Rollers (Compactor Roller incl.)	2.70E-09	7.41E-09	1.55E-04	1.58E-04
Site Work - 10000 sqft	Construction	Graders	1.55E-09	4.63E-09	9.71E-05	9.85E-05
Site Work - 10000 sqft	Construction	Concrete Saw	2.67E-09	5.62E-09	1.18E-04	1.20E-04
Site Work - 10000 sqft	Construction	Excavators	2.76E-09	8.33E-09	1.75E-04	1.77E-04
Site Work - 10000 sqft	Construction	Hoe Ram4	5.51E-08	1.67E-07	3.49E-03	3.54E-03
Site Work - 10000 sqft	Construction	Excavators	1.42E-07	4.28E-07	8.98E-03	9.11E-03

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Site Work - 10000 sqft	Construction	Skid Steer Loaders	5.80E-07	1.54E-06	3.22E-02	3.27E-02
Site Work - 10000 sqft	Construction	Tractor/Loader (Backhoe)	1.93E-06	2.81E-06	5.89E-02	5.98E-02
Site Work - 10000 sqft	Construction	Excavators	1.37E-06	4.14E-06	8.68E-02	8.81E-02
Site Work - 10000 sqft	Construction	Rubber Tire Loader	4.35E-07	3.74E-06	7.84E-02	7.95E-02
Site Work - 10000 sqft	Construction	Large Concrete Crusher	5.38E-07	4.19E-06	8.80E-02	8.91E-02
Taxiway Exit	Construction	Skid Steer Loaders	6.44E-06	2.33E-05	4.90E-01	4.97E-01
Taxiway Exit	Construction	Advance Joint Sealant Equipment	1.28E-05	3.51E-05	7.36E-01	7.46E-01
Taxiway Exit	Construction	Asphalt Paver	1.13E-05	3.10E-05	6.50E-01	6.59E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	3.34E-05	9.15E-05	1.92E+00	1.95E+00
Taxiway Exit	Construction	Tack Truck	3.90E-05	1.85E-04	3.88E+00	3.93E+00
Taxiway Exit	Construction	Concrete Saw	1.05E-05	2.21E-05	4.64E-01	4.71E-01
Taxiway Exit	Construction	Concrete Pavers	1.20E-05	3.29E-05	6.90E-01	6.99E-01
Taxiway Exit	Construction	Concrete Saw	9.16E-07	1.93E-06	4.05E-02	4.11E-02
Taxiway Exit	Construction	Concrete Pavers	1.05E-06	2.87E-06	6.02E-02	6.11E-02
Taxiway Exit	Construction	Concrete Saw	1.97E-05	4.15E-05	8.70E-01	8.83E-01
Taxiway Exit	Construction	Excavators	2.03E-05	6.15E-05	1.29E+00	1.31E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	2.36E-05	6.48E-05	1.36E+00	1.38E+00
Taxiway Exit	Construction	Concrete Pavers	1.15E-05	3.14E-05	6.57E-01	6.67E-01
Taxiway Exit	Construction	Concrete Saw	1.00E-05	2.11E-05	4.42E-01	4.48E-01
Taxiway Exit	Construction	Excavators	1.03E-05	3.12E-05	6.54E-01	6.64E-01
Taxiway Exit	Construction	Skid Steer Loaders <sup>4</sup>	1.03E-06	3.73E-06	7.83E-02	7.94E-02
Taxiway Exit	Construction	Asphalt Paver	1.81E-06	4.96E-06	1.04E-01	1.05E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	5.33E-06	1.46E-05	3.07E-01	3.11E-01



Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Hoe Ram4	4.66E-06	1.41E-05	2.95E-01	3.00E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Trenchers	2.76E-06	6.95E-06	1.46E-01	1.48E-01
Taxiway Exit	Construction	Trenchers	2.06E-06	5.20E-06	1.09E-01	1.11E-01
Taxiway Exit	Construction	Trenchers	2.76E-06	6.95E-06	1.46E-01	1.48E-01
Taxiway Exit	Construction	Excavators	1.13E-05	3.40E-05	7.13E-01	7.23E-01
Taxiway Exit	Construction	Trenchers	1.12E-06	2.83E-06	5.93E-02	6.01E-02
Taxiway Exit	Construction	Excavators	4.58E-06	1.38E-05	2.90E-01	2.94E-01
Taxiway Exit	Construction	Rotary Cold Mill	1.48E-05	4.06E-05	8.52E-01	8.64E-01
Taxiway Exit	Construction	Grooving Machine	9.89E-06	3.39E-05	7.10E-01	7.20E-01
Taxiway Exit	Construction	Paint Sprayers5	5.23E-07	2.68E-06	5.63E-02	5.71E-02
Taxiway Exit	Construction	Skid Steer Loaders	3.87E-05	1.03E-04	2.15E+00	2.18E+00
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	1.29E-04	1.88E-04	3.93E+00	4.00E+00
Taxiway Exit	Construction	Excavators	9.15E-05	2.77E-04	5.80E+00	5.88E+00
Taxiway Exit	Construction	Skid Steer Loaders4	2.68E-06	9.74E-06	2.04E-01	2.07E-01
Taxiway Exit	Construction	Asphalt Paver	4.72E-06	1.29E-05	2.71E-01	2.75E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.39E-05	3.82E-05	8.00E-01	8.12E-01
Taxiway Exit	Construction	Tack Truck	1.63E-05	7.71E-05	1.62E+00	1.64E+00
Taxiway Exit	Construction	Concrete Saw	1.79E-05	3.78E-05	7.92E-01	8.04E-01
Taxiway Exit	Construction	Concrete Pavers	2.05E-05	5.62E-05	1.18E+00	1.20E+00
Taxiway Exit	Construction	Concrete Saw	3.22E-05	6.80E-05	1.43E+00	1.45E+00
Taxiway Exit	Construction	Excavators	3.33E-05	1.01E-04	2.11E+00	2.14E+00
Taxiway Exit	Construction	Hoe Ram4	6.66E-05	2.01E-04	4.22E+00	4.28E+00
Taxiway Exit	Construction	Skid Steer Loaders4	1.37E-06	4.97E-06	1.04E-01	1.06E-01
Taxiway Exit	Construction	Asphalt Paver	2.41E-06	6.59E-06	1.38E-01	1.40E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	7.10E-06	1.95E-05	4.08E-01	4.14E-01
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Construction	Concrete Saw	7.64E-08	1.61E-07	3.38E-03	3.43E-03
Taxiway Exit	Construction	Concrete Pavers	8.75E-08	2.40E-07	5.02E-03	5.09E-03
Taxiway Exit	Construction	Rollers (Compactor Roller incl.)	1.20E-07	3.30E-07	6.92E-03	7.02E-03
Taxiway Exit	Construction	Graders	6.92E-08	2.06E-07	4.32E-03	4.39E-03
Taxiway Exit	Construction	Concrete Saw	1.19E-07	2.50E-07	5.25E-03	5.33E-03
Taxiway Exit	Construction	Excavators	1.23E-07	3.71E-07	7.77E-03	7.89E-03
Taxiway Exit	Construction	Hoe Ram4	2.45E-06	7.42E-06	1.55E-01	1.58E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiway Exit	Construction	Excavators	6.31E-06	1.91E-05	4.00E-01	4.06E-01
Taxiway Exit	Construction	Skid Steer Loaders	2.58E-05	6.84E-05	1.43E+00	1.45E+00
Taxiway Exit	Construction	Tractor/Loader (Backhoe)	8.61E-05	1.25E-04	2.62E+00	2.66E+00
Taxiway Exit	Construction	Excavators	6.10E-05	1.84E-04	3.86E+00	3.92E+00
Taxiway Exit	Construction	Rubber Tire Loader	1.94E-05	1.66E-04	3.49E+00	3.54E+00
Taxiway Exit	Construction	Large Concrete Crusher	2.39E-05	1.87E-04	3.92E+00	3.97E+00
Taxiways	Construction	Skid Steer Loaders	8.86E-06	3.22E-05	6.75E-01	6.84E-01
Taxiways	Construction	Advance Joint Sealant Equipment	1.77E-05	4.83E-05	1.01E+00	1.03E+00
Taxiways	Construction	Asphalt Paver	1.56E-05	4.27E-05	8.95E-01	9.08E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	4.59E-05	1.26E-04	2.64E+00	2.68E+00
Taxiways	Construction	Tack Truck	5.37E-05	2.55E-04	5.34E+00	5.42E+00
Taxiways	Construction	Concrete Saw	1.44E-05	3.04E-05	6.39E-01	6.48E-01
Taxiways	Construction	Concrete Pavers	1.65E-05	4.53E-05	9.50E-01	9.63E-01
Taxiways	Construction	Concrete Saw	1.26E-06	2.66E-06	5.58E-02	5.66E-02
Taxiways	Construction	Concrete Pavers	1.45E-06	3.96E-06	8.30E-02	8.42E-02
Taxiways	Construction	Concrete Saw	2.71E-05	5.72E-05	1.20E+00	1.22E+00
Taxiways	Construction	Excavators	2.80E-05	8.46E-05	1.77E+00	1.80E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	3.25E-05	8.93E-05	1.87E+00	1.90E+00
Taxiways	Construction	Concrete Pavers	1.58E-05	4.32E-05	9.05E-01	9.18E-01
Taxiways	Construction	Concrete Saw	1.38E-05	2.90E-05	6.09E-01	6.18E-01
Taxiways	Construction	Excavators	1.42E-05	4.30E-05	9.01E-01	9.14E-01
Taxiways	Construction	Skid Steer Loaders <sup>4</sup>	1.42E-06	5.14E-06	1.08E-01	1.09E-01
Taxiways	Construction	Asphalt Paver	2.49E-06	6.83E-06	1.43E-01	1.45E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Rollers (Compactor Roller incl.)	7.34E-06	2.02E-05	4.22E-01	4.29E-01
Taxiways	Construction	Hoe Ram4	6.42E-06	1.94E-05	4.07E-01	4.13E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Bore Drill Rigs	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Trenchers	3.80E-06	9.57E-06	2.01E-01	2.04E-01
Taxiways	Construction	Trenchers	2.84E-06	7.16E-06	1.50E-01	1.52E-01
Taxiways	Construction	Trenchers	3.80E-06	9.57E-06	2.01E-01	2.04E-01
Taxiways	Construction	Excavators	1.55E-05	4.68E-05	9.82E-01	9.96E-01
Taxiways	Construction	Trenchers	1.55E-06	3.89E-06	8.16E-02	8.28E-02
Taxiways	Construction	Excavators	6.30E-06	1.90E-05	3.99E-01	4.05E-01
Taxiways	Construction	Rotary Cold Mill	2.05E-05	5.60E-05	1.17E+00	1.19E+00
Taxiways	Construction	Grooving Machine	1.36E-05	4.66E-05	9.78E-01	9.92E-01
Taxiways	Construction	Paint Sprayers5	7.21E-07	3.70E-06	7.75E-02	7.86E-02
Taxiways	Construction	Skid Steer Loaders	5.34E-05	1.41E-04	2.96E+00	3.01E+00
Taxiways	Construction	Tractor/Loader (Backhoe)	1.78E-04	2.59E-04	5.42E+00	5.50E+00
Taxiways	Construction	Excavators	1.26E-04	3.81E-04	7.99E+00	8.10E+00
Taxiways	Construction	Skid Steer Loaders4	3.70E-06	1.34E-05	2.81E-01	2.85E-01

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Asphalt Paver	6.50E-06	1.78E-05	3.73E-01	3.79E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	1.92E-05	5.26E-05	1.10E+00	1.12E+00
Taxiways	Construction	Tack Truck	2.24E-05	1.06E-04	2.23E+00	2.26E+00
Taxiways	Construction	Concrete Saw	2.47E-05	5.20E-05	1.09E+00	1.11E+00
Taxiways	Construction	Concrete Pavers	2.83E-05	7.74E-05	1.62E+00	1.65E+00
Taxiways	Construction	Concrete Saw	4.44E-05	9.36E-05	1.96E+00	1.99E+00
Taxiways	Construction	Excavators	4.59E-05	1.39E-04	2.91E+00	2.95E+00
Taxiways	Construction	Hoe Ram4	9.18E-05	2.77E-04	5.81E+00	5.90E+00
Taxiways	Construction	Skid Steer Loaders4	1.89E-06	6.84E-06	1.44E-01	1.46E-01
Taxiways	Construction	Asphalt Paver	3.32E-06	9.08E-06	1.90E-01	1.93E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	9.77E-06	2.68E-05	5.62E-01	5.70E-01
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Rollers (Compactor Roller incl.)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Graders	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Excavators	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Construction	Concrete Saw	1.05E-07	2.22E-07	4.65E-03	4.72E-03
Taxiways	Construction	Concrete Pavers	1.21E-07	3.30E-07	6.92E-03	7.02E-03
Taxiways	Construction	Rollers (Compactor Roller incl.)	1.66E-07	4.55E-07	9.53E-03	9.67E-03
Taxiways	Construction	Graders	9.53E-08	2.84E-07	5.95E-03	6.04E-03
Taxiways	Construction	Concrete Saw	1.64E-07	3.45E-07	7.23E-03	7.34E-03
Taxiways	Construction	Excavators	1.69E-07	5.11E-07	1.07E-02	1.09E-02

Project	Construction Activity	Equipment Type	Emissions (tons/yr)			
			CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Taxiways	Construction	Hoe Ram4	3.38E-06	1.02E-05	2.14E-01	2.17E-01
Taxiways	Construction	Excavators	8.69E-06	2.63E-05	5.51E-01	5.59E-01
Taxiways	Construction	Skid Steer Loaders	3.56E-05	9.41E-05	1.98E+00	2.00E+00
Taxiways	Construction	Tractor/Loader (Backhoe)	1.19E-04	1.73E-04	3.61E+00	3.67E+00
Taxiways	Construction	Excavators	8.40E-05	2.54E-04	5.32E+00	5.40E+00
Taxiways	Construction	Rubber Tire Loader	2.67E-05	2.29E-04	4.81E+00	4.87E+00
Taxiways	Construction	Large Concrete Crusher	3.30E-05	2.57E-04	5.39E+00	5.47E+00
Asphalt Plant	Plant Mobile Source	Generator	3.09E-04	2.81E-04	5.89E+00	5.99E+00
Asphalt Plant	Plant Mobile Source	Pumps	4.73E-04	4.08E-04	8.54E+00	8.69E+00
Asphalt Plant	Plant Mobile Source	Rubber Tire Loader	2.48E-04	2.13E-03	4.48E+01	4.54E+01
Asphalt Plant	Plant Mobile Source	Asphalt Batch Plant, Drum Type	2.32E-03	7.98E-03	1.67E+02	1.70E+02
Concrete Plant	Plant Mobile Source	Generator	6.19E-04	5.63E-04	1.18E+01	1.20E+01
Concrete Plant	Plant Mobile Source	Pumps	9.45E-04	8.16E-04	1.71E+01	1.74E+01
Concrete Plant	Plant Mobile Source	Rubber Tire Loader	4.96E-04	4.27E-03	8.95E+01	9.07E+01
Concrete Plant	Plant Mobile Source	Concrete Central Mix Plant	4.63E-03	1.60E-02	3.34E+02	3.39E+02

## APPENDIX D: DETAILED FUGITIVES EMISSION INVENTORY DATA FOR PROPOSED PROJECT FOR PROPOSED PROJECT

Table D1.	Construction-phase fugitives inputs
Table D2.	2023 construction-phase fugitives criteria air pollutant emissions.
Table D3.	2023 construction-phase fugitives greenhouse gas emissions.
Table D4.	2024 construction-phase fugitives criteria air pollutant emissions.
Table D5.	2024 construction-phase fugitives greenhouse gas emissions.



**Table D1. Construction-phase fugitives inputs**

Project Type	Construction Activity	Calculation	Input	Units
Access Road	Asphalt Drying	$A = \text{Area of land affected} = L \times W \times 0.0929$	26941	m <sup>2</sup>
Access Road	Asphalt Drying	Emission Factor	0.053	ton/acre
Access Road	Asphalt Drying	Conversion Factor m2 per acre	4046.86	m <sup>2</sup> /acre
Access Road	Asphalt Drying	$VOC = EF \times A / 4046.86$	0.353	tons
Access Road	Material Movement (Unpaved Roads)	$s = \text{Surface material silt content}$	0.043	fraction
Access Road	Material Movement (Unpaved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Access Road	Material Movement (Unpaved Roads)	$VMT = \text{Vehicle miles traveled}$	11678	miles
Access Road	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.160	tons
Access Road	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.1	g/m <sup>3</sup>
Access Road	Material Movement (Paved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Access Road	Material Movement (Paved Roads)	$VMT = \text{Vehicle miles traveled}$	10320	miles
Access Road	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.048	tons
Access Road	Concrete Mixing/Batching	$V = \text{Volume of asphalt} = 0.111 \times L \times W \times 1.25 / 3$	13413	yd <sup>3</sup>
Access Road	Concrete Mixing/Batching	$PM_{10} = 0.037 \times V$	0.248	tons
Access Road	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	6.657	acres
Access Road	Unstabilized Land and Wind Erosion	$TPConv = \text{TSP/PM}_{10} \text{ conversion}$	0.50	fraction
Access Road	Unstabilized Land and Wind Erosion	$CE = \text{Control efficiency}$	0.63	fraction
Access Road	Unstabilized Land and Wind Erosion	$t = \text{year (e.g. 0.65 year)}$	1.0	years
Access Road	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1-CE) \times t$	0.468	tons
Access Road	Soil Handling	$u = \text{Wind speed}$	5.0	mph
Access Road	Soil Handling	$m = \text{Moisture content}$	0.250	fraction
Access Road	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	7975	tons
Access Road	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.082	tons
Airfield Lighting	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.1	g/m <sup>3</sup>

Project Type	Construction Activity	Calculation	Input	Units
Airfield Lighting	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Airfield Lighting	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
Airfield Lighting	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.006	tons
Demolition - Asphalt	Soil Handling	u = Wind speed	5	mph
Demolition - Asphalt	Soil Handling	m = Moisture content	0.25	fraction
Demolition - Asphalt	Soil Handling	T = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	29480	tons
Demolition - Asphalt	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.303	tons
Demolition - Asphalt	Unstabilized Land and Wind Erosion	A = Area affected = $L \times W / 43560.0$	24.6	acres
Demolition - Asphalt	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Demolition - Asphalt	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Demolition - Asphalt	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1	years
Demolition - Asphalt	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1-CE) \times t$	1.729	tons
Demolition - Asphalt	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Demolition - Asphalt	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Asphalt	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	16820	miles
Demolition - Asphalt	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.23	tons
Demolition - Asphalt	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m3
Demolition - Asphalt	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Asphalt	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	15480	miles
Demolition - Asphalt	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.072	tons
Demolition - Concrete	Soil Handling	u = Wind speed	5	mph
Demolition - Concrete	Soil Handling	m = Moisture content	0.25	fraction
Demolition - Concrete	Soil Handling	T = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	15125	tons

Project Type	Construction Activity	Calculation	Input	Units
Demolition - Concrete	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.156	tons
Demolition - Concrete	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	12.6	acres
Demolition - Concrete	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Demolition - Concrete	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Demolition - Concrete	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years
Demolition - Concrete	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1 - CE) \times t$	0.886	tons
Demolition - Concrete	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Demolition - Concrete	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Concrete	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	3497	miles
Demolition - Concrete	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.048	tons
Demolition - Concrete	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m3
Demolition - Concrete	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32.000	tons
Demolition - Concrete	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	2580	miles
Demolition - Concrete	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.012	tons
Drainage System	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Drainage System	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Drainage System	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1514	miles
Drainage System	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.021	tons
Drainage System	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	0.448	acres
Drainage System	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Drainage System	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

Project Type	Construction Activity	Calculation	Input	Units
Drainage System	Unstabilized Land and Wind Erosion	$t = \text{year (e.g. 0.65 year)}$	1.0	years
Drainage System	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{\text{Conv}} \times (1 - CE) \times t$	0.031	tons
Drainage System	Soil Handling	$u = \text{Wind speed}$	5	mph
Drainage System	Soil Handling	$m = \text{Moisture content}$	0.25	fraction
Drainage System	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	537.1	tons
Drainage System	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.006	tons
Fencing	Soil Handling	$u = \text{Wind speed}$	5	mph
Fencing	Soil Handling	$m = \text{Moisture content}$	0.25	fraction
Fencing	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	918.5	tons
Fencing	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.009	tons
Fencing	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	0.767	acres
Fencing	Unstabilized Land and Wind Erosion	$TPC_{\text{Conv}} = \text{TSP/PM}_{10} \text{ conversion}$	0.5	fraction
Fencing	Unstabilized Land and Wind Erosion	$CE = \text{Control efficiency}$	0.63	fraction
Fencing	Unstabilized Land and Wind Erosion	$t = \text{year (e.g. 0.65 year)}$	1.0	years
Fencing	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{\text{Conv}} \times (1 - CE) \times t$	0.054	tons
Fencing	Material Movement (Unpaved Roads)	$s = \text{Surface material silt content}$	0.043	fraction
Fencing	Material Movement (Unpaved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Fencing	Material Movement (Unpaved Roads)	$VMT = \text{Vehicle miles traveled}$	1311.5	miles
Fencing	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.018	tons
Fencing	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.10	g/m3
Fencing	Material Movement (Paved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Fencing	Material Movement (Paved Roads)	$VMT = \text{Vehicle miles traveled}$	1290	miles
Fencing	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.006	tons

Project Type	Construction Activity	Calculation	Input	Units
Landscaping	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Landscaping	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Landscaping	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	330.8	miles
Landscaping	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.005	tons
Landscaping	Soil Handling	u = Wind speed	5	mph
Landscaping	Soil Handling	m = Moisture content	0.250	fraction
Landscaping	Soil Handling	T = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	55275	tons
Landscaping	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.569	tons
Parking Lot	Asphalt Drying	A = Area of land affected = $L \times W \times 0.0929$	297280	m <sup>2</sup>
Parking Lot	Asphalt Drying	Emission Factor	0.053	ton/acre
Parking Lot	Asphalt Drying	Conversion Factor m <sup>2</sup> per acre	4046.86	m <sup>2</sup> /acre
Parking Lot	Asphalt Drying	VOC = EF x A / 4046.86	3.893	tons
Parking Lot	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Parking Lot	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Parking Lot	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	89484.6	miles
Parking Lot	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	1.225	tons
Parking Lot	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m <sup>3</sup>
Parking Lot	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Parking Lot	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	81270	miles
Parking Lot	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.377	tons
Parking Lot	Concrete Mixing/Batching	V = Volume of asphalt = $0.111 \times L \times W \times 1.25 / 3$	148000	yd <sup>3</sup>
Parking Lot	Concrete Mixing/Batching	$PM_{10} = 0.037 \times V$	2.738	tons
Parking Lot	Soil Handling	u = Wind speed	5	mph
Parking Lot	Soil Handling	m = Moisture content	0.25	fraction
Parking Lot	Soil Handling	T = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	88000	tons
Parking Lot	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.906	tons

Project Type	Construction Activity	Calculation	Input	Units
Parking Lot	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	73.5	acres
Parking Lot	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Parking Lot	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Parking Lot	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years
Parking Lot	Unstabilized Land and Wind Erosion	$PM10 = 0.38 \times A \times TPConv \times (1 - CE) \times t$	5.167	tons
Rehabilitate Runway	Asphalt Drying	$A = \text{Area of land affected} = L \times W \times 0.0929$	248972	m2
Rehabilitate Runway	Asphalt Drying	Emission Factor	0.053	ton/acre
Rehabilitate Runway	Asphalt Drying	Conversion Factor m2 per acre	4046.86	m2/acre
Rehabilitate Runway	Asphalt Drying	$VOC = EF \times A / 4046.86$	3.261	tons
Rehabilitate Runway	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Rehabilitate Runway	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Rehabilitate Runway	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	73472.8	miles
Rehabilitate Runway	Material Movement (Unpaved Roads)	$PM10 = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	1.006	tons
Rehabilitate Runway	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m3
Rehabilitate Runway	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Rehabilitate Runway	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	68370	miles
Rehabilitate Runway	Material Movement (Paved Roads)	$PM10 = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.317	tons
Rehabilitate Runway	Soil Handling	u = Wind speed	5.0	mph
Rehabilitate Runway	Soil Handling	m = Moisture content	0.25	fraction
Rehabilitate Runway	Soil Handling	T = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	73700	tons
Rehabilitate Runway	Soil Handling	$PM10 = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.759	tons
Rehabilitate Runway	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	61.5	acres
Rehabilitate Runway	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.50	fraction

Project Type	Construction Activity	Calculation	Input	Units
Rehabilitate Runway	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Rehabilitate Runway	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years
Rehabilitate Runway	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{\text{Conv}} \times (1-CE) \times t$	4.323	tons
Rehabilitate Runway	Concrete Mixing/Batching	$V = \text{Volume of asphalt} = 0.111 \times L \times W \times 1.25 / 3$	123950	yd3
Rehabilitate Runway	Concrete Mixing/Batching	$PM_{10} = 0.037 \times V$	2.293	tons
Runway Drains	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Runway Drains	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Runway Drains	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	4818	miles
Runway Drains	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.066	tons
Runway Drains	Unstabilized Land and Wind Erosion	A = Area affected = $L \times W / 43560.0$	3.878	acres
Runway Drains	Unstabilized Land and Wind Erosion	TPC <sub>Conv</sub> = TSP/PM <sub>10</sub> conversion	0.5	fraction
Runway Drains	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Runway Drains	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years
Runway Drains	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{\text{Conv}} \times (1-CE) \times t$	0.273	tons
Runway Safety Area	Unstabilized Land and Wind Erosion	A = Area affected = $L \times W / 43560.0$	156	acres
Runway Safety Area	Unstabilized Land and Wind Erosion	TPC <sub>Conv</sub> = TSP/PM <sub>10</sub> conversion	0.5	fraction
Runway Safety Area	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Runway Safety Area	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years
Runway Safety Area	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{\text{Conv}} \times (1-CE) \times t$	10.974	tons
Runway Safety Area	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Runway Safety Area	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons



Project Type	Construction Activity	Calculation	Input	Units
Runway Safety Area	Material Movement (Unpaved Roads)	VTM = Vehicle miles traveled	14894	miles
Runway Safety Area	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VTM$	0.204	tons
Runway Safety Area	Soil Handling	u = Wind speed	5.0	mph
Runway Safety Area	Soil Handling	m = Moisture content	0.25	fraction
Runway Safety Area	Soil Handling	T = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	187000	tons
Runway Safety Area	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	1.925	tons
Service Road	Asphalt Drying	A = Area of land affected = $L \times W \times 0.0929$	743	m <sup>2</sup>
Service Road	Asphalt Drying	Emission Factor	0.053	ton/acre
Service Road	Asphalt Drying	Conversion Factor m <sup>2</sup> per acre	4046.860	m <sup>2</sup> /acre
Service Road	Asphalt Drying	VOC = EF x A / 4046.86	0.010	tons
Service Road	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Service Road	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Service Road	Material Movement (Unpaved Roads)	VTM = Vehicle miles traveled	5190	miles
Service Road	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VTM$	0.071	tons
Service Road	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m <sup>3</sup>
Service Road	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Service Road	Material Movement (Paved Roads)	VTM = Vehicle miles traveled	5160	miles
Service Road	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VTM$	0.024	tons
Service Road	Concrete Mixing/Batching	V = Volume of asphalt = $0.111 \times L \times W \times 1.25 / 3$	370	yd <sup>3</sup>
Service Road	Concrete Mixing/Batching	$PM_{10} = 0.037 \times V$	0.007	tons
Service Road	Unstabilized Land and Wind Erosion	A = Area affected = $L \times W / 43560.0$	0.184	acres
Service Road	Unstabilized Land and Wind Erosion	TPConv = TSP/PM <sub>10</sub> conversion	0.50	fraction
Service Road	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Service Road	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years

Project Type	Construction Activity	Calculation	Input	Units
Service Road	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{Conv} \times (1-CE) \times t$	0.013	tons
Service Road	Soil Handling	$u$ = Wind speed	5.0	mph
Service Road	Soil Handling	$m$ = Moisture content	0.25	fraction
Service Road	Soil Handling	$T$ = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	220	tons
Service Road	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.002	tons
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	$s$ = Surface material silt content	0.043	fraction
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	$Wt.$ = Mean vehicle weight	32	tons
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	$VMT$ = Vehicle miles traveled	2605.0	miles
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.036	tons
Site Work - 10000 sqft	Material Movement (Paved Roads)	$sL$ = Road surface silt loading	0.10	g/m3
Site Work - 10000 sqft	Material Movement (Paved Roads)	$Wt.$ = Mean vehicle weight	32	tons
Site Work - 10000 sqft	Material Movement (Paved Roads)	$VMT$ = Vehicle miles traveled	2580	miles
Site Work - 10000 sqft	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.012	tons
Site Work - 10000 sqft	Soil Handling	$u$ = Wind speed	5.0	mph
Site Work - 10000 sqft	Soil Handling	$m$ = Moisture content	0.25	fraction
Site Work - 10000 sqft	Soil Handling	$T$ = Mass of aggregate storage pile = $L \times W \times 0.5 \times 110 / 2000$	275.0	tons
Site Work - 10000 sqft	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.003	tons
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	$A$ = Area affected = $L \times W / 43560.0$	0.230	acres
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	$TPC_{Conv}$ = TSP/PM10 conversion	0.50	fraction
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	$CE$ = Control efficiency	0.63	fraction
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	$t$ = year (e.g. 0.65 year)	1.0	years
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPC_{Conv} \times (1-CE) \times t$	0.016	tons

Project Type	Construction Activity	Calculation	Input	Units
Taxiway Exit	Asphalt Drying	$A = \text{Area of land affected} = L \times W \times 0.0929$	39018	m <sup>2</sup>
Taxiway Exit	Asphalt Drying	Emission Factor	0.053	ton/acre
Taxiway Exit	Asphalt Drying	Conversion Factor m <sup>2</sup> per acre	4046.860	m <sup>2</sup> /acre
Taxiway Exit	Asphalt Drying	$VOC = EF \times A / 4046.86$	0.511	tons
Taxiway Exit	Material Movement (Unpaved Roads)	$s = \text{Surface material silt content}$	0.043	fraction
Taxiway Exit	Material Movement (Unpaved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Taxiway Exit	Material Movement (Unpaved Roads)	$VMT = \text{Vehicle miles traveled}$	14364	miles
Taxiway Exit	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.197	tons
Taxiway Exit	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.10	g/m <sup>3</sup>
Taxiway Exit	Material Movement (Paved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Taxiway Exit	Material Movement (Paved Roads)	$VMT = \text{Vehicle miles traveled}$	12900	miles
Taxiway Exit	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.060	tons
Taxiway Exit	Concrete Mixing/Batching	$V = \text{Volume of asphalt} = 0.111 \times L \times W \times 1.25 / 3$	19425	yd <sup>3</sup>
Taxiway Exit	Concrete Mixing/Batching	$PM_{10} = 0.037 \times V$	0.359	tons
Taxiway Exit	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	9.642	acres
Taxiway Exit	Unstabilized Land and Wind Erosion	$TPConv = \text{TSP/PM}_{10} \text{ conversion}$	0.50	fraction
Taxiway Exit	Unstabilized Land and Wind Erosion	$CE = \text{Control efficiency}$	0.63	fraction
Taxiway Exit	Unstabilized Land and Wind Erosion	$t = \text{year (e.g. 0.65 year)}$	1.0	years
Taxiway Exit	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1-CE) \times t$	0.678	tons
Taxiway Exit	Soil Handling	$u = \text{Wind speed}$	5.0	mph
Taxiway Exit	Soil Handling	$m = \text{Moisture content}$	0.25	fraction
Taxiway Exit	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	11550	tons

Project Type	Construction Activity	Calculation	Input	Units
Taxiway Exit	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.119	tons
Taxiways	Asphalt Drying	$A = \text{Area of land affected} = L \times W \times 0.0929$	99264	m <sup>2</sup>
Taxiways	Asphalt Drying	Emission Factor	0.053	ton/acre
Taxiways	Asphalt Drying	Conversion Factor m <sup>2</sup> per acre	4046.860	m <sup>2</sup> /acre
Taxiways	Asphalt Drying	$VOC = EF \times A / 4046.86$	1.3	tons
Taxiways	Material Movement (Unpaved Roads)	$s = \text{Surface material silt content}$	0.043	fraction
Taxiways	Material Movement (Unpaved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Taxiways	Material Movement (Unpaved Roads)	$VMT = \text{Vehicle miles traveled}$	32101	miles
Taxiways	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.440	tons
Taxiways	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.10	g/m <sup>3</sup>
Taxiways	Material Movement (Paved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Taxiways	Material Movement (Paved Roads)	$VMT = \text{Vehicle miles traveled}$	28380	miles
Taxiways	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.132	tons
Taxiways	Concrete Mixing/Batching	$V = \text{Volume of asphalt} = 0.111 \times L \times W \times 1.25 / 3$	49418	yd <sup>3</sup>
Taxiways	Concrete Mixing/Batching	$PM_{10} = 0.037 \times V$	0.914	tons
Taxiways	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	24.5	acres
Taxiways	Unstabilized Land and Wind Erosion	$TPConv = \text{TSP/PM}_{10} \text{ conversion}$	0.50	fraction
Taxiways	Unstabilized Land and Wind Erosion	$CE = \text{Control efficiency}$	0.63	fraction
Taxiways	Unstabilized Land and Wind Erosion	$t = \text{year (e.g. 0.65 year)}$	1.0	years
Taxiways	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1-CE) \times t$	1.722	tons
Taxiways	Soil Handling	$u = \text{Wind speed}$	5.0	mph
Taxiways	Soil Handling	$m = \text{Moisture content}$	0.25	fraction

Project Type	Construction Activity	Calculation	Input	Units
Taxiways	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	29384	tons
Taxiways	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.302	tons
Demolition - Asphalt	Soil Handling	$u = \text{Wind speed}$	5.0	mph
Demolition - Asphalt	Soil Handling	$m = \text{Moisture content}$	0.25	fraction
Demolition - Asphalt	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	6160	tons
Demolition - Asphalt	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.063	tons
Demolition - Asphalt	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	5.142	acres
Demolition - Asphalt	Unstabilized Land and Wind Erosion	$TPConv = \text{TSP/PM}_{10} \text{ conversion}$	0.50	fraction
Demolition - Asphalt	Unstabilized Land and Wind Erosion	$CE = \text{Control efficiency}$	0.63	fraction
Demolition - Asphalt	Unstabilized Land and Wind Erosion	$t = \text{year (e.g. 0.65 year)}$	1.0	years
Demolition - Asphalt	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1-CE) \times t$	0.361	tons
Demolition - Asphalt	Material Movement (Unpaved Roads)	$s = \text{Surface material silt content}$	0.043	fraction
Demolition - Asphalt	Material Movement (Unpaved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Demolition - Asphalt	Material Movement (Unpaved Roads)	$VMT = \text{Vehicle miles traveled}$	4150	miles
Demolition - Asphalt	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.057	tons
Demolition - Asphalt	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.10	g/m3
Demolition - Asphalt	Material Movement (Paved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Demolition - Asphalt	Material Movement (Paved Roads)	$VMT = \text{Vehicle miles traveled}$	3870	miles
Demolition - Asphalt	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.018	tons
Demolition - Concrete	Soil Handling	$u = \text{Wind speed}$	5.0	mph
Demolition - Concrete	Soil Handling	$m = \text{Moisture content}$	0.25	fraction
Demolition - Concrete	Soil Handling	$T = \text{Mass of aggregate storage pile} = L \times W \times 0.5 \times 110 / 2000$	9350	tons

Project Type	Construction Activity	Calculation	Input	Units
Demolition - Concrete	Soil Handling	$PM_{10} = T \times 0.35 \times 0.0032 \times [(u/5)^{1.3}] / [(m/2)^{1.4}]$	0.096	tons
Demolition - Concrete	Unstabilized Land and Wind Erosion	$A = \text{Area affected} = L \times W / 43560.0$	7.805	acres
Demolition - Concrete	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.50	fraction
Demolition - Concrete	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
Demolition - Concrete	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.0	years
Demolition - Concrete	Unstabilized Land and Wind Erosion	$PM_{10} = 0.38 \times A \times TPConv \times (1-CE) \times t$	0.549	tons
Demolition - Concrete	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Demolition - Concrete	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Concrete	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	3147	miles
Demolition - Concrete	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	0.043	tons
Demolition - Concrete	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m3
Demolition - Concrete	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Concrete	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	2580	miles
Demolition - Concrete	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.012	tons
Asphalt Plant	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Asphalt Plant	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Asphalt Plant	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	182700	miles
Asphalt Plant	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	2.502	tons
Asphalt Plant	Material Movement (Paved Roads)	sL = Road surface silt loading	0.10	g/m3
Asphalt Plant	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Asphalt Plant	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	182700	miles

Project Type	Construction Activity	Calculation	Input	Units
Asphalt Plant	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	0.848	tons
Concrete Plant	Material Movement (Unpaved Roads)	$s = \text{Surface material silt content}$	0.043	fraction
Concrete Plant	Material Movement (Unpaved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Concrete Plant	Material Movement (Unpaved Roads)	$VMT = \text{Vehicle miles traveled}$	365400	miles
Concrete Plant	Material Movement (Unpaved Roads)	$PM_{10} = 1.5 \times [(s/12)^{0.9}] \times [(Wt./3)^{0.45}] \times VMT$	5.004	tons
Concrete Plant	Material Movement (Paved Roads)	$sL = \text{Road surface silt loading}$	0.10	g/m3
Concrete Plant	Material Movement (Paved Roads)	$Wt. = \text{Mean vehicle weight}$	32	tons
Concrete Plant	Material Movement (Paved Roads)	$VMT = \text{Vehicle miles traveled}$	365400	miles
Concrete Plant	Material Movement (Paved Roads)	$PM_{10} = 0.0022 \times (sL^{0.91}) \times (Wt^{1.02}) \times VMT$	1.696	tons

**Table D2. 2023 construction-phase fugitives criteria air pollutant emissions.**

Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Asphalt Drying	0.00E+00	0.00E+00	3.53E-01	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.60E-01	1.60E-02
Access Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.79E-02	1.20E-02
Access Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-01	3.72E-02
Access Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.68E-01	7.02E-02
Access Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.21E-02	1.23E-02
Airfield Lighting	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-03	8.65E-04
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-01	3.59E-02
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E+00	2.05E-01
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-01	1.82E-02
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.67E-02	1.42E-02



Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-01	1.72E-02
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.53E-01	9.80E-02
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-02	3.53E-03
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.83E-03	2.21E-03
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.91E-03	6.91E-04
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	1.57E-03
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-03	2.76E-04
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.45E-03	1.42E-03
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.39E-02	8.09E-03
Fencing	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-02	1.80E-03
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.99E-03	1.50E-03
Landscaping	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-03	1.51E-04
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-01	2.84E-02
Parking Lot	Asphalt Drying	0.00E+00	0.00E+00	3.89E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E+00	1.23E-01
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-01	9.43E-02
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E+00	4.11E-01
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.06E-01	1.36E-01
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.17E+00	7.75E-01
Rehabilitate Runway	Asphalt Drying	0.00E+00	0.00E+00	2.22E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.84E-01	6.84E-02
Rehabilitate Runway	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-01	5.39E-02
Rehabilitate Runway	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.16E-01	7.74E-02
Rehabilitate Runway	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E+00	4.41E-01
Rehabilitate Runway	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E+00	2.34E-01
Runway Drains	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.49E-02	4.49E-03

Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.85E-01	2.78E-02
Runway Safety Area	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Asphalt Drying	0.00E+00	0.00E+00	9.73E-03	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.11E-02	7.11E-03
Service Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E-02	5.99E-03
Service Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.85E-03	1.03E-03
Service Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02	1.94E-03
Service Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-03	3.40E-04
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-02	1.78E-03
Site Work - 10000 sqft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.99E-03	1.50E-03
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-03	2.12E-04
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-03	1.21E-03
Taxiway Exit	Asphalt Drying	0.00E+00	0.00E+00	4.20E-01	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-01	1.62E-02
Taxiway Exit	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.93E-02	1.23E-02
Taxiway Exit	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-01	4.43E-02
Taxiway Exit	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.58E-01	8.36E-02
Taxiway Exit	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.78E-02	1.47E-02
Taxiways	Asphalt Drying	0.00E+00	0.00E+00	6.86E-01	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.32E-01	2.32E-02
Taxiways	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-02	1.74E-02
Taxiways	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.82E-01	7.23E-02
Taxiways	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.08E-01	1.36E-01
Taxiways	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-01	2.39E-02
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-01	3.59E-02

Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E+00	2.05E-01
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-01	1.82E-02
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.67E-02	1.42E-02
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-01	1.72E-02
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.53E-01	9.80E-02
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-02	3.53E-03
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.83E-03	2.21E-03
Asphalt Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E+00	1.37E-01
Asphalt Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E-01	1.16E-01
Concrete Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E+00	2.73E-01
Concrete Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.26E-01	2.31E-01

**Table D3. 2023 construction-phase fugitives greenhouse gas emissions.**

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Access Road	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Table D4. 2024 construction-phase fugitives criteria air pollutant emissions.**

Project Type	Construction Activity	Emissions (tons/yr)					
		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Access Road	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-03	6.31E-04
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.39E-02	9.58E-03
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.64E-01	5.46E-02
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-02	4.85E-03

Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-02	3.78E-03
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-02	6.13E-03
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.33E-01	3.49E-02
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-02	1.26E-03
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.14E-03	7.86E-04
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	1.38E-03
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-02	3.15E-03
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.69E-03	5.53E-04
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-03	3.02E-04
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-01	5.69E-02
Parking Lot	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Asphalt Drying	0.00E+00	0.00E+00	1.04E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.22E-01	3.22E-02
Rehabilitate Runway	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-01	2.54E-02
Rehabilitate Runway	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.43E-01	3.64E-02
Rehabilitate Runway	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E+00	2.08E-01
Rehabilitate Runway	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.34E-01	1.10E-01



Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Runway Drains	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-02	2.11E-03
Runway Drains	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.72E-02	1.31E-02
Runway Safety Area	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E+01	1.65E+00
Runway Safety Area	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-01	2.04E-02
Runway Safety Area	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E+00	2.89E-01
Service Road	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-02	1.78E-03
Site Work - 10000 sqft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.99E-03	1.50E-03
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-03	2.12E-04
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-03	1.21E-03
Taxiway Exit	Asphalt Drying	0.00E+00	0.00E+00	9.07E-02	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-02	3.49E-03
Taxiway Exit	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	2.66E-03
Taxiway Exit	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.38E-02	9.56E-03
Taxiway Exit	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-01	1.80E-02
Taxiway Exit	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-02	3.16E-03
Taxiways	Asphalt Drying	0.00E+00	0.00E+00	6.14E-01	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-01	2.08E-02
Taxiways	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-02	1.56E-02
Taxiways	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-01	6.48E-02
Taxiways	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.14E-01	1.22E-01
Taxiways	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-01	2.14E-02

Project Type	Construction Activity	Emissions (tons/yr)					
		NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.39E-02	9.58E-03
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.64E-01	5.46E-02
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-02	4.85E-03
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-02	3.78E-03
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-02	6.13E-03
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.33E-01	3.49E-02
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-02	1.26E-03
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.14E-03	7.86E-04
Asphalt Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E+00	1.14E-01
Asphalt Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.85E-01	9.62E-02
Concrete Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E+00	2.27E-01
Concrete Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.70E-01	1.92E-01

**Table D5. 2024 construction-phase fugitives greenhouse gas emissions.**

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2e</sub>
Access Road	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Access Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Airfield Lighting	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rehabilitate Runway	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Runway Drains	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Drains	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Runway Safety Area	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Service Road	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiway Exit	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Asphalt Drying	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Taxiways	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Project Type	Construction Activity	Emissions (tons/yr)			
		CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub> e
Demolition - Asphalt	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Asphalt	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Asphalt Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Concrete Plant	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00







