مؤسسة مدينة دبي للطيران
DUBAI AVIATION CITY CORPORATION

For

Dubai South

Logistics District

Planning Regulations and Development Guidelines

Revision 5

December 2019

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Glossary of Terms

"Authority" shall mean the Dubai Aviation Corporation (DACC) - or any other entity delegated by DACC.

"Building" denotes any walled and roofed structure erected inside a plot above the ground level, used for living, working, storing or fabricating, and which abide to the conditions of the Planning Regulations of the plot.

"Building Completion Certificate" is a certificate granted by the Authority acknowledging completion of construction, finishing, and enabling connection to public utilities and occupation.

"Building Height" denotes the height of a building in meters measured from the finished sidewalk level to the top of the roof parapet or to the top of the coping tile of the pitched roof. The building height is measured along the midpoint of the building elevation facing the street that provides access to the plot. In cases where the plot is bounded by more than one street, the façade facing the main street, (or if not applicable, the façade having the longest frontage to the street) will be taken for reference.

"Building Line" denotes the vertical line that defines the outer face of the building façade. Decorative elements and cornices may project a maximum of 0.60m from the building line. Other projecting elements such as balconies must comply with current building regulations and specifications issued by Dubai Municipality.

"Building Permit" is the license that the Authority issues to allow construction work to proceed on a specific piece of plot, in accordance with approved plans, specifications and conditions.

"Consultant" means a locally registered consultant holding a valid consulting Engineers license from the Dubai Municipality.

"Contractor" means a registered contractor holding a valid contracting license from the Dubai Municipality and Dubai Chamber of Commerce for the type of works and classification therein.

"Developer" shall mean the lessee or his authorized Agent who submits an application to the Authority on behalf of the lessee.

"Floor Area Ratio" (F.A.R.): coefficient that denotes the ratio of the total built up area of buildings and structures on a given plot over the total land area of the plot. When calculating the F.A.R., the areas of the following shall not be counted as part of the total built up area:

1. Basement floors with no direct natural lighting, intended for use for parking, building services and storage.
2. Balconies, terraces, garden sheds (of up to 2.20m clear height) and non-enclosed shade structures (i.e. completely open on 2 sides at least).
3. Mechanical floors with maximum clear height of 2.20m, elevator rooms, stairwells and areas reserved for water tanks and other mechanical equipment on the roof.
4. Roof Attics, or parts thereof, which are not used and cannot be converted for habitation.
5. Mezzanine floor having direct access only from the ground floor and not from any common stair or lift lobby, and that has an area less than or equal to 50% of the gross Ground Floor area of the building.

"Green Building" is an environmentally responsible, profitable and healthy place to live and work.

"Ground Floor" denotes the floor directly accessed from the finished level fronting the main entrance to the building. It can be at the same level as the ground level, higher by a maximum of 1.2m, or lower by a maximum 1.0m from the finished site level.

"Habitable Room" means a room used for office, shop, workshop or other purpose involving occupation by human beings for continuous periods of time, but not including a W.C.

"Hazardous Goods" means:

i. Any compressed, liquefied or dissolved gases.
ii. Any substance which becomes dangerous by interaction with water or air.
iii. Any liquid substance with a flash point below 75°C.
iv. Any corrosive substance or a substance which emits poisonous concentrations of fumes when heated.
v. Any substance liable to spontaneous combustion.
vi. Any radioactive material and any substance which readily emits heat or other harmful radiations when it changes state or decomposes.
vii. Sheds which contain vehicles loaded with hazardous materials.
viii. Any other substance considered hazardous by the suppliers.

"Landscaping" is the treatment and maintenance of a plot area or property with predominant vegetation such as ground cover, plants, shrubs or trees. It includes paving, bricks, rock work and other natural or decorative features in an organized manner designed to create a specific appearance.

"Loading Space" is an area used for loading or unloading of vehicles, located entirely on private property with a minimum vertical clearance of 4 meters and provided with permanent independent access.

"Mezzanine Floor" denotes a floor that can be accessed from the ground floor only and which covers a maximum of 50% of the ground floor area excluding communal entrances, stairs and lift areas.

"Operation Fitness Certificate" is a certificate granted by the Authority after a Building Completion Certificate is issued, acknowledging completion of installation and testing of machinery, and confirming the facility is safe for Operation.

"Permanent Building or Facilities" means buildings or structures designed and constructed in reinforced concrete, or steel with block or metal cladding, or with a combination of steel or pre-cast concrete or reinforced bearing block walls or brick, or other durable material.

"Plot" is a parcel of land defined by clear boundaries and coordinates.

"Plot Area" is the total area of a plot within the plot lines as measured on a horizontal plan.

"Plot Coverage" (PC): coefficient that denotes the ratio of the area of the building imprint (sum of the areas of the ground projections of the largest floor of all buildings on the plot) over the total land area of the plot. When calculating the plot coverage, the areas covered by roof projections and balconies shall be counted as part of the building imprint. The areas covered by non-enclosed shade structures shall not be counted (i.e. car parking, gazebos, etc).

"Plot Frontage" is the portion of the plot construed nearest to the street. All sides of a plot adjacent to streets shall be considered frontage.

"Plot line" is any line bounding a plot herein defined.

"Project" means the construction of a permanent building, any other civil work on a leased\sold property including any modifications or installations in pre-built facilities.

"Regulations" means the rules and statutes listed in this publication and other regulations issued by the "Authority" or any other rules issued in the future. **"Service Authority"** shall mean the following entities as examples:

- Water Authority - DEWA
- Electrical Authority - DEWA
- Fire Authority - Dubai Civil Defence
- Telecom Authority - Etisalat/Smartworld
- Police and Security - Dubai Police
- Aviation – Dubai Civil Aviation / Dubai Airports.

"Setback": denotes the distance separating the building line from the plot boundary line that must be left free of building. A setback may be specified as mandatory; in which case it will define a built to line that all buildings must adhere to. A setback may be specified as a minimum setback and in this case, the building line may adhere to it or be setback a distance larger than the specified minimum.

“Structure” denotes any constructed, erected material or combination of materials which requires being located on the ground or attached to something located on the ground.

“Temporary Building or Facilities” means a building used as a site office or to house construction equipment for the purpose of construction only.

“Typical Floor” is a floor that is similar to the floor that follows it or precedes it or both in area and structure.

1. INTRODUCTION

1.1 Context

The Logistics District is located beside Al Maktoum International Airport, adjacent to one of the largest container handlers, Jabel Ali Port and Free Zone. It is the state-of- the –art multimodal Logistic hub with direct access to the airport, seaport and regional road network. It is mainly comprised of Forwarders Area, Light Industrial Units, Air Cargo Terminals, and Contract Logistic & Industry Area along with other ancillary facilities.

1.2 Dubai South and Site Context

Dubai South (DS) is located on the southern part of Dubai, near to the Jebel Ali port free zone.

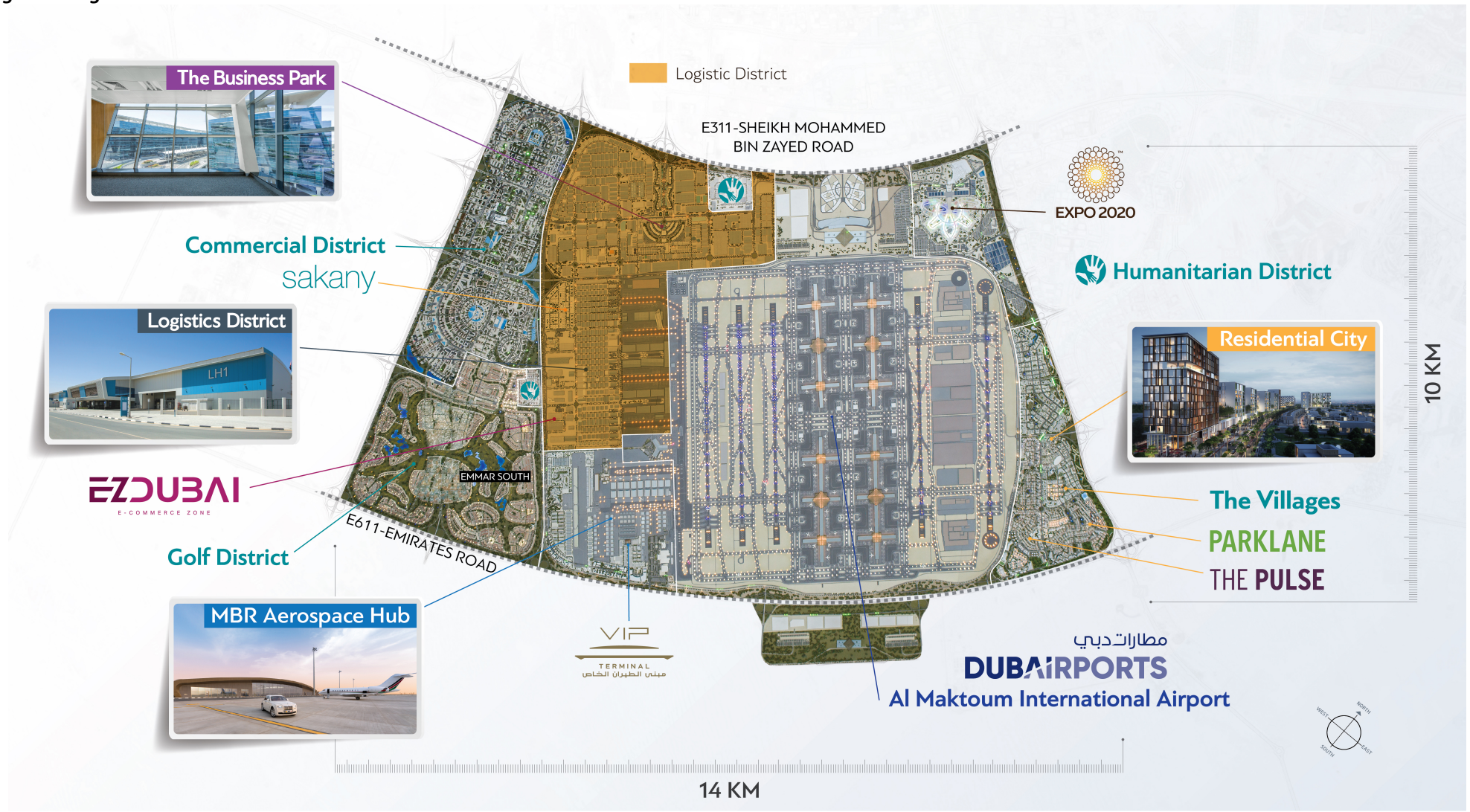
The Logistics District (LD) is strategically situated to the south- west of Al-Maktoum International Airport adjacent to the southern runway, taxiways and aprons. As illustrated in Figure 2, the Logistics District stretches to the south and west up to Mohammad Bin Zayed Road (E311) as a bonded and free zone, which is linked to JAFZA thru the Logistics Corridor.

1.3 Development Context

The site lies within the Dubai South development. As one of the largest new development zones in Dubai, Dubai South is anchored around the new Al Maktoum International Airport and comprise, in addition to Logistics District a number of significant new projects:

Figure 1: Dubai South Site Location

Figure 2: Logistics District Location within Dubai South



1.3.1 Al Maktoum International Airport

- It shall be 10 times the size of the current Dubai International Airport and Dubai Cargo Village combined
- Passenger capacity close to 120 million passengers a year
- Five parallel runways all of 4.5 km in length
- 92 meters control tower, the highest in the Middle East
- 3 dedicated terminals - the Emirates Group, other regional and international carriers and low cost charter airlines
- Dedicated facilities shall be earmarked for executive jet operators.
- Hotels and shopping malls, support facilities and state-of-the-art maintenance facilities, which shall create a regional maintenance hub capable to handle all aircraft types, including the A380.
- Linked to the existing Dubai International Airport via an express rail system and shall ultimately be serviced by the Dubai Metro.
- Work is already underway on the first all weather runway (CAT III), which allows for automatic landing.
- Some 100,000 car parking spaces shall be available for airport parking and car rental services.

1.3.2 Residential District

- 7.67 million square metre site.
- It is expected to accommodate up to 240,000 residents and a workforce of 20,000.
- The Dubai Metro shall serve Residential Dictrict which shall also have a dedicated and integrated road network.
- Several hotels (5-star, 4-star and 3-star properties) and shopping malls will be developed.
- Houses shall be a mix of 2 storey villas and luxury apartments in blocks up to 24 storeys in height.
- A full range of civic amenities, including schools, shall be provided.

1.3.3 Mohammed Bin Rashid Aerospace Hub

- The MBR Hub (405 ha excluding the airside).
- It is divided into the landside non-bonded zone and the airside zone.
- Major Land-uses Light Industrial Units, Warehousing (bonded zone), Academic and Training, Office Park and Commercial and Mixed Use (non-bonded zone).
- The District targets primarily airport operations and its sub-activities.

1.3.4 Golf District

- The Golf District is spread over 148 ha.
- It is expected to accommodate a population of 140,000
- Emaar South is representing half of the District and is ideally positioned at the crossroads of Dubai and Abu Dhabi, it is just minutes away from the Expo 2020 site and Al Maktoum International Airport.
- Emaar South is targeting 15,360 apartments units, 53,000 sq m of retail and F+B spaces, 18 Hole Championship Golf Course, 25 neighborhood parks, 22,7000 residential units and 480 sq m of open spaces.

1.3.5 Commercial District

- Spreads over a 1400 ha site.
- Designed as Dubai South's business and finance hub.
- Will feature more than 850 towers, reaching 45 storeys in height.
- Expected to employ around 225,000 people
- It shall include a cluster of luxury villas.
- 25 hotels, ranging from 3 to 5 star deluxe.
- Land plots shall be sold to leading developers, who shall build in accordance with the approved Dubai South master plan and design requirements.

1.3.6 EXPO 2020

- Expo 2020 is a World Expo to be hosted by Dubai in the United Arab Emirates, opening on October 20, 2020.
- It is a large international exhibition designed to showcase achievements of nations. These exhibitions vary in character and are held in different parts of the world.
- The main site of Expo Dubai 2020 is a 438-hectare area (1083 acres) located between Dubai and Abu Dhabi cities. It is organized around a central plaza, entitled Al Wasl, enclosed by three large thematic districts. Each one is dedicated to one of the sub-themes of Expo 2020 – Opportunity, Mobility and Sustainability.

1.3.7 Humanitarian District

- Master Planned to be the first true humanitarian hub.
- The city is spread on two sites; total site area is 141ha (97ha + 44ha).
- The first is strategically located at within the DLC and close to airport and seaport operations and the second within the Golf District.
- The first site is designed as operational platform for humanitarian non-profit organizations (60% of site) as well as commercial (35% of site).
- The second site is a mix of residential and commercial developments, which is expected to generate revenue that will partially support humanitarian activities.

1.4 Logistics District

The LD is covering an area of 1,885 hectares.

In addition, it offers a site allocated for a “Staff Accommodation” named SAKANY. It is a purpose-built mixed-use development combining residential units, retail, commercial spaces and showrooms. The masterplan of SAKANY consist of three main phases that is going to be home and a destination for more than 50,000 people across the following phases:

- SAKANY Staff Accommodation (offered to blue-collar staff)
- SAKANY One (offered to low income families & individuals)
- SAKANY Square (retail, showrooms & commercial spaces)

1.4.1 Constraints

Due to its close proximity to the airport, LD Master Plan and land-use distribution took into consideration all physical and non-physical constraints:

- Airport Height Constraints and Obstacle Limitation Surfaces
- Airport Noise Contours
- Airport Flight Path and Safety Zones
- Acknowledge and respond to all Customs and Security related concerns
- Layout Structure and Utility Reservations
- LD Access Points
- Acknowledge and respond to all social limitations between all accommodations categories and design accordingly.

These above-mentioned constraints are considered to have the major impact in the flexibility of the adopted planning approach.

1.4.2 Design Approach and Principals

Logistics District is a key city of Dubai South.

A purpose built facility adjacent to the new airport with every aspect of the business of logistics planned for completion over a number of phases. A fully integrated Free Zone, seamless sea to air cargo, freight forwarding, Business Park, warehousing and other amenities make LD the first facility of its kind in the world. In addition, there will be an area dedicated to the aviation industry.

The five basic principles used in DS - LD master planning are:

1. Acknowledge contextual constraints and address site limitations
2. Acknowledge and respond to all Customs and Security related concerns
3. Provide centralized amenities
4. Maximize Land utilization
5. Organize functional zoning plan served by an efficient road network

1.4.3 Design and Planning Objectives

Logistics District Master Plan was subject to various design constraints that needed a holistic planning and design vision in order to create, generate, and deliver a logical and functional master plan.

The objective is not tied or limited to one planning aspect i.e. creating a Logistics District that cater to specific type of logistic such as aviation. On the contrary, the vision was extended to cover all essential logistic related facilities (Offices, and Mixed Use) which also includes; general cargo import, export and consolidation, sea-air transit; perishables or valuable goods transportation; and warehousing, distribution and assembly services.

The Staff Village main purpose, on the other hand, is to offer decent, livable accommodation facilities in a well-maintained living environment that respects essential living requirements.

The adopted design and planning objectives are addressed to:

- Create a multi-functional city structure with an organized land-use program that respects all airside and landside concerns
- Provide high-end facilities and services
- Create an ideal hub for aviation and other light industries
- Promote green energy and environment friendly industries
- Create an efficient low-cost transit system that link the city to DS cities.
- Create a comprehensive and integrated road network that offers various modes of transport to ensure easy accessibility between various areas within the city
- The design and planning objectives are vision-oriented objectives, which will require planning and design regulations to control and define this multi- functional role.

1.4.4 Master Plan Land-Uses

Logistics District is designed as the ideal location for forwarders and logistic services providers to meet their local and regional business needs. Air cargo from the existing Dubai International Airport will be linked to LD via a bonded and professionally operated road. This scheduled resource will operate round-the-clock, several times an hour, delivering cargo directly to the heart of the LD business community.

As per the planning parameters estimates, the whole LD will ultimately offer 150,000 employment opportunities.

The land use budget within Logistics District is mainly comprised of about 60% of Light Industrial Units (LIU) and warehousing and 8% of mixed uses (Open space, Office/ Retail and community facilities). The

remaining 32% area distributed between roads, exhibition hall, hotel etc. (see figure 3).

The LD is comprised of the following main components:

- Logistics District Headquarters and Office Park (Zone OP)
- Contract Logistics Zone (Zone W)
- Non Bonded zone (WT)
- Freight Forwarders (FF)
- EZ Dubai (EZ)
- Staff Village (Zone SD)
- Dubai Global Connect

Logistics District layout is structured fully utilizing the grid layout system. Major part of the Logistics District consists of light industrial and warehousing.

Logistics District Headquarters and Office Park (Zone OP)
Zone "OP" consists of Dubai South Headquarter office park and office strip. It covers an approximate area of 133ha. The Headquarter building area is designed in a crescent form with 10 office buildings and a site dedicated for a convention centre in addition to hotels and number of smaller sites for banks and insurance companies.

Contract Logistics Zone
The designated Contract Logistics zone is located in the north eastern part of Dubai South Logistics District. Through its proximity and uninterrupted access to Jebel Ali Port via a bonded logistics corridor this area enhances efficiencies of businesses reliant on sea freight. The zone offers a range of plot sizes but with distinct focus of larger plots for development to support trading and contract logistics operations.

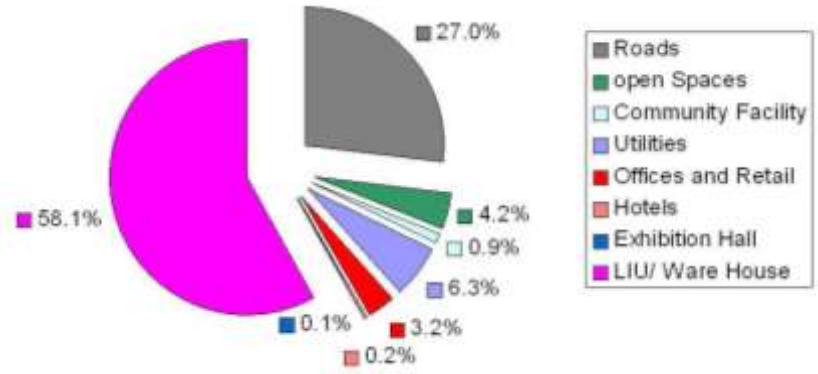


Figure 3: Land Use Pattern

Non Bonded Zone
A dedicated non bonded zone located in the southern part of Dubai South Logistics District. It offers strategic access to the local market whilst benefiting some of the advantages of the free zone. The zone provides a range of plot sizes with focus on larger plots to support high business trade in the local market.

Freight Forwarders Zone
Located in the south western zone of Dubai South Logistics District the Freight Forwarding Zone has direct access to the cargo terminals at Al Maktoum International Airport. The location supports the business of air freight forwarders and traders requiring efficient and fast operations for greater levels of customer satisfaction.

EZDubai
EZDubai Strategically located in the southern part of the Logistics District at Dubai South. Uniquely located next to the Cargo terminal supported by a network of leading international supply chain providers. A dedicated E-Commerce zone with a wide range of plot sizes to support e-commerce operation. Offering distinct advantage of being able to efficiently cater to the continuously increasing and rapid paced

demand of today's e-commerce markets. EZDubai is a full e-Commerce ecosystem, with world-class logistics infrastructure enabling both B2B and B2C fulfilment, locally, regionally and globally.

Dubai Global Connect
Dubai Global Connect (DGC) is large scale, state-of-the-art, wholesale trading centre, which provides permanent and temporary exhibition space for global business-to-business wholesalers of Food, Furniture, and Fashion. DGC has direct access to the Al Maktoum International Airport, Dubai South Logistics District, Jebel Ali Seaport and regional road networks. The purpose-built marketplace and supporting trade infrastructure at DGC ensures buyers no longer need to visit multiple countries to source goods while sellers are connected with global purchasers through a single location in Dubai

Zone SD
SAKANY provides a unique and desirable living environment with all necessary community facilities such as Juma Mosque Community Centres (dining halls, TV lounges, sports field, central dining hall, 24/7 security & FM services, WIFI, dedicated parking spaces, retail center, first Aid room).

SAKANY Square located in the heart of the community providing a variety of retail and services experience such as F&B Restaurants & Cafes, Fashion, Hypermarket, Medical Center, Exchange Centers, Banks, Personal Care and Drive Through Fast Food.

2. DEVELOPMENT CONTROL PROCEDURES

The Development Guidelines and Planning Regulations and Standards contained in this booklet are intended for use by approved Developers seeking to construct industrial or warehousing units with ancillary office facilities, on serviced sites rented in the Dubai South (DS) - Logistics District. They should be applied in conjunction with the local and international standards and codes of building construction.

The regulations contained in this document shall be considered to be the minimum requirements. Developers shall comply with these regulations and with all relevant legislative requirements of the Authority.

The Authority reserves the right to change any of these regulations and it shall be the duty of the consultants, contractors and developers to ensure that they possess the latest updates.

These regulations include:

a) Procedures for development, covering building permits, construction procedures, alterations to rebuilt units, building completion certificates, power of the Authority and responsibilities and disputes.
b) General planning Regulations governing plot coverage, building setbacks and heights, provision of parking, loading and unloading facilities, fencing and site landscaping and the external appearance of buildings.

2.1 General

2.1.1 Any Developer wishing to rent a serviced plot in the Dubai Logistics District must apply to the Authority, stating his intended operations and his land requirements.

2.1.2 Following the signature of his rental agreement with the Authority, the Developer must appoint a qualified Architectural / Engineering Consultant, registered in Dubai, and approved by

the Authority, to carry out the design tasks connected to his project, and to act on his behalf regarding all technical matters related to the design, construction and completion of his project.

2.1.3 The development shall adopt the Dubai Universal Accessibility codes And Regulations.

2.1.4 The development shall adopt and house the Dubai Municipality Green Buildings regulations as minimum requirement.

2.1.5 Preliminary Design - All Developers through their consultant shall approach the Authority with the initial design documentation, in order to obtain the approval on the building volume, built up area, setbacks, external character and elevations material specifications.

2.1.6 Final Design - All Developers through their consultant shall prepare detailed design documentation and submit for Authority approval - along with the other external Authorities NOCs - prior to applying for Building Permit. The Final Design shall be reviewed by the Authority in order to assure that:

- Structural and architectural standards are adhered to Master planning guidelines and regulations are followed.

2.1.7 Land Demarcation - All developers through their contractor shall apply to the Authority to issue the Land Demarcation Certificate at two stages during the construction of project as per the plot coordinates of Affection Plan:

1. Pre-construction: requested by contractor prior to applying for the building permit.
2. Post-construction: requested by contractor prior to applying for the building completion.

2.1.8 Mobilization Permit – The appointed contractors shall prepare detailed mobilization plan and submit for approval. The Authority shall review the submission in order to ensure that all required insurance, bonds and permits are obtained. This permit shall enable the contractor to start preparatory work and operations necessary for the movement of personnel, equipment, and furnishing, installation of construction signboard, erecting field offices, construction fence, construction signboard and other facilities necessary for work on the project. (refer to Figures 3-1 and 3-2)

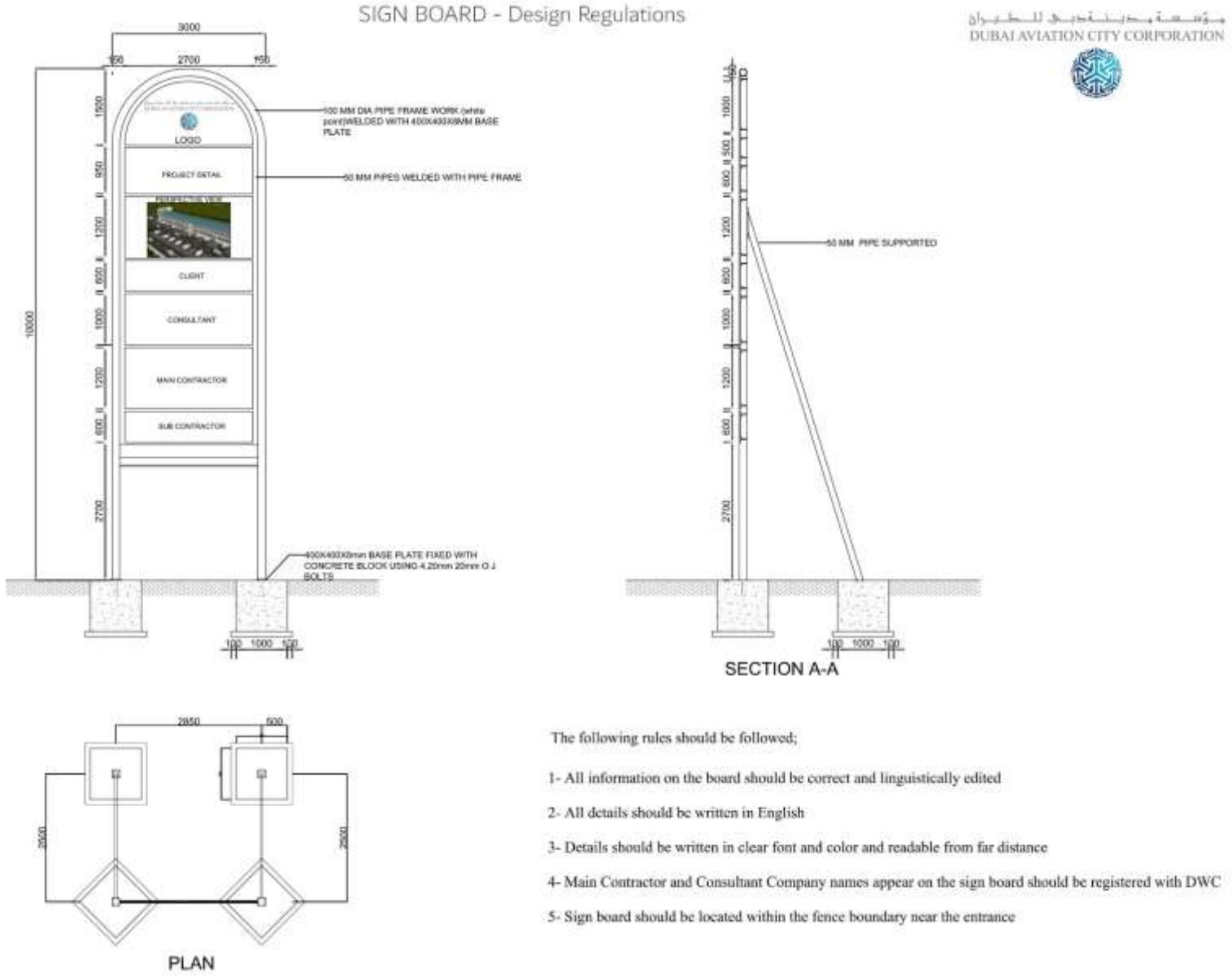
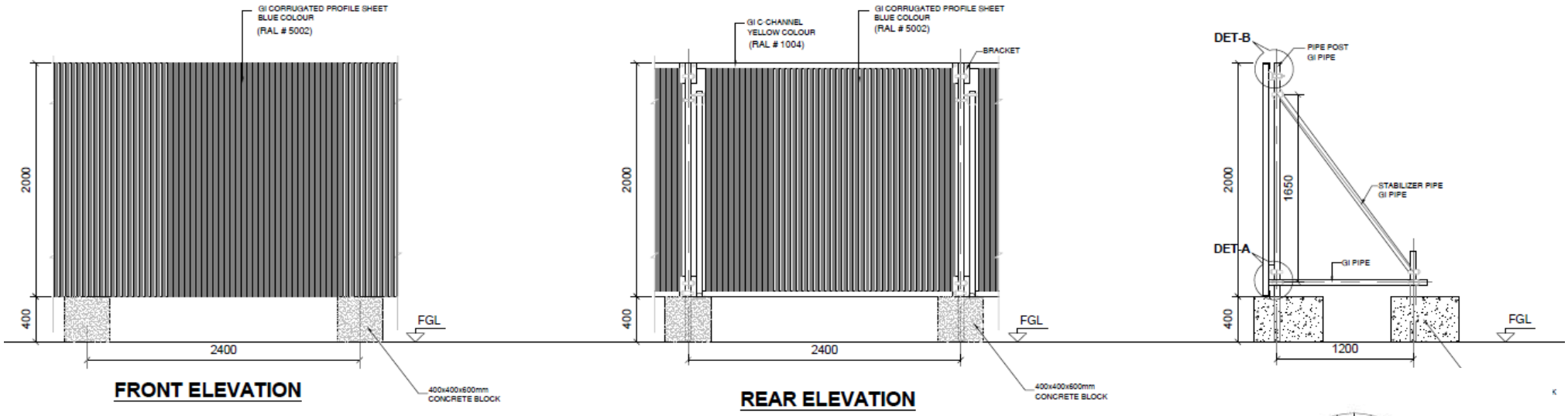


Figure 3-1 – Construction Signboard Template

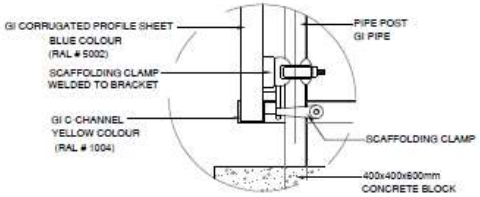
Figure 3-2 – Construction temporary fence



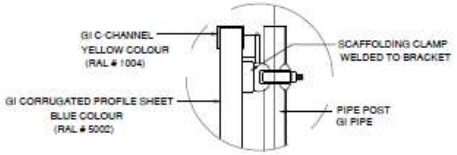
Corrugated Metal Sheet Fence - Continuous type fencing system 2.0 meter height above the footing as per the following specifications:

1) Vertical Main Post : 48mm Dia. GI pipe, 3.2mm thick, 2.50m long @ every 2.40m c/c
2) Inclined Support Post : 48mm Dia. GI pipe, 3.2mm thick, 2.50m long @ every 2.40m c/c
3) Horizontal Support Post : 48mm Dia. GI pipe, 3.2mm thick, 1.50m long @ every 2.40m c/c
4) GI Corrugated Sheet 0.50/0.70 mm thick, 2.0 meter height, Light grey - on both sides of the Fence.
5) GI Channel top and bottom (40 x 40 x 40 x1.20mm thick), Light Grey
6) Fixing Brackets
7) Fitting using with Scaffolding Couplers
8) Front PCC Footing Size : 600 x 400 x 400 mm
9) Back PCC Footing Size : 600 x 400 x 400 mm
10) Back PCC Footing Size : 600 x 400 x 400 mm

Note : Allow for printed graphics on fabric covering the full height of the corrugated sheet –Graphics on fabric by others.



DETAIL-A



DETAIL-B

2.1.9 Enabling Works Permit – The appointed contractors shall prepare Enabling Works Permit application and submit for approval. The Authority shall review the submission in order to ensure that all required insurance, bonds and permits are obtained.

2.1.10 Building Permit :

- The building permit will remain valid for the period of 6 months after issuance date.
- Any amendments to approved drawings or deviations from the conditions stipulated in the building permit will not be allowed unless explicit and written consent of the Authority is granted. In case of violation, the Authority reserves itself the right to demolish any illegal addition to the buildings or part thereof. The cost of demolition will be borne by the developer.
- Documents to be submitted to the Authority for obtaining a building permit are mentioned on Building Permit application form.

2.1.11 Structural Inspections – The Authority representative shall carry out Structural Inspection for all horizontal elements (slab, foundations etc.) The contractor shall submit request for inspection prior to concreting.

2.1.12 Building Completion - No buildings or facilities may be occupied by the owner's representatives after construction prior to obtaining a Building Completion Certificate from the Authority. Please refer section 2.4 for further details.

2.1.13 Operation Fitness Certificate - No facilities may be occupied by the actual tenants unless a Building Fitness Certificate is issued by the Authority.

Note:

1. Application forms for the above mentioned services by Development Control department can be downloaded from www.dubaisouth.ae website.
2. All NOCs issued by the Authority shall expire after six months if no subsequent request for NOC is submitted to the Authority.

2.2 Completion Procedures

2.2.1 A Building Completion Certificate must be applied for by the Consultant upon completion of building works with external finishes and basic electrical, mechanical and fire installations.

2.2.2 The Authority will authorize the following services and utilities to be connected to the building only after the issue of the Building Completion Certificate:

a) Water supply
b) Power supply
c) Chilled water
d) Fire protection
e) Sewerage discharge
f) Irrigation
g) Gas
h) Telephone
i) Data lines (fibre optics)

2.2.3 The Building Completion Certificate will be issued following a satisfactory inspection visit by the Authority. If the inspection of the buildings reveals that further work has to be carried out, the Building Completion Certificate will be delayed until those works are completed.

2.3 Building Operations

2.3.1 All building operations must be confined within the boundary fence or wall of the plot. Construction sites are required to be enclosed with temporary hoarding during the period of construction to avoid any hazard to public thoroughfares or adjacent buildings.

2.3.2 The Developer must obtain the approval of the Authority for the siting of temporary buildings and sheds required during construction and must ensure that adequate provisions for safety and the prevention of health hazards related to sanitation, dusting and drainage disposal are taken.

2.3.3 All necessary safety precautions shall be taken to protect existing buildings and fences from damage due to excavations, earthworks or any other building operation. The Developer and his agent are entirely responsible in case of damage.

2.3.4 The Authority shall have free and uninterrupted access to the construction site at any time.

2.3.5 The Developer or his agent must give the Authority no less than 6 days notice following the completion of the building for inspection and prior to obtaining a building completion certificate.

2.3.6 All construction works must be adequately supervised, and a signed copy of the approved drawings and building permit must be kept on site during construction.

2.3.7 Any deviation from the approved drawings, or commencement of a construction operation without approval shall result in a fine. The payment of this fine will not absolve the Developer from correcting the deviation.

2.3.8 Labor accommodation is not permitted within the site premises.

2.4 Alterations to Rebuilt Units

2.4.1 Any alterations to the built facility shall be subject to the issue of a no objection certificate (N.O.C.) by the Authority. To obtain an N.O.C for alteration works, the Developer must present the same set of drawings required for a building permit, covering the areas of proposed alterations.

2.4.2 Prior to occupation, the Developer must obtain an Operation Fitness Certificate to the satisfaction of the Authority.

2.4.3 Alterations related to other Authorities:

- Any extensions or alterations to the electrical installations shall require the Service Authority (Electrical) approvals.
- Any extension/alteration to the sewage installation shall require service Authority approvals.

2.5 Powers of the Authorities

2.5.1 At the discretion of the Authority the Building Permit may be cancelled if:

a) Work was carried out in contravention of the conditions of the Building Permit or any regulations issued by the Authority.
b) It is subsequently revealed that the Building Permit was issued on the basis of erroneous information supplied by the developer or his agent.

2.5.2 Building Permit will not be withheld unreasonably, but the Authority shall have the discretionary power, when issuing a Building Permit, to attach such special conditions thereto as related to all or any of the following matters:

a) Filling or Excavation within the plot.
b) Construction of boundary walls or fences.
c) Construction of the external appearance of the building, in relation to fitness to its intended purpose and location.
d) Disposal of soil, waste and rain water.
e) Health and safety of personnel and environmental conditions of the workplace and surroundings.
f) The engineering standards to which any process installation is constructed

2.5.3 The Authority is empowered to change, amend, replace and/or update the regulations without prior notice. It is the developer's responsibility to obtain updated regulations and ensure compliance.

2.5.4 It is the responsibility of the developer to apply up-to-date regulations, the Authority notices, etc. that may supersede ones mentioned in these regulations.

2.5.5 The Authority reserves the right to reject the appointment of consultants or contractors for particular jobs if they are not deemed competent enough to fulfill the related responsibilities.

2.5.6 The Authority reserves the right to suspend a consultant or a contractor for non-compliance with the regulations.

2.6 Responsibilities and Disputes

2.6.1 Neither the checking of the drawings, nor the checking of the structural calculations, nor inspection of the work during the progress of construction, shall be constructed in any way to impose responsibility and/or liability on the Authority or their agents. The developer and his agents shall remain responsible for all errors in the design and execution of the project and for the stability of construction during the progress of the works and after completion.

2.6.2 All complaints and disputes concerning Building Permits and the erection of buildings shall be referred to the Authority. Any financial disputes shall be referred to Dubai courts or agreed arbitration defined in the contracts particulars.

2.6.3 Authority shall carryout HSE inspections periodically during and post construction. However, the developer and his agents shall be responsible for any accidents and/or damages arising out of any lapses to their own property and/or adjoining property for any consequential physical and/or financial damages and liabilities.

3. GENERAL PLANNING REGULATIONS

3.1 General Provisions

The Regulations described in this document apply to developments within the DS- Dubai Logistics District. These shall be applied along with the current Building Regulations and Specifications issued by Dubai Municipality.

3.1.1 Within the Logistics District, all land plots are determined as in the Land subdivision plan. Plots shown on these plans cannot be subject to further subdivision, however, two or more adjoining plots not separated by the public domain (road, easement, footpath, open spaces…) and pertaining to the same owner, may be grouped after obtaining special permission from the Authority.

3.1.2 Every individual building must be connected to the internal utility networks.

3.1.3 In the office buildings, all visible mechanical equipment, water tanks and other technical installations located on the flat roofs of the office buildings must be screened from the external views by means of shading devices and perforated and/or ventilated screens. The maximum height of the roof parapet (opaque or transparent) is 4 meters, measured from the finish floor level of the top floor to the external top of the parapet – and within the total allowed building height limit. Screens (such as louvers, perforated panels, wire mesh, net, etc…) will be made of metallic products.

3.1.4 The following structures could be exempted from the restricted buildings height after prior approval of the Authority:

a) Erection of Minarets of Mosques and domes.
b) Tent's pylons and towers designed exclusively for structure and for ornamental purposes.
c) Antennas of telecom utilities, private and public satellite receiving equipment installed on top of the roof floors, water tanks and similar structures
d) Any temporary construction structure, metallic poles and fair ground machines that have been approved by the Authority.

3.1.5 All plots must be suitably landscaped to:

a) Provide attractive and pleasant appearance.
b) Contribute to the relief of heat, noise, dust and glare through proper placement of green planting.
c) Provide visual privacy, in which significant trees are to be planted adjacent to boundaries, acting as a buffer zone.
d) Provide a natural shading device.

3.1.6 All the installations and Buildings to follow Green Building Norms all through design to operation as stipulated by Government of Dubai.

3.1.7 GSM towers as a communication facility have been planned for Logistics District. Many of such towers are planned on the roof top of the designated buildings in the Master Plan in view to create an efficient design for the GSM network. Owners of such building / buildings shall allow the service provider to erect such towers on roof top as and when approached for without and additional cost or whatsoever

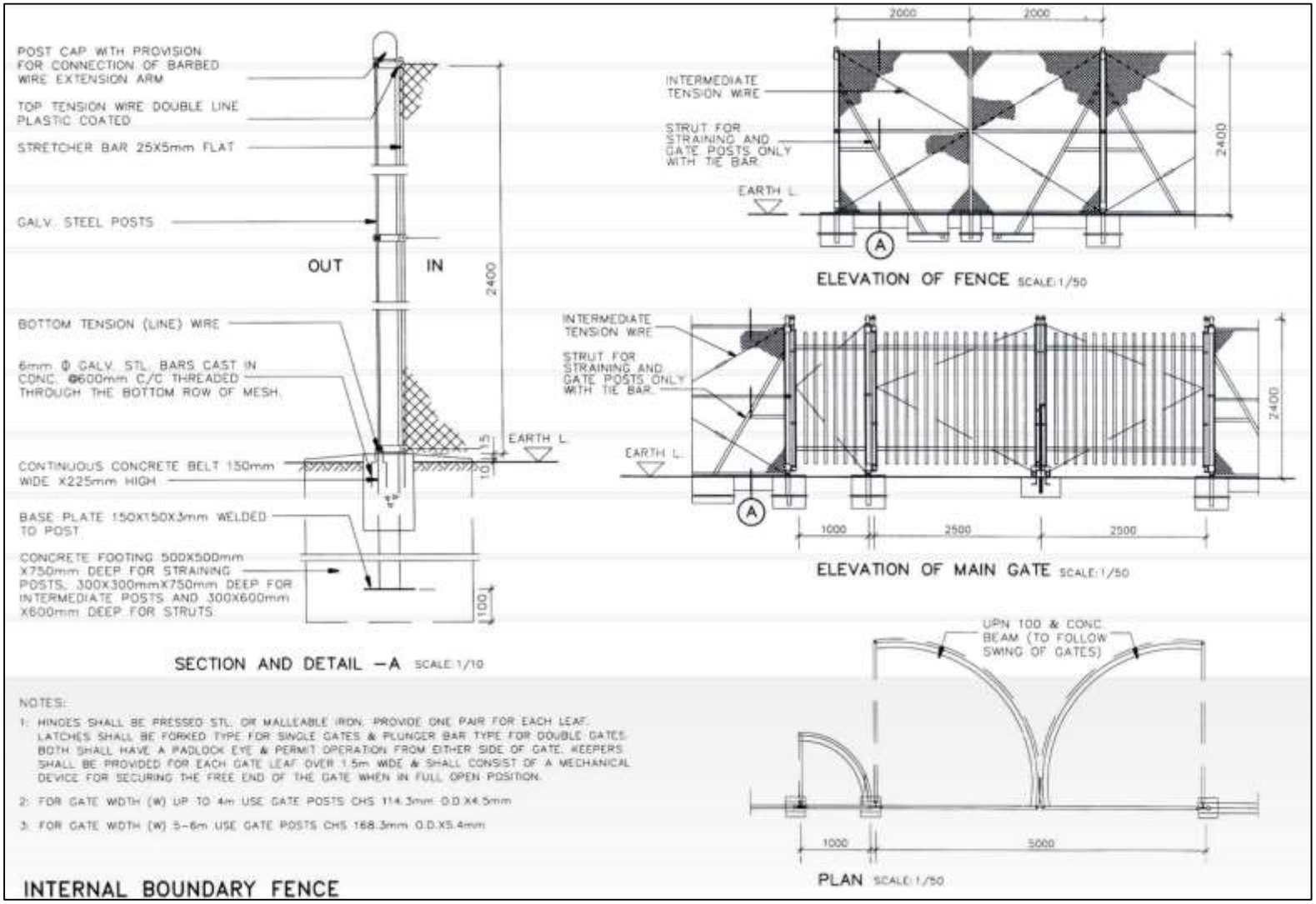
3.2 Fencing

a) The Developer is required to provide sturdy perimeter fencing to define the boundary of his property and ensure the necessary security to his operations (figure 4).
b) Gates shall open inwards only and shall be restrained from swinging beyond the fence line and outside the limits of the plot.
c) Fencing height shall be a standard 2.40m.
d) Standard internal fencing shall consist of galvanized wire mesh supported on intermediate steel posts at 3.0m interval fixed on a concrete base 30cm high from ground level (see enclosed typical detail).
e) Steel posts shall be cold formed circular hollow section to BS standards, galvanized and coated with polyester resin.
f) Chain link fabric must be galvanized and finished in plastic coated mild steel 3.55mm core diameter helically wound and interwoven to provide a continuous mesh without knots or ties except in the form of knuckling or twisting the ends of the wire to form the selvage at both ends of the fabric. The woven wires will form a 50 x 50mm mesh with diamond-shaped openings.
g) All gates must have a clear opening width of 5m for vehicles and a side opening of 1 m for pedestrians (see enclosed typical detail). Gates are to be constructed of vinyl coated sections joined at the corners with specially designed corner fittings. Braces and truss rods are to be provided as necessary to prevent sagging. Gate fabric is to be the same type used in the fence construction. The fabric is to be attached securely to the gate frame at intervals not exceeding 380mm. gate hinges must be of adequate strength for gate and with large bearing surfaces for clamping in position, the hinges are not to twist or turn under the action of the gate. The gates are to be capable of being opened and closed easily by one person. Gate latches stops and keepers are to be provided for each gate. Latches are to have a plunger bar arranged to engage the centre stop. Latches are to be arranged for locking. Centre stops are to consist of a device arranged to be set in concrete and to engage a plunger bar of the latch of double gates. Keepers are to consist of a mechanical device for securing the free end of the gate when in the full open position.
h) The placing of any signs displaying the name of the Consultant and Contractors during construction will be subject to prior approval from the Authority and must be removed upon completion of the construction.
i) The metering points for electrical and water services shall be accessible from outside the plot at all times.

3.3 Boundary Wall

The Developer is required to provide a boundary wall of a minimum height of 2.4 m for all the sides facing the roads within his plot.
The Authority reserves the right to request any enhancements that can add value to the urban planning and visual aesthetics of the boundary wall.

Figures 4 Fencing Detail



3.4 Signage

a) The Consultant shall present to the Authority a drawing of the elevation of the building on which the sign is to be fixed showing the location and design of the proposed sign.
b) Only the registered trade name is allowed as a permanent signage.
c) Directly illuminated signs and intermittent flashing signs will not be allowed. Indirect lighting of signs will be allowed through spot lights fixed to the wall or from ground projectors.
d) No sign shall be displayed without the written approval of the Authority.
e) No sign shall be allowed to be placed on the property fence –without Authority approvals - or on the roof of any building.
f) The external signage will be verified and assessed with the following criteria:

1	**CONTENT**
1.1	DS FZ LICS / Legality
1.2	No personal contents
1.3	Religious / Sectarian / Racist / Immodesty
1.4	No ads / No marketing messages
2	**SIZE**
2.1	5-10% from the elevation area - but still to be harmonic in size
3	**COLOR**
3.1	Corporate ID
3.2	DS color theme
3.3	Pick & match
4	**REFLECTION AND MATERAL**
4.1	No self-illumination
4.2	No reflected material
4.3	3D letters / indirect lighting
5	**LOCATION**
5.1	No roof signage
5.2	Flight safety / DCAA compliance

g) Sub-lease cases:

The companies' sub-lease external signage approvals will always be subject to a case by case Authority review and approval.

MAIN PLOT OWNER SIGNBOARD –
10 % OF THE ELEVATION AREA

MAIN PLOT OWNER SIGNBOARD –
10 % OF THE ELEVATION AREA

SUB-LEASE COMPANIES SIGNAGE ALLOWED – SHOULD
NOT EXCEED 30% OF THE MAIN SIGNBOARD SIZE
CAN BE ALLOCATED ON ALL ELEVATIONS

3.5 Elevation Treatment and appearance

a) The Consultant shall exercise great care in the design and detailing of the building elevations, which should be kept simple and well proportioned. The colour, materials and finishes used on the façades and roofs of buildings shall be subject to the approval of the Authority.
b) External cladding shall be made of industrial products such as steel, aluminium sheets or composite panels, cupper, glass, etc…. The use of sharp colours for external cladding and glass shall be discouraged.
c) It must be noted that all building developments in the Al Maktoum International Airport Logistic zone should follow the overall style, character, finishing standard and colour scheme of the entire surrounding Airport City.
d) As such, all developers should approach the Authority with the initial design documentation, in order to obtain the approval on the external character and skin finishing material specification.

3.6 Landscaping

a) All the plots are to be landscaped as mentioned as mentioned under. Clearly defined areas, accounting to not less than 20% for office plots and 8% for the other plots with other uses are to be landscaped.
b) The total area of the plot as mentioned above needs to be completely landscaped and planted with appropriate plant material to provide visual interest, shade and color within the plot. Available spaces and areas assigned for car parking should also be landscaped, but without reducing the number of vehicles of car parking, nor inhibit their safe movement and maneuvering.
c) The use of adequate desert style furniture like rock, pavers, pebbles, shrubs and trees is highly recommended.
d) Where buildings cannot provide adequate shade, trees should be used to shade walkways, car parks, buildings and outdoor common spaces. Mature specimens or fast growing trees with high, dense, near evergreen canopies should be planted as early as possible.
e) Evergreen succulents should be used whenever possible as ground cover, these serve as a glare reducer and to hold the soil from wind born.
f) It is imperative that water usage be kept to a minimum. “Desert landscaping”, which emphasizes shallow rooted plants and hard surfaces is encouraged to minimize water consumption.
g) Landscaping plans should reflect the site drainage system, take advantage of water runoff, and should take into account shaded and wind protected areas, such as those created by building forms and walls. They also have to show and indicate the numbers, species, positions and sizes of all trees and shrubs, ground cover plants and lawn areas related to the estimated irrigation water demand calculations.
h) It is recommended that distinctive accent lighting be provided at alleyways and entryways and that special attention be given to eliminate flood light heat generators.
i) No non-operational areas within the plot shall be left un-surfaced and shall be paved in a material compatible with material specified for areas reserved for car parking.
j) No landscaping works shall be undertaken outside the boundaries of the assigned plot.
k) All areas reserved for car parking inside the plot boundary must be paved with grey interlocking blocks and with colour interlocking blocks used to define parking limit for each type of vehicle. These roads should be drained and maintained to the satisfaction of the Authority.

3.7 Open storage yards

Soil (Optional)	The developer at its own cost and expense to engage a professional soil laboratory to carry out soil investigations to advise on the soil conditions of the Land and to execute such work as may be required to be done in respect of the state and condition of the Land (taking into account ground levels, topography and soil conditions); Acceptable treatment of the soil: Well compacted road base – or – Cold asphalt (preferable option)
Fencing (Mandatory)	Non-transparent perimeter fencing must be erected and maintained around the Land for so long as the area is used for open storage. Such fencing must be approved by the Authority, in advance of erection, and be of a type and height such that any goods, containers, equipment or other items stored in the open yard are obscured from view by passing vehicular or pedestrian traffic. Example: Chain link covered with green mesh – height 2.4 m to be maintained along the site topography. * The fencing must include emergency access points on each side;
Storage	Goods, containers, equipment or other items at the Land may not, under any circumstances, be stacked more than 5 meters in height;
Hazardous Materials	Any goods classified as Dangerous Goods or goods which are flammable or which may become volatile if exposed to the elements may not, under any circumstances, be kept in the open storage area even if such materials or goods are kept within a shipping container or other containment vessel.
Lighting (Optional)	The Land should be properly lit by either temporary or permanent lighting to ensure a safe working environment at all times. Such lighting must be approved by the Authority prior of installation;
Signage (Optional)	Not to exhibit any sign, advertisement or lettering except as which complies with the Regulations and is expressly approved by the Authority in writing (refer permanent signboard approval request).
Connection with road(s):	Connection with road and plot will be subject to a separate approval from the Authority.
Additions to Land	Not to erect any new building or structure upon the Land without obtaining the Owner's prior written approval (such approval may be withheld without the Owner providing a reason for such withholding) and, if such approval is given and conditioned, to comply with all such conditions or to make and carry out such alterations or amendments to the plans or specifications as the Owner may reasonably request;
Upkeep, Maintenance, and Condition of Operation	Throughout the Term, to repair, uphold, cleanse and maintain the Land and all walls, fences, roads, paths, yards, forecourts, drains, pipes and appurtenances of or belonging necessary or incidental to the Tenant's undertaking of the Permitted Use; To maintain the Land in a clean and tidy state and, promptly upon request from the Authority, to remove and clear any materials, goods or articles of whatever nature and description from the Land which the Authority reasonably believes to be a hazard or otherwise unsafe;

Nuisance and Danger	Not to use the Land for any purpose or bring onto the Land anything which is illegal or which is or which might be considered immoral, offensive, dangerous, explosive or which may be a nuisance or annoyance or which may cause damage or inconvenience to the Owner or occupiers of neighbouring or adjacent premises or which the Owner otherwise deems as being detrimental to Dubai South;
Waste	To make good and sufficient provision for the safe and efficient disposal of all waste of whatever nature including but not limited to pollutants generated on the Land to the requirements and reasonable satisfaction of the Owner and the Authority and to take such measures as may be necessary to ensure that any effluent discharged into any drains or pipes will not be corrosive or in any way harmful or water polluting PROVIDED THAT in the event of default by the Tenant under this covenant the Authority may carry out or cause to be carried out such remedial measures as he thinks are reasonably necessary to correct such default at the Tenant's cost and expense;
Safety operational measures:	**Security** To provide at its own cost and expense security guards on a 24/7 basis; **Inspection** To permit the Authority, its agents and workmen access to the Land at all reasonable times upon reasonable notice (except in case of emergency or absence of the Tenant) to view and examine the state and condition thereof; **First Aid** First aid box to be provided as per work force. **Cabin /Security Cabin** To obtain a separate approval from the Authority. No Accommodation, No Animals
	Not to use or allow the Land to house or accommodate any persons and not to keep or allow to be kept any livestock or other animals on the Land;
Operational Fitness	Obtain Final Fitness Certificate from the Authority prior to commencing any storage activity for the first time and followed by yearly renewal of the same. HSE clearance is a pre-requisite for each OFC issuance.

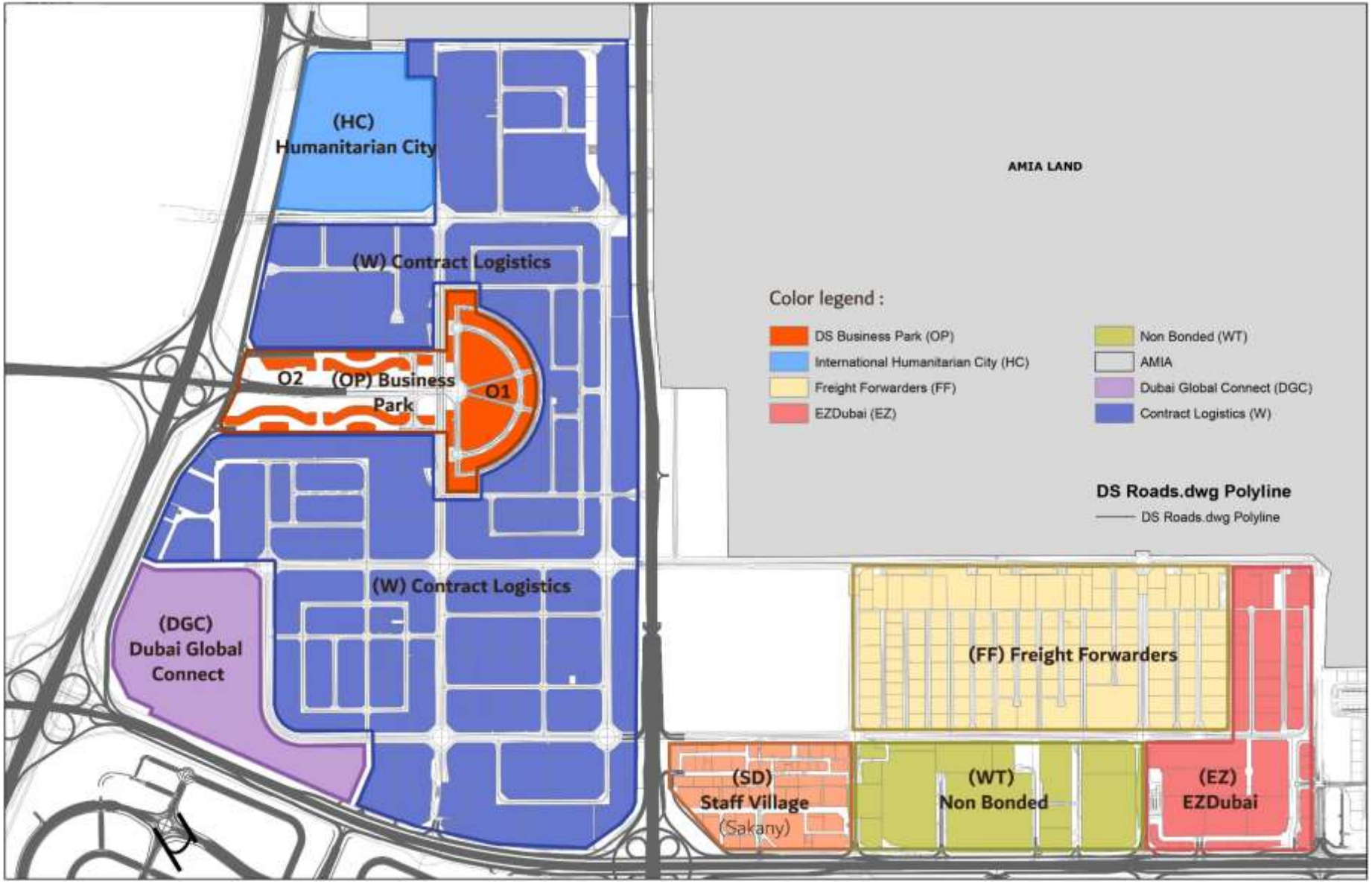
3.8 Dubai Logistics District Zones

The Dubai South Logistics District is divided in terms of land use into 6 main zones (see Figure 6):

- Zone “OP” (Offices, Hotels and Light Commercial)
- Zone “W” (Light Industrial and Warehousing)
- Zone “FF” (Freight Forwarders)
- Zone “WT” (Non Bonded)
- Zone (EZ) EZDubai
- Zone SD (Staff Village)

Figure 5: Logistic District and other Dubai South projects

Figure 6: Zoning Plan



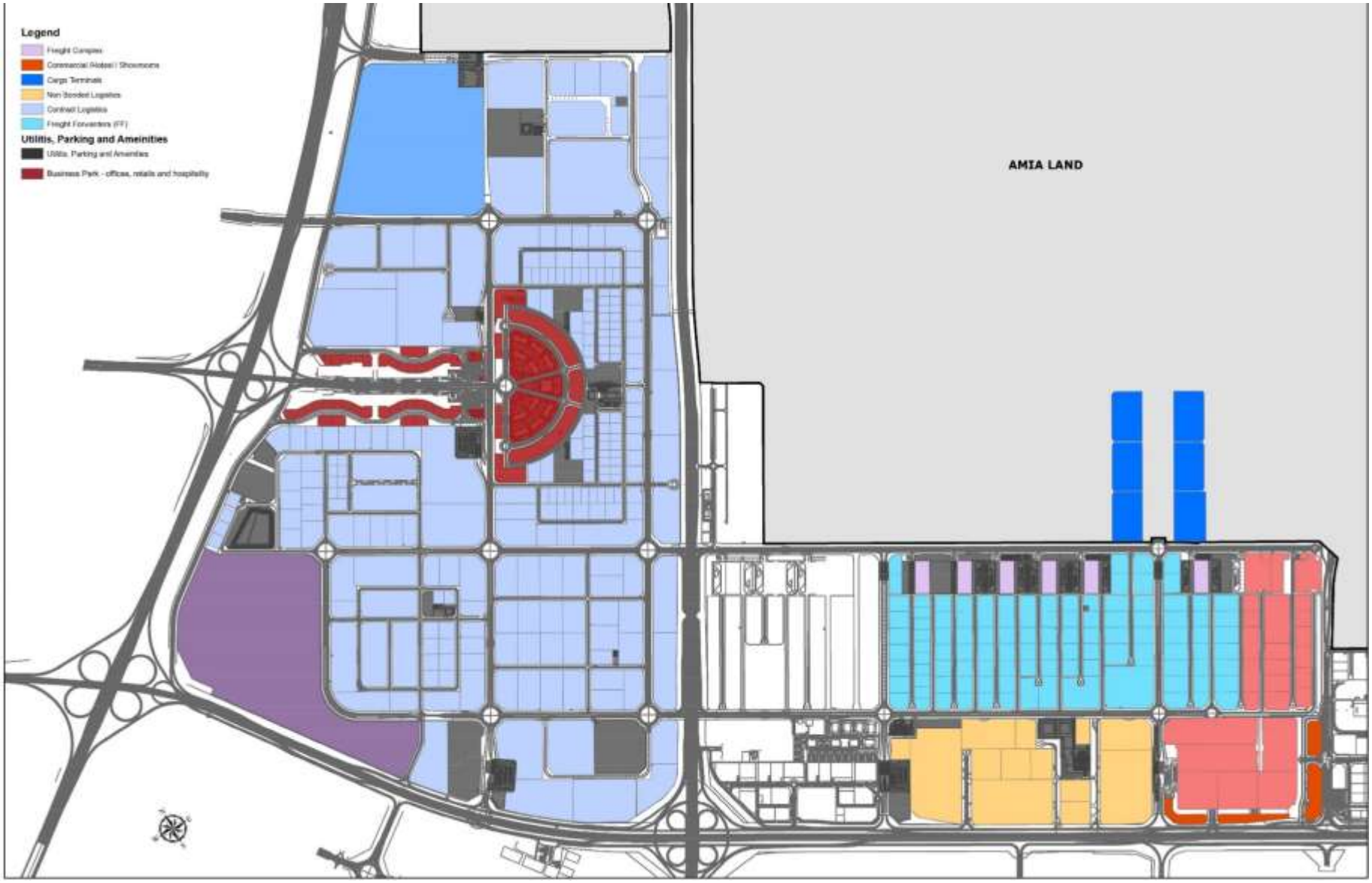
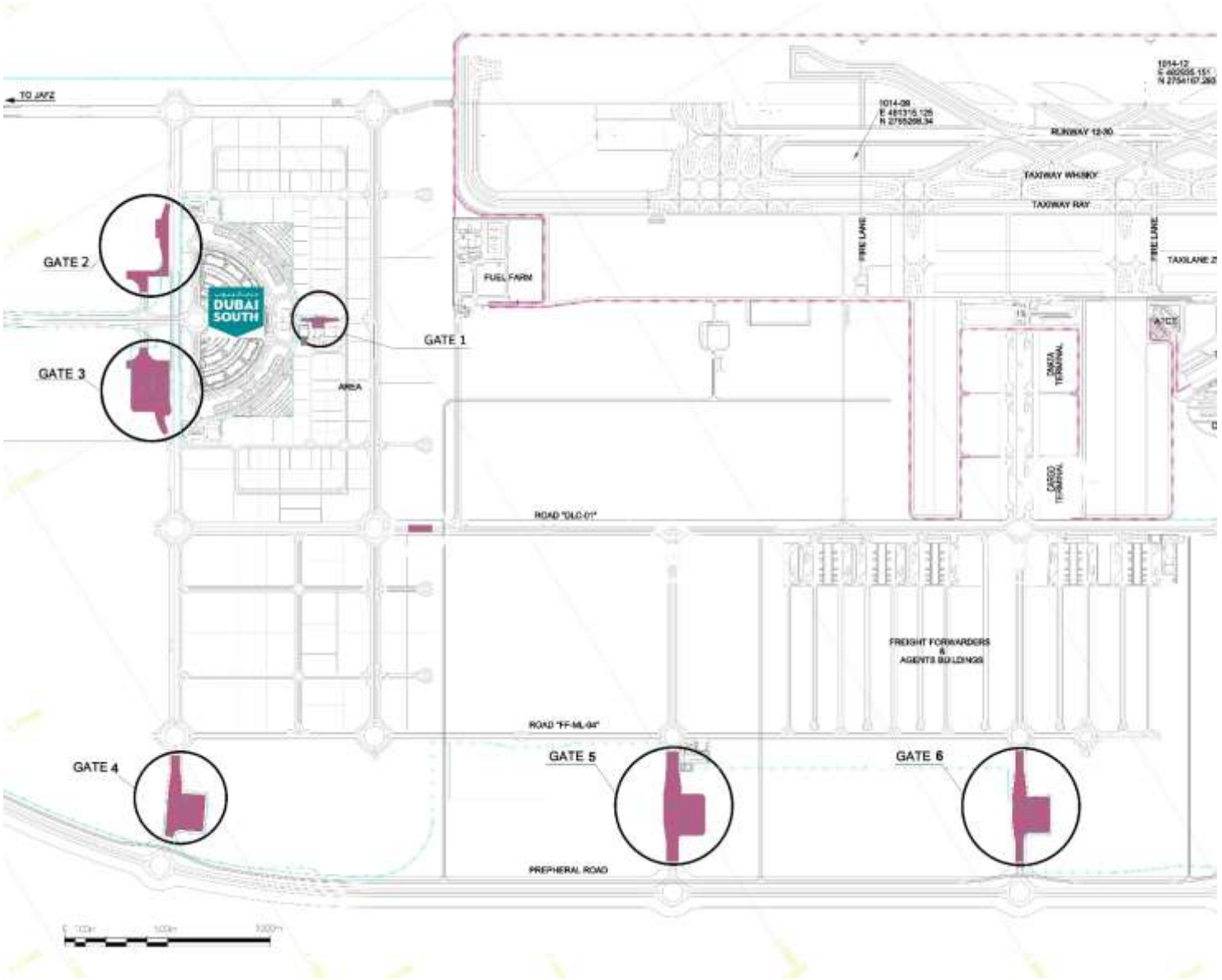


Figure 7 : Land use Plan

Figure 8 : Logistics District Gates locations



3.9 Zone "OP" – Office Zone

This Zone is spread over three sub-zones "O1", "O2" and "O3" (see Figure 6):

3.8.1 Zone "O1"

As shown in figure 5, this sub-zone is located in the centre of the LD area and designed around a circular shaped landscaped open space. It is a proper site reserved for the construction of office buildings and commercial activities belonging to the Authority it is excluded from the regulations listed here below and has a special design agreed and approved by the Authority.

3.8.2 Zone "O2"

General

This is mixed use commercial, offices and hotels sub-zone, as the plan shows. It includes a strip of plots located to the west of sub-zone O1. Sizes and dimensions of the plots in this zone vary. These plots are not subjected to any subdivision; on the other hand two or more plots could be grouped subject to the plan approved by the Authority.

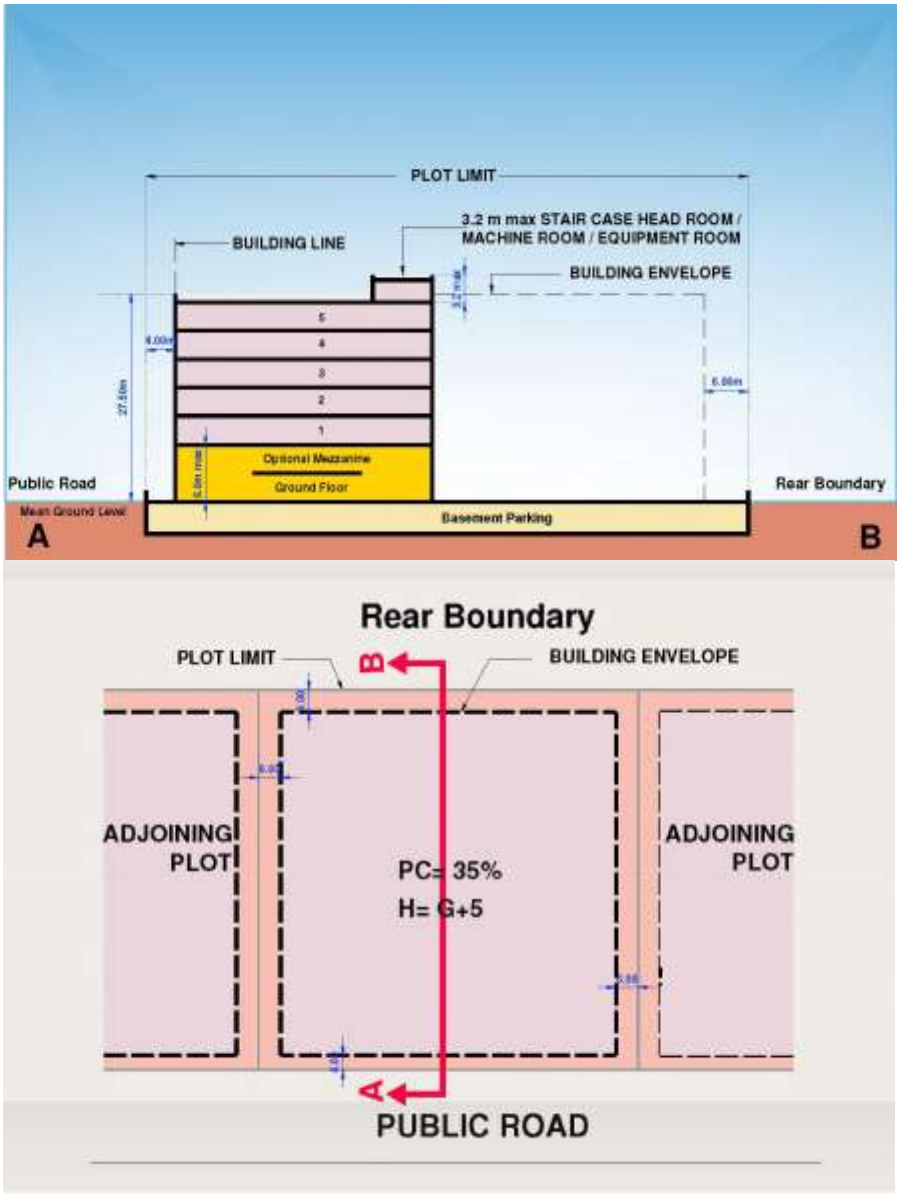
Permitted Uses

Offices, showrooms, hotels, mosques, small shops and restaurants, outside the bonded area (within free zone). Banks will be allowed to operate in this area, however will be excluded from free zone status.

Setbacks: (see plate1)

a) From Public Roads 4m minimum
b) From Adjoining Plots 6m minimum
c) From Rear Boundaries 6m minimum
d) From buildings within a plot 12m minimum

Plate 1 : Zone O2



- Maximum Plot Coverage (PC) = 35%.
- Maximum Floor Area Ratio (FAR) = 1.5
- Maximum Number of Floors above ground = 6 including the Ground floor
- Maximum Height of the Ground Floor (including Mezzanine) = 6.00 meter
- Maximum Height of the Finish Floor Level of the Ground Floor = 1.20 meter in comparison to the corresponding road approach level.
- Maximum Buildings height = 27.50 meter

Requirements for on plot parking

- Offices and commercial spaces:
    - Staff: one parking space for each 45 m2 of leasable area of office space / commercial space.
    - Visitors: 10% of the staff parking provision.

Showrooms:

- One parking space per 45 m2 of floor area

Hotels:

- Rooms: One parking space per 4 hotel rooms for all types.
- Conference rooms: 1 parking space per 20 m2 of floor area or 1 parking space per 5 seats.
- Restaurants: 1 parking space per 45 m2 of total restaurant area.

Staff: one parking space per two employees.

3.8.3 Zone "O3"

General

Located on the edge of the Southern section of the Periphery Road, within sub zone WT, this area will accommodate a mixed use commercial, offices and hotels sub-zone, as the plan shows (figure 5). Sizes and dimensions of the plots in this zone vary. These plots are not subject to any subdivision; on the other hand two or more plots could be subject to assembly according to a plan approved by the Authority.

Permitted Uses

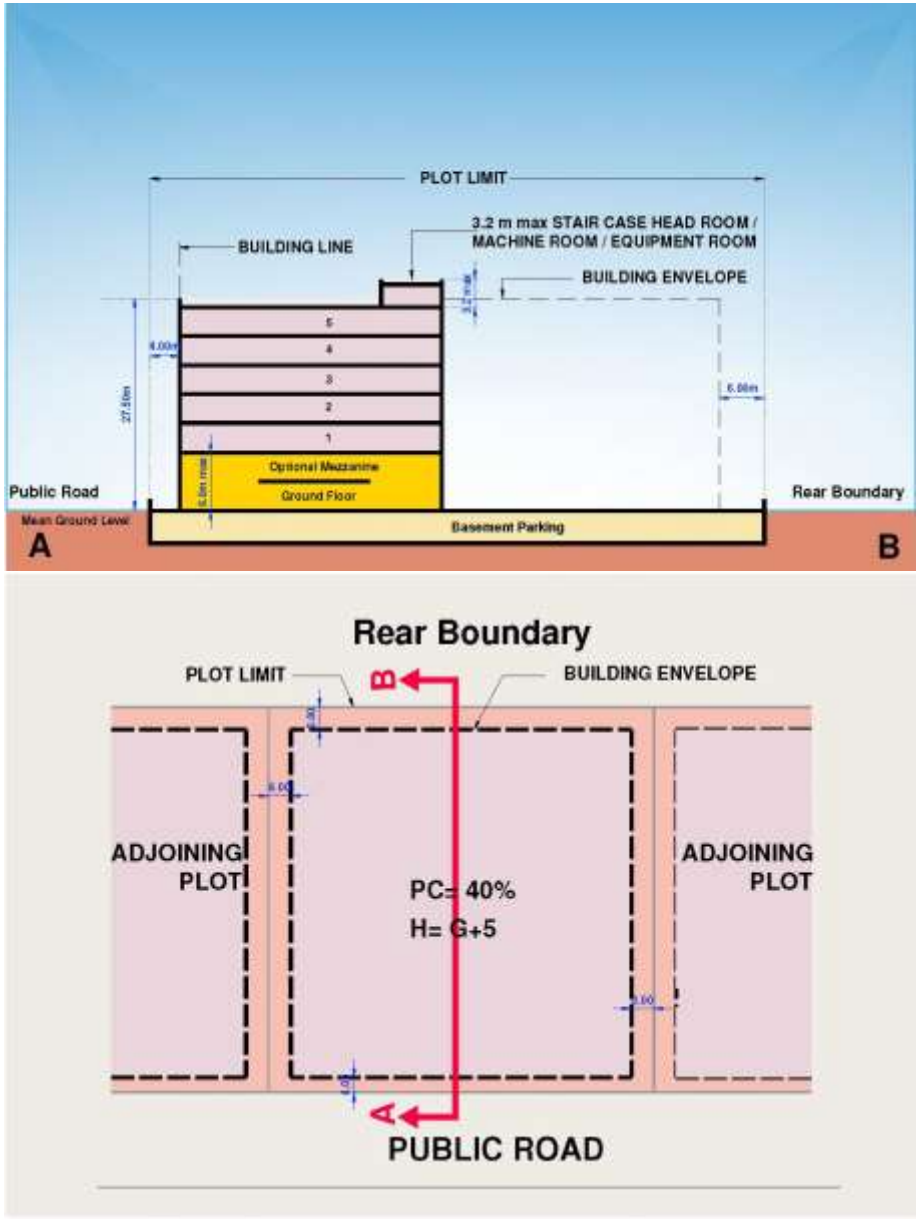
Offices, showrooms, hotels, mosques, small shops and restaurants, outside the bonded area (within free zone). Banks will be allowed to operate in this area, however will be excluded from free zone status.

Setbacks (see plate 2)

- From Public Roads 4m minimum
- From Adjoining Plots 6m minimum
- From Rear Boundaries 6m minimum
- From buildings within a plot 12m minimum

- Maximum Plot Coverage (PC) = 40%.
- Maximum Floor Area Ratio (FAR) = 2.2
- Maximum Number of Floors above ground = 6 including the Ground floor
- Maximum Height of the Ground Floor (including Mezzanine) = 6.00 meter
- Maximum Height of the Finish Floor Level of the Ground Floor = 1.20 meter in comparison to the corresponding road approach level.
- Maximum Building height = 27.50 meter
- Maximum Plot Coverage (PC) = 35%.
- Maximum Floor Area Ratio (FAR) = 1.5
- Maximum Number of Floors above ground = 6 including the Ground floor

Plate 2 : Zone O3



- Maximum Height of the Ground Floor (including Mezzanine) = 6.00 meter
- Maximum Height of the Finish Floor Level of the Ground Floor = 1.20 meter in comparison to the corresponding road approach level.
- Maximum Buildings height = 27.50 meter

Requirements for on plot parking:

- Offices and commercial spaces:
  - Staff: one parking space for each 45 m2 of leasable area of office space / commercial space.
  - Visitors: 10% of the staff parking provision.

Showrooms:

- One parking space per 45 m2 of floor area

Hotels:

- Rooms: One parking space per 4 hotel rooms for all types.
- Conference rooms: 1 parking space per 20 m2 of floor area or 1 parking space per 5 seats.
- Restaurants: one parking space per 45 m2 of total restaurant area.
- Staff: one parking space per two employees.

3.9 Zone "W" and "WT"– Industrial and Warehouses

General

The zone "W" is intended for light, clean and non-polluting industries as well as warehousing. This zone is located to the North of Al Maktoum International Airport platform. The plot size mix varies from 3,500 m2 for the smaller plots to 40,000 m2 for the largest plot. The layout allows small and medium size plots to be grouped into larger plots within the same super-block.

Permitted Uses

In this zone all the industrial and warehousing activities as well as ancillary offices to serve them are permitted except the following:

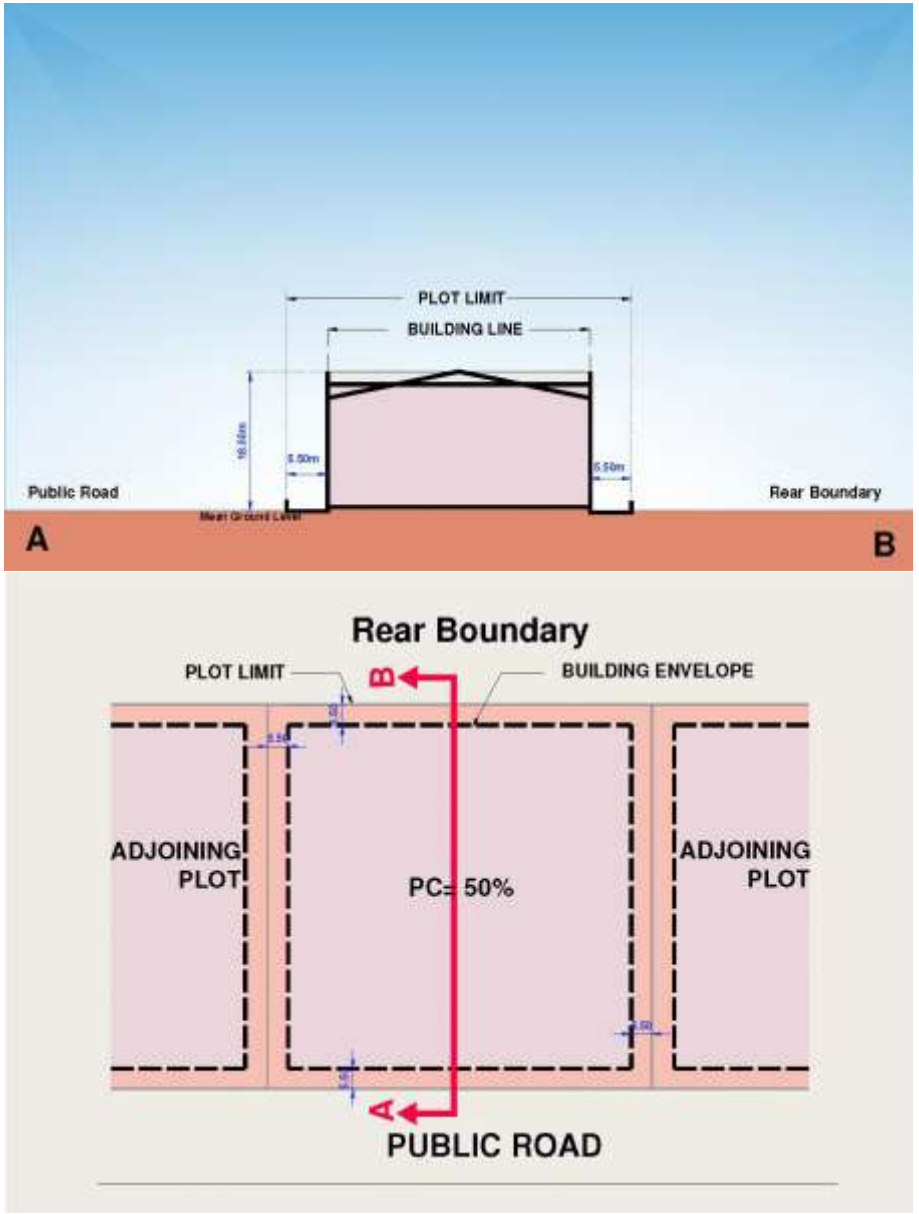
a) Chemical fertilizers works and chemical incineration works.
b) Ammonia and Sulphuric acid works.
c) Chlorine and Hydrochloric acid works.
d) Asbestos and lead works.
e) Mineral works, large boilers and furnaces.
f) Iron and steel works, foundries.
g) Cement works.
h) Petroleum refineries.
i) Any other industrial process that may generate liquid or gaseous toxic waste, or any other hazardous emissions that may cause great harm to the community.

Setbacks (see plate 3)

- From Public Roads: 5.5m minimum
- From Adjoining Plots 5.5m minimum
- From Rear Boundaries 5.5m minimum
- From Buildings within the same plot 6.0m minimum
- From the Perimeter Fence of the Logistics District zone 8m minimum

Except for perimeter fence gates and electrical supplies, the area of the setbacks must be kept free from any form of temporary building or shading structure for parking.

Plate 3 : Zone W and WT



- Maximum Plot Coverage: 50%
- Maximum Floor Area Ratio: 0.55, the area of ancillary offices should not exceed a maximum of 10% of the total built up area allowed using the FAR.
- Maximum Number of Floors: must comply with the restrictions imposed by the maximum building height and the minimum clear height requirement for the floors.
- Maximum Building Height:
    a) Overall building height measured from the mean finished level of the ground floor to the top of the roof parapet or the top of the coping tile of the pitched roof must not exceed 18m, except for special cases approved by the Authority, granted that it falls within the allowable heights imposed by the airport operation.
    b) For all buildings the clear height of each floor measured from the finished floor level to the ceiling should not be less than:
        a. 2.80m for offices
        b. 4.0m for industrial units and warehouses.
    c) Roofs of industrial units and warehouses should preferably have a gentle pitch. All water storage tanks must be conveniently concealed under the pitched roof or adequately screened in cases where the roof is flat.
    d) The finished ground floor level of any building shall not be less than 300 mm above the approach road level.

Provisions of parking, loading and unloading space:

a) Car Parking Provision

The minimum standards for the provision of on plot car parking for industrial and warehousing units will be as follows:

- One car per 715 m2 of gross industrial and warehousing floor area and 1.0 car per 45 m2 gross office floor area inclusive of employees and visitors parking.
- Allowance of 37 m2 should be made for maneuvering and parking each vehicle.

b) Truck loading and unloading bays:

- The site layout shall allow for loading and unloading of trucks to take place within site boundaries.
- To accommodate large trucks, bays should be 5m wide by 18m deep for WB15 trucks and 5m wide by 22m deep for WB19 trucks. For pick up trucks, bays should be 3m wide by 7m deep. Loading bays should be equipped with dock levelers.
- Loading bays should not be preferably located on the street side of the building, nor on the sidewalk facing the Frontage side.
- The entry and exit point for the proposed facility shall have a holding area and also be located in a way so as not to hinder traffic movement on the main arterial roads.

3.10 Zone "F"– Freight Forwarders

General

Zone "F" is intended for the use of freight forwarders and warehousing. This zone is located to the west of DWC Airport Platform. Each plot is serviced by roads from two opposite sides. One of the roads will be used for cars and trucks access from the DLC and the other for trucks and dolly traffic from the Cargo Terminals. The smallest plot has an area of 10,000 m2 and the largest has an area of 20,000 m2. Plot grouping is possible within the constraints imposed by the road system and approval of the Authority.

Permitted Uses

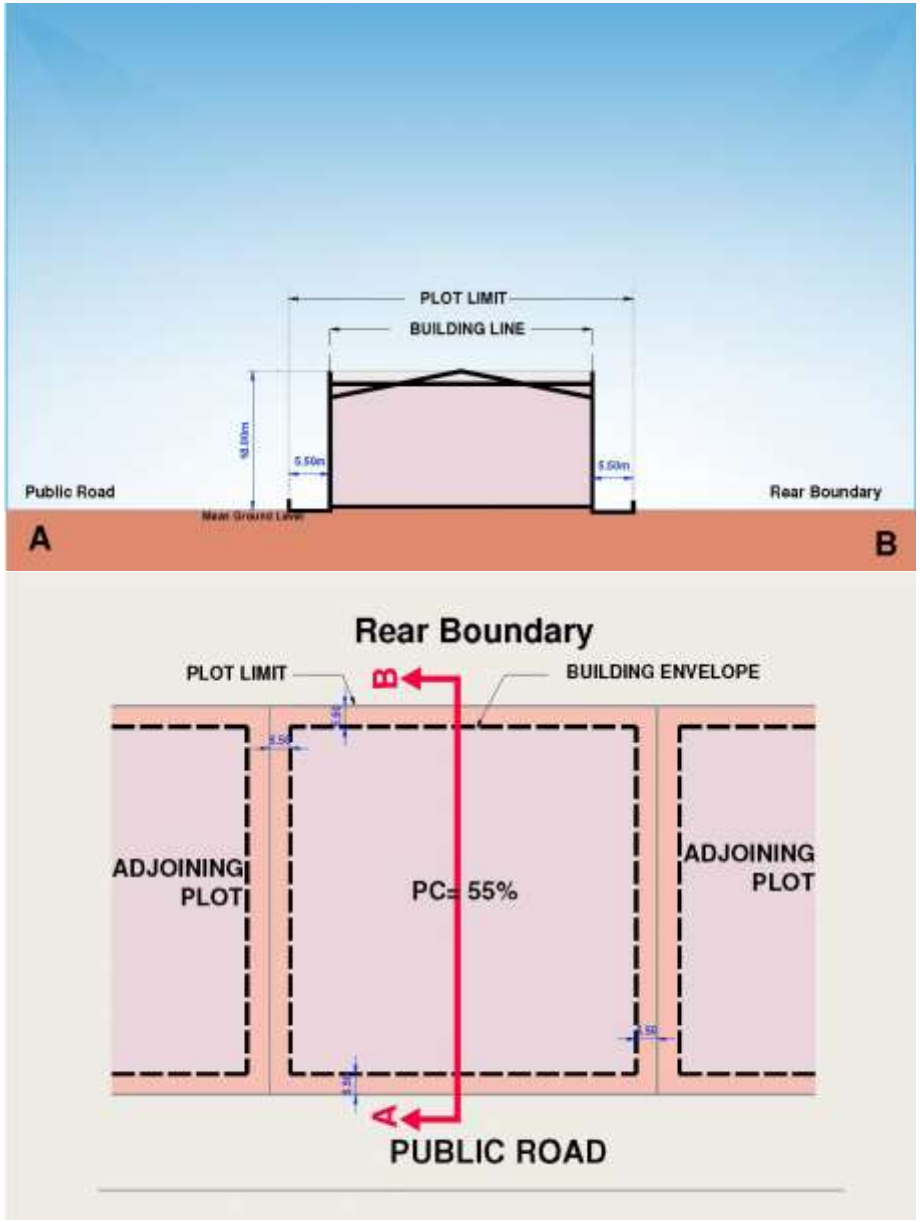
Storage and forwarders facilities, ancillary offices, amenities in plots allocated for that purpose to include mosques, restaurants, retail units, petrol stations and any other use of the same category subject to approval by the Authority.

In this zone, the storage of materials and goods is generally permitted except for the following materials or goods, which will be prohibited from any storage area:

a) Chemical fertilizers.
b) Ammonia and Sulphuric acid.
c) Chlorine and Hydrochloric acid.
d) Asbestos and lead.
e) Minerals.
f) Iron and steel.
g) Cement.

Any other materials that may be dangerous or hazardous and may cause great harm to the community.

Plate 4 : Zone F



Setbacks (see plate 4)

- From Public Roads 5.5m minimum
- From Adjoining Plots 5.5m minimum
- From Rear Boundaries 5.5m minimum
- From Perimeter Fence of the Logistics District zone 8.0m minimum

Except for perimeter fence gates and electrical supplies, the area of the setback must be kept free from any form of temporary building or shading structure for parking.

- Maximum Plot Coverage: 55%
- Maximum Floor Area Ratio: 0.6, the area of ancillary offices should not exceed a maximum of 10% of the total built up area allowed using the FAR.
- Maximum Number of Floors: must comply with the restrictions imposed by the maximum building height and the minimum clear height requirement for the floors as described in 3.5.7 below.
- Maximum Building Height:
  - **a)** Overall building height measured from the mean finished level of the ground floor to the top of the roof parapet or the top of the coping tile of the pitched roof must not exceed 18m, except for special cases approved by the Authority, granted that it falls within the allowable heights imposed by the airport operation.
  - **b)** In all building the clear height of each floor measured from the finished floor level to the ceiling should not be less than:
    - 2.80m for offices
    - 4.0m for industrial units and warehouses.
  - **c)** Roofs of warehouses should preferably have a gentle pitch. All water storage tanks must be conveniently concealed under the pitched roof or adequately screened in cases where the roof is flat.
  - **d)** The finished ground floor level of any building shall not be less than 300 mm above the approach road level.

Provisions of parking loading and unloading spaces:

a) Car Parking Provision

- The minimum standards for the provision of on plot car parking for Industrial and storage units will be as follows:
- 1.0 car per 715 m2 of gross industrial and warehousing floor area and
- 1.0 car per 45 m2 gross office floor area inclusive of employees and visitors parking.
- Allowance of 37 m2 should be made for maneuvering and parking of each vehicle.

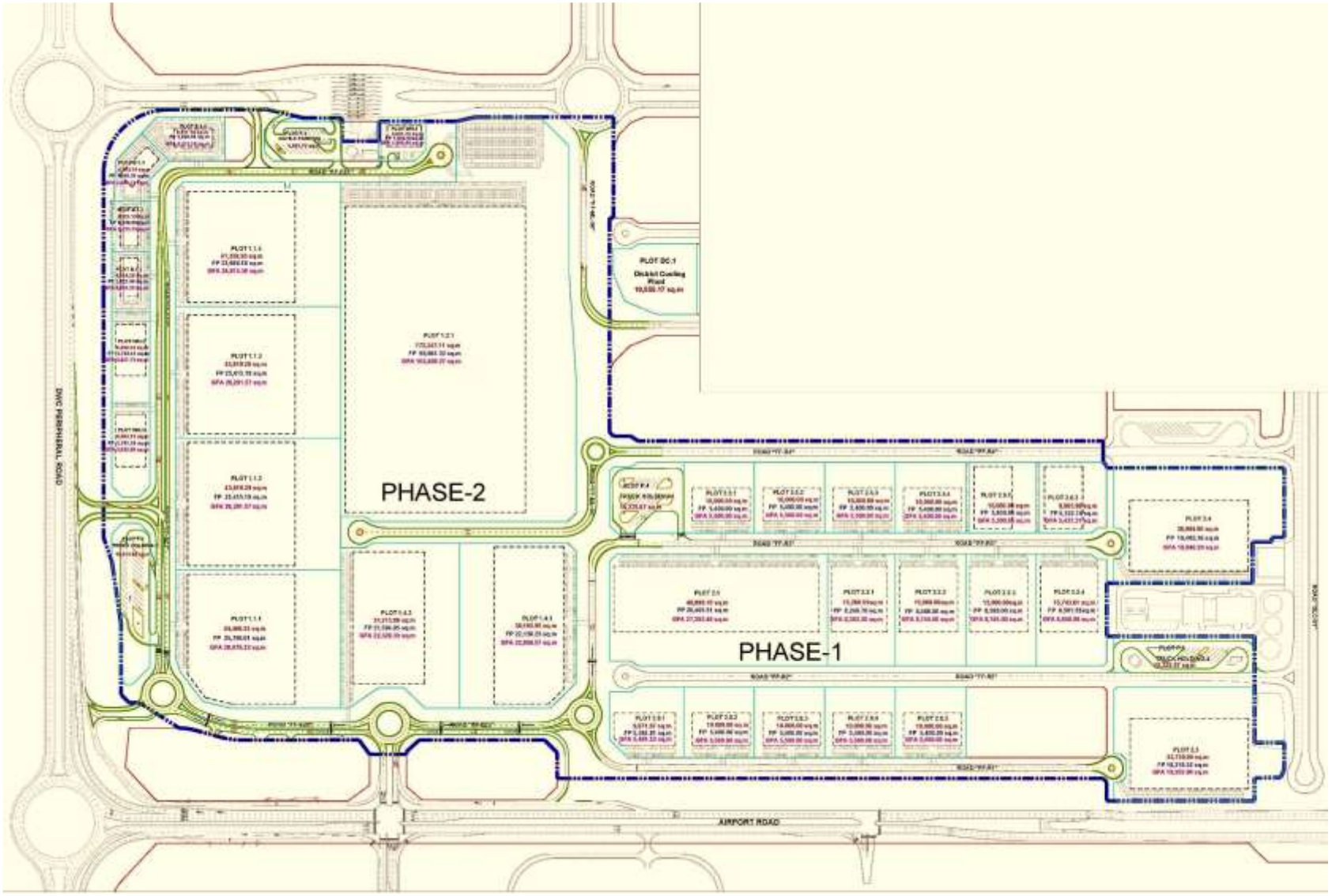
b) Truck loading and unloading spaces:

- Parking and maneuvering areas for trucks should be clearly marked on the site Plan.
- To accommodate large trucks, bays should be 5m wide by 18m deep for WB15 trucks and 5m wide by 22m deep for WB19 trucks. For pick up trucks, bays should be 3m wide by 7m deep. Loading bays should be equipped with dock levelers.

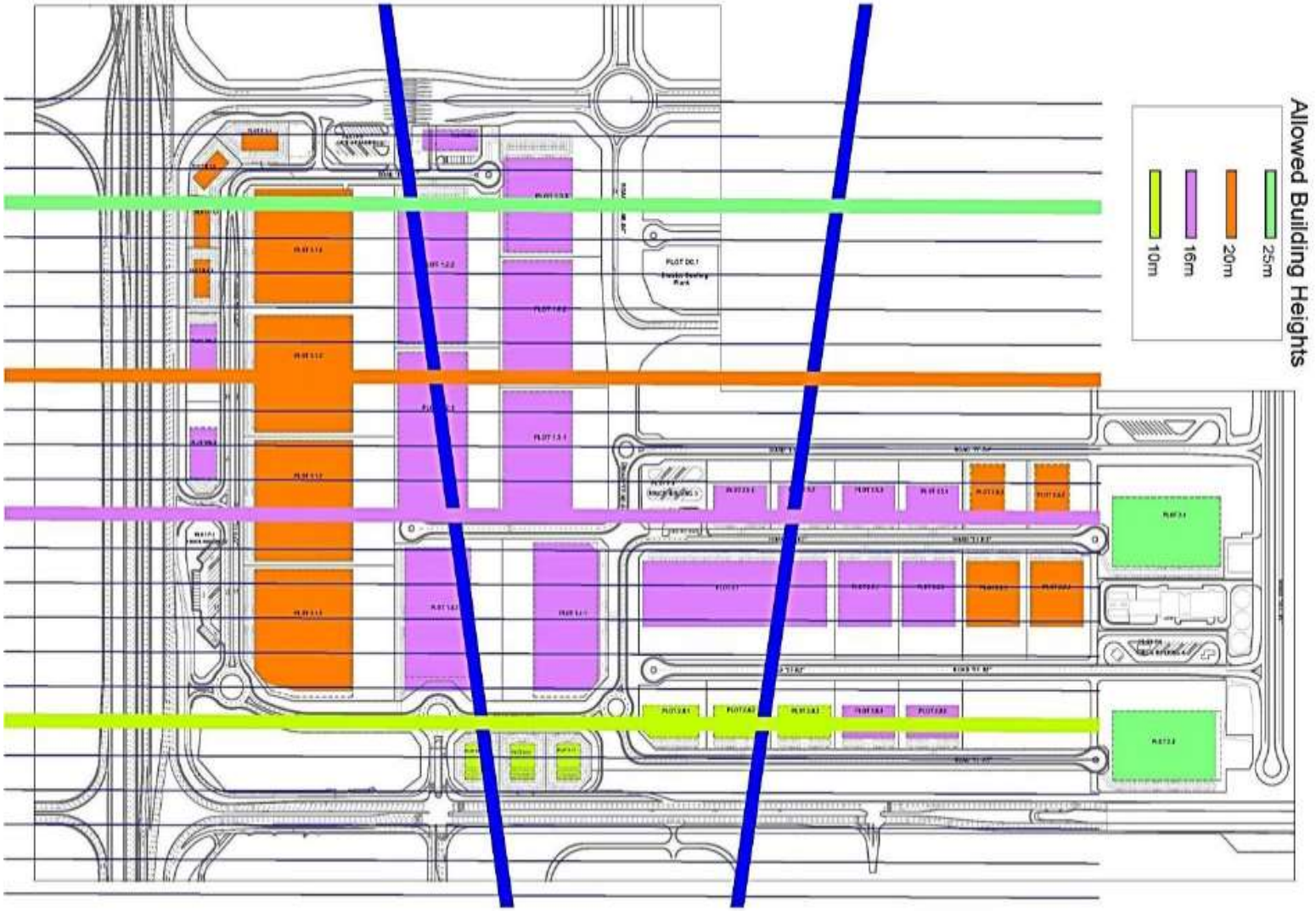
The entry and exit points for the proposed facility shall have a holding area and also be located in a way so as not to hinder traffic movement on the main and arterial roads

3.11 Zone “EZ”– EZ Dubai warehouses and offices

3.11.1 Subdivision Plan



3.11.2 Implications of building heights

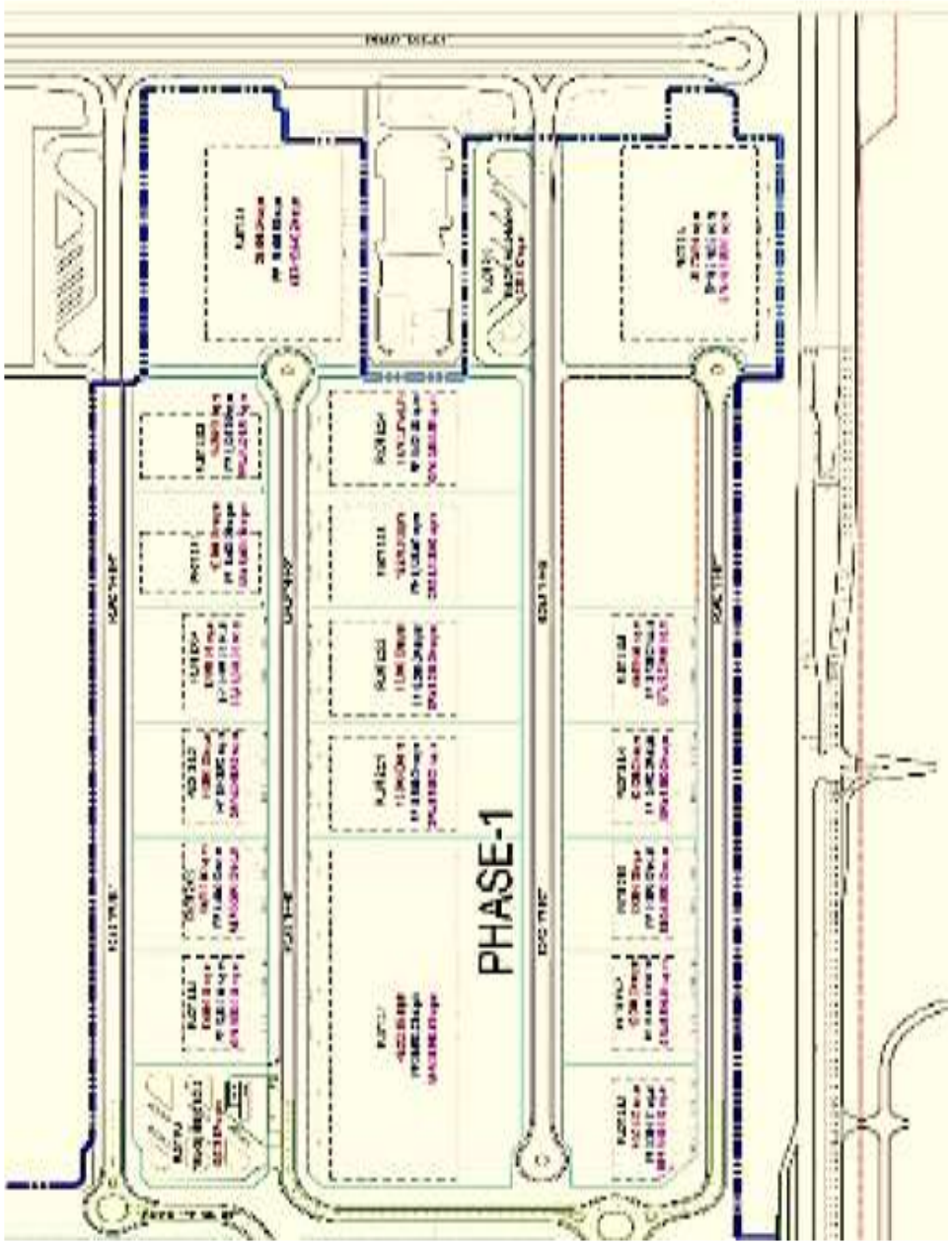


3.11.3 Principles of Phase One Design

a) Phase One of the EZDUBAI site is approximately 45 hectares; comprising of developed roads with infrastructure services and individual Investment plots with a total net land area of approximately 30 hectares.

b) A range of EZDUBAI plot sizes from 5,000 – 8,000 m2; for Repair & Return centers and Last Mile centers; and 15,000 to 25,000 m2 E-Fulfillment centers was the desirable mix for the phase one area. In order to provide maximum flexibility for this range of EZDUBAI activities; the division of plots in phase one area was typical in the north south directions, yet allows for plot merge as required.

c) The warehouse plots could be accessed at one side from public road and the other from free zone road. The warehouses were configured to place the yard on the free zone side and each plot had a road within crossing from public road to the opposite end of the yard.



3.11.4 Principles of Phase Two Design

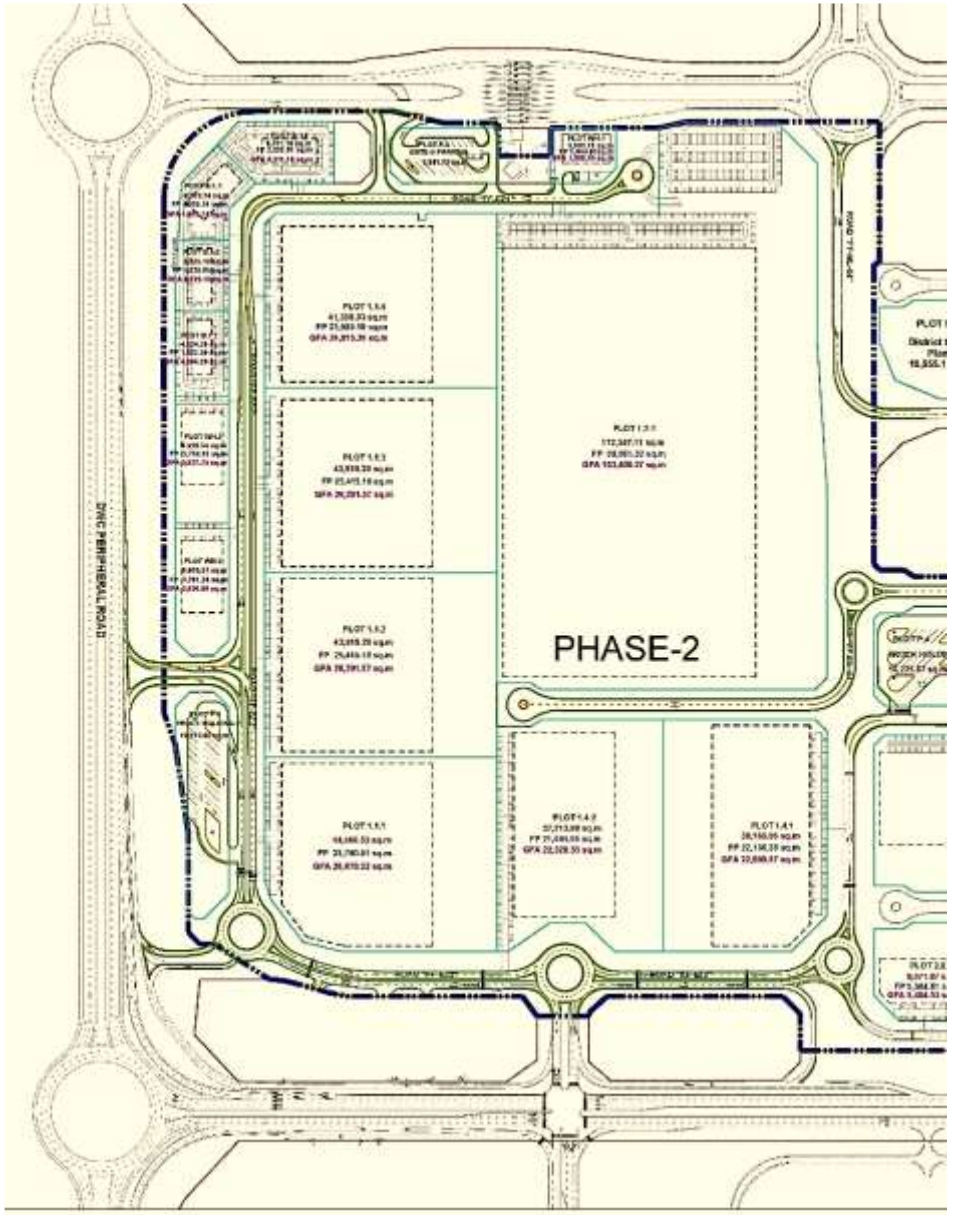
a) Phase Two of the EZDUBAI site is approximately 62 hectares of land, of investment plots with net land area of approximately 42 hectares; served by developed roads with infrastructure services and individual Investment plots.

b) The Free zone and public roads access to phase two area was also fixed in primary access points; however, there was flexibility to vary the location and route of the roads to create plots for larger buildings. A range of EZDUBAI plot sizes from 45,000 –100,000m2

c) Therefore, the preferred option was to deflect the north south free zone road towards the east, which provided a better subdivision of plots allowing the west plots to accommodate buildings of 50,000 m2. The free zone road was terminated to allow the southern plot to be extended the full width of the phase two site which allowed one plot to accommodate up to 100,000m2.

d) In phase two, the warehouse plots could be accessed from the west or east from public roads and from the center by free zone roads. This allowed the flexibility to create larger buildings from 20,000 to 100,000 m2 in a variety of plot sizes which had two access points direct from public and free zone roads.

e) Phase Two also includes blocks for Business Centers and Offices, which will be described separately.



3.11.5 Principles Of Warehouse Design

a) For all plots the EZDUBAI warehouse concept provides a regular shape, rectangular and close to 1:3 or 1:4 proportions. The regular shape is preferred because the needs of storage demand rectangular internal layouts, which facilitate efficiency in movement of goods and surveillance over workers avoiding steps and indents in walls to minimize cost and avoid breaks in layouts.

b) Whilst the floor of the warehouse shall rationally constitute the majority of Footprint and coverage area. Therefore, there were no fixed formula for the Footprint, as was driven by the Yard design and the civil defense requirement of plot peripheries.

c) Example Warehouses' Maximum proportions were designed as follows:

Phase	Length	Proportions	Remarks
Phase 1	82 x 46 94 x 83 168 x 100	1 : 0.78 1 : 0.87 1 : 0.68	These are the maximum proportions as extracted from the subdivision plan, allowing for the minimum setbacks and yard proportions for HGV maneuvering
Phase 2	157 x 152 187 x 101 177 x 108	1 : 0.97 1 : 0.85 1 : 0.63	
Peripherals	64 x 29 73 x 41	1 : 0.29 1 : 0.78	

d) The floor of the warehouse shall rationally constitute the majority of Footprint and coverage area.

e) Amenities shall be accommodated in the ground floor, with provisions for the mezzanine floor. Amenities shall include, but not limited to; rest areas, pantries and breakfast, staff lockers, stores, etc.

f) Most of the Offices shall be accommodated in a mezzanine floor. The offices are located inside the warehouse to minimize cost of elevations and located at first floor level to minimize loss of warehouse space. The offices are located on the side of the building close to the parking, which in some cases is along a short side elevation other cases can be best located above doors overlooking the yard.

g) Along the side elevation the offices are in a strip 10m wide to minimize loss of racking space. Wherever possible offices are located on a north or north west/east facade to minimize solar gains through windows. Where other factors dictate the offices windows will be shaded. A separate entrance is provided for Warehouse Blue collar staff. The staff entrance will pass a security and search room, the staff changing and rest room will be located adjacent to the security room.

h) Setbacks:
   a) From Public Roads: 6.0 m minimum
   b) From Adjoining Plots: 6.0 m minimum
   c) From Rear Boundaries: 6.0 m minimum
   d) From Buildings within the same plot: 6.0 m minimum
   e) From the Perimeter Fence of the Logistics District zone: 8.0 m minimum
   f) Except for perimeter fence gates and electrical supplies, the area of the setbacks must be kept free from any form of temporary building or shading structure for parking.

3.11.6 Principles of Loading Doors Design

a) For EZDUBAI with the operation split into two with free zone and public, therefore concept design provides double the ratio 1 per 1,000 m2 in smaller buildings and at least 1 per 1,000 m2 or more in larger buildings. The doors are split to provide flow in and out in free zone and public. In smaller buildings HGV parking bays are restricted by turning space therefore additional parking is provided by van spaces.

b) Ramps are provided to staff and office entrances, where the ground floor level is raised above the surroundings by 1.2 to 1.4 m to facilitate the loading docks.

c) The ramp and door to provide drive in access to the warehouse on the public side is provided at a gradient of 7% over the 1.4 m height (approx. 20 m length) which is suitable to drive in fork trucks or vans externally. The ramp and door to provide drive in access to the warehouse on the free zone side is provided at a gradient of 5% (approx. 28 m length) which is suitable to drive in airport tractors and trailers externally. In order to minimize restrictions to maneuvering in the yard the drive-in door and ramp is extended into the building.

3.11.7 Principles of Yard Design

a) For EZDUBAI the constraints suggest that this may be suitable for 5-15,000 m2 warehouse with proportion from 1 to 2 to 1 to 3. As the warehouse space larger up to 40,000m2 this requires more doors a deeper yard of 45m provides more maneuvering and warehouse proportion becomes closer to 1 to 4.

b) Alternatively, a yard depth of 50 to 60m can be provided which allows all parking to be moved to the side of yard opposite doors, allows a deeper storage zone and warehouse with proportion from 1 to 2 to 1 to 3.

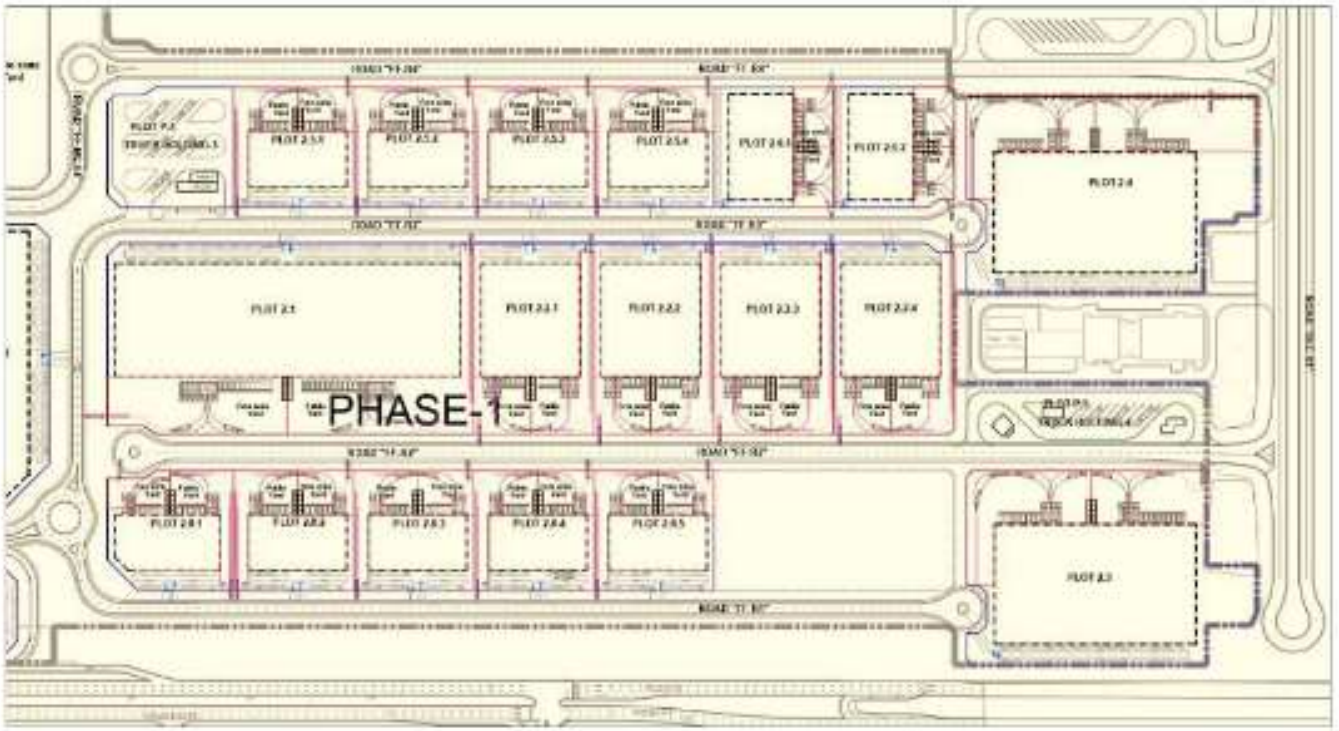
c) The warehouse yard loading doors and yard turning space will accommodate 16-18m articulated HGVs and is designed to slope down away from doors at 1% gradient to create a level deck at loading.

d) The warehouse loading platform is designed to be 1.4m above the yard. The dock doors for large HGVs will be provided with a standard adjustable ramp to accommodate range of tailgates heights. The light vans with tailgates heights approx. 0.9m will require an extended length adjustable ramp to accommodate a range of tailgates heights. Alternatives for extended ramps outside the building are possible.

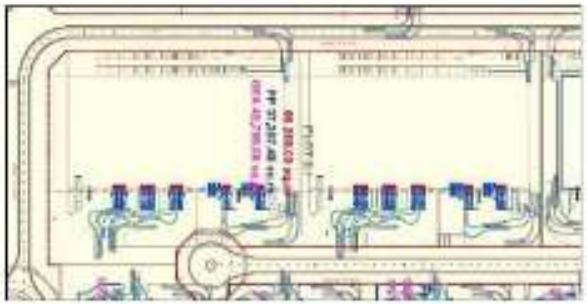
e) The car parking is provided for the warehouse office workers and would amount to one space per office worker equivalent to one space per 8m2 gross office space.

f) Within the EZDUBAI warehouse concept there is a dividing fence between free zone and public parts, with an internal customs office with windows overlooking the yard and the internal inspection area. The internal fence matches the line of an external fence that divides between free zone and public yards.

3.11.8 Vehicle maneuvering within the industrial plots



Only Phase One – Phase Two is subject to Amalgamations



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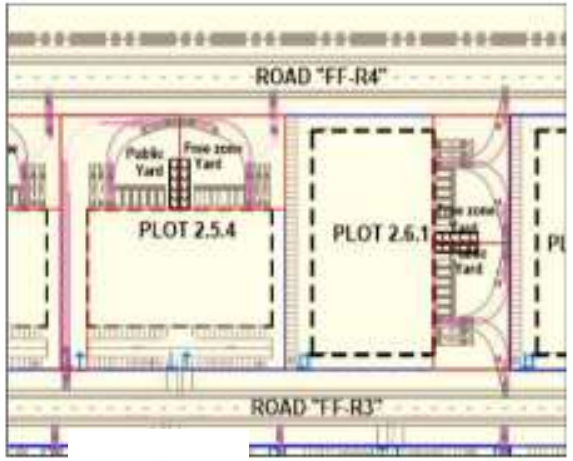

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3.11.9 Principles of Business Centres Design

a) This is mixed use commercial, offices and hotels sub-zone, as the plan shows. It includes a strip of plots located to the west of sub-zone O1. Sizes and dimensions of the plots in this zone vary. These plots are not subjected to any subdivision; on the other hand, two or more plots could be grouped subject to the plan approved by the Authority.

b) Permitted Uses: Offices, showrooms, hotels, mosques, small shops and restaurants, outside the bonded area (within free zone). Banks will be allowed to operate in this area, however will be excluded from free zone status.

c) Setbacks:

- From Public Roads 4m minimum
- From Adjoining Plots 6m minimum
- From Rear Boundaries 6m minimum
- From buildings within a plot 12m minimum

d) Maximum Plot Coverage (PC) = 35%.

e) Maximum Floor Area Ratio (FAR) = 1.5

- Maximum Number of Floors above ground = 6 including the Ground floor

f) Maximum Height of the Ground Floor (including Mezzanine) = 6.00 meter

g) Maximum Number of Floors above ground = 6 including the Ground floor

h) Maximum Height of the Ground Floor (including Mezzanine) = 6.00 meter

i) Maximum Height of the Finish Floor Level of the Ground Floor = 1.20 meter in comparison to the corresponding road approach level.

j) Maximum Buildings height = 27.50 meter

k) Requirements for on plot parking:

- Staff: one parking space for each 45 m2 of leasable area of office space / commercial space
- Visitors: 10% of the staff parking provision.

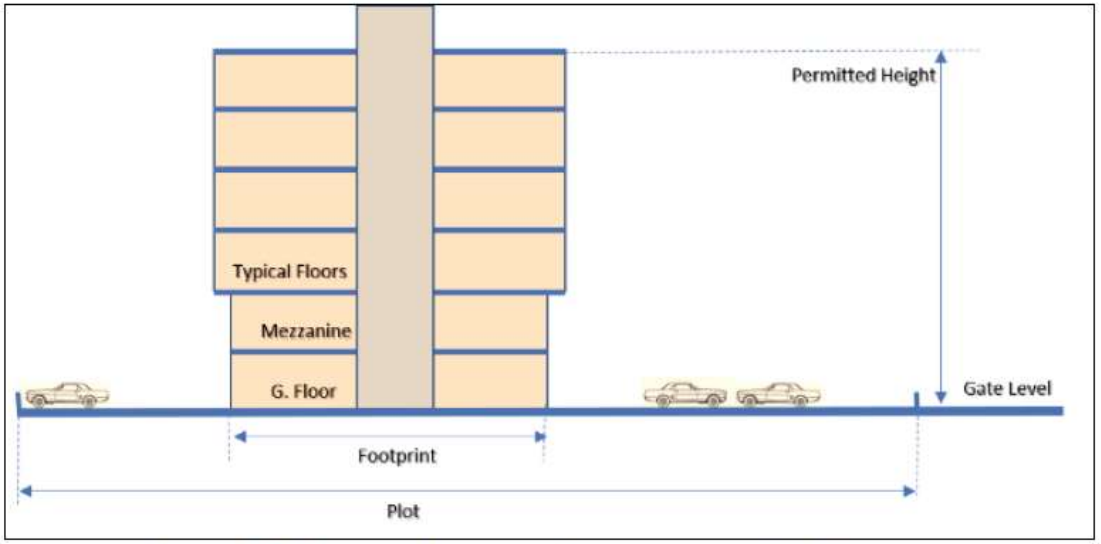


Fig. 24: Illustration of Business Center Building Configuration

Fig. 25: Existing Business Center at Dubai South

3.11.10 Analysis of Business Centers Parking

As per the Analysis, it is recommended to implement O2 mode of Dubai South Permits and Planning Regulations:

Particular	B.1.1	B.1.2	B.1.3	B.1.4
GFA m2	5,092	3,925	4,641	6,058
Parking @ 45m2 +10%	124	96	113	148
Lots provided	467			
Efficiency	-14			

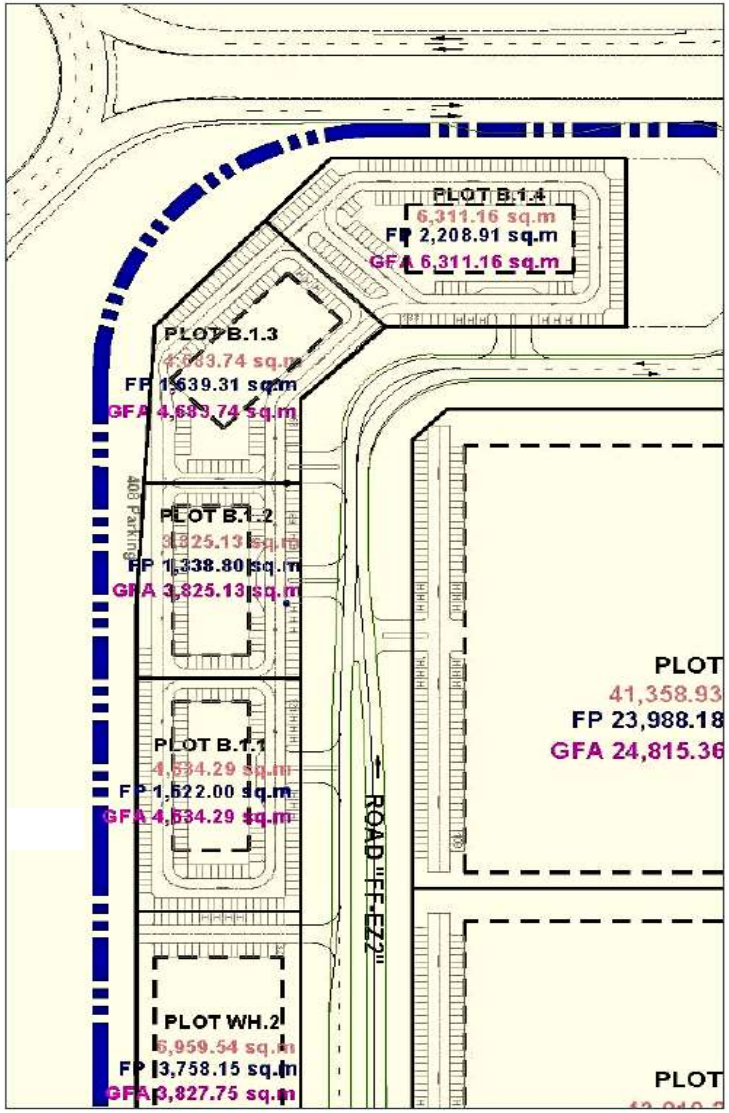


Fig. 26: Parking Concept for Business Centers' Buildings

3.11.11 Free Zone Road Layout Assumptions

a) Free Zone roads will provide access for vehicles carrying goods to and from Airport Cargo terminals ranging in size from 16-18m articulated HGV vehicles to airport transport tractors pulling 3-4 trailers.

b) The free Zone roads are 10.8m wide carriage two way sized 5.4m with a 0.6m line painted run-over space each side combined total of 12m overall width to allow the range of vehicles movement and passing.

c) There is a zone for utilities either side of the road making a corridor approximately 30m wide. Turning radii are provided where a free Zone road terminates allowing vehicles to return in the opposite direction. Plot boundaries have chamfered indents to allow utilities to continue around the Turning radii.

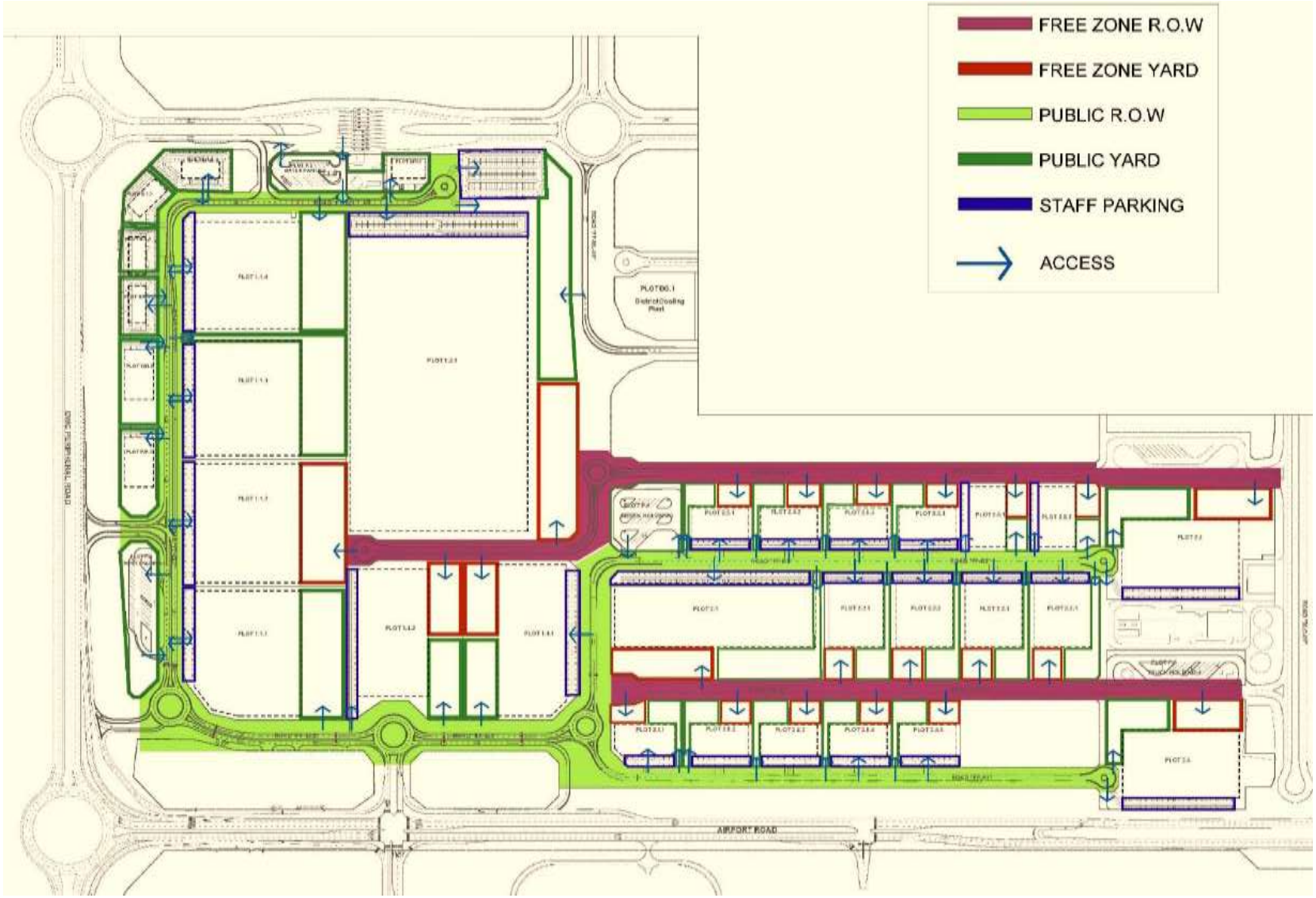
3.11.12 Public Road Layout Assumptions

a) The Public roads will provide access for vehicles carrying goods to and from the local market with vehicles ranging from 16-18m articulated HGV, large and small vans.

b) The public roads in the EZDUBAI area are sized approx. 7.5m wide carriage two way sized 3.75m with a 1.2m line painted run-over space each side combined total of 9.9m overall width to allow the range of vehicles movement and passing.

c) There is a zone for utilities either side of the road making a corridor approximately 30m wide. Turning radii are provided where a free Zone road terminates allowing vehicles to return in the opposite direction. Plot boundaries have chamfered indents to allow utilities to continue around the Turning radii.

3.11.13 EZ Dubai Free zone and Public Peripheries



3.11.14 EZ DUBAI Fence

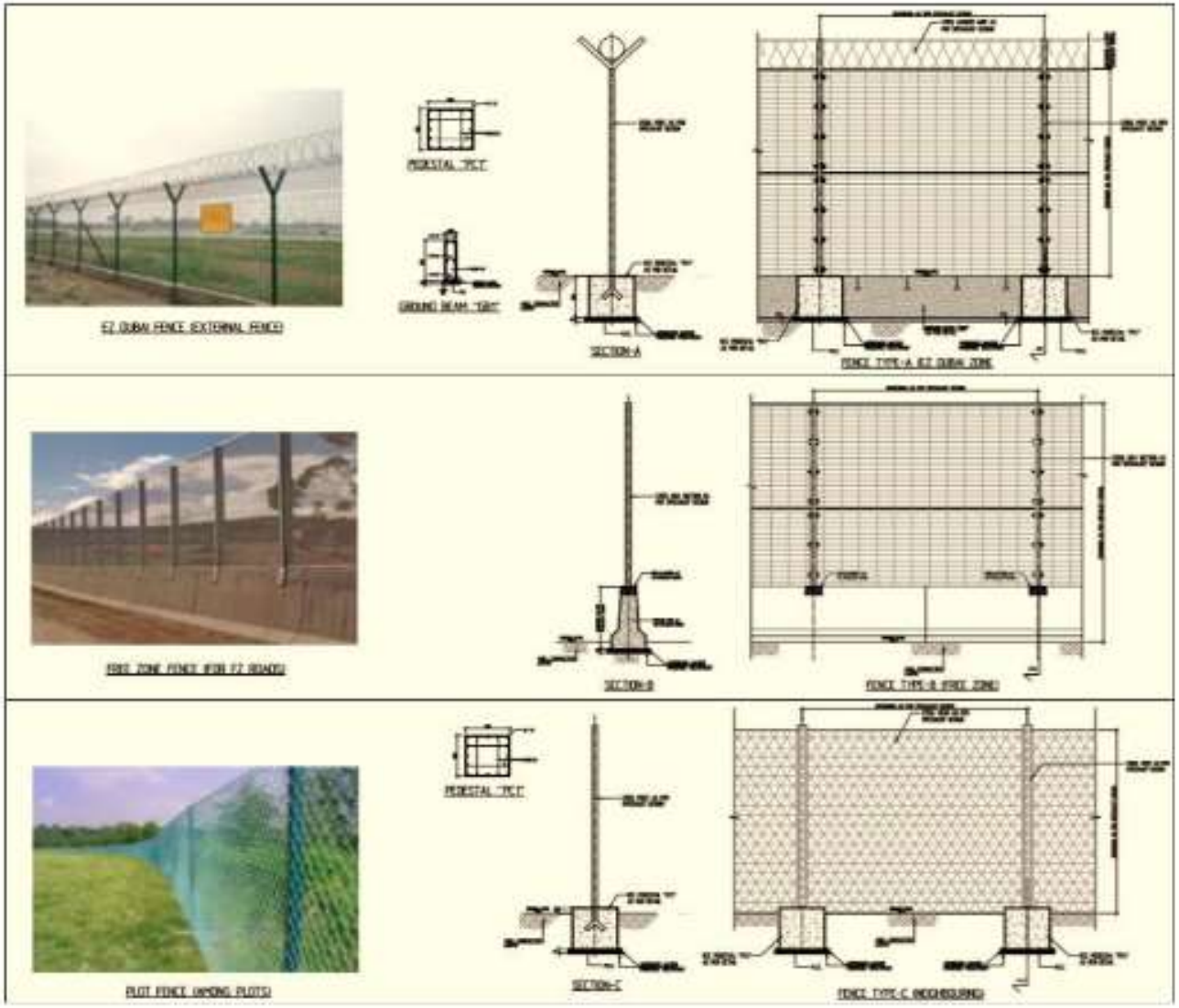
a) This is the fence securing the EZDUBAI Zone; which follows the specifications set by authorities.
b) ii. Generally, the fence shall be crowing with barbed wires; with sufficient height to deter any intruders.
c) iii. The fence is not subject to be removed; unless replaced with advanced form. Therefore, it shall be constructed with long term serving techniques and materials; with provision for detectors, lights and CCTV.

3.11.15 Free Zone Fence

a) This is the fence securing the Free Zone roads and accesses; which is highly controlled.

b) The fence is not subject to be removed; unless replaced with advanced form. Therefore, it is half concrete and half steel posts and mesh.
   - The fence shall be specified with security techniques and materials; with provision for detectors, lights and CCTV.
   - The fence will draw the FZROW.

Types of security fences



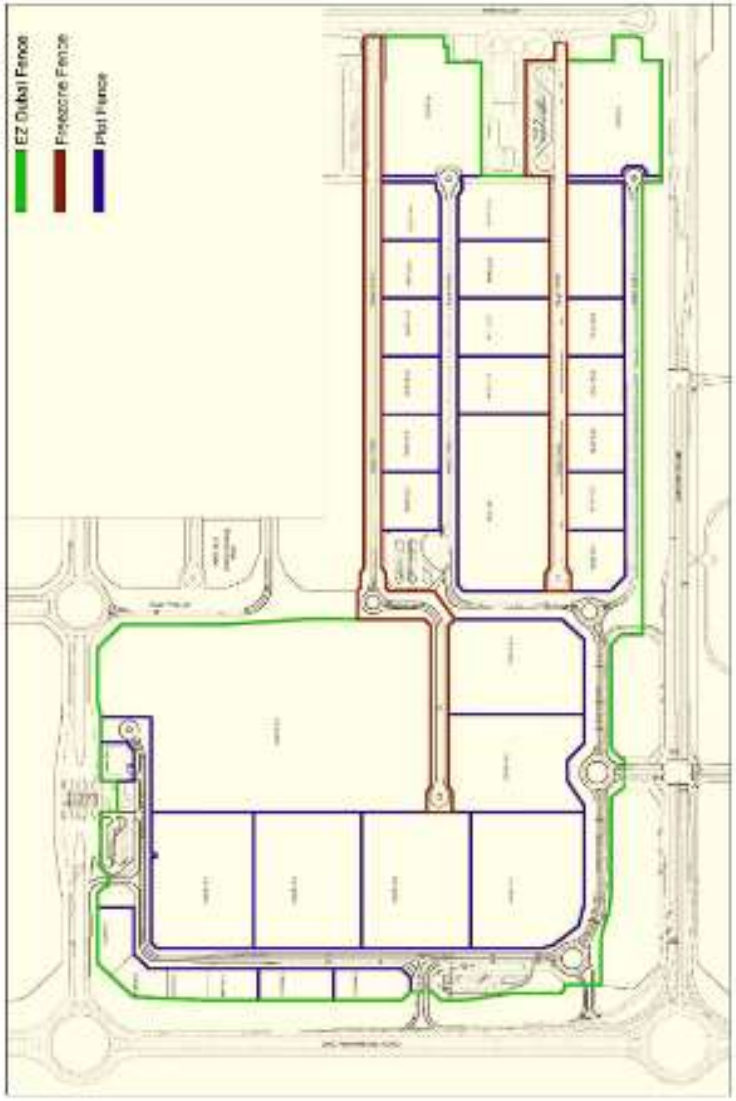


Fig. 39: EZDUBAI Types of Security Fences

3.11.16 The Gates

a) All gates must have a clear opening width of 5m for vehicles and a side opening of 1 m for pedestrians (see enclosed typical detail).
b) Gates are to be constructed of vinyl coated sections joined at the corners with specially designed corner fittings. Braces and truss rods are to be provided as necessary to prevent sagging.
c) Gate fabric is to be the same type used in the fence construction. The fabric is to be attached securely to the gate frame at intervals not exceeding 380mm.
d) Gate hinges must be of adequate strength for gate and with large bearing surfaces for clamping in position, the hinges are not to twist or turn under the action of the gate.
e) The gates are to be capable of being opened and closed easily by one person.
f) Gate latches stops and keepers are to be provided for each gate. Latches are to have a plunger bar arranged to engage the center stop. Latches are to be arranged for locking.
g) Centre stops are to consist of a device arranged to be set in concrete and to engage a plunger bar of the latch of double gates.
h) Keepers are to consist of a mechanical device for securing the free end of the gate when in the fully open position.

4. SITE AND SERVICES

4.1 Site access

4.1.1 Each serviced site must have uninterrupted access to all buildings and facilities situated on it. Internal road width shall be a minimum of 5.50 m and designed to an adequate standard for the use of fire vehicles. It should also be illuminated.

4.1.2 The finished level of any paved road, parking or footpath should not be less than 150 mm above the finished level of the approach road to the site and shall have an adequate fall towards the approach road.

4.2 Utility Services

4.2.1 Utility requirements

The Developer shall provide within the plot boundaries the following:

a) Water supply, sewerage and irrigation services to habitable parts of any building in compliance with the standards set out by the Service Authorities.

b) Electrical power distribution installations in compliance with the Regulations set out by the Service Authority (Electrical).

c) Fire protection facilities shall be in accordance with the recommendations, requirements and specifications of the National Fire Protection Association, NFPA and approved by the Service Authority (Fire).

d) Storm water drainage and disposal, in accordance with the recommendations and regulations of the relevant Service Authority and Dubai Municipality.

The developer has the right with the agreement of the Authorities to do some works outside the plot boundaries in order to connect to the infrastructure networks.

Provision of any utility and its necessary reservation on any plot will require liaising between the customer and the responsible authorities.

4.2.2 Water Supply

a) Water supply installations shall comply with the relevant Service Authority (water) standards and with the Authority requirements, the British standards and/or the Uniform Plumbing Code (UPC) USA.

b) Water storage tanks shall be provided for every serviced site to accommodate for both the fire protection and the daily domestic water demand requirement. The minimum capacity of any storage tank should not be less than two days or 1 m3 whichever is higher for domestic water use and 90 minutes of coverage for fire protection use.

c) The Developer shall submit a request for a service connection to the Service Authority (Water) documents upon completion of construction.

d) All installations shall be subject to testing by the Service Authority (Water), in accordance with the relevant Regulations.

Developers shall pay a one-time water connection charge and all other charges in application to the Service Authority (Water) Regulations.

4.2.3 Wastewater

a) Wastewater installations shall comply with relevant the Service Authority (Wastewater) requirements and the Authority requirements and British standards.
b) All chambers for the disposal of foul sewerage from any building shall be adequately vented and impervious to liquids internally or externally.
c) Sewers must be of durable material and construction and watertight under all conditions. The internal diameter of any soil drain shall not be less than 150 mm.
d) Service connection between the main inspection chamber of a serviced site and the public infrastructure shall be paid for by the Developer.
e) Drains shall be laid in straight lines between changes of direction or gradient. Maximum distance between manholes shall be 30 m. Manholes must be provided at each change of direction.
f) All installations shall be subject to testing and approval of the Authority.
g) Where industrial liquid waste is likely to be generated, effluent shall be collected into a separate approved system. Effluent treatment plant or a specific tank shall be provided in accordance with the relevant Authority requirements and British standards (BS 6297). No drains from industrial
h) processes shall be allowed to discharge into the Authority drainage network or any soak away without prior treatment complying with the relevant Authority and British standards.

Developers shall pay a one-time connection charge and all other charges thereof in accordance with Authority charges.

4.2.4 Irrigation

a) Irrigation installations shall comply with relevant to the Service Authority (Irrigation) and Authority requirements.
b) All installations shall be subject to testing and approval of the Authority.
c) Water storage tanks shall be provided for every serviced site to accommodate for the daily water demand requirement.
d) The Developer shall submit a request for a service connection to the Authority upon completion of construction, accompanied by a detailed drawing indicating the exact location of the storage reservoir(s) (daily water demand) and connection location with diameter.

Developers shall pay a one-time connection charge and all other charges thereof in accordance with Authority charges.

4.3 Storm water Drainage

a) Storm water installations shall comply with the relevant the Service Authority (Drainage) requirements and the relevant Authority and British standards.

b) Roof drainage network shall be designed to a frequency return period of five years.

c) Roof finish shall have a gradient of at least 1:80 capable of directing rainwater to suitable outlets or down pipes, which will discharge freely at ground level.

d) Channels, gutters, outlets or down pipes shall be of durable material with suitable watertight joints, in accordance to Authority standards.

e) Down pipes shall be at least 80 mm diameter, securely attached to the building.

f) Public parking shall be provided with channels and gutters inlets designed to a minimum rainfall intensity of 64 mm per hour and a minimum time of concentration of 10 minutes.

4.4 Refuse Disposal

a) Refuse shall be sorted by each Developer or tenant in two different types, namely domestic and industrial non hazardous.

b) Domestic waste shall include those generated from usual office work and shall be disposed off in an easily identifiable and accessible container. It is the responsibility of the tenant to make appropriate arrangement for the disposal of his generated trade waste.

c) Industrial non hazardous waste shall include all bulky packaging material made of card board, wood, or paper. Developers or tenants are expected to dispose such material in the bulk bins provided for such purpose by the Authority throughout the Logistics District site.

d) If Developers are expected to generate industrial non hazardous waste, they may submit a request to the Authority for placing bulk bins within their sites. The request shall include a plan indicating the location and number of the plot, the type of industrial activities, the type of waste and the expected daily and weekly generation rate.

5. BUILDING DESIGN STRUCTURAL REQUIREMENTS

The building shall be so constructed that the combined dead, imposed and wind loads are safely transmitted to the ground without deformation and deflection of any part of the building, and without such ground movement impairing the stability of any part of another building. Building stability shall not be impaired by subsoil movement due to swelling or shrinking.

5.1 Applicable Codes

The following with listed parameters shall be permitted for the purpose of structural design. Consultant should ensure that selected design standards are the latest edition and fully compatible with Dubai South design regulation & guidelines.

5.1.1 DEAD AND LIVE LOADS

a) ASCE 7: "Minimum Design Loads For Buildings and other structures , Chapter 3'Dead loads' and Chapter 4 ' Live Loads ' .
b) BS 6399: Part 1 "Code of practice for dead and imposed loads".
c) BS 6399: Part 3 "Code of practice for imposed roof loads".
d) Adopted Dead and Live Loads Shall Satisfy Recommendations of the Dubai Municipality, Dubai South and other relevant statutory Authorities.

5.1.2 SEISMIC LOADS

a) UBC 1997, Volume 2, 'Structural Engineering Design Provisions', Division IV 'Earthquake Design
b) Zone shall be adopted to all structures as per circular 191 from Dubai municipality

5.1.3 Wind Load

a) ASCE 7-05: 'Minimum Design Loads for Buildings and Other Structures' - Chapter 6. Design shall be based on basic wind velocity of 45 m/sec
b) For all structures where wind loads are applied as per codes, other directions than the two orthogonal ones to be investigated for ultimate and serviceability limit states. The same shall be carefully studied for irregular buildings.

5.1.4 Design Codes

a) ACI 318: 'Building Code Requirements for Structural Concrete'
b) ACI Manual of Concrete Practice – the latest edition.
c) AISC 360
d) UBC 1997, Volume 2, 'Structural Engineering Design Provisions'
e) BS 8110: 'Structural Use of Concrete'
f) BS 8004: 'Foundations'
g) BS 5950: 'Structural Use of Steelwork in Buildings'
h) BS 8007: 'Design of concrete structures for retaining aqueous liquids'
i) BS 5628: 'Code of Practice for Use of Masonry'
j) IBC 'International Building Code', excluding seismic design provisions.

5.2 Minimum requirements for structural steelwork

a) Minimum thickness of material for main structural members shall be 6 mm unless the member is a hot rolled section complying with BS4 and BS 4848, or similar approved standards.
b) Painting shall be epoxy based paint with a minimum life to first maintenance of 20 years.

5.3 Minimum requirements for concrete work

a) Minimum cement content shall be 370 kg / m3.
b) Maximum water / cement ratio shall be 0.45.
c) Minimum 28 days characteristic cube strength shall be 30 N / mm3.
d) Maximum chloride content (as NaC1) in any mix shall not exceed 0.3 % by weight of cement for reinforced concrete 0.12 % by weight of cement for mass concrete and 0.06 % by weight for prestressed concrete.
e) The following are particular minimum requirements for concrete in contact with soil:
- Minimum 28 days characteristic cube strength shall be 40 N / mm3.
- All reinforced concrete members shall be protected with quality damp- proofing and water-proofing systems.
- Clear concrete cover to reinforcement shall be not less than 75 mm for footings and 50 mm for columns, beams, slabs and walls.
- Anti-termite treatment shall be provided underneath slabs on grade and ground beams to prevent termite infestation. Proposed anti-termite treatment shall be approved by the Authority.

The design and construction of pipelines, storage tanks, boilers, cranes, lifting equipment and pressure vessels shall be checked and certified by an independent third party inspection agency approved by the Authority.

6. FIRE PROTECTION REGULATIONS

a) Provision of Fire Protection and Life Safety Facilities shall comply with the requirements of the latest version of UAE Fire and Life Safety Code of Practice and International standards like National Fire Protection Association, NFPA and shall be approved by the Service Authority Dubai Civil Defense based on fire risk assessment and (UAE) Government Safety Regulations.

b) The building Life Safety design shall be in accordance to latest version of UAE Fire and Life Safety Code of Practice. Every building shall be provided with adequate means of egress, and other safeguards which shall be specified in kind, number, location and capacity, taking into consideration type of occupancy, number of persons exposed type of building materials and other relevant factors that may affect the safety of occupants.

c) A minimum of two means of escape shall be provided in every building, and shall be arranged in such a way that shall minimize the eventuality of both being rendered impassable during the same emergency conditions. HVAC system shall be designed to ensure no smoke enters the escape route inclusive of the stairwell to facilitate ease in evacuation. All Air Handling Units shall be shutdown to prevent supply of fresh air to the fire hazard

d) Every exit stair and other vertical opening between floors of a building shall be fire partitioned, enclosed and protected as necessary to prevent the spread of fire, fumes and smoke through the vertical openings from floor to floor, giving enough time for the occupants to reach the means of escape. All Security and Access Control doors shall be interfaced with fire alarm system to open in case of fire alarm.

e) Every building shall be provided with fire detection alarm system to warn the occupants in the event of fire which shall be designed and installed in accordance to UAE Fire and Life Safety Code of Practice and to be approved by Dubai Civil Defence. The alarm system shall be adequately connected to the 24 x 7 Direct Alarm Monitoring System of Dubai Civil Defence and to

the Dubai South City Integrated Intelligent Building Solution System through Dubai South WAN. The developer shall provide necessary gateway equipment and connectivity to the Dubai South WAN available with in the Building telecom room.

f) Every building shall have a central LPG Storage tank with a piping network connecting to every residential apartment and commercial outlets like restaurants/canteens, etc. shall be provided. Complete Design and Installation to comply with UAE Fire and Life Safety Code of Practice and to be approved by Civil Defense. The gas detection system shall also be installed.

g) Portable fire extinguishers of appropriate type and numbers must be provided and conveniently located in every building in accordance with UAE Fire and Life Safety Code of Practice.

h) For storage occupancy-fire protection and means of egress shall be provided as per their hazard contents classifications in compliance with UAE Fire and Life Safety Code of Practice.

i) Every building shall be properly and fully fire protected by an approved fire protection system complying with UAE Fire and Life Safety Code of Practice taking into consideration the type of occupancy and usage and to be approved by Dubai Civil Defence. Main fire protection system components such as fire pumps, controller, sprinklers and accessories as applicable shall be U.L. listed for the intended use and Factory Mutual approved. The Pump controllers shall be adequately connected to the 24 x 7 Direct Alarm Monitoring System of Dubai Civil Defence.

j) The elevators shall be interfaced with the fire alarm system to come to the home landing level and halt after opening the doors, allowing the passengers to escape. In case of fire alarm on the home landing level the elevator to go to the alternate level and come to a halt after allowing the passengers to escape. The elevator control panels shall be connected to the 24 x 7 Direct Alarm Monitoring System of Dubai Civil Defense.

7. SECURITY SYSTEM

a) Every building in Commercial sector shall comply to the regulations of Department of Protective Systems of Dubai Police security industry regulatory agency (SIRA) - http://www.sira.gov.ae/

b) Every building in the residential sector shall be provided with CCTV cameras to monitor the following areas.

- Car park entry and exit
- Car park lift lobby to identify the people entering
- All external entrances to the building to identify the people entering the building.

c) Every building in the Commercial sector shall have CCTV recording features as specified by Department of Protective Systems.

d) Every building in the Residential District shall have CCTV recording for a minimum of 30 days.

e) All warehouses/compounds in the DLC Sectors shall monitor and record the vehicle entry and exits by manual procedures and by CCTV Cameras.

f) Adequate lighting shall be provided at field of camera so that people/picture is identifiable at any time of the day.

g) Developers of commercial or residential buildings shall provide their own CCTV management system.

8. MECHANICAL INSTALLATIONS

8.1 General

a) All mechanical systems including plumbing, cold and hot water, drainage, rainwater, fire protection, refrigeration, kitchen planning, refuse disposal, ventilating and air conditioning, controls, compressed air, fuel and LPG systems, and materials shall be in accordance with the Authority Standards and in full compliance with, but not limited to, the following standards specifications or any equivalent standard approved by the Authority.

ASHRAE	American Society for Heating Ventilation Engineer
NFPA	National Fire Protection Association
ANSI	American National Standards Institute
BS	British Standard
UBC	Uniform Building Code
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
ARI	Air Conditioning and Refrigeration Institute
AMCA	Air Moving and Conditioning Association
UL	Underwriters' Laboratories Inc.
FM	Factory Mutual
AGA	American Gas Association
API	American Petroleum Institute
LEED	Green Building related code of practice

b) All mechanical systems are to have identification and colour coding system in compliance with ANSI or any equivalent standard approved by the Authority.

8.2 Plumbing

Water supply, plumbing and sanitary drainage installations shall be in accordance with the requirements of the Authority Standards and the relevant Service Authority (Water) Regulations in compliance with the Uniform Plumbing Code (UPC) and/or the British standards.

8.3 Ventilation and Air Conditioning

a) The design and installation of all air conditioning and ventilation systems shall be in accordance with latest guidelines of ASHRAE standards, ANSI, the UBC and applicable NFPA standards.

b) The design of walls and roof shall take into account Ventilation and Air conditioning requirements. The purpose is to limit the accumulation of moisture and pollutants which originate in the building and which would otherwise become a health hazard. An adequate supply of fresh air is necessary to ensure the health and comfort of the occupants of buildings and to limit condensation.

c) The objective is to provide means of:

- Proper ventilation, either natural or mechanical, to ensure acceptable Indoor Air Quality (IAQ) and dilution of pollutants.
- Proper air conditioning to ensure comfortable indoor temperature.
- Proper extraction of moisture and control of contaminants (e.g., from kitchens, laundries, toilets, industrial spaces, etc).

d) Habitable rooms will comply if there are provisions for:

- One or more operable Ventilation Openings to the exterior with a total area of at least 1/20 of the floor area of room with some part of the opening at least 1.75 m above floor level

- such opening(s) shall have a total ventilation area not less than 0.46 m² with opening secure and draughts avoided.
- mechanical ventilation capable of providing 2 air changes/hour with a minimum of 7 L/s of fresh unpolluted outside air for each occupant during the time the space is occupied.

e) Ventilation of kitchens will comply if there are provisions for:

- mechanical kitchen hood extract system designed and installed in compliance with ASHRAE guidelines.
- Background ventilation - either natural by means of operable opening(s) to the exterior of not less than 0.46 m² or mechanical ventilation operating continuously to provide for the make-up air extracted by the hood and to give nominally a minimum of one air change per hour.

f) Toilet rooms may be ventilated by either natural ventilation with fully operable exterior windows with an area not less than 0.279 m2 each and with part at least 1.75 m above floor or by mechanical extraction capable of providing 12 air changes/hour. Such mechanical extraction shall be communicated to the outside with point of discharge at least 3 m away from any fresh air opening.

g) Ventilating a habitable room through an adjoining space:

- Two habitable rooms may be considered a single room for ventilating purposes if there is a permanent opening between which is equal to at least 1/20 of the combined floor area.

- A habitable room may be ventilated through an adjoining space if:
  - the adjoining space is a conservatory or a similar space and;
  - there is an operable opening between the room and the space, with an area not less than 1/20 of the combined floor areas and;
  - there is a ventilation opening(s) in the room and the space together, or in the space alone, equal to at least 1/20 of the combined floor areas and with a part of the ventilation opening area at least 1.75 m above the floor level; and for background ventilation there are openings to the space and between the space and room each having not less than 0.46m² area.

h) Alternative approaches:

- The movement of air may be activated by such means as the operation of the door of the compartment, the operation of the lighting or by independent manual control. However, there should be an overrun of at least 15 minutes after the use of the compartment.

- A recommended alternative approach to meeting the performance requirements is contained in BS 5720:1979 Code of Practice for mechanical ventilation and air conditioning in buildings and BS 5250:1989 Code of Practice: the control of condensation in buildings.
- The ventilation of industrial buildings shall be in accordance with ASHRAE HVAC Application Handbook – latest Edition and ASHRAE Standard 62-2001.

- No air conditioning or ventilation equipment shall be visible from outside.

- Developer shall comply with Dubai Government's regulations for Green Buildings and provide adequate energy management system through Building Management System and Lighting Control System.

8.4 Mess and Kitchen Construction

- A mess and kitchen if required shall be constructed of fire resisting materials.
- Floors and walls shall be impervious to moisture and capable of being cleaned by washing down.
- Walls to be tiled to a height of min 2m above floor level with ceramic tiles.
- Drains to incorporate grease and food particle traps and interceptors.
- Working surfaces for preparation of food are to be of stainless steel or other approved impervious material to facilitate cleaning and maintenance of hygienic conditions.
- Mechanical extraction with exhaust hoods and fans to all areas with cooking taking place i.e. stoves, gas ranges and ovens tandoors etc.
- Kitchens shall be fitted with the recommended fire protection system in accordance with the latest NFPA 96 requirements.
- Kitchen hoods shall be provided with an approved and certified automatic fire protection system fitted to the hood.
- Gas pipes to cooking equipment etc., inside the building shall be with double containment and shall be in accordance with the latest NFPA requirements and shall be laid in an approved manner with U.L. listed and approved materials and accessories i.e. copper tubing or steel piping with tapered threads or welded permanent joints, minimum length of flexible hoses to connect to equipment, gas shut off valves, gas leak detection, etc.
- Automatic gas leak detection and shut-off systems shall be provided to automatically shut-off the main gas supply to all burning equipment in the event a gas leak or a fire is detected and shall be in compliance with NFPA 96 requirement.
- Layout and construction details of any temporary canteen, required during the period of construction, shall be approved by the Authority.

8.5 Energy Conservation

Energy efficient designs taking into consideration energy conversation and use of higher efficiency equipment is highly recommended by the Authority.

Special consideration and incentives may be applicable subject to prior arrangement with the Authority and /or the relevant Service Authority.

9. ELECTRICAL INSTALLATION

9.1 General

All Electrical Installations shall follow and comply with the Service Authority (Electrical) Rules and Regulations for electrical installations, IEE Wiring Regulations, and International Electro technical Commission (IEC) Codes (latest Editions).

The Developer shall provide to the Service Authority (Electrical), the connected load and maximum demand load (in kVA) required for his construction and operation in a format prescribed by Authority. A copy of the Service Authority (Electrical) N.O.C. shall be forwarded to the Authority for their information. The Developer shall also submit to the Authority the following:

- Electrical Distribution Single Line Diagram.
- Schematic Diagram showing load intake and metering arrangements.
- Load Schedules.
- Electrical rooms and incoming cable routing layouts.
- General arrangement and dimensional layout of electrical switch room with KWH metering facilities.
- Cable routes.
- Wiring layouts.

The Developer shall also provide a detailed list of equipment to be installed, indicating type of equipment/load, voltage, No. of phases, capacity in kW or kVA and applicable overall diversity factor.

The Developer shall take the necessary steps to protect and keep safe any service corridor passing nearby the plot. In case of damage, the Developer shall report immediately to the Authority in concern.

Developers shall make provisions for mains power out lets in the ETS room and in the telecom room in each building to enable connectivity of ETS room equipment to DS District Cooling Central plants.

9.2 Application to the Service Authority (DEWA)

Upon signing a lease for the allocated plot, the Developer shall apply to the Service Authority (DEWA-Electrical) for his power connection and for the installation of his own meter.

The Consultant must apply, prior to commencing any construction works for the following:

- No Objection Certificate (N.O.C) from the Service Authorities (DM, DEWA).

The Contractor shall submit to the Service Authority (DEWA-Electrical) “Inspection Certificates” in accordance with the Service Authority (DEWA- Electrical) prescribed forms. All installations and equipment installed therein shall be subject to the Service Authority (DEWA-Electrical) inspection, testing and final approval before connecting the electric supply. All relevant documents shall be submitted to DACC Authority after the final approval of Service Authority (DEWA-Electrical).

9.3 Power Supply Connection

The point of supply to the allocated plot shall be decided by the Service Authority (DEWA-Electrical), and shall be made available at one location within the plot/project, unless otherwise approved by the Service Authority (DEWA- Electrical).

Power supply from the Service Authority (DEWA-Electrical) network shall be subject to terms, fees and tariffs issued by the Service Authority (DEWA- Electrical).

Power supply shall be provided at 230/400V, 50Hz, 3-phase 4-wire with separate neutral and protective conductor, where the total connected load does not exceed 400 kW.

In general, if the total connected load exceeds 400 kW, provision shall be made within the plot/building for the Service Authority (DEWA-Electrical) substation based on the Service Authority (DEWA-Electrical) approved details for the proposed substation. In some circumstances a substation may be required even if the total load is less than 400kW.

The Developer main distribution board and associated metering shall be installed in locations to which access is available at all times. Prior approval shall be obtained from the Service Authority (DEWA-Electrical).

Space clearance around the electrical equipment shall be provided for safe operation, inspection, testing and maintenance, according to the Service Authority (DEWA-Electrical) Regulations.

Electrical rooms and substations shall be properly ventilated/air conditioned, as applicable. In case, electronic equipment shall be installed within the electrical rooms or substations, these shall be air conditioned to a max. temperature of 26 deg. C.

The Developer shall be responsible for terminating the incoming supply cable at the Service Authority (DEWA-Electrical) metering cabinet, in accordance to the Service Authority (DEWA-Electrical) Regulations.

All tariff metering shall be provided by the Service Authority (DEWA-Electrical) and restricted to one for each consumer, unless otherwise approved by the Service Authority (DEWA-Electrical).

If continuity of power is essential for the safe operation of the equipment, it shall be the responsibility of the Developer to provide stand-by power supply in the event of mains power supply failure. The stand-by generators shall not be synchronized with the Service Authority (DEWA-Electrical) network at any time. Proper electrical and mechanical interlocks between breakers shall be provided. Generator installation shall be permitted subject to the Service Authority (DEWA-Electrical) approval.

Generator noise level shall not exceed 75 dBA at 1m outside the generator enclosure. Generator characteristics and specifications shall comply with ISO Standards and comply with local Authorities for environmental restrictions.

Service Authority (DEWA-Electrical) Substation requirements shall be according to the Service Authority (DEWA-Electrical) - General Conditions for providing 11kV Supply to Consumer's Plots and subject to Service Authority (DEWA- Electrical) approval.

All electrical installations shall be provided with separate earthing. The consumer's earthing system shall be connected to the Service Authority (DEWA- Electrical)'s earthing system subject to the Service Authority (DEWA-Electrical) approval.

9.4 Installation Requirements

All the Electrical installations shall follow and comply with the Service Authority (DEWA-Electrical) Rules and Regulations for electrical installations, IEE Wiring Regulations, and International Electro technical Commission (IEC) Codes.

Temporary power supply for plot construction shall be the responsibility of the Developer and subjected to the Authority approval.

The Developer shall maintain a power factor not less than 0.9 for all installation. The Developer shall consider the use of energy efficient lamps, equipment, appliances and motors.

The Developer shall install an approved fire detection and alarms system in all his constructions. Fire Alarm system shall be installed in the

premises in compliance to NFPA Code or relevant British Standards and according to the local Authorities jurisdiction.

The Developer shall install 10cm UPVC ducts (number of ducts shall depend on the facility requirements) to connect the plot with the outside service corridor for the telecommunication, control and fire alarm detection wiring.

9.5 Completion Certificate

The Developer shall ensure the following for the Service Authorities inspection:

- The main electrical incoming supply arrangement is completed.
- The electrical installation inside the plot is completed.
- Fire detection and alarm system installation is completed.

On completion of satisfactory inspection by the Service Authorities and the Authority, a Building Completion Certificate shall be issued. This certificate is a pre-requisite for the connection of electrical installations to the Service Authority (Electrical) power supply grid.

10. TELEPHONE & TELECOM INSTALLATION

10.1 Main Guideline for Structured Cabling System (SCS)

- All the Structure Cabling Installations shall follow the service Authority Standards.
- The detailed design along with the materials to be used shall be submitted to the service Authority for approval.
- The consultant must apply prior to commencing any construction works for the No Objection Certificate (N.O.C) from the service Authority.
- The connection to the outside service corridor should be as per the service Authority requirements and subject to its approval.
- Adequate size telecom room should be allocated as per the service Authority requirements, with 24 hours access to the service Authority.
- Warranty period shall start after issuing of the completion/ Acceptance certificate.
- Developers shall make provisions for cable connectivity between the Energy Transfer Station (ETS) Rooms and Telecom room in each building to enable connectivity of ETS room equipment to DS District Cooling Central plants.

11. LIGHTING INSTALLATION

All lighting installations shall comply with the requirements of CIBSE (Chartered Institution of Building Services Engineers). The Developer shall consider the use of energy efficient lamps and fixtures.

Safety and emergency light fittings shall be installed in electrical switch rooms, operational area, entrances and escape routes, as per NFPA requirements or relevant British Standards and local codes.

The outdoor lighting luminance levels shall be in accordance with CIE (International Commission on Lighting). The lighting levels below are an indication of the minimum required lighting levels for different areas:

- Roads Primary/Secondary: 2.0cd/m2/1.0cd/m2
- Outdoor areas: 25 Lux
- Stores/stairs: 150 Lux
- Lobbies: 200 Lux
- Offices: 500 Lux
- Industrial areas (requiring accuracy): 300 Lux
- Industrial areas (requiring extreme accuracy): 500 Lux

The outdoor lighting shall be designed to minimize the light pollution in the area. Outdoor lighting design shall be submitted to the Authority for approval. Specific requirements for the outdoor lighting shall be followed, as per the Authority requirements.