



Preliminary

Trustee for Huntingwood Property Trust
Long Term Environmental Management Plan

Proposed Lots 2 and/or 3
Huntingwood East
Augusta Street, Blacktown NSW

22 June 2023

62742/146175 (Rev 0)

JBS&G Australia Pty Ltd

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Abbreviations

Term	Definition
ACM	Asbestos Containing Material
AF	Asbestos Fines
AMP	Asbestos Management Plan
DP	Deposited Plan
EPA	Environment Protection Authority
FA	Fibrous Asbestos
JBS&G	JBS&G Australia Pty Ltd
JSRA	Job Safety Risk Assessment
LAA	Licensed Asbestos Assessor
LTEMP	Long Term Environmental Management Plan
NOHSC	National Occupational Health and Safety Commission
NSW	New South Wales
PAHs	Polycyclic Aromatic Hydrocarbons
PCC	Penrith City Council
PPE	Personal Protective Equipment
RAP	Remedial Action Plan
SWMS	Safe Work Method Statement
WHS	Work Health and Safety

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) has been commissioned by The Trustee for Huntingwood Property Trust to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD- 36138263) for the proposed Augusta Street warehouse and distribution centre at Augusta Street, Blacktown.

The site is located at Augusta Street, Blacktown, within the Blacktown local government area (LGA). The site comprises multiple parcels of land and is legally described as:

- Lot 1 DP835264
- Lots 218-219 DP457024
- Lot 2151 DP135859
- Lot 2 DP516449
- Lot 163-164, 168-188 and 216 DP8716
- Lot 1 DP119616
- Lots 4-6 DP226294
- Lots 50-52 DP1144623
- Lot 7 DP803359
- Lots 6-10 DP801210
- Lot 4 DP585492
- Lot 4 DP583442
- Lot 2 DP1263824.

The location and current layout of the site are shown in **Figures 1** and **2**, respectively.

Contamination was identified within the extent of the project site prior to the redevelopment of Huntingwood East. This has included: bonded and friable asbestos, heavy metals and polycyclic aromatic hydrocarbon (PAHs) impact as present within the fill material and stockpiles; and petroleum hydrocarbon impact associated with historical petroleum infrastructure (USTs/ASTs) which has been decommissioned and removed.

The contaminated soils will be remediated during the construction of the Huntingwood East development site. Contaminated soils will likely be transferred and contained within the site (proposed Lots 2 and/or 3) to be managed into the future. An engineered cap will be placed over the contained soils to prevent potential future direct human and ecological exposures. It is noted that it is currently planned to contain contaminated soils within proposed Lots 2 and/or 3 in the western portion, however, the precise location to retain the impacted soils may be subject to change in which case, this Long-term environmental management plan (LTEMP) will apply to those areas of contained soils.

The site will be considered suitable for the proposed commercial / industrial use subject to the presence and maintenance of an appropriately engineered capping layer to retain contaminated soils. This LTEMP is required to ensure that the environmentally impacted soils (including asbestos affected materials) are appropriately managed to ensure continued protection of human health for future site workers, occupiers, visitors and contractors engaged to undertake works within the site.

Through the presence of asbestos as a known contaminant in the soils this LTEMP has been further prepared in accordance with Clause 429 of the *Work Health and Safety Regulation* (2017). The Regulation states, *"If asbestos or ACM is identified at a workplace under clause 422, or likely to be present at a work place from time to time, a person with management or control of the workplace must ensure a written plan (an asbestos management plan) for the workplace is prepared"*.

This LTEMP applies only to the environmentally impacted soils contained within the site (proposed Lots 2 and/or 3 but final area of on-site containment may be subject to change), as shown in **Figure 2**, and does not apply to areas with no soil impacts in the greater Huntingwood East Project area. It is not intended to apply to major excavations, earthworks or construction activities. A specific management plan should be prepared in the event that any major works are proposed within the extent of the retained impacted soils.

1.2 Objectives

The objectives of this LTEMP are to:

- Protect the health of site occupants, contractors and visitors from the residual environment hazards (specifically inclusive of asbestos) during the future operation of the site;
- Outline ongoing management requirements to ensure that the risk posed by environmentally impacted soils identified at the site (within the encapsulated area) is properly managed and maintained;
- Provide guidance on the responsibilities of maintaining the requirements of this LTEMP;
- Provide guidance on the appropriate control measures to be implemented in the event that the capping and/or marker layer requires to be breached;
- Act as an Asbestos Register as consistent with the requirements of the *Work Health and Safety Regulation 2017*; and
- Provide guidance on the appropriate procedures to manage works within environmentally impacted materials (specifically inclusive of asbestos as per requirements of the *Work Health and Safety Regulation 2017*).

It is expected that this LTEMP will be incorporated into the overall maintenance and environmental management procedures for the ongoing operation of the site.

2. Summary of Site Conditions

2.1 Site Details

The site location is shown on **Figure 1**. The extent of the site and the project boundaries are shown on **Figure 2**. The site details are summarised in **Table 2.1** and described in detail in the following sections.

Table 2.1: Summary Site Details

Site	Proposed Lots 2 and/or 3
Local Government Authority	Blacktown City Council
Approximate MGA Coordinates (MGA 56)	Easting: 306029 Northing: 6257891
Site Zoning	IN1 – General Industrial
Current Use	Commercial / Industrial Development
Previous Use	Previous site uses were generally rural/residential rural including grazing/market gardens and poultry operations and some commercial properties including car scrap yard/mechanic truck depot and storage yard.
Site Area	Approximately 4.3 ha

2.2 Site Description

The site will form part of Huntingwood East, a large multi-level commercial / industrial building with associated roads and carparks. Access to the site will be gained from Augusta Street.

Reference can be made to survey plans provided as **Appendix A**.

2.3 Extent of Environmentally Impacted Material Remaining Onsite

Environmentally impacted material as affected with ACM, heavy metals and PAHs will have been retained within the site. The extent of the proposed containment zone is shown on **Figure 2** and defined by surveys provided as **Appendix A**, however, may be subject to change.

Materials to be encountered in capped areas are described as follows:

- Landscaped or other unpaved areas
 - a minimum 0.5 m of growing medium in mass planting/shallow landscaped areas, or 1.5 m in tree pits, comprising; and
 - underlain by a marker layer comprising bright orange geotextile fabric.
- Permanently paved areas
 - permanent concrete asphaltic concrete pavements; and
 - underlain by a marker layer comprising bright orange geotextile fabric.

2.4 Summary of Identified Environmental Contamination Issues

Contaminated soils, inclusive of friable and non-friable asbestos, heavy metals and PAHs will have been contained beneath the capping and marker layer and needs to be managed.

2.4.1 Asbestos

Friable asbestos is defined in the Safe Work Australia *Code of Practice How to Manage and Control Asbestos in the Workplace* (SWA 2020a) as being “...material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos”.

Non-friable ACM is defined by SWA (2020a) as being “...material containing asbestos that is not friable asbestos. Including materials containing asbestos fibres reinforced with a bonding compound”.

Mechanical disturbance of ACM fragments and disturbance of soils may result in the release of fibres and therefore, such activities should be managed to prevent any fibres becoming airborne. Similarly the same activities can potentially give rise to release of soil particulates affected by chemical contaminants. The health effects of (specifically) asbestos are detailed in enHealth (2005) *Management of Asbestos in the Non-Occupational Environment*.

The primary issue associated with the asbestos remaining beneath the site capping and marker layer is managing the risk of inhalation of respirable fibres if the underlying asbestos impacted materials were to be disturbed. The primary issue of the potentially co-occurring chemical based contaminants is direct contact to the impacted soils and/or potential inhalation of impacted particulates generated from the soils and/or from the impacted spoils to buildings.

A secondary issue with the presence of the environmentally contaminated soils remaining at the site is disposal of excess spoil that may be impacted with chemical contaminants and/or asbestos in the event that excavation of materials beneath the capping and marker layer is required.

A description of the marker layer used to identify the boundary between the capping and potentially impacted materials is provided in **Section 2.5**. Management measures to deal with these materials in the event that it becomes necessary for the capping and marker layer to be breached are provided in **Section 4**.

2.5 Site Cover Layers

2.5.1 Requirements

The requirements for the capping and marker layers were specified in JBS&G (2023¹). Distinct requirements have been provided for areas that are located in areas of surface hardstand, and areas that are in landscaped / non-paved areas of the site. In summary in areas of hardstand, the requirements were:

- Placement of a visual marker layer overlying the environmentally impacted soils consisting of a bright orange coloured non-woven polyester continuous filament or PET (such as nonwoven geotextiles) or similar with a minimum density of approximately 150 grams per square metre (or equivalent); and
- Placement of a capping layer of at least 0.5 m of non-impacted soils overlying the marker layer and across the extent of impacted soils.

In areas of non-hardstand (i.e. landscaped / garden / grassed areas of the site), the requirements were:

- Placement of a visual marker layer directly overlying the impacted soils consisting of a bright orange coloured non-woven polyester continuous filament or PET (such as nonwoven geotextiles) or similar with a minimum density of approximately 150 grams per square metre (or equivalent); and
- Placement of a capping layer of at least 0.5 m of non-impacted soils overlying the marker layer and across the extent of impacted soils.

The physical capping is required to prevent ready access to soils contaminated with asbestos and other chemical contaminants. The physical barrier layer installed at the site is shown on the survey diagrams provided in **Appendix A**.

2.5.2 Extent of Marker Layers and Capping

The extent of the impacted soils across the site will be covered by a marker layer and capping (consisting of pavement or non-impacted soils), which must be maintained to prevent future site

¹ Remedial Action Plan, Huntingwood East, Augusta Street, Blacktown, 22 June 2023, JBS&G Australia Pty Ltd (JBS&G 2023)

users, occupiers, visitors and contractors from being potentially exposed to the retained environmentally impacted soils. The proposed extent is shown on **Appendix A**. Photographs of the installation of the capping and marker layer will be provided in **Appendix B** at the completion of the works.

Providing the marker layer and capping are maintained and control measures herein are successfully implemented in accordance with this LTEMP, there will be no health risks associated with contaminated soils remaining on the site, since there will be no direct pathways for site occupants to be exposed to the retained contamination.

3. Application and Enforcement of LTEMP and Responsibilities

3.1 Application of LTEMP

This LTEMP will apply indefinitely for future site operations.

The requirements of this LTEMP are intended to apply to any routine activities within the site which could involve disturbance or exposure of retained contaminated soil beneath the capping and marker layer but not limited to:

- Underground utility installation, maintenance or removal; or
- Excavations (e.g., dug, cut, piled or bored).

It is not intended that the LTEMP apply to major excavations, earthworks or construction activities.

Section 4.2 provides requirements for shallow and deep intrusive works, however, disturbance of the marker layer should be avoided, if possible. As noted in **Section 4.2.2**, approval for deep intrusive works must be sought from the person/s with management or control of the workplace who is responsible for the enforcement of the LTEMP (**Section 3.3**). The person responsible for enforcement of the LTEMP will assess whether the works are necessary or if there is an alternative that will not result in exposure of environmentally impacted soil.

3.2 Site Owner

It is the responsibility of the Site Owner to ensure that:

- A copy of this LTEMP must be provided to all persons acquiring ownership of all or part of the site (Site Owners).
- A site owner must provide a copy of this LTEMP to any successor in Title.
- A site owner must ensure that a copy of this LTEMP is provided to all persons with management or control of a workplace at the site.
- A person/s with management or control of the workplace (specifically referred to the area of encapsulated contaminated soils) is made responsible for the implementation and maintenance of the provisions of this LTEMP.
- A person in a senior management position in the organisation is appointed as Site Environmental Manager and given the responsibility for ensuring the maintenance of the provisions of this LTEMP. The Site Environmental Manager may appoint appropriate personnel to implement the LTEMP day to day but will remain the responsible manager to whom the appointed personnel must report.
- Site personnel or contractors that must conduct intrusive works at the site are inducted into the LTEMP and are aware of their responsibilities with regard to health and safety and protection of the environment.
- A copy of this LTEMP is supplied to anyone conducting intrusive works on the site.
- The integrity of the marker layer and capping and/or hardstand is maintained by application of the procedures outlined in this LTEMP.
- The health and safety and environmental requirements specific to the contamination issues on the site, as outlined in this LTEMP, are complied with.
- Environmental incidents are reported in a timely manner to the appropriate statutory authorities, as necessary in accordance with legislation.

3.3 Persons with Management or Control of the Workplace

The person/s with management or control of the workplace shall be responsible for the implementation and maintenance of the provisions of this LTEMP for the contaminated soils.

Specifically, the persons/s with management or control of the workplace shall be responsible for:

- Ensuring the required routine inspections of the surface hardstand areas are completed and accurate records maintained;
- Organising appropriate works in the event that unexpected breaches of the capping and/or marker layers are encountered;
- Inducting relevant personnel, contractors and visitors into the requirements of this LTEMP. Detailed records of personnel inducted into the conditions of this LTEMP shall be kept (**Appendix C**);
- Ensuring any personnel or engaged contractors undertaking work that penetrates the depth of the capping and marker layer are aware of their responsibilities in relation to the encapsulated chemical-based contaminants potentially present and friable asbestos impacted materials known to be present;
- Ensuring any disturbance to the capping and marker layer are appropriately reinstated in accordance with the requirements of this LTEMP; and
- Documenting and updating records to reflect any works completed within the encapsulated area that may have extended below the depth of the capping and/or marker layer (**Appendix E**).

3.4 Summary of Provisions of this LTEMP

The provisions of this LTEMP are summarised as follows:

- Site personnel or contractors required to conduct intrusive works at the site must be inducted into the LTEMP and must be aware of their responsibilities with regard to health and safety and protection of the environment;
- A copy of this LTEMP is to be supplied to all persons conducting intrusive works on the site;
- The integrity of the capping and marker layers must be maintained by application of the procedures outlined in this LTEMP; and
- The health, safety and environmental requirements specific to the potential chemical constituent and friable asbestos hazards within the encapsulated area as outlined in this LTEMP must be complied with.

4. Contaminated Soil and Asbestos Management Strategy

It is expected that this LTEMP will be incorporated into the overall maintenance and environmental management procedures for all workplaces at the site.

4.1 General

The management procedures provided in the following sections have been primarily based on control of potential hazards that occur from asbestos contaminated soils. The management procedures as designed for asbestos hazards will be sufficient to control potential risks as will occur with co-occurring chemical hazards (typically including heavy metals and PAHs).

4.2 Potential Future Earthworks

The management procedures (provided in the following sections) are to be implemented during all routine intrusive works at the site including any potential future small-scale earthworks on the site (e.g. excavation for service installation or maintenance, tree planting). Major works within the area will require specific management controls.

There are two types of intrusions that may be undertaken at the site that would require management:

- Disturbance of the capping soils (shallow intrusive works); or
- Breach of the marker layer generally comprising excavations undertaken beyond a depth of 0.5 m below the ground surface.

Because activities breaching the marker layer entail greater risk than activities that simply disturb the upper depth of capping soils, different procedures apply to shallow and deep intrusive works, as outlined in the following sections.

4.2.1 Shallow Intrusive Works

These provisions for shallow intrusive works apply to works above the marker layer (i.e. works within the capping soils).

Where shallow intrusive works are required, the following management measures will apply:

- Approval for the works must be sought from the person/s with management or control of the workplace who is responsible for the enforcement of this LTEMP. A standing / long-term approval would be appropriate for persons engaged as gardeners / maintenance workers within the site;
- Site personnel or contractors required to conduct intrusive works at the site must be inducted into the LTEMP and must be aware of their responsibilities with regard to health and safety.
- A copy of this LTEMP is to be supplied to all persons conducting intrusive works on the site.
- Workers are not required to wear additional personal protective equipment (PPE) beyond normal site requirements for shallow intrusive works.
- Air monitoring is not required provided the environmentally impacted material beneath the marker layer is not disturbed.
- The marker layer shall not be disturbed, and any capping materials disturbed should be reinstated consistent with the description in **Section 2.5.2** of this LTEMP. Where disturbed, the capping materials should be separately stockpiled, managed and reinstated consistent with this LTEMP (as applicable and appropriate). This shall include re-instatement of any areas of hardstand where hardstand is required to be removed.

- Any repairs to the capping and/or pavement (i.e. hardstand) overlying the marker layer shall be recorded as outlined in **Section 4.9** and changes should be detailed in an updated survey plan (**Appendix A**), if required.

4.2.2 Deep Intrusive Works

These provisions for deep intrusive works apply to works that will extend below the marker layer (i.e. within environmentally impacted materials). This is below the capping soils and marker layer in the site areas underlying paved / hardstand areas, or otherwise underlying the capping layer and marker layer in non-paved / landscaped / gardens areas of the site.

Where deep intrusive works are required, the following management measures will apply:

- Prior to any deep intrusive work commencing, approval for the works must be sought from the person/s with management or control of the workplace who is responsible for the enforcement of the LTEMP (**Section 3**) who will assess whether the works are necessary or if there is an alternative that will not result in exposure of environmentally impacted soil and whether the works are required to be carried out by a specialist contractor. The person/s with management or control of the workplace must also review and approve the Job Safety Risk Assessment (JSRA) and Safe Work Method Statement (SWMS) for the works and ensure that site personnel and/or contractors who will undertake the works understand the requirements of the LTEMP.
- Site personnel or contractors required to conduct deep intrusive works at the site must be inducted into the LTEMP and must be aware of their responsibilities with regard to health and safety, including those noted in **Section 4.3** following.
- A copy of this LTEMP is to be supplied to all persons conducting deep intrusive works on the site.
- The works area must be isolated from casual entry using temporary barriers and only personnel inducted in the requirements of the site LTEMP will be permitted to enter the works area.
- Sufficient space must be provided within the works area to allow stockpiling of spoil from excavations, if required, in accordance with **Section 4.4**.
- In the event that materials from under the marker layer must be excavated, a water supply must be provided to the works area for the purpose of maintaining potential environmentally impacted soil in the excavations and stockpiles in a moist state.
- Personnel entering the works area must wear appropriate PPE in accordance with **Section 4.3**.
- Decontamination procedures must be undertaken in accordance with **Section 4.3**.
- Stockpiles of excavated spoil must be managed in accordance with **Section 4.4**.
- Air monitoring to be undertaken in accordance with **Section 4.3**.
- Once the works are complete, the capping and marker layer shall be reinstated with materials of similar nature as were originally present, as described in this LTEMP. Where materials are imported for use in the capping layer, if required, they must be validated as suitable for the site use.
- Areas of removal of hardstand / paving must be replaced with hardstand / paving in the reinstatement of the site.
- Any repairs to the capping and/or pavement shall be recorded as outlined in **Section 4.8** and changes should be detailed in an updated survey plan (**Appendix A**), if required.

4.2.3 Reinstatement of Capping

Following potential works as completed as per **Section 4.2.1** or **4.2.2**, there may be a requirement to supply new 'capping material' to the site to replace existing capping material as consumed by the works. Capping material is to consist of virgin excavated natural material (VENM) or excavated natural material (ENM) and pavement meeting the requirements of **Section 2.5.1** where observed to be removed during the works.

Where pavement is used a minimum thickness of 50 mm is required.

Where VENM or ENM are used, then appropriate validation assessment, inclusive sampling and analysis must be available as consistent with relevant NSW EPA guidelines or otherwise resource recovery exemptions. The person responsible for the implementation of the LTEMP must be provided with all relevant copies of documentation certifying the suitability of capping material.

4.3 Specific Requirements for Those Working with Asbestos Impacted Material

Asbestos-containing materials are present and friable asbestos is known to be present in soil underlying the marker layer. Work involving any breaches of the capping and marker layer, (i.e. deep intrusive works exceeding a depth of 1.0 m) will require supervision by a Class A licensed asbestos contractor. The works will be undertaken using the procedures described in the *SWA Code of Practice How To Safely Remove Asbestos (SWA 2020b)* and the following site-specific procedures:

- All site workers shall be inducted to the site and made aware of the procedures outlined in this LTEMP.
- Workers and visitors to the site area will be made aware of the friable asbestos contamination during site inductions and tool box meetings and only authorised people shall enter the work area, which must contain a perimeter barrier to restrict entry.
- An asbestos work area shall be defined and clearly marked.
- All personnel working within the asbestos work area shall wear P2 (or higher) class half face respirators, disposable gloves and coveralls made from materials which provide adequate protection against fibre penetration whilst completing works and whilst within the asbestos work area.
- A 10 m wide exclusion zone shall be established around the perimeter of the asbestos work area. The dimensions of the exclusion zone may be varied by the person/s with management or control of the workplace, or by the Class A licensed asbestos contractor, if necessary to ensure the day to day operation of the Huntingwood East or otherwise significant infrastructure.
- Asbestos warning signs shall be placed surrounding the asbestos work area and at entry/egress points.
- A decontamination area shall be marked out within the asbestos work area for the removal and disposal of PPE before site workers leave the asbestos work area. Personal decontamination must be undertaken each time a site worker leaves the asbestos works area and at the completion of the works. All disposable PPE shall be disposed of as asbestos waste.
- Static air monitoring at a minimum of four locations surrounding each asbestos work area and with consideration to neighbouring receptors shall be undertaken in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition* [NOHSC: 3003(2005)] for the duration of the work. The monitoring locations shall be assigned by a Licensed Asbestos Assessor (LAA).

- At the completion of the works the capping and marker layer are to be re-instated in accordance with the requirements of this LTEMP. The changes should be detailed in an updated register of site works as included as **Appendix E**.

4.4 Soil Management

Any environmentally impacted soil/fill (including asbestos impacted materials and anthropogenic material) excavated during deep intrusive works must be securely stockpiled separately from the capping / marker layer material. Capping and marker layer materials should also be separately stockpiled. Stockpiles must be placed on a sealed surface or on plastic sheeting to prevent cross contamination of unsealed surfaces.

Stockpiles must be placed in a secure location onsite and covered if they are to remain for more than 24 hours.

Spoil generated from on-site excavations may be re-used on-site, noting that any material excavated from below the marker layer must be re-used below the marker layer. Capping material cross contaminated with soil from below the marker layer must be re-used below the marker layer.

Alternatively, excavated environmentally impacted soils / materials shall be disposed off-site following appropriate waste classification in accordance with **Section 4.6**.

4.5 Dust Management

During any deep intrusive works that will penetrate the marker layer, excavations and stockpiles of spoil should be kept damp to prevent the generation of dust from these sources. Care should be taken to not over-wet excavations and/or stockpiles such that excess runoff is generated.

4.6 Off-Site Disposal and Waste Management

If any material is to be excavated for off-site disposal it should be classified in accordance with EPA waste classification guidelines (NSW EPA 2014²) or guidelines that may be in force at that time. Waste must be managed in accordance with the provisions of the *Protection of the Environment Operations (Waste) Regulation 2014* or successor instruments.

4.7 Emergency Preparedness and Response

The following procedure will be followed in the event that the capping and marker layer are breached unintentionally such that the underlying environmentally impacted soil is exposed:

- Stop the activity or process that has exposed the impacted soil;
- Assess the hazards associated with the exposure of the impacted material and implement appropriate procedures to address the hazards;
- Repair the capping and marker layers such that the impacted soil is once again isolated beneath the capping / barrier;
- Collect and secure any impacted soil that may remain exposed and stockpile securely so that it is protected from casual access;
- Review the activity or process that led to the exposure of the impacted soil and revise procedures or actions accordingly to prevent a reoccurrence;
- Complete an environmental incident/corrective action report in accordance with the current quality procedure; and

² Waste Classification Guidelines, Part 1: Classifying Waste, NSW Environment Protection Authority, November 2014 (EPA 2014)

- Review and revise the LTEMP to reflect any changes that have to be made to prevent a reoccurrence.

In the event of an emergency, then the following persons / organisations shall be available to provide assistance.

Table 4.1: Emergency Contacts

Person	Organisation	Role	Contact Details
To be advised	To be advised	To be advised	To be advised

4.8 Capping Inspections

Routine inspection of the capping integrity shall be conducted at the following times throughout the future operation of the site (**Table 4.2**).

Table 4.2: Capping Inspections

Inspection Time	Inspection Frequency
Following an accidental breach/penetration of the capping or marker layer	Following incident
Following break / repair of capping and/or pavement underlying rail lines	Upon completion
Routine inspection of capping across site	Annually

Records of the inspection shall be retained for a minimum period of four years (**Appendix E**).

5. Health and Safety Management

It is the responsibility of persons with management or control of workplaces at the site to ensure that comprehensive health and safety programmes that comply with the requirements of the WHS Regulation and are appropriate for the activities undertaken at the site are implemented. Given the presence of asbestos at the site, additional protocols and procedures that address the specific hazards posed by the asbestos must be included in the overall health and safety plans implemented.

The only significant exposure pathway that can lead to health effects from asbestos fibres is inhalation of respirable fibres. Consequently, workers who may be exposed to dust that has the potential to contain asbestos fibres must wear appropriate respiratory protection. Furthermore, measures must be taken to ensure that dust or other material that may contain asbestos fibres is not carried out of the work area to areas where breathing protection would not ordinarily be considered a requirement.

Potential risks to other co-occurring contaminants can be similarly managed by precluding the potential exposure of the impacted materials or direct contact to the impacted soils otherwise. The measures as implemented to control potential asbestos hazards will be similarly effective to control risks from other chemical contaminants as may potentially be present.

With regard to the site, there is a risk that soil underlying the capping and marker layer may release asbestos fibres if disturbed. Consequently, in areas where intrusive works are expected to breach the capping and marker layer, work should be supervised by a person holding a Class A licence who should prepare Job Safety Risk Assessments (JSRA) and Safe Work Method Statements (SWMS) relating to the potential for asbestos to be present. The JSRA and SWMS should be submitted to the Responsible Person, who should ensure that the intrusive works are carried out in accordance with the JSRAs and SWMS and requirements identified in **Sections 3 and 4** of this LTEMP.

6. Revision of the LTEMP

It may, from time to time, be necessary to revise this LTEMP to reflect changes to legislation, changes on site and/or improvements in technologies or knowledge.

Revision of the LTEMP should be undertaken by an appropriately qualified and experienced Environmental Consultant or Occupational Hygienist. Any amendments to the LTEMP will need to be reviewed by the Auditor. Copies of the revised LTEMP should be distributed to the current site owners, person/s with management or control of the workplace and regular site workers for on-going implementation.

7. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

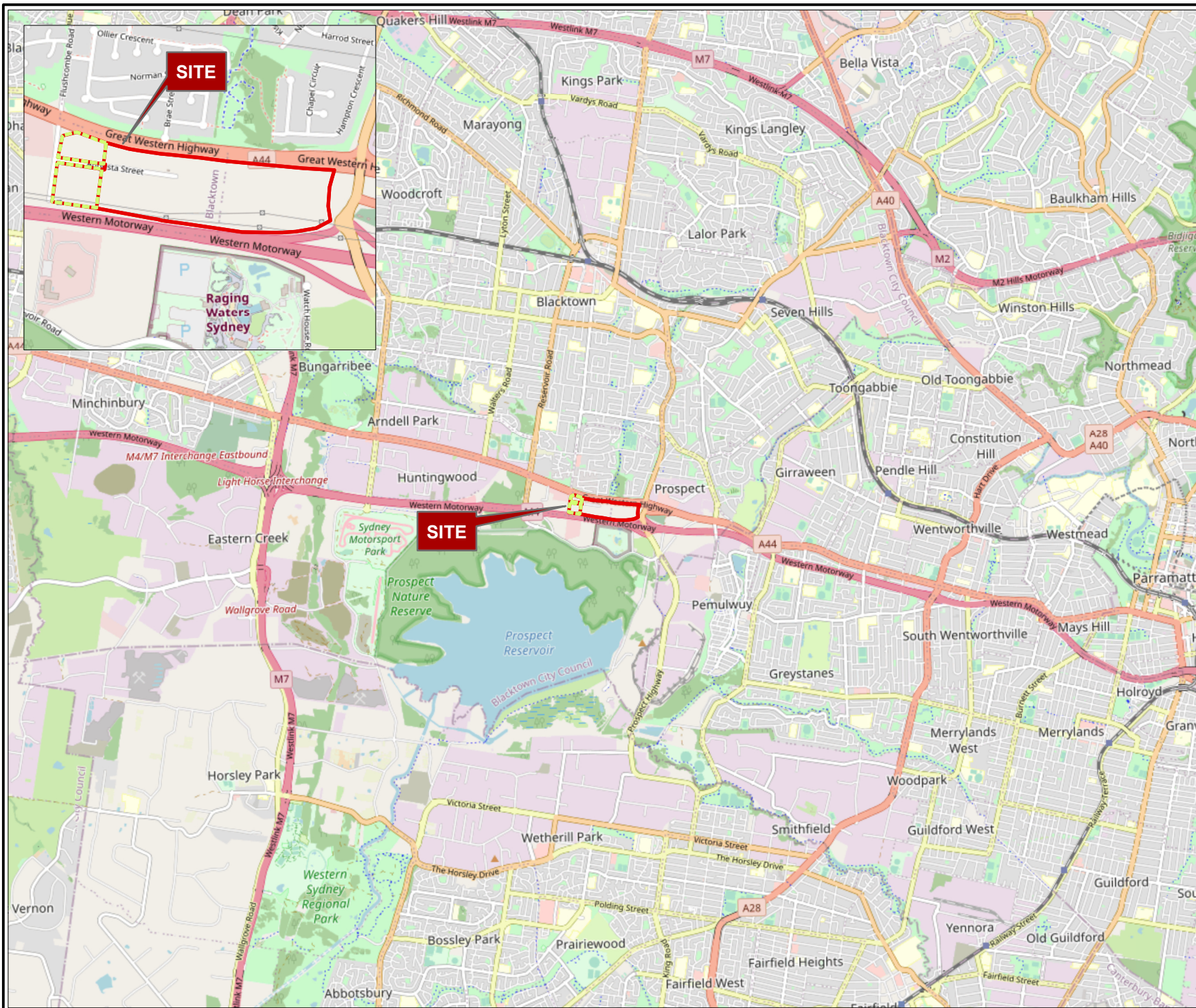
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures



Legend
 Approximate Project Boundary
 Approximate Site Boundary

Job No: 62742
 Client: Logos Australia
 Version: R05_Rev A Date 22/07/2022
 Drawn By: YY Checked By: JN
 Scale 1:80,000

0 800 1,600

 metres

 Coord. Sys. GDA 1994 MGA Zone 56
**Huntingwood East
Augusta Street
Blacktown, NSW**
SITE LOCATION

FIGURE 1



Legend

Approximate Project Boundary

Approximate Site Boundary



Job No: 62742

Client: Logos Australia

Version: R05_Rev A Date 22/07/2022

Drawn By: YY Checked By: JN

Scale 1:5,500 

0 50 100
metres

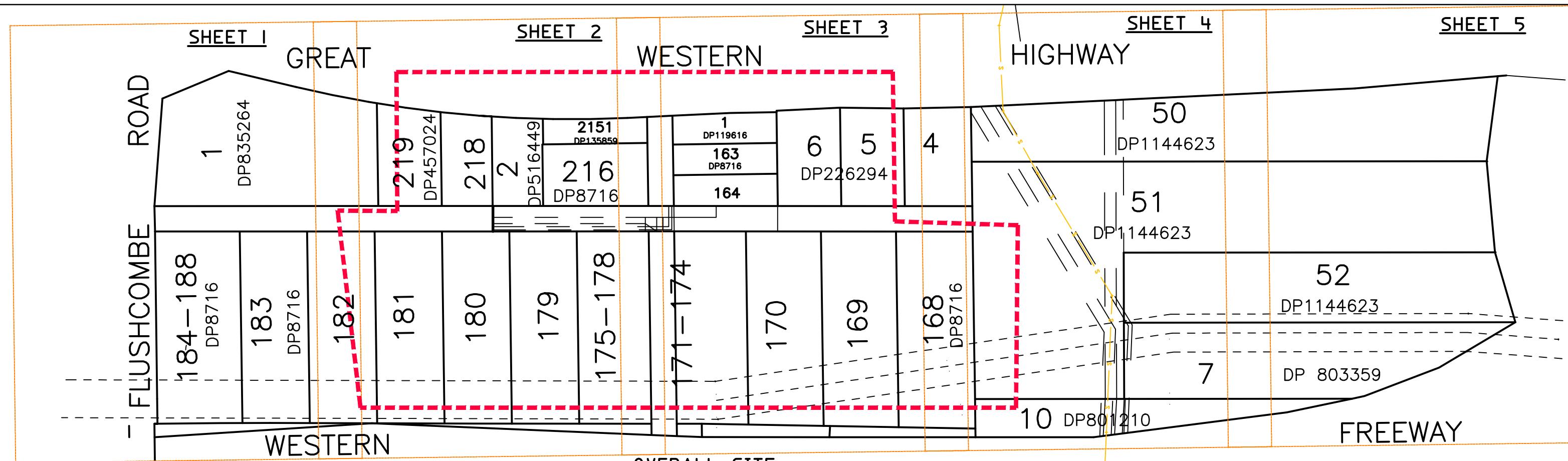
Coord. Sys. GDA 1994 MGA Zone 56

**Huntingwood East
Augusta Street
Blacktown, NSW**

SITE LAYOUT

FIGURE 2

Appendix A Survey Plans



M.G.A

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PROJECT
DETAIL SURVEY
OF
FLUSHCOMBE ROAD,
AUGUSTA STREET &
LOT 1 DP835264, LOTS
218-219 DP457024, LOTS
168, 180-183 & 188 DP8716,
LOTS 50-52 DP1144623,
LOTS 4 & 5 DP226294, LOT 10
DP801210 & LOT 7 DP803359

NOTES
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1	GKO	16/02/2022	INITIAL ISSUE

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BO	BO	BOLLARD	TOP	TOP	TELECOM DIST. PILLAR
DJM	DJM	DRAINAGE MANHOLE	TPL	TPL	TELECOM POLE
GUL	GUL	DRAINAGE GULLY PIT	TSP	TSP	TELECOM SINGLE PIT
ELP	ELP	ELEC. GARDEN LIGHT	TTP	TTP	TELECOM TWIN PIT
EL	EL	ELEC. GREEN PILLAR	SLH	SLH	SEWER LAMP HOLE
LPL	LPL	ELEC. LIGHT POLE	SMH	SMH	SEWER MANHOLE
EP	EP	ELEC. SINGLE PIT	SVP	SVP	SEWER VENT PIPE
SPL	SPL	ELEC. STAY POLE	TM	TM	PALM TREE
PP	PP	ELEC. POWER POLE	TS	TS	SHRUB
PLP	PLP	POWER POLE LIGHT	T	T	TREE
PTR	PTR	ELE. POLE/TRANSFORM	CAM	CAM	SPEED CAMERA
ETP	ETP	ELEC. TWIN PIT	SCL	SCL	TRAFFIC CONTROLLER
EFP	EFP	ELEC. FUSE BOX	SJX	SJX	TRAFFIC JUNCTION BOX
GMR	GMR	GAS METER	SGL	SGL	TRAFFIC LIGHT
GV	GV	GAS VALVE	BS	BS	BUS STOP SIGN
GM	GM	GAS MAIN	TS	TS	TRAFFIC SIGN
MBX	MBX	MAIL BOX	US	US	UNKNOWN SERVICE
BN	BN	BIN	WHY	WHY	WATER HYDRANT
BOR	BOR	BORHOLE	WMR	WMR	WATER METER
FD	FD	FUEL DIP	WEP	WEP	WATER PUMP
SE	SE	SEAT	WSV	WSV	WATER STOP VALVE
FLG	FLG	FLAG POLE	WAV	WAV	WATER AIR VALVE
AG	AG	GATE	WTP	WTP	WATER TAP

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

DRAINAGE PIPE U/G	---
DRAIN	---
ELEC. CABLE A/G	---
ELEC. CABLE U/G	---
GAS PIPE	---
FENCE LINE	---
SEWERAGE PIPE	---
TELSTRA CABLE	---
WATER PIPE	---

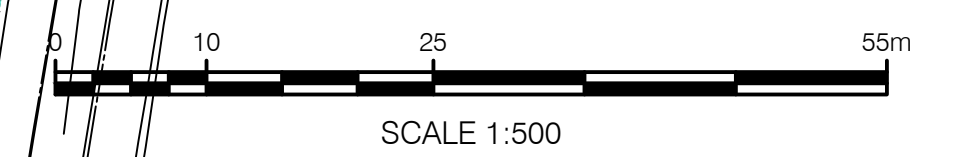
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(A2) EASEMENT FOR TRANSMISSION LINE (J983245)
(A3) EASEMENT FOR TRANSMISSION LINE (J983234)
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(A5) EASEMENT FOR TRANSMISSION LINE (T536159)
(A6) EASEMENT FOR TRANSMISSION LINE (K116727)
(A7) EASEMENT FOR TRANSMISSION LINE (V378957)

- (A) PROPOSED EASEMENT FOR TRANSMISSION LINE 30 WIDE (DP640409)
(B) EASEMENT FOR TRANSMISSION LINE VARIABLE WIDTH (J946973)
(C) PROPOSED DRAINAGE EASEMENT 2.44 WIDE (DP8716)(A392054)

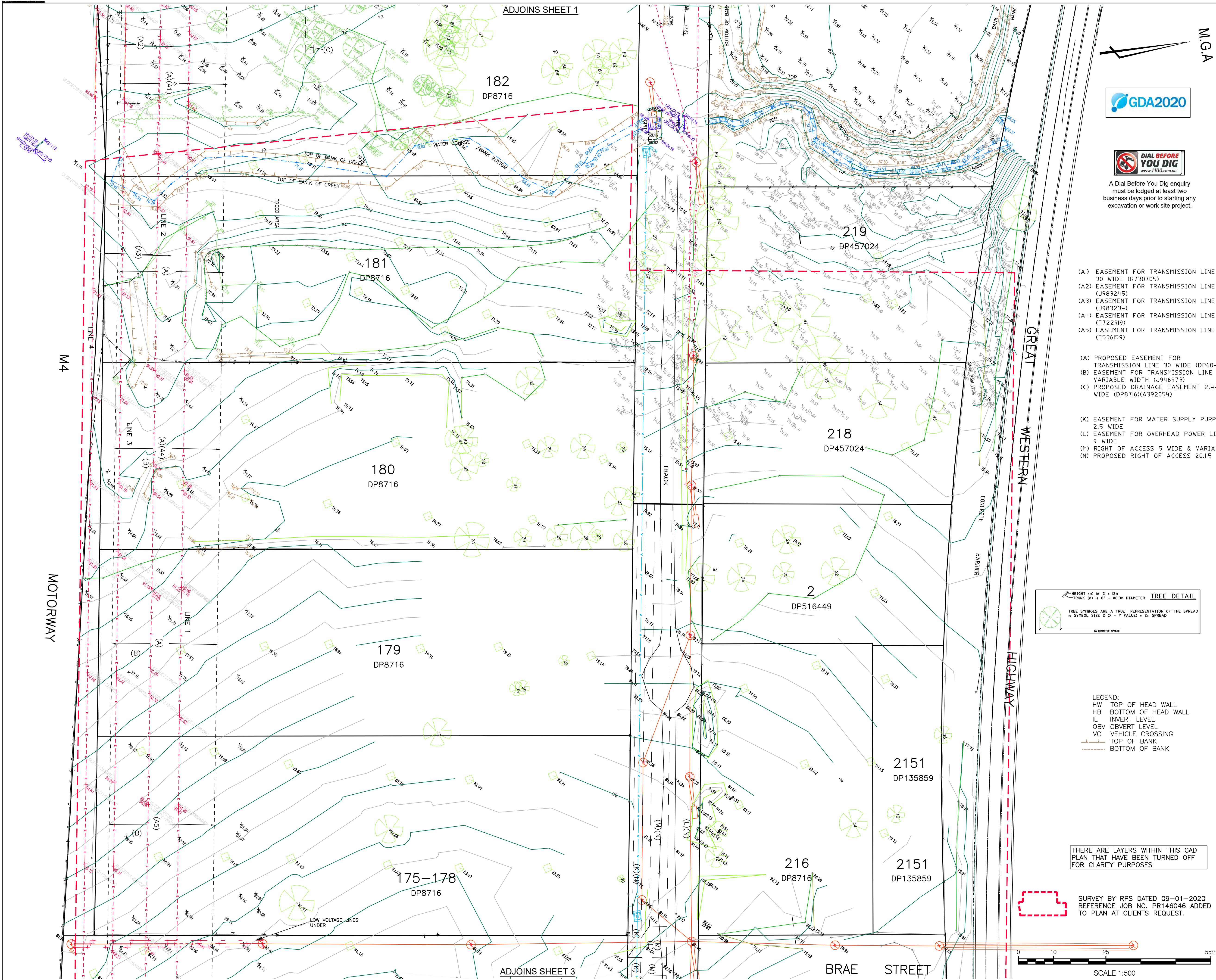
- LEGEND:
HW TOP OF HEAD WALL
HB BOTTOM OF HEAD WALL
IL INVERT LEVEL
OBV OVERT LEVEL
VC VEHICLE CROSSING
IP INSPECTION PIT
TW TOP OF WALL
BW BOTTOM OF WALL
TOP OF BANK
BOTTOM OF BANK

THERE ARE LAYERS WITHIN THIS CAD PLAN THAT HAVE BEEN TURNED OFF FOR CLARITY PURPOSES

SURVEY BY RPS DATED 09-01-2020
REFERENCE JOB NO. PR146046 ADDED TO PLAN AT CLIENTS REQUEST.



HEIGHT DATUM AHD	LOCAL AUTHORITY BLACKTOWN
HEIGHT ORIGIN SSM44285 RL 70.195	SCALE 1:500 (A1)
MERIDIAN MGA ZONE 56	CONTOUR INTERVAL 1.0 Metre
COORD SYSTEM GDA 2020	SURVEYOR BB/SA/MC/BL
COAD FILE 74904	DATE OF SURVEY 15/04/2020
AUTOCAD FILE SY074904.002.2.3	DATE 01/06/2022
ARCHIVE FILE SY074904.000.3	CHECKED BB/SA/MC
PLAN NUMBER SY074904.002.2.3	DATE 2/06/2022
	APPROVED GKO
	DATE 2/06/2022
	SHEET 1 OF 5



CLIENT

LOGOS
PROPERTY

PROJECT

DETAIL SURVEY
OF
FLUSHCOMBE ROAD,
AUGUSTA STREET &
LOT 1 DP835264, LOTS
218-219 DP457024, LOTS
168, 180-183 & 188 DP8716,
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▲	BM	BENCH MARK	■	OFD	OPTICAL FIBRE PIT
●	BO	BOLLARD	■	TDP	TELECOM DIST. PILLAR
■	DJM	DRAINAGE MANHOLE	■	TPL	TELECOM POLE
■	GUL	DRAINAGE GULLY PIT	■	TSP	TELECOM SINGLE PIT
■	ELP	ELEC GARDEN LIGHT	■	TTP	TELECOM TWIN PIT
■	EL	ELEC GREEN PILLAR	■	SLH	SEWER LAMP HOLE
■	LPL	ELEC LIGHT POLE	■	SMH	SEWER MANHOLE
■	EP	ELECT SINGLE PIT	■	SVP	SEWER VENT PIPE
■	SPL	ELEC STAY POLE	■	TM	PALM TREE
■	PP	ELEC POWER POLE	■	TS	SHRUB
■	PLP	POWER POLE/LIGHT	■	T	TREE
■	PTR	ELE POLE/TRANSFORM	■	CAM	SPEED CAMERA
■	ETP	ELEC TWIN PIT	■	SCL	TRAFFIC CONTROLLER
■	EFP	ELEC FUSE BOX	■	SJX	TRAFFIC JUNCTION BOX
■	GMR	GAS METER	■	SGL	TRAFFIC LIGHT
■	GS	GAS VALVE	■	BUS	BUS STOP SIGN
■	GM	GAS MAIN	■	SI	TRAFFIC SIGN
■	MBX	MAIL BOX	■	US	UNKNOWN SERVICE
■	BIN	BIN	■	WHY	WATER HYDRANT
■	BOR	BORHOLE	■	WMR	WATER METER
■	FD	FUEL DIP	■	WEP	WATER PUMP
■	SE	SEAT	■	WSV	WATER STOP VALVE
■	FLG	FLAG POLE	■	WAV	WATER AIR VALVE
■	AG	GATE	■	WTP	WATER TAP

SYMBOLS SHOWN ARE INDICATIVE ONLY. THE SYMBOL SIZE AND ORIENTATION DOES NOT NECESSARILY REPRESENT THE REAL SIZE OR ORIENTATION OF THE FEATURE.

DRAINAGE PIPE U/G	—
DRAIN	—
ELECT. CABLE A/G	—
ELEC. CABLE U/G	—
GAS PIPE	—
FENCE LINE	—
SEWERAGE PIPE	—
TELSTRA CABLE	—
WATER PIPE	—

LEGEND:

HW TOP OF HEAD WALL
HB BOTTOM OF HEAD WALL
IL INVERT LEVEL
OBV OBVERT LEVEL
VC VEHICLE CROSSING
TOP OF BANK
BOTTOM OF BANK

THERE ARE LAYERS WITHIN THIS CAD PLAN THAT HAVE BEEN TURNED OFF FOR CLARITY PURPOSES

SYMBOLS ARE A TRUE REPRESENTATION OF THE SPREAD
SYMBOL SIZE 2 (X - Y VALUE) = 2m SPREAD

SYDNEY OFFICE

Level 2, 23-29 South Street
Ryalmere NSW 2116
PO Box 1144
Dundas NSW 2117

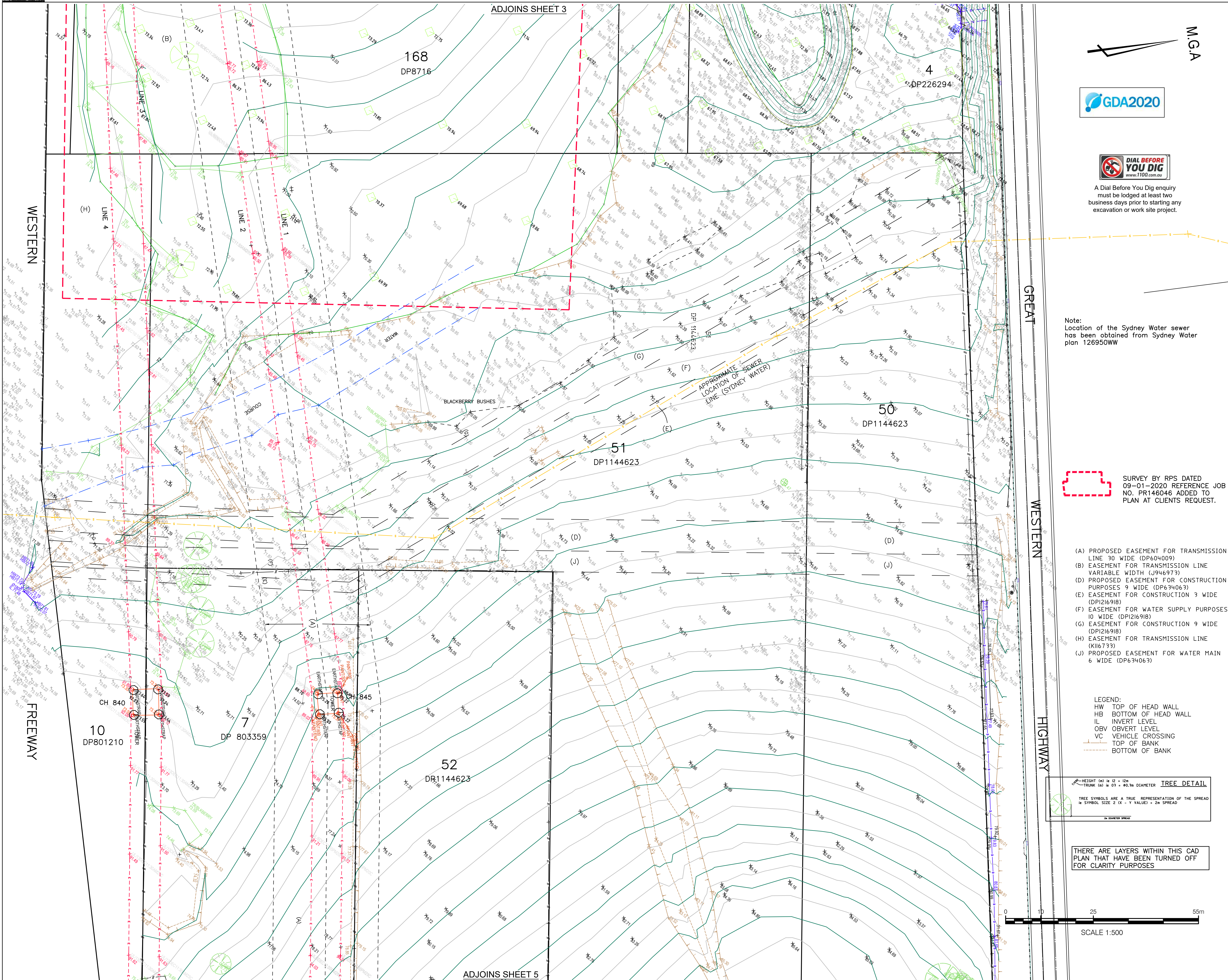
ISO 9001
Quality
Management
System

p: (02) 9685 2000
e: info@landpartners.com.au
www.landpartners.com.au

HEIGHT DATUM AHD	LOCAL AUTHORITY BLACKTOWN	
HEIGHT ORIGIN SSM44285 RL 70.195	SCALE 1:500 (A1)	
MERIDIAN MGA ZONE 56	CONTOUR INTERVAL 1.0 Metre	
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ARCHIVE FILE SY074904.000.3	APPROVED GKO	DATE 2/06/2022

PLAN NUMBER
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SHEET 2 OF 5



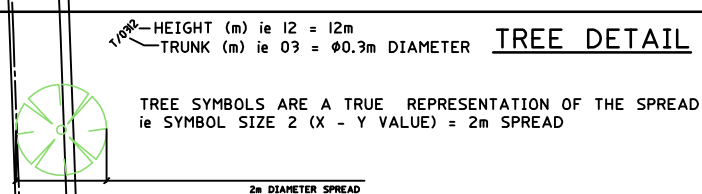
A Dial Before You Dig enquiry must be lodged at least two business days prior to starting any excavation or work site project.

Note:
Location of the Sydney Water sewer has been obtained from Sydney Water plan 126950WW

SURVEY BY RPS DATED 09-01-2020 REFERENCE JOB NO. PR146046 ADDED TO PLAN AT CLIENTS REQUEST.

- (A) PROPOSED EASEMENT FOR TRANSMISSION LINE 30 WIDE (DP604009)
(B) EASEMENT FOR TRANSMISSION LINE VARIABLE WIDTH (J946973)
(C) PROPOSED EASEMENT FOR CONSTRUCTION PURPOSES 9 WIDE (DP634063)
(D) EASEMENT FOR CONSTRUCTION 3 WIDE (DP126918)
(E) EASEMENT FOR WATER SUPPLY PURPOSES 10 WIDE (DP126918)
(F) EASEMENT FOR CONSTRUCTION 9 WIDE (DP126918)
(G) EASEMENT FOR TRANSMISSION LINE (K161733)
(H) PROPOSED EASEMENT FOR WATER MAIN 6 WIDE (DP634063)

LEGEND:
HW TOP OF HEAD WALL
HB BOTTOM OF HEAD WALL
IL INVERT LEVEL
OBV OBVERT LEVEL
VC VEHICLE CROSSING
TOP OF BANK
BOTTOM OF BANK



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CLIENT

LOGOS PROPERTY

PROJECT

DETAIL SURVEY OF FLUSHCOMBE ROAD, AUGUSTA STREET & LOT 1 DP835264, LOTS 218-219 DP457024, LOTS 168, 180-183 & 188 DP8716, LOTS 50-52 DP1144623, LOTS 4 & 5 DP226294, LOT 10 DP801210 & LOT 7 DP803359

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BO	BO	BOLLARD	TDP	TDP	TELECOM DIST PILLAR
DJM	DJM	DRAINAGE MANHOLE	TPL	TPL	TELECOM POLE
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EL	EL	ELEC GREEN PILLAR	SLH	SLH	SEWER LAMP HOLE
LPL	LPL	ELEC LIGHT POLE	SMH	SMH	SEWER MANHOLE
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SP	SP	ELEC STAY POLE	TM	TM	TREE
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PTR	PTR	ELE POLE/TRANSFORM	CAM	CAM	SPEED CAMERA
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EFP	EFP	ELEC FUSE BOX	SJX	SJX	TRAFFIC JUNCTION BOX
GMR	GMR	GAS METER	SGL	SGL	TRAFFIC LIGHT
GV	GV	GAS VALVE	BS	BS	BUS STOP SIGN
GM	GM	GAS MAIN	SI	SI	TRAFFIC SIGN
MBX	MBX	MAIL BOX	US	US	UNKNOWN SERVICE
BN	BN	BIN	WHY	WHY	WATER HYDRANT
BOR	BOR	BORHOLE	WMR	WMR	WATER METER
FD	FD	FUEL DIP	WEP	WEP	WATER PUMP
SE	SE	SEAT	WSV	WSV	WATER STOP VALVE
FLG	FLG	FLAG POLE	WAV	WAV	WATER AIR VALVE
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DRAINAGE PIPE U/G	---
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ELEC. CABLE U/G	---
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TELSTRA CABLE	---
WATER PIPE	---

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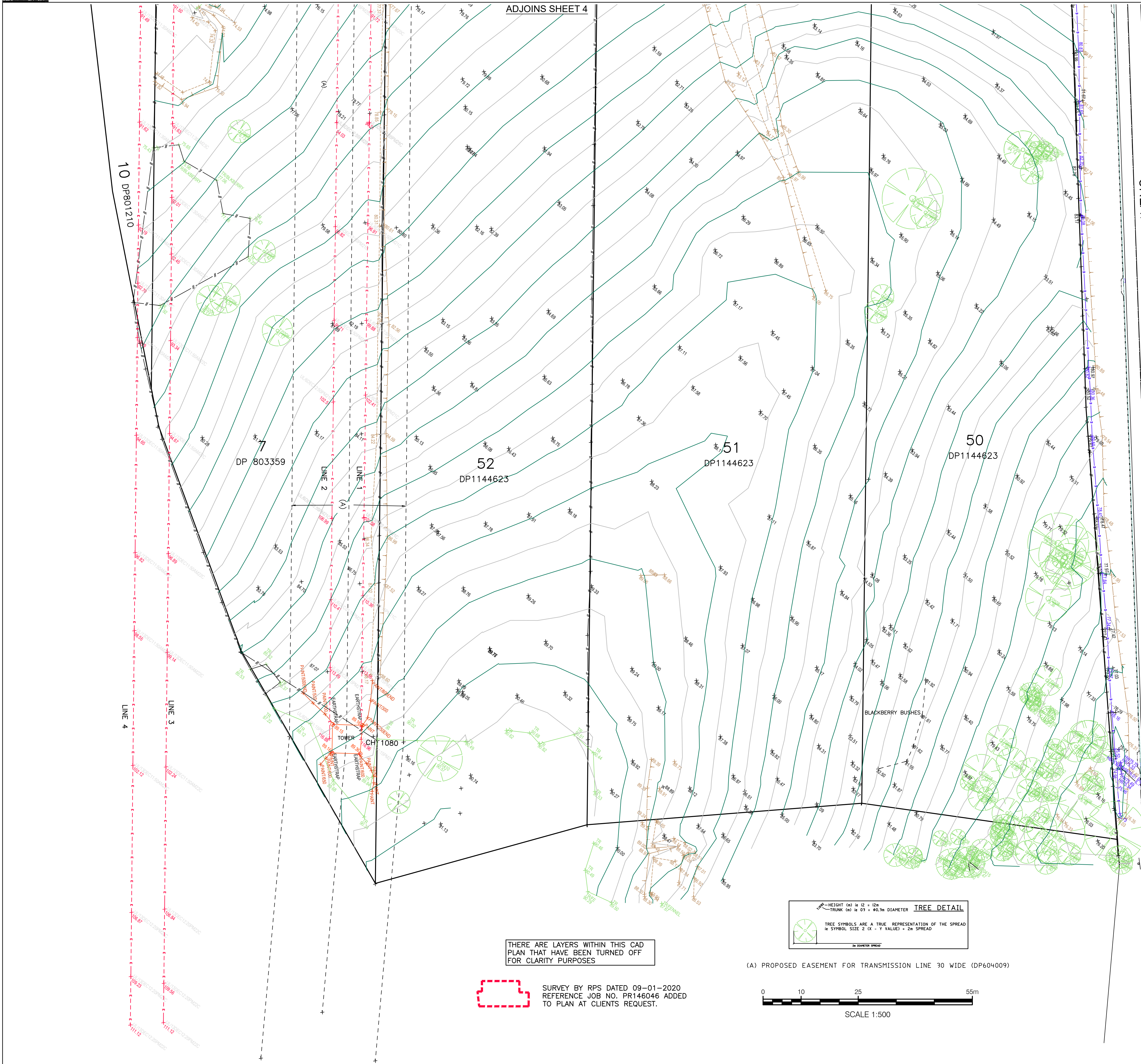
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HEIGHT DATUM AHD	LOCAL AUTHORITY BLACKTOWN	
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ARCHIVE FILE SY074904.000.3	APPROVED GKO	DATE 2/06/2022

PLAN NUMBER
SY074904.002.2.3

SHEET 4 OF 5



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A Dial Before You Dig enquiry must be lodged at least two business days prior to starting any excavation or work site project.

CLIENT

LOGOS PROPERTY

PROJECT

DETAIL SURVEY
OF
FLUSHCOMBE ROAD,
AUGUSTA STREET &
LOT 1 DP835264, LOTS
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■	GUL	DRAINAGE GULLY PIT
★	ELP	ELEC GARDEN LIGHT
★	EL	ELEC GREEN PILLAR
—	LPL	ELEC LIGHT POLE
○	EP	ELECT SINGLE PIT
○	SPL	ELEC STAY POLE
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—	PLP	POWER POLE/LIGHT
—	PTR	ELE POLE/TRANSFORM
—	ETP	ELEC TWIN PIT
—	EFP	ELEC FUSE BOX
—	GMR	GAS METER
—	GAS	GAS VALVE
—	GM	GAS MAIN
—	MBX	MAIL BOX
—	BIN	BIN
—	BOR	BOREHOLE
—	FD	FUEL DIP
—	SE	SEAT
—	FLG	FLAG POLE
—	AG	GATE
—	OFM	OPTICAL FIBRE MARKER
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—	TPL	TELECOM POLE
—	TSP	TELECOM SINGLE PIT
—	TTT	TELECOM TWIN PIT
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—	TM	PALM TREE
—	TS	SHRUB
—	T	TREE
—	CAM	SPEED CAMERA
—	SCL	TRAFFIC CONTROLLER
—	SJX	TRAFFIC JUNCTION BOX
—	SGL	TRAFFIC LIGHT
—	BUS	BUS STOP SIGN
—	SI	TRAFFIC SIGN
—	US	UNKNOWN SERVICE
—	WHY	WATER HYDRANT
—	WMR	WATER METER
—	WEP	WATER PUMP
—	WSV	WATER STOP VALVE
—	WAV	WATER AIR VALVE
—	WTP	WATER TAP

SYM	CODE	DESCRIPTION
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—	ELEC	ELEC. CABLE U/G
—	GAS	GAS PIPE
—	FENCE	FENCE LINE
—	SEWER	SEWERAGE PIPE
—	TELSTRA	TELSTRA CABLE
—	WATER	WATER PIPE

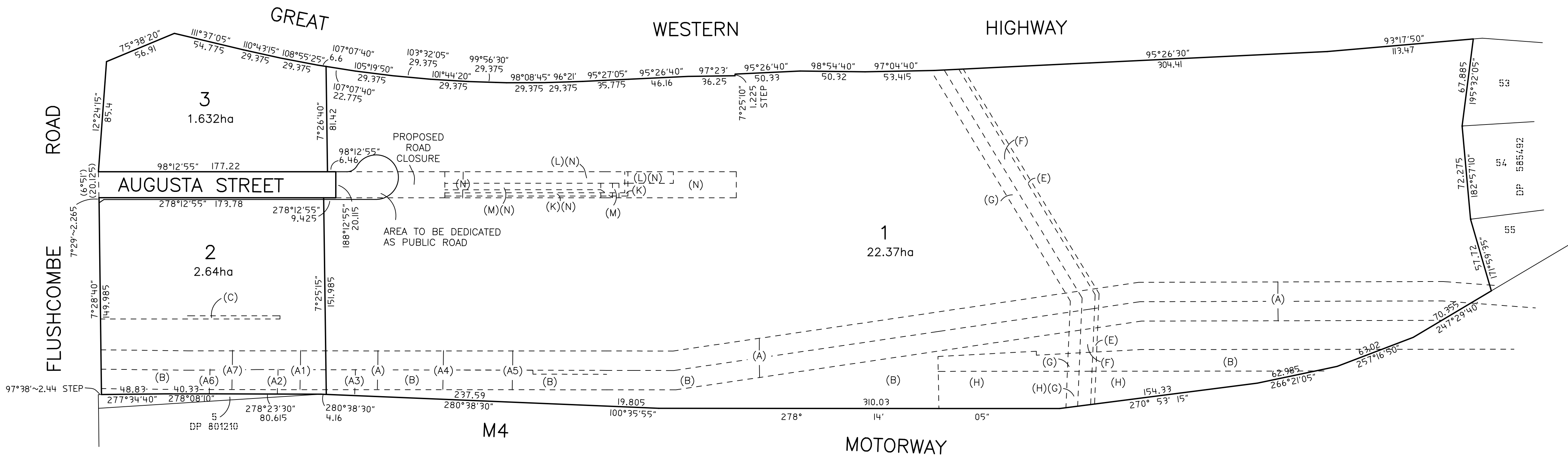
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PLAN NUMBER SY074904.002.2.3	SHEET 5 OF 5	

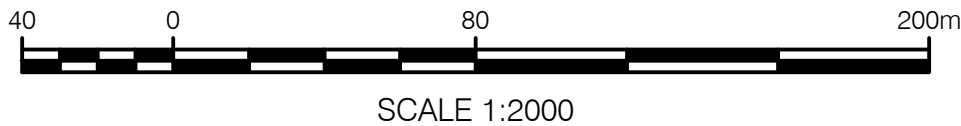
M.G.A



DISCLAIMER:—
ALL SHOWN HEREON DIMENSIONS ARE APPROXIMATE AND
SUBJECT TO FINAL SURVEY

- (A1) EASEMENT FOR TRANSMISSION LINE 30 WIDE (R730705)
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(A3) EASEMENT FOR TRANSMISSION LINE (J983234)
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(C) PROPOSED DRAINAGE EASEMENT 2.44 WIDE (DP8716)(A392054)
(E) EASEMENT FOR CONSTRUCTION 3 WIDE (DP1216918)
(F) EASEMENT FOR WATER SUPPLY PURPOSES 10 WIDE (DP1216918)
(G) EASEMENT FOR CONSTRUCTION 9 WIDE (DP1216918)
(H) EASEMENT FOR TRANSMISSION LINE (K116733)
(K) EASEMENT FOR WATER SUPPLY PURPOSES 2.5 WIDE
(L) EASEMENT FOR OVERHEAD POWER LINES 9 WIDE
(M) RIGHT OF ACCESS 5 WIDE & VARIABLE
(N) PROPOSED RIGHT OF ACCESS 20.115 WIDE



CLIENT

LOGOS

PROJECT

PLAN OF PROPOSED CONSOLIDATION OF LOTS 163,168-188 INCLUSIVE DP8716, LOT 216 DP8716, LOT 2 DP516449, LOT 2151 DP135859, LOT 1 DP119616, LOTS 4,5 & 6 DP226294, LOTS 50,51 & 52 DP1144623, LOT 7 DP 803359, LOTS 218-219 DP457024, LOT 1 DP835264 & LOTS 7-10 INCLUSIVE DP801210

NOTES

Tree sizes are estimates only.
Only visible services have been located in this survey.
Service and utilities shown on plan have been located by physical evidence on site only and may not have been opened to verify the type of utility.
Neither excavation nor potholing have been carried out to confirm underground location. Service details should be confirmed with the relevant service authority during design and prior to any construction.
All dimensions must be verified on site prior to any construction.
The position of surveyed data has been located and is shown to topographic accuracies. If clearances to boundaries or other features are critical and dimensions are not shown further survey may be required.
The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.
Any construction on or near boundaries will require further survey in order that marks defining boundaries can be placed.

4	GKO	28/07/2022	PROPOSED CUL-DE-SAC & ROAD WIDENING AREA
3	GKO	11/07/2022	LOTS 2 & 3 ADDED
2	GKO	11/07/2022	TELSTRA & COUNCIL LOTS INCLUDED
1	GKO	09/03/2022	INITIAL ISSUE



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HEIGHT DATUM AHD	LOCAL AUTHORITY BLACKTOWN		
HEIGHT ORIGIN N/A	SCALE 1:2000 (A1)		
MERIDIAN MGA ZONE 56	CONTOUR INTERVAL N/A		
CO-ORD SYSTEM GDA 2020	SURVEYOR N/A	DATE OF SURVEY ~	
CCAD FILE 74905.002 consolidation	DRAWN SF	DATE 28/07/2022	
AUTOCAD FILE SY074904.002.2.4	CHECKED GKO	DATE 28/07/2022	
ARCHIVE FILE	APPROVED GKO	DATE 28/07/2022	
PLAN NUMBER		SHEET 01 OF 01	
SY074904.002.2.4			

Appendix B Photographs

Photo 1 –	Photo 2
Photo 3 –	Photo 4 –

Photo 5 –	Photo 6 –
Photo 7 –	Photo 8 –

Photo 9 –	Photo 10 –
Photo 11 –	Photo 12 –

Photo 13 –	Photo 14 –
Photo 15 –	Photo 16 –

Appendix C LTEMP Record of Induction Form

Date	Name	Signature

Date	Name	Signature

Appendix D Capping Reinspection Register

DATE	AREA INSPECTED	COMMENTS	INSPECTING COMPANY AND PERSONNEL DETAILS	SITE LTEMP MANAGER SIGNATURE

DATE	AREA INSPECTED	COMMENTS	INSPECTING COMPANY AND PERSONNEL DETAILS	SITE LTEMP MANAGER SIGNATURE

Appendix E Asbestos Related Works Record

DATE	LOCATION OF WORKS	WORKS COMPLETED	ASBESTOS RELATED WORKS COMPLETED BY	CLEARANCE INSPECTION AND CERTIFICATE ISSUED?	ISSUER OF CLEARANCE CERTIFICATE	SITE LTEMP MANAGER SIGNATURE

DATE	LOCATION OF WORKS	WORKS COMPLETED	ASBESTOS RELATED WORKS COMPLETED BY	CLEARANCE INSPECTION AND CERTIFICATE ISSUED?	ISSUER OF CLEARANCE CERTIFICATE	SITE LTEMP MANAGER SIGNATURE

Appendix F Proposed Consolidated Lots

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Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Ruby Chapman / Julia Nicholson	Matthew Parkinson	Draft in anticipation of future remedial works	Draft for client review	1 July 2022
B	Julia Nicholson	Matthew Parkinson	Draft in anticipation of future remedial works	Draft for client review	22 July 2022
0	Chris Bielby	Greg Dasey (CEnvP)	Greg Dasey (CEnvP)		22 June 2023

