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2 O'GRADY STREET, UPPER MOUNT GRAVATT

ENGINEERING SERVICES REPORT

Prepared for Keylin UMG Pty Ltd

CIVIL 360 ENGINEERING

PROJECT MANAGEMENT
CIVIL ENGINEERING
LAND DEVELOPMENT

Civil360 Engineering Pty Ltd ABN 46 631 204 174

PO Box 360 ELANORA QLD 4221

Document Control

Name: David Holstein
Company: Civil360 Engineering Pty Ltd
ABN: 46 631 204 174
Address: PO Box 360, Elanora 4221
Mobile: +61 406 424 223
Email: info@civil360.com.au
Job No: 2026050

Version Register

Version #	Date of Revision	Prepared by	Reviewed by	Reason for revision	Authorised by
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Issue Register

Distribution List	Company	Address	Date Issued	Number of Copies
Marly Chan	Keylin Group	marly@keylin.com.au	22/10/2026	1
Brad Jones	Therefor Group	bjones@thereforgroup.com.au	22/10/2026	1

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1. INTRODUCTION

Keylin UMG Pty Ltd have commissioned Civil360 Engineering Pty Ltd to prepare this Engineering Services Report (ESR) for a proposed subdivision at Klumpp Road, Upper Mount Gravatt (The Site).

This document reports on both the existing infrastructure and proposed civil works associated with this proposed development in support of a Development Application.

This document should be read in conjunction with associated reports prepared by the project consultant team.

The report has been prepared to address and demonstrate compliance with:

- *Brisbane City Council – City Plan 2014 v23*
- *South East Queensland Design and Construction Code*
- *State Planning Policy 2016*
- *Engineering Best Management Practices*

1.1. Existing Site

The site is located within the Brisbane City Council local government area, approximately 10km south east of Brisbane City.

Site details can be viewed below in Table 1:

TABLE 1: EXISTING PROPERTY INFORMATION

Address	Description	Area (m^2)
787 Mains Road, Upper Mount Gravatt	**Lot 3 RP138498**	**73310m^2**
782 Mains Road, Upper Mount Gravatt	**Lot 2 RP138498**	**26590m^2**
166 MT Gravatt Road Upper Mount Gravatt	**Lot 1006 SL9128**	**4790m^2**
4A Cleary Street Upper Mount Gravatt	**Lot 84 RP123786**	**8m^2**
2 O'Grady Street Upper Mount Gravatt	**Lot 60 RP123786**	**569m^2**

Lot 84 RP123786 is an access restriction strip (ASR) which is to be replaced as road reserve.

Lot 2 RP138498, Lot 1006 SL9128 and 2 O'Grady Street will remain as separate individual allotments.

The site is triangular in shape and is bordered by Klumpp and Mains Road along the southern and western boundaries, unformed Mount Gravatt Road along the northern boundary, and existing properties (off O'Grady Street) to the east.

The development will become an extension to the existing Cleary Street.

The proposed area of development (i.e. Limit of Works Area shown on Civil360 sketch plan SK030 in Appendix C) generally falls toward Klumpp Road with average grades of ~15%, and levels ranging from RL.78.0m AHD at the northern end to RL.56.5 on the southern boundary adjacent Klumpp Road (behind proposed Lot 18).

There are existing properties along O'Grady Street that grade toward the subject site, although roofwater is connected to O'Grady Street.

Refer to the *Contour and Detail Survey (25-0597S-01)* prepared by Therefor Group in Appendix A for existing contours and detailed survey information.

Figure 1 (below) shows an arial view of the site.



FIGURE 1: AERIAL IMAGE OF THE SUBJECT SITE (SOURCE: NEARMAP 2026)

1.2. Proposed Site

The proposed development will result in 52 freehold lots plus a dedicated stormwater treatment lot (Lot 900).

The *Plan of Reconfiguration (25-0579P-01)* prepared by Therefor Group is included within Appendix B and shows a summary table of development.

All allotments will have direct access via the proposed new 14.0m wide public road. Lots 10 -13 will share a single access location off this road.

A 20m wide bushfire management zone is required at the rear of allotments backing onto retained vegetation areas.

Provision has been made for access (easement) to Klumpp Road from Cleary Street through private properties. An access easement is also required over proposed Lot 12 in favour of proposed Lot 11.

The stormwater treatment areas have been located and designed to allow stormwater (detention and quality treatment) to occur with no adverse impacts on adjacent properties or Klumpp Road.

Concept civil design plans, including concept bulk earthworks (including slope analysis & sections), stormwater treatment, roadworks and drainage, and servicing plans prepared by Civil360 are included in Appendix C.

2. EARTHWORKS

2.1. Earthworks

The proposed earthworks to be undertaken within the subject site are shown on Civil360 sketch plans *SK200 – Concept Earthworks Plan*, *SK210 – Concept Earthworks Slope Analysis Plan* and *SK220 – Concept Earthworks Sections* within Appendix C.

These plans show proposed finished surface contours as well as spot levels for the development.

The extent of proposed earthworks disturbance over the subject site indicates a cut to fill volume of approximately 22,000 m^3 (factored) and 8,000m^3 of fill to be imported to site.

All allotments will be designed with (minimum 0.8%) grade toward the proposed new internal road. All flows and subsoil drainage will be directed to a lawful point of discharge

Retaining walls are required to take up natural site grades and to create suitable allotments. A combination of single tier and double tier walls are proposed.

All retaining walls will comply with BCC City Plan Section 8.5 design specifications, design life and durability. Retaining walls will be designed and certified by an RPEQ structural engineer specialising in design of retaining structures.

Both single and dual tier retaining walls (including all associated footings and drainage material) will be located entirely within the boundaries of the subject site and will be located on the low side lot except along the frontage of Klumpp Road and the proposed stormwater basin, where planting is proposed to assist in screening these proposed walls. Walls along the existing (eastern) boundary will be offset to allow drainage and separation from existing structures (such as fences, retaining walls etc).

Retaining wall types are shown on Civil360 sketch plans *SK200 – Concept Earthworks Plan* and *SK100 Typical Details.*

The presence of acid sulfate soils is typically in Holocene sediments below R.L. 5 mAHD. As the existing site levels are above R.L.56 mAHD and no excavation is proposed below this level, the presence and management of acid sulfate soils during construction activities will not be required.

All earthworks filling to allotments will be carried out under Level One Geotechnical Supervision in accordance with the requirements of AS3798 *Guidelines on Earthworks for Commercial and Residential Developments.* Only clean fill will be used and any unsuitable materials will be removed from the site.

Preparatory works associated with site works and earthworks will include the following:

- Removal of fencing, existing structures and other debris as necessary;
- Pegging and review of all road centrelines & property positions prior to any works commencing on site;
- Stripping and grubbing of areas to be earthworked;
- Removal of topsoil materials and stockpile for re-spreading and stabilisation of completed earthwork areas; and
- Excavation, placement and compaction of earthworked material to designated areas.

2.2. Erosion and Sediment Control

Erosion, sediment and dust control measures will be implemented in accordance with the *Best Practice Erosion and Sediment Control (IECA 2008) Guidelines.*

Appendix D includes a completed BCC Erosion Hazard Assessment Form for the site. The site has been classified as a 'high' risk site for erosion and sediment control.

A stabilised shakedown device will be installed at the construction entry/exit location(s).

Sediment fences will be placed at the base of all imported materials on site to prevent sediment runoff.

A Type 1 sediment basin will be required during construction.

All contaminated water discharged from the site will be treated to achieve the water quality objectives within the State Planning Policy (SPP 2017) and BCC guidelines.

Routine erosion and sediment control inspections will occur regularly to ensure adequate erosion control measures are in place and in working condition during construction and until the site is considered 'stabilised'. Inspections will also take place after each storm event to assess the adequacy of the controls in place.

3. ROADWORKS

Details of proposed roads within the development are included within Civil360 Engineering plans in Appendix C.

Cleary Street will be extended as a 7.5m pavement width within a 15.2m wide road reserve. It is proposed that the internal allotments will be accessed via this Cleary Street extension with the construction of a new local street (Road 1) with 5.5m pavement width within a 14.0m wide road reserve.

The proposed road layout and typical road sections have been included in Civil360 sketch plans *SK300 – Concept Roadworks and Drainage Plan, SK310 – Concept Road Longitudinal Sections* and *SK100 Typical Details.*

A 1.2m wide footpath is proposed along the length of Road 1. This footpath will connect to an extension of the existing footpath in Cleary Street.

Roads have been graded to comply with BCC design standards.

Cleary Street extension is designed to follow the existing road surface with grades of 16.5% (max). The vertical curves on this road have been designed to match the existing surface and to allow a sag at the intersection of Road 1.

The Road 1 longitudinal grades vary from 1.5% to 14.5% (max). The low point (sag) of this Road 1 is located adjacent the proposed stormwater treatment basin access location. A 3.0m wide concrete driveway will be provided to access the treatment area and will also act as a overland flow path for major flows.

Road 1 has been designed with 40m (min) vertical curves and minimum horizontal curve radii of 12.75m in accordance with BCC standards for this type of road. Tight horizontal curves have been utilised to act as a speed control feature within the proposed subdivision.

Lots 10 – 13 will have shared access driveway. Bin pads will be provided for Lots 11, 12 & 13.

4. STORMWATER

4.1. Topography and Site Drainage

The subject site can be split into four (4) distinct catchments with three (3) external catchments of ~1Ha contributing flow to the site as shown below:

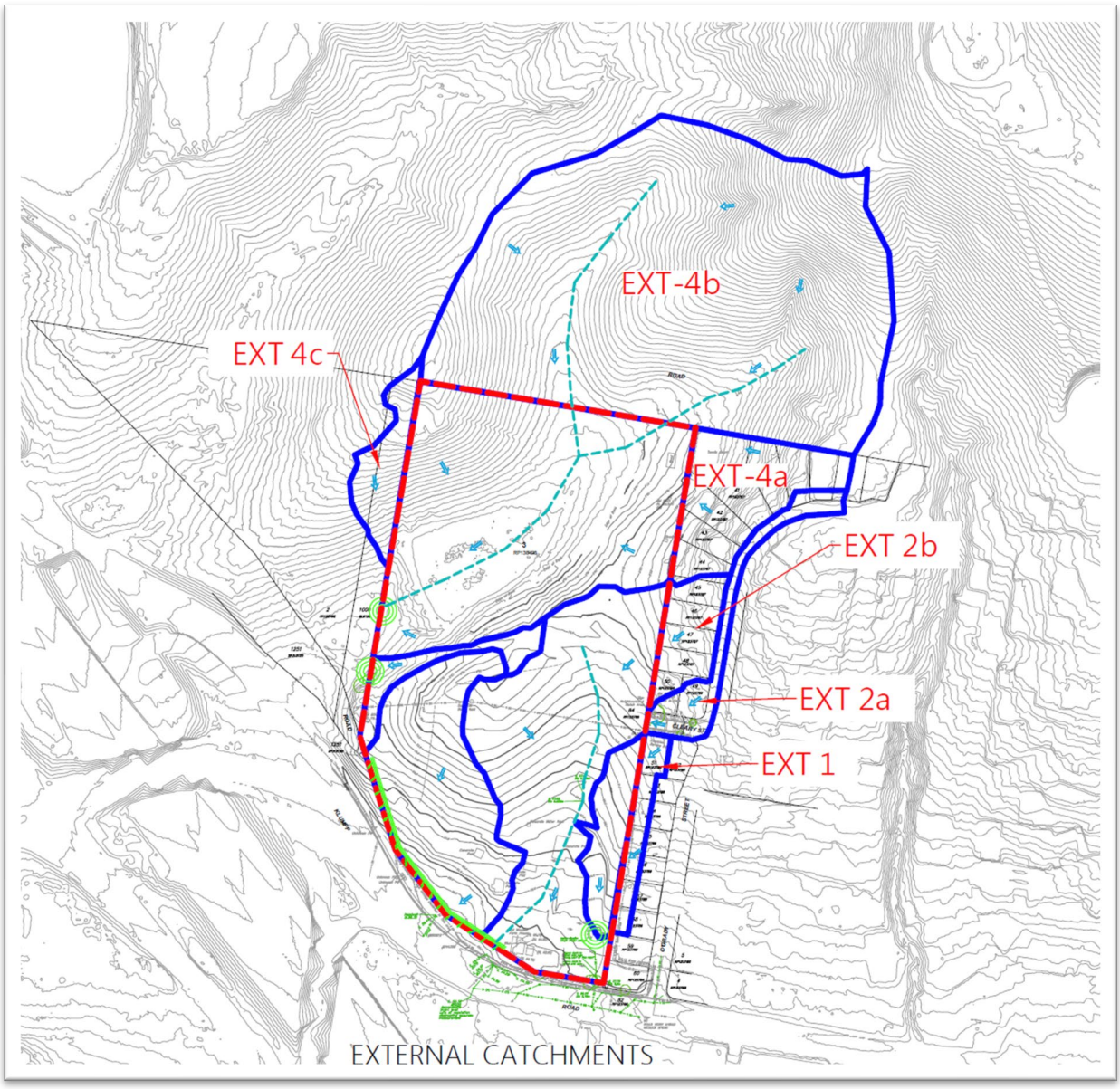


FIGURE 2: EXTRACT BIOME CONSULTING CONCEPTUAL STORMWATER MANAGEMENT PLAN – EXISTING CATCHMENTS

Level II inter-allotment drainage including cut off drains will be provided along the eastern boundary to control water from this external catchment through the subject site. Refer to Civil360 sketch plan *SK100 Typical Details* showing integrated stormwater and Type 2 retaining walls along the eastern boundary. Minor flows will be captured via catch drains and piped to the lawful point of discharge.

There is existing stormwater infrastructure located within the south-east corner of the development site which will continue to be utilised for discharge of stormwater to Klumpp Road. For further details of this existing infrastructure, refer to Appendix A for *Contour and Detail Survey (25-0597S-01)* prepared by Therefor Group.

All proposed lots will grade to Road 1 and roofwater from future dwellings will be connected directly to the street.

Stormwater drainage will be conveyed via kerb and channel flow and piped underground drainage to discharge at the proposed stormwater treatment area located in Lot 900. The piped drainage system for this low density residential development will convey (39% AEP) minor flows, with the road suitable to convey (2% AEP) major flow. Major flows in excess of the 2% AEP or during blocked case will also be considered during detailed design to ensure no actionable nuisance occurs to existing or proposed properties.

Stormwater will ultimately discharge to Klumpp Road as outlined in the Biome Consulting *Conceptual Stormwater Management Plan for 787 Mains Road, Upper Mount Gravatt* (BC-26129) dated August 2026 (CSMP).

The concept stormwater drainage layout for the proposed development is shown on Civil360 sketch plan *SK300 – Concept Roadworks and Drainage Plan.*

All stormwater drainage will be designed to comply with the BCC Infrastructure Design Planning Scheme Policy.

4.2. Lawful Point of Discharge

The lawful point of discharge for the subject development site is Klumpp Road. Refer to Biome Consulting CSMP for further discussion regarding lawful point of discharge.

4.3. Stormwater Quality and Quantity

Stormwater quantity and quality have been addressed within the Biome Consulting CSMP.

A combined bio-retention/ detention basin is proposed within Lot 900. This stormwater treatment basin has been designed with irregular shape (for character) and detention basin floor will have 1% (min) grade to self-drain. More than 30% of the basin has internal batters < 1V:6H.

Retaining walls and batters are required to facilitate a basin on the steep sloping land. Proposed retaining walls are located within private property (where possible). A retaining wall is required along the eastern edge of the basin to facilitate the future sewer connection in that location. Safety barrier fencing will be provided on top of retaining walls.

4.4. Flooding and Waterways

According to BCC City Plan Maps, the Flood hazard trigger for Brisbane River, creek/waterway and overland flow does not affect the subject site (as seen below). As such, this requires no further assessment.

The proposed development works are outside the mapped local waterway extents.

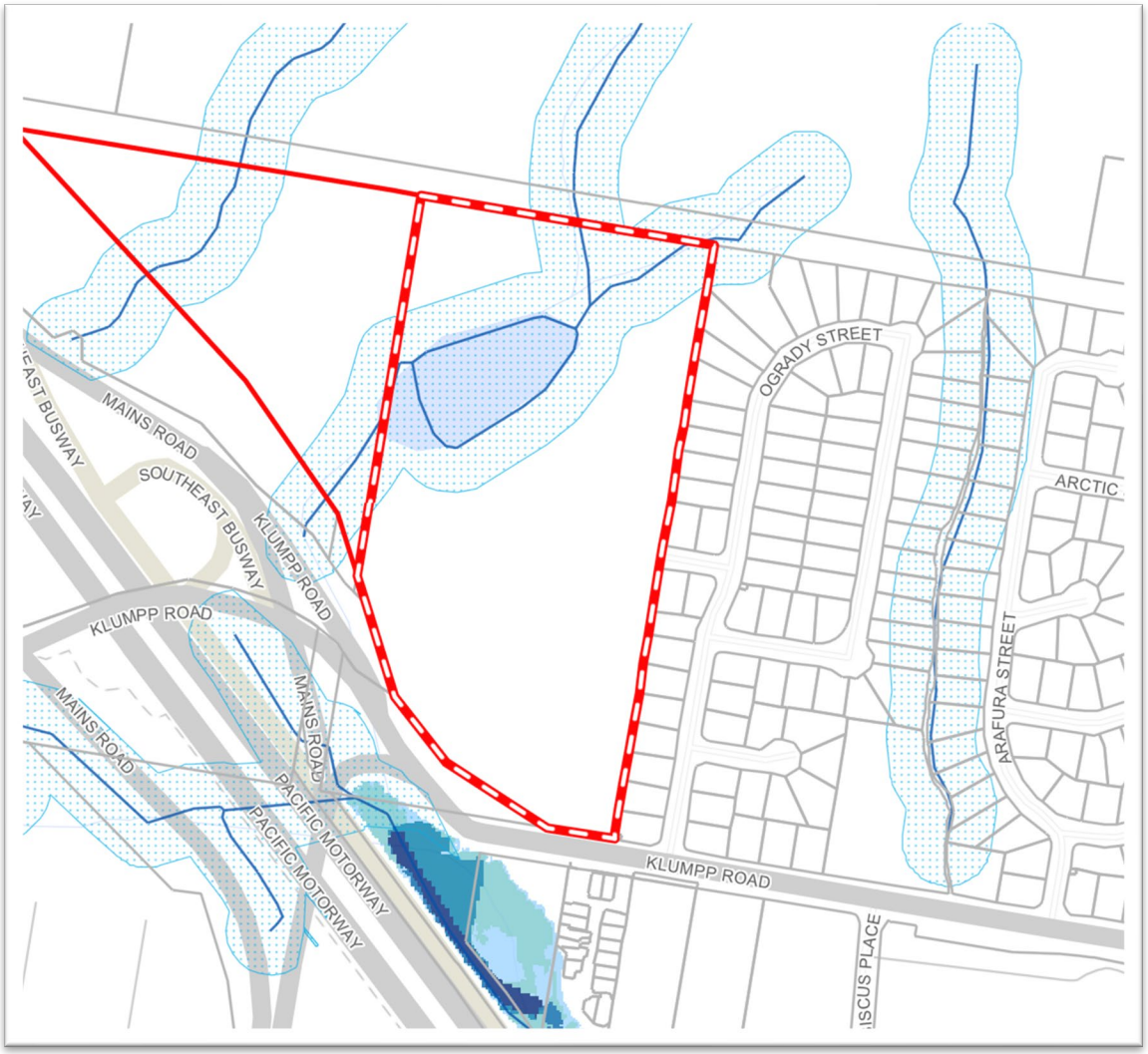


FIGURE 3: CITY PLAN MAPPING FLOOD INDICATORS (SOURCE: BCC)

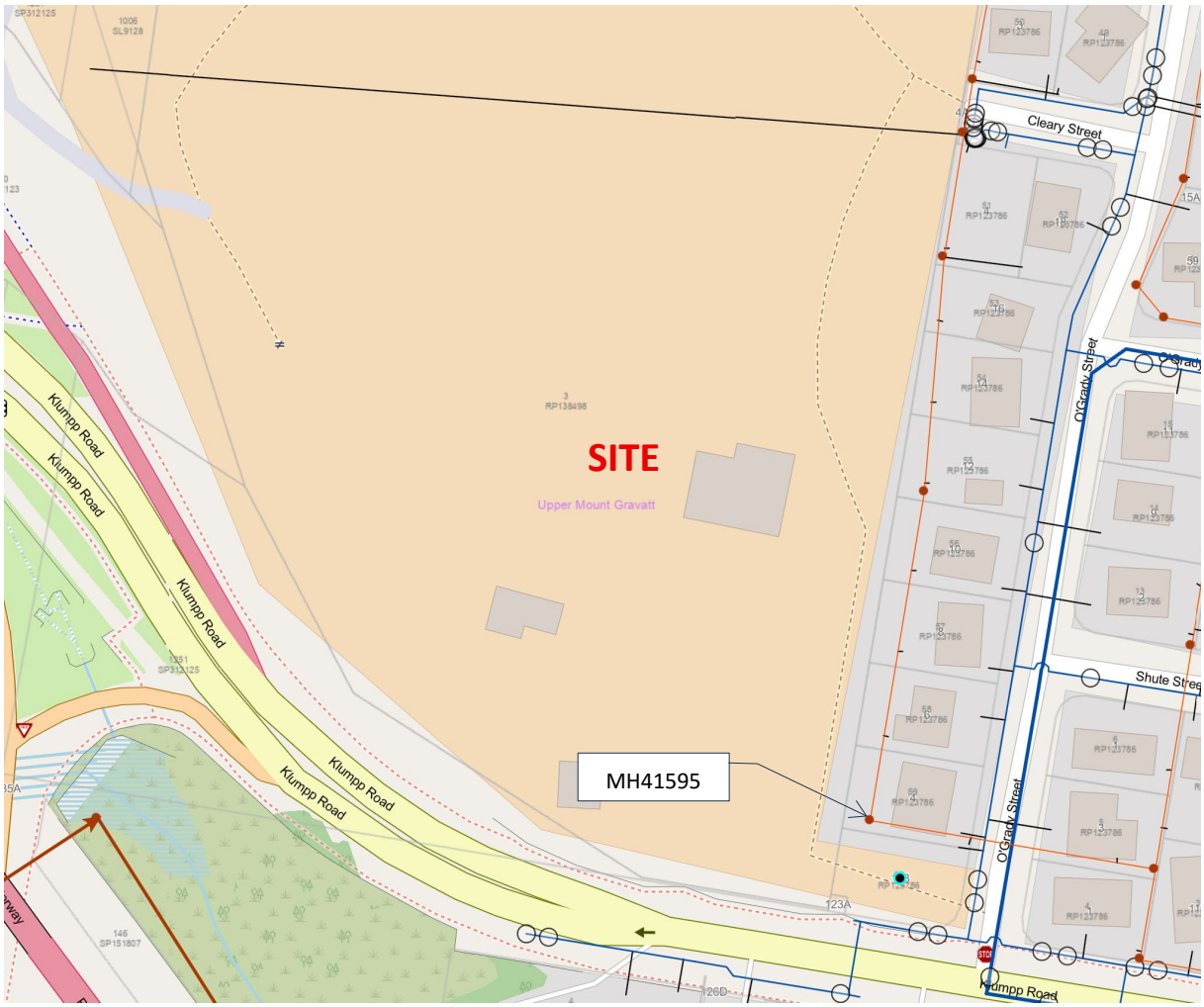
5. UTILITIES

5.1. Sewerage

The subject site will be serviced using a standard DN160PE gravity sewer reticulation system and located in the standard BCC service alignment for sewer within the road reserve.

The design and construction of the Urban Utilities wastewater infrastructure will be in accordance with Urban Utilities requirements, including but not limited to the *SEQ Water Supply and Sewerage Design and Construction Code* (SEQ WS&S D&C Code, 2020), or current equivalent.

The proposed connection location for the gravity sewer is an existing sewer manhole within the south-west corner of 4 O'Grady Street (MH41595).



Refer Civil360 sketch plan *SK500 - Concept Sewer and Water Plan* in Appendix C for concept sewer layout.

A Non-Standard (Major Works) Water Connection application will be lodged for the proposed sewerage works, with the final alignment and design grading of the sewer reticulation to be determined during the detail design phase.

5.2. Water

An existing 150mm dia DI water main is located on southern verge of Cleary Street. It is proposed to extend this main and provide a loop around Road 1. The main will be located in the standard BCC service alignment for water within the road reserve.

A drinking water connection and meter will be provided off this new main for each individual allotment.

The design and construction of the Urban Utilities water infrastructure required for the proposed development is to be provided in accordance with Urban Utilities requirements, including but not limited to the *SEQ Water Supply and Sewerage Design and Construction Code* (SEQ WS&S D&C Code, 2020), or current equivalent.

Refer Civil360 sketch plan *SK500 - Concept Sewer and Water Plan* in Appendix C for concept water layout.

A Non-Standard (Major Works) Water Connection application will be lodged for the proposed water reticulation, with the final main diameter and design to be determined during the detail design phase.

5.3. Electricity, NBN, Communications

Existing underground and aboveground electrical and NBN infrastructure is located within the adjacent road verges. Refer to DBYD plans in Appendix E.

Electricity and telecommunications infrastructure will be made available from the appropriate authorities for connection of each allotment within the proposed development.

A new pad mount transformer (PMT) is proposed opposite Lot 48.

5.4. Gas

Gas is not available adjacent to the site and is not proposed for this development.

5.5. Refuse Waste

All allotments proposed to be serviced with kerbside collection of 2 x 240L bins in accordance with Brisbane City Council standards.

Bin pads will be provided for Lots 11, 12 & 13.

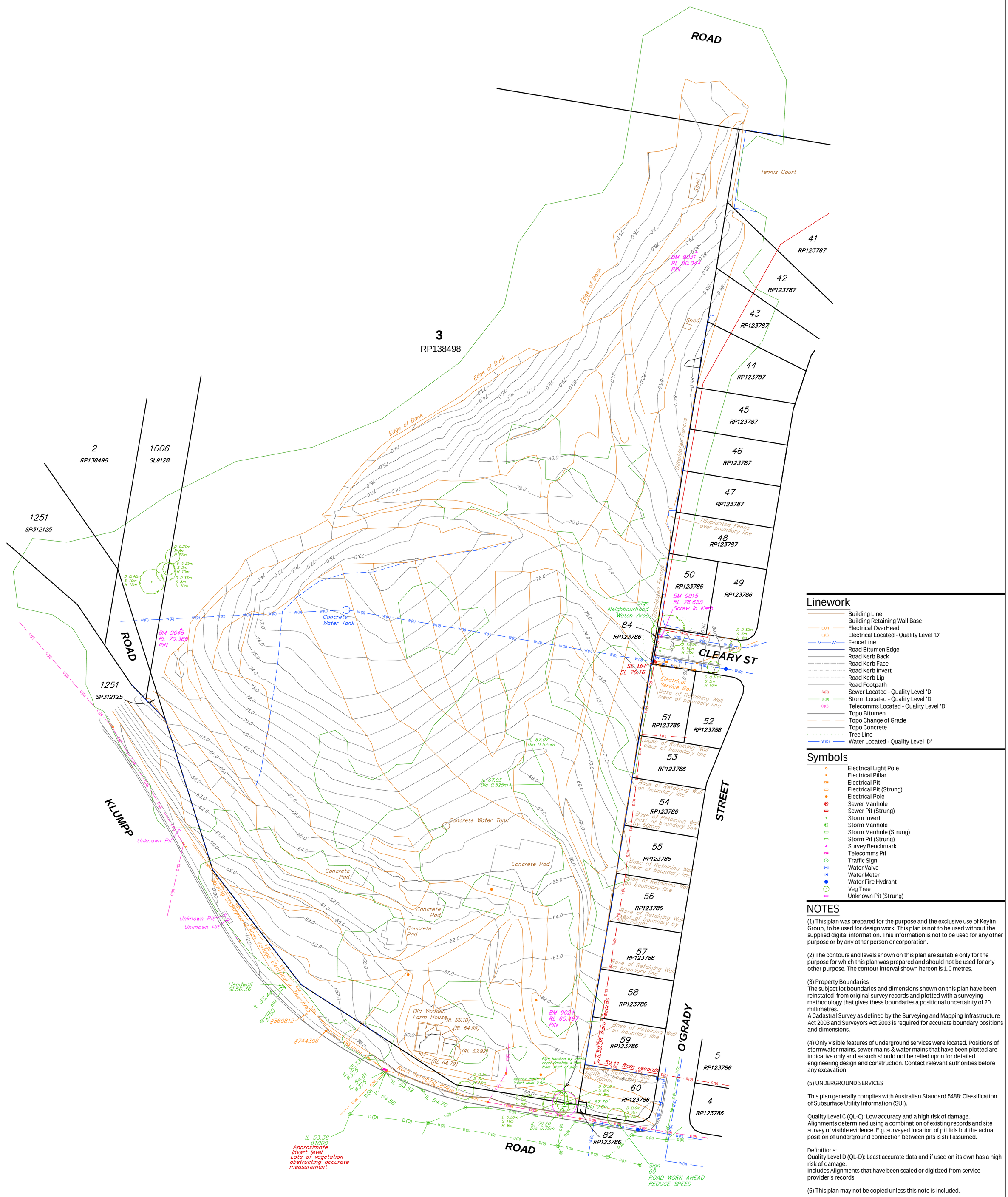
6. CONCLUSION

There are no major engineering constraints at the subject site that would impede the proposed development.
Connection locations are available at or near the frontage of the site for all essential services and non-essential services.
All works required to construct the proposed development can be undertaken with traditional and accepted methods and suitable environmental controls can be implemented as required.

Refer to the following reports for further detail than discussed herein.

- Biome Consulting *Conceptual Stormwater Management Plan for 787 Mains Road, Upper Mount Gravatt* (BC-26129) dated August 2026 (CSMP)

APPENDIX A CONTOUR AND DETAIL SURVEY



Linework

- Building Line
- Building Retaining Wall Base
- Electrical OverHead
- Electrical Located - Quality Level 'D'
- Fence Line
- Road Bitumen Edge
- Road Kerb Back
- Road Kerb Face
- Road Kerb Invert
- Road Kerb Lip
- Road Footpath
- Sewer Located - Quality Level 'D'
- Storm Located - Quality Level 'D'
- Telecomms Located - Quality Level 'D'
- Topo Bitumen
- Topo Change of Grade
- Topo Concrete
- Tree Line
- Water Located - Quality Level 'D'

Symbols

- Electrical Light Pole
- Electrical Pillar
- Electrical Pit
- Electrical Pit (Strung)
- Electrical Pole
- Sewer Manhole
- Sewer Pit (Strung)
- Storm Invert
- Storm Manhole
- Storm Manhole (Strung)
- Storm Pit (Strung)
- Survey Benchmark
- Telecomms Pit
- Traffic Sign
- Water Valve
- Water Meter
- Water Fire Hydrant
- Veg Tree
- Unknown Pit (Strung)

NOTES

(1) This plan was prepared for the purpose and the exclusive use of Keylin Group, to be used for design work. This plan is not to be used without the supplied digital information. This information is not to be used for any other purpose or by any other person or corporation.

(2) The contours and levels shown on this plan are suitable only for the purpose for which this plan was prepared and should not be used for any other purpose. The contour interval shown hereon is 1.0 metres.

(3) Property Boundaries
The subject lot boundaries and dimensions shown on this plan have been reinstated from original survey records and plotted with a surveying methodology that gives these boundaries a positional uncertainty of 20 millimetres.
A Cadastral Survey as defined by the Surveying and Mapping Infrastructure Act 2003 and Surveyors Act 2003 is required for accurate boundary positions and dimensions.

(4) Only visible features of underground services were located. Positions of stormwater mains, sewer mains & water mains that have been plotted are indicative only and as such should not be relied upon for detailed engineering design and construction. Contact relevant authorities before any excavation.

(5) UNDERGROUND SERVICES

This plan generally complies with Australian Standard 5488: Classification of Subsurface Utility Information (SUI).

Quality Level C (QL-C): Low accuracy and a high risk of damage.
Alignments determined using a combination of existing records and site survey of visible evidence. E.g. surveyed location of pit lids but the actual position of underground connection between pits is still assumed.

Definitions:
Quality Level D (QL-D): Least accurate data and if used on its own has a high risk of damage.
Includes Alignments that have been scaled or digitized from service provider's records.

(6) This plan may not be copied unless this note is included.

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0 15 30 45 60 75m

SCALE 1:750 @A1

therefor GROUP

CLIENT
Keylin Group

PROJECT
2 O'Grady Street
Upper Mount Gravatt

PROJECT NO.
25-0597S

DRAWING NAME
Contour and Detail Survey

Local Authority: Brisbane City Description: Lot 3 on RP138498
Level Datum: PM115886 RL52.488 Origin: AHD
Co-ord System: GDA2020 Plane

REVISION TABLE

REV	DESCRIPTION	DRAWN	APPROVED	DATE
A	Original Issue	JC	PE	20-05-2026
B	Added SW and Ret Wall	PE	PE	11-06-2026
C	Tree Trunks added	YL	PE	06-08-2026
D	SW and Trees added	YL	PE	26-08-2026
E	SW pipe amended	YL	PE	15-09-2026

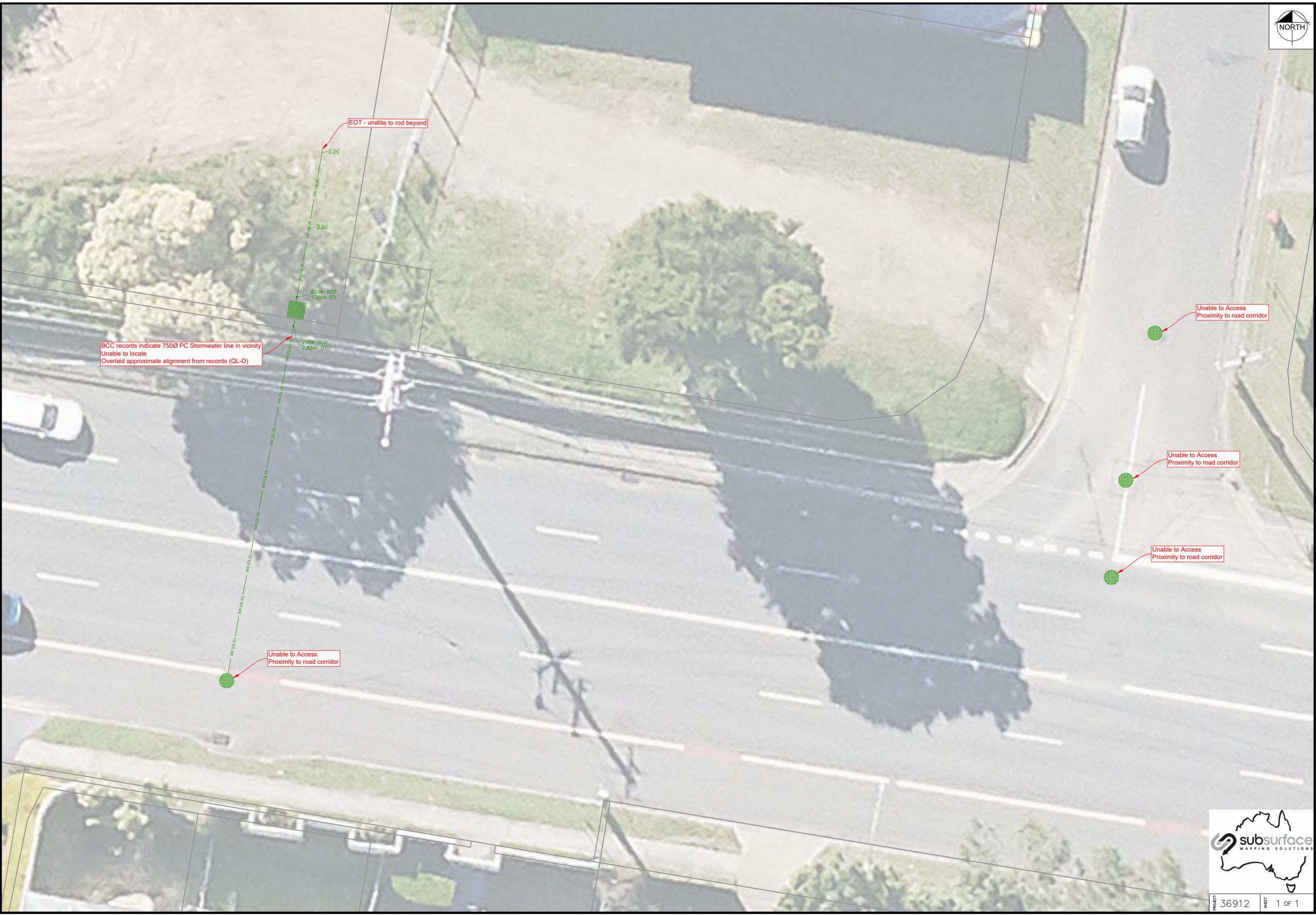
DRAWING NO.
25-0597S-01
SHEET NO.
1 of 1
REVISION
E

NORTH

Locate Report

Address:	2 O'Grady Street
	Upper Mount Gravatt QLD 4122
Client:	Therefor Group Pty Ltd
Date:	25-Aug-2026
Project Number:	36912
BYDA:	53963762
Prepared By:	Zac Arena Foster

admin@subsurfacems.com.au | ABN 94 645 261 141 | 0408 839 723


NORTH
EOT - unable to rod beyond
2.2m
SW (QL-B)
2.2m
SW (QL-B)
600ø RCP
1.38m DTI
750ø RCP
2.85m DTI
BCC records indicate 750Ø PC Stormwater line in vicinity
Unable to locate
Overlaid approximate alignment from records (QL-D)
SW (QL-D)
SW (QL-D)
SW (QL-D)
SW (QL-D)
SW (QL-D)
Unable to Access
Proximity to road corridor
Unable to Access
Proximity to road corridor
Unable to Access
Proximity to road corridor
Unable to Access
Proximity to road corridor
subsurface
MAPPING SOLUTIONS
PROJECT 36912
SHEET 1 OF 1

CLASSIFICATION OF SUBSURFACE UTILITY INFORMATION (SUI) [AS5488.1:2022 AUSTRALIAN STANDARD]

Subsurface Mapping Solutions (SMS) work to the Australian Standard AS5488.1:2022 for all on site locating, marking and classification of subsurface utilities represented on digital drawings & reports. We have outlined some of the key points from AS5488 below, for full explanation and clarification you must read the complete standard.

While the depiction and location of subsurface utilities and related asset information may appear in as-built records, due to the lack of historical evidence, utility information and locations may not be exactly shown or the records may not fully account for all the buried utility systems.

The objective of this standard is to provide a framework for the classification of subsurface utility infrastructure based on location (ie the act or method of detecting the utility), position (ie the spatial information or coordinates of that utility) and attribute information from which specified quality level are assigned for the management of subsurface utilities.

Quality Level A

Quality Level A (QL-A) is the highest quality level with the best confidence. QL-A information consists of the positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. Quality Level A is the only quality level that defines a subsurface utility as validated. Generally QL-A is assigned to a point rather than line segment except where fully exposed along its length.

Spatial positioning tolerance:

- Horizontal = ±50mm
- Vertical = ±50mm

Examples

Obtained by potholing, sighted exposed section of pipe (eg visible in manhole)

Quality Level B

Quality Level B (QL-B) provides relative subsurface feature location in three dimensions by tracing or physical measurement that does not satisfy the spatial tolerance of Quality Level A. QL-B information is compiled using electronic detection, it is only an indication of the existence of subsurface utilities and should not validate the utility location or attributes.

Spatial positioning tolerance:

- Horizontal = ±300mm
- Vertical = ±500mm

Examples

Survey measurement that does not satisfy QL-A, tracing subsurface utilities that allow for inducing an electromagnetic current (e.g. electricity cable, communication cable & metallic water pipe).

Quality Level C

Quality Level C (QL-C) is described as a surface feature correlation or and interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records (and/or anecdotal evidence), a site survey of visible evidence, and/or methods to indicate the existence of an undefined entity. QL-C information is compiled from field observations and/or survey of surface features indicating that a utility line may reside in the proximity. A utility line may be offset from the surface feature and not necessarily directly below it.

Spatial positioning tolerance:

- Horizontal = ±300mm
- Vertical = none

Examples

Horizontal alignment interpolated between surface features (eg projected between manholes), acoustic thumping, photographic, Ground Penetrating Radar (GPR) image.

Quality Level D

Quality Level D (QL-D) is the lowest of the four quality levels with the least confidence. QL-D information does not encompass any field verification involving direct measurement and as such may only be considered to be a broad indication of the location and type of utility.

Spatial positioning tolerance:

- Horizontal = none
- Vertical = none

Examples

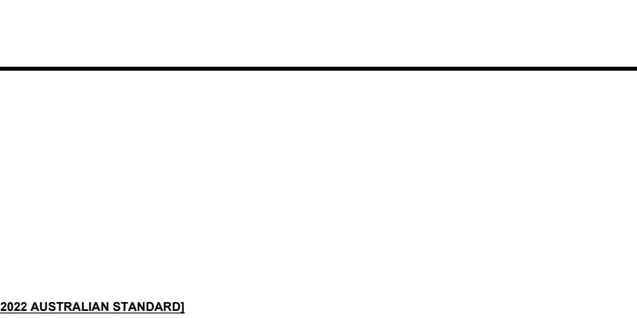
BYDA inquiry, utility owner's records, design plans, as-built or work-as-executed plans, engineering mark ups, existing survey plan information, GIS database, anecdotal evidence, cursory site inspection.

Note

Varying quality levels – quality levels may change on separate sections of a single subsurface utility.

UTILITY SYMBOLS

	Pothole trench outline
	Pothole ID
	Located depth (colour coded to utility type)
	Communication pit/manhole
	Communication pillar
	Communication phonebox
	Communication CCTV camera
	Communication marker post/plaque
	Communication elevated joint
	Electricity pit/manhole
	Electricity pillar
	Electricity lightpole
	Powerpole
	Electricity GPO
	Traffic signal
	Electricity marker post/plaque
	Electricity earth
	Gas pit/manhole
	Gas meter
	Gas valve
	Gas tracepoint
	Gas marker post/plaque
	Recycled Water pit/manhole
	Recycled Water tap
	Recycled Water valve
	Recycled Water marker post/plaque
	Recycled Water sprinkler
	Sewer pit/manhole
	Sewer grated trap
	Sewer inspection opening (IO)
	Sewer valve
	Sewer marker post/plaque
	Unknown pit/manhole
	Unknown valve
	Stormwater pit/manhole
	Stormwater grated pit



LONGITUDINAL SECTION

UTILITY TYPE CODE AND LINE COLOUR

The below indicates the utility type code and line colour for each subsurface utility type according to AS5488.1:2022.

"X" QL-"X"
Utility type
Quality Level

Utility Type		Quality Level	
C	Communications	QL-A	±50mm horizontal and vertical
SW	Stormwater	QL-B	±300mm horizontal, ±500mm vertical
E	Electrical	QL-C	±300mm horizontal, no vertical
F	Fire Service	QL-D	From records, accuracy unconfirmed
G	Gas		
P	Petroleum		
RW	Recycled Water		
S	Sewer		
U	Unknown Service		
W	Water		

GLOSSARY OF TERMS

- AS5488 - Australian Standard AS5488.1:2022. Classification of Subsurface Utility Information (SUI)
- BYDA - Before You Dig Australia. National not-for-profit organisation consisting of state entities whose member companies own Australia's underground assets. All BYDA records are considered to be QL-D
- Locate - act or method of detecting and/or identifying a subsurface utility
- Non-destructive digging - also known as potholing, hydro excavation, excavation by hand. Using hand digging or sensitive vacuum/water blasting techniques so that the utility service or its protective covering is not damaged or destroyed. Excavation technique used to expose subsurface utility at a point to acheive a QL-A point
- Redundant - utility that is out of service, dead, abandoned, decommisioned or not in use. The utility owner that placed the infrastructure is responsible for redundant infrastructure and does not relinquish ownership unless the utility owner no longer exists or cannot be traced; or the infrastrucure has been sold
- Subsurface utility - publicly, privately or jointly owned and operated utility asset or utility network, located on either public or private property, the purpose of which is to transport a service or commodity beneath ground or surface level, including exposed or submerged utilities
- Unknown entity - utility that is determined in accordance with the quality levels in AS5488, where no ownership origin nor specific details about the type and composition of the utility can be determined and for the purposes of record
- GPR - Ground Penetrating Radar. A geophysical method that uses radar pulses to image the subsurface.
- EM(F)(I) - Electromagnetic Field/Induction. Refers to electronic detection (technique used for subsurface utility locating)
- Passive - power &/or radio modes used for detecting energy present on buried cables
- EOT - End Of Trace. A point at which electronic detection trace has ceased. May be from loss of signal, cut cable, end of trace rod
- LOS - Loss Of Signal. A point at which electronic detection trace has ceased due to loss of signal
- UTT - Unable To Trace. An attempt to trace a utility has been unsuccessful. May be due to cut cable, blocked conduit (unable to rod), change of conduit material (metallic to plastic)
- UTO - Unable To Open. Referring to pit/manhole/chamber lid, unable to open lid. May be due to seized lid, beneath parked vehicle or other obstruction
- UTS - Unable To Sight. Utility not able to be visibly confirmed. May be due to high silt/debris level, water flow, significant depth
- DTO - Depth To Obvert. Measured depth to obvert point of conduit/pipe (usually measured from manhole lid level). Standard form of measurement for most utilities excluding gravity sewer/stormwater
- DTI - Depth To Invert. Measured depth to invert point of conduit/pipe (usually measured from manhole lid level). Standard form of measurement for open flowing utilities where invert level is critical eg gravity sewer, stormwater
- DB - Direct Buried. Directly buried/laid cable not within a conduit
- Ø - conduit/pipe diameter (shown in millimetres). Either obtained from historical records or measured on site
- DN - Diameter Nominal. Average/nominated pipe measurement
- ID - Internal Diameter. Internal pipe measurement
- OD - Outside Diameter. External pipe measurement
- DICL - Ductile Iron Cement Lined pipe material. Although in most cases only the exterior of the pipe is visible (ductile iron) the full acronym may be adopted. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records
- CICL - Cast Iron Cement Lined pipe material. Although in most cases only the exterior of the pipe is visible (cast iron) the full acronym may be adopted. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records
- VC/EW - Vitrified Clay/Earthenware pipe material. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records
- AC - Asbestos Cement pipe material. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records
- PVC - Polyvinyl Chloride pipe material. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records
- PE - Polyethylene pipe material. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records
- RCP - Reinforced Concrete Pipe material. All attempts are made to be accurate in identifying pipe material, however it is not always possible and therefore can be adopted from historical records

TERMS AND CONDITIONS

By engaging Subsurface Mapping Solutions Pty Ltd, the client agrees to these conditions. All subsurface utility locating works are carried out according to the quality levels described in AS5488.

The client is solely responsible for fulfilling duty of care obligations related to the location of any subsurface utilities. This includes observing the BYDA "five P's" of safe digging (plan, pothole, protect, and proceed), complying with workplace health and safety legislation and statutory requirements, and visually locating the subsurface utility through means of manual hand digging or hydro vacuum excavation (potholing) for verification.

The client shall be responsible for any damage caused by their equipment to public authorities, public persons, or companies. Such damages can include personal injury, property damage, and business interruption of the service provider's business. The client agrees to follow the minimum clearance guidelines specified by the relevant service provider, and a copy of these guidelines will be available with the related BYDA plans.

Although we take all due care with regards to the location of utilities within the scope areas advised by the client, the client remains solely responsible, and no warranty is given in the event that we are unable to locate a service or utilities that are damaged in any way whatsoever.

Electromagnetic radio frequency devices may be affected by other influences, and some utilities are untraceable due to non-metallic materials, such as optic fibre cables or PVC piping.

The client agrees to indemnify and hold Subsurface Mapping Solutions harmless against any actions, suits, claims, damages, or loss sustained as a result of any breach of this agreement or any damage caused by the client to utilities or any person as a result of their actions involving utilities.

The client acknowledges receipt of these terms and conditions and has read and understood them.

Utilities that are not historically recorded may remain unlocated if no surface features are found

Only Quality Level A utilities have been located accurately. All other utility alignments have tolerances that must be taken into consideration for design and construction works.

The configuration of conduit banks shown are nominal only and are only accurate at Quality Level A points (eg pits & potholes)

In accordance with the Work Health and Safety Act 2011 manholes have not been entered to obtain invert levels. The invert levels shown are derived from approximate field measurements and existing records. The shapes depicting surface features are symbolic representations, and whilst all attempts are made to be accurately positioned, they are not to scale

LOCATION & POSITION DISCLAIMER

This locate report drawing is for reporting purposes only and holds no spatial reference. Survey has not been undertaken by Subsurface Mapping on this site.

This drawing has been hand-drawn via computer-aided design (CAD) software. The linework & symbology has been placed on the drawing based on a combination of positioning of aerial imagery, boundary information, on site findings and best-fit alignment.

This drawing is provided for informational reporting purposes only and should not be considered to be survey accurate. It is important to note that this representation does not meet the standards outlined in the Australian Standard AS5488.1:2022 for survey accuracy. This drawing is intended to serve as a mud-map, and while efforts have been made to gather and depict accurate information, it may not reflect precise positioning, measurements, scale or details.

Users are advised to exercise caution and verify any critical information independently before relying on it for decision-making purposes.

Due to the nature of subsurface utilities and the age of some pipes/cables, the accuracy and/or completeness of the information shown on this drawing cannot be guaranteed and accordingly they are indicative only and as a result Subsurface Mapping Solutions does not accept any responsibility for any inaccuracies of its plans. They should not solely be relied upon when undertaking underground works. It is also inaccurate to assume that service lines located follow straight lines and careful onsite investigation and potholing is essential for location on an assets determined location. All underground services shown on this plan must be verified in the field prior to construction and the relevant service provider must be notified.

Pipe materials & sizes indicated on this plan are an interpretation of visible assets on-site and/or from GIS records. Diameters shown are default to be DN except where mentioned.

Depths displayed can be from various measurement methods & sources. Depths shown on a QL-B line are an interpretated measurement determined from EMF locating receiver unit (refer to AS5488 standard for QL-B lines). Depths shown at pits & manholes have been measured by tape measure or laser distometer usually from pit lid/surface to invert (DTI) or obvert (DTO) of utility. Depths shown are not indicative of elevation, RL, AHD or any other vertical datum.

DCDB BOUNDARY INFORMATION DISCLAIMER

The DCDB was developed by manually digitizing the best available cadastral maps of the time. The initial digital capture was completed to the agreed standard in 1992. Positional accuracy of the DCDB was derived from both the source map scale and the precision of the digitizing. Consequently, this positional accuracy initially varied throughout Queensland. The DCDB is continuously updated by inputting registered cadastral survey plans and other administrative notifications. The DCDB is also being systematically upgraded to improve the spatial accuracy.

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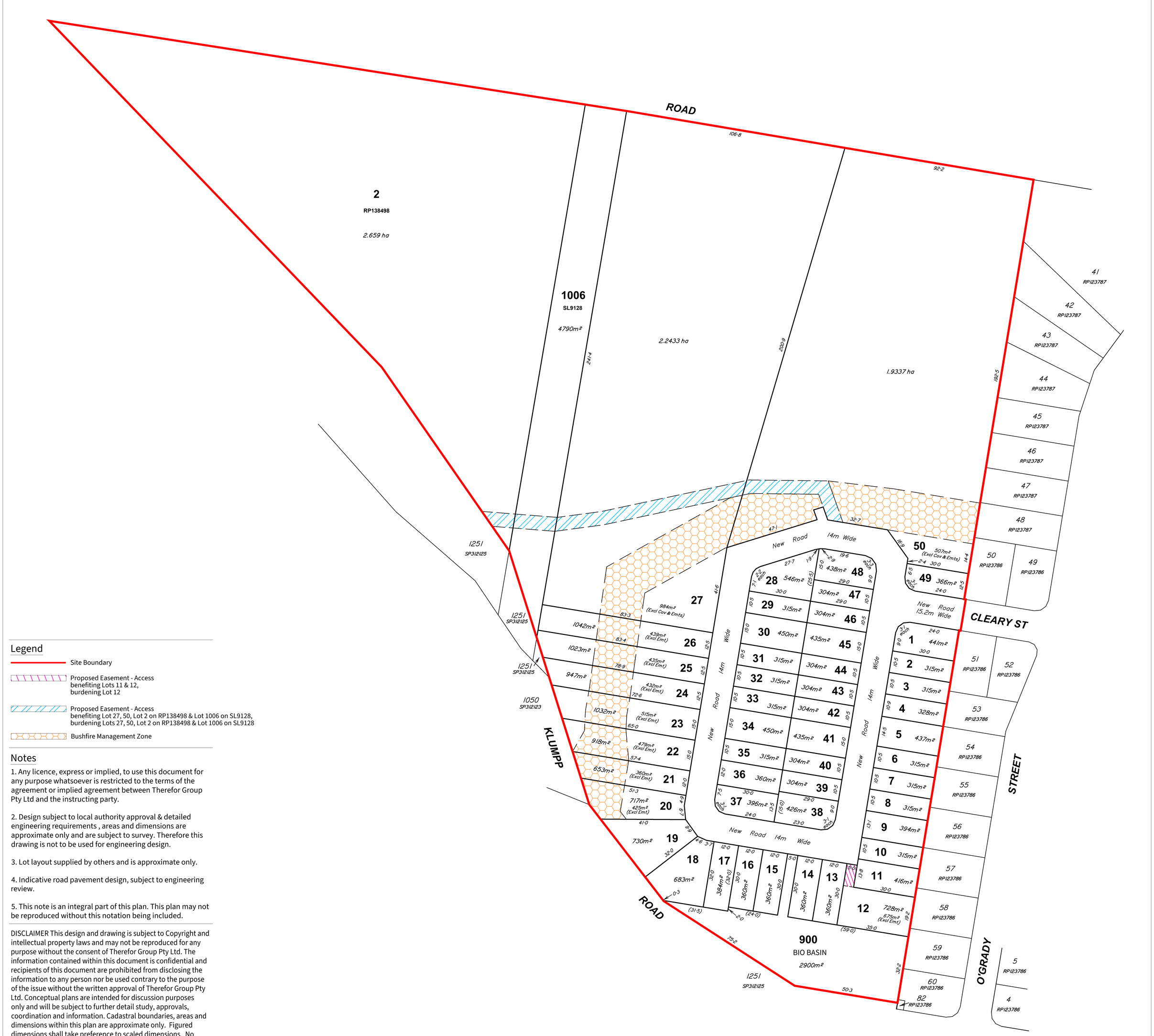
AERIAL IMAGERY DISCLAIMER

Aerial imagery has been supplied under a commercial licence agreement and is not to be reproduced for any other purposes other than that intended by Subsurface Mapping Solutions under and any circumstance without written approval. Features shown on the imagery are indicative only and may not represent the true up-to-date and final position of features on site.

THIS DRAWING IS BEST VIEWED IN COLOUR AND ON AN ELECTRONIC DEVICE

APPENDIX B PLAN OF RECONFIGURATION



Legend

- Site Boundary
- Proposed Easement - Access benefiting Lots 11 & 12, burdening Lot 12
- Proposed Easement - Access benefiting Lot 27, 50, Lot 2 on RP138498 & Lot 1006 on SL9128, burdening Lots 27, 50, Lot 2 on RP138498 & Lot 1006 on SL9128
- Bushfire Management Zone

Notes

1. Any licence, express or implied, to use this document for any purpose whatsoever is restricted to the terms of the agreement or implied agreement between Therefor Group Pty Ltd and the instructing party.

2. Design subject to local authority approval & detailed engineering requirements , areas and dimensions are approximate only and are subject to survey. Therefore this drawing is not to be used for engineering design.

3. Lot layout supplied by others and is approximate only.

4. Indicative road pavement design, subject to engineering review.

5. This note is an integral part of this plan. This plan may not be reproduced without this notation being included.

DISCLAIMER This design and drawing is subject to Copyright and intellectual property laws and may not be reproduced for any purpose without the consent of Therefor Group Pty Ltd. The information contained within this document is confidential and recipients of this document are prohibited from disclosing the information to any person nor be used contrary to the purpose of the issue without the written approval of Therefor Group Pty Ltd. Conceptual plans are intended for discussion purposes only and will be subject to further detail study, approvals, coordination and information. Cadastral boundaries, areas and dimensions within this plan are approximate only. Figured dimensions shall take preference to scaled dimensions. No relevance should be placed on this plan for any financial dealings of the land.

Table of Development

Gross area of subject land	7.3318ha
Area of proposed park and open space (Including drainage reserve)	2900m²
Area of new road	6390m²
Length of new road	450m
Net area of subject land (Excluding park & open space)	6.4028ha
Number of existing lots	4
Number of proposed lots	53
Number of residential lots equal to or above 450m²	15
Number of residential lots below 450m²	35

Final intended use of new lots:

Proposed Lots 1-50 are for residential use.
Proposed Lot 900 is for bio basin use.
Existing Lot 2 on RP138498 & Lot 1006 on SL9128 for environmental use.

0 20 40 60 80 100m

SCALE 1:1000 @A1

therefor GROUP

CLIENT
Keylin Group

PROJECT
2 O'Grady Street, Upper Mt Gravatt

PROJECT NO.
25-0597P

DRAWING NAME
Plan of Reconfiguration

LOT DESCRIPTION
Lots 2 & 3 on RP138498 & Lot 84 on RP123786 (ARS) & Lot 1006 on SL9128

LOCAL GOVERNMENT
Brisbane City

REVISION TABLE

REV	DESCRIPTION	DRAWN	APPROVED	DATE
A	Original Issue	KB	CB	08-09-2026
B	Environment Covs added, additional lots to the west added, emt descripts updated	KB	CB	10-09-2026
C	Remove Environment Cov, update Bushfire Management Zone & Add PMT	KB	CB/BJ	20-10-2026

DRAWING NO.
25-0579P-01

SHEET NO.
1 of 1

REVISION
C

NORTH

APPENDIX C CIVIL ENGINEERING SKETCH PLANS

KEYLIN UMG PTY LTD
DEVELOPMENT APPLICATION
2 O'GRADY STREET, UPPER MOUNT GRAVATT

DRAWING INDEX

SK000	DRAWING INDEX & LOCALITY PLAN
SK030	EXISTING SERVICES & DEMOLITION PLAN
SK100	TYPICAL DETAILS
SK200	CONCEPT EARTHWORKS PLAN
SK210	CONCEPT EARTHWORKS SLOPE ANALYSIS PLAN
SK220	CONCEPT EARTHWORKS SECTIONS
SK300	CONCEPT ROADWORKS AND DRAINAGE PLAN
SK310	CONCEPT ROAD LONGITUDINAL SECTIONS
SK400	CONCEPT BASIN LAYOUT & DETAILS
SK401	CONCEPT BASIN SECTIONS
SK500	CONCEPT SEWER AND WATER PLAN



LOCALITY PLAN
SCALE 1:2000

FIRE ANT MOVEMENT CONTROLS

TO PREVENT THE SPREAD OF FIRE ANTS, THE QUEENSLAND GOVERNMENT HAS IMPLEMENTED CONTROLS THAT APPLY TO INDIVIDUALS AND COMMERCIAL OPERATORS, TO RESTRICT THE MOVEMENT OF MATERIALS THAT COULD CARRY FIRE ANTS INCLUDING SOIL, TURF, POTTED PLANTS, MULCH, BALED HAY OR STRAW, ANIMAL MANURES, MINING OR QUARRY PRODUCTS.

PENALTIES APPLY FOR NON-COMPLIANCE WITH THE MOVEMENT CONTROLS. IF YOU ARE UNSURE OF YOUR OBLIGATIONS UNDER BIOSECURITY ACT 2014 CONTACT THE RELEVANT QUEENSLAND STATE GOVERNMENT DEPARTMENT.

REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
1 : 2000 20 0 20 40 60 80 100m A1
1 : 4000 A3

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CIVIL 360 ENGINEERING
PROJECT MANAGEMENT
CIVIL ENGINEERING
LAND DEVELOPMENT
0406 424 223 / 0423 593 058
info@civil360.com.au

CLIENT
KEYLIN UMG PTY LTD

PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

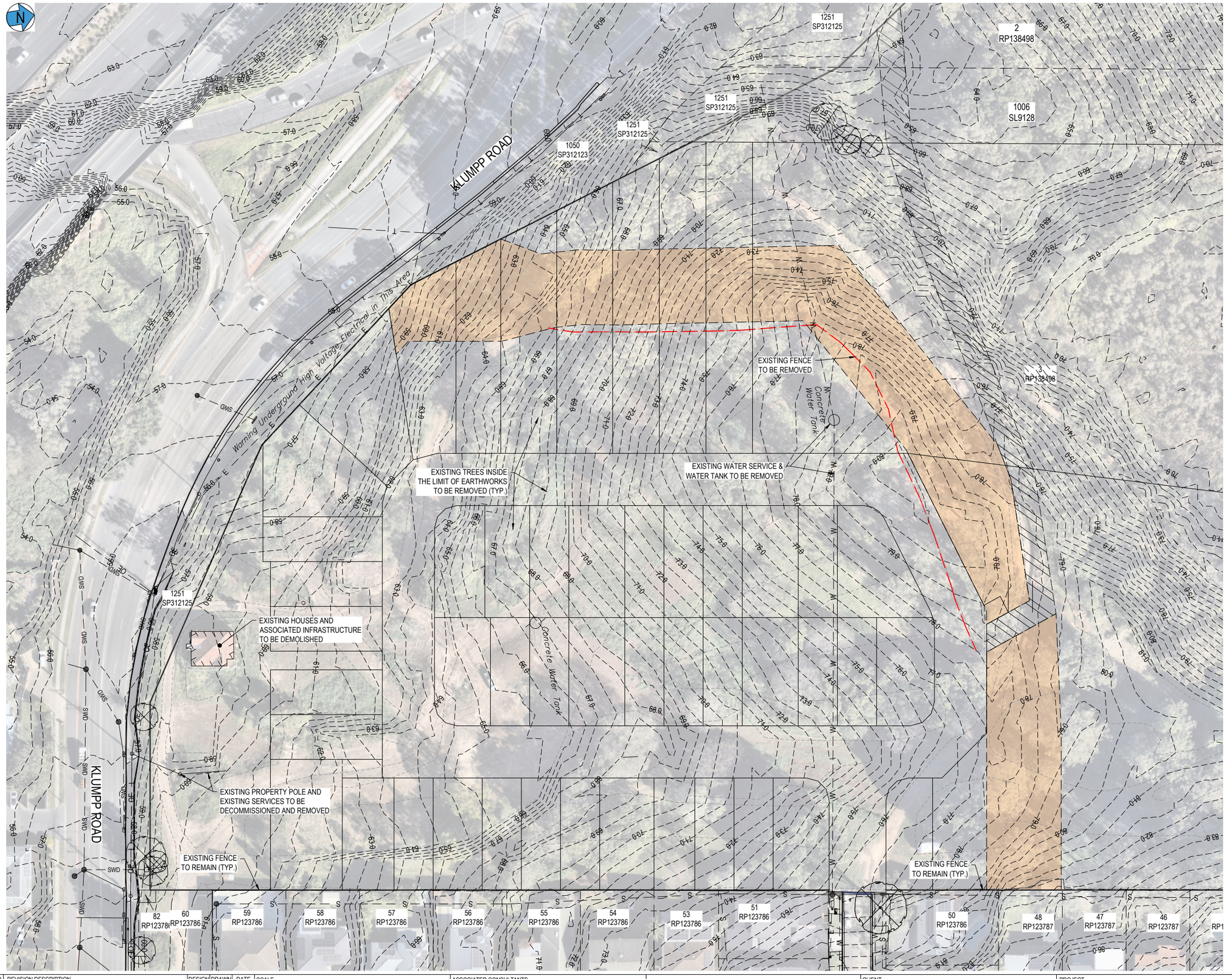
DRAWING TITLE
DRAWING INDEX & LOCALITY PLAN

STATUS
ISSUE FOR APPROVAL

PROJECT No.
2026050

DRAWING No.
SK000

REVISION
A



LEGEND

- PROPOSED LOT BOUNDARY
- LIMIT OF WORKS
- PROPOSED EASEMENT
- PROPOSED BUSHFIRE MANAGEMENT ZONE
- PROPOSED ACCESS EASEMENT
- ADJACENT BOUNDARY
- 77.0 EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- SWD EXISTING STOMWATER DRAINAGE
- W EXISTING WATER
- S EXISTING SEWER
- EXISTING FOOTPATH
- OE EXISTING OVERHEAD ELECTRICITY
- E EXISTING UNDERGROUND ELECTRICITY
- T EXISTING TELSTRA
- EXISTING KERB AND CHANNEL
- EXISTING EDGE OF BITUMEN
- EXISTING FENCE
- EXISTING FENCE TO BE REMOVED
- EXISTING TREE

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REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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PROJECT MANAGEMENT
CIVIL ENGINEERING
LAND DEVELOPMENT
0406 424 223 / 0423 593 058
info@civil360.com.au

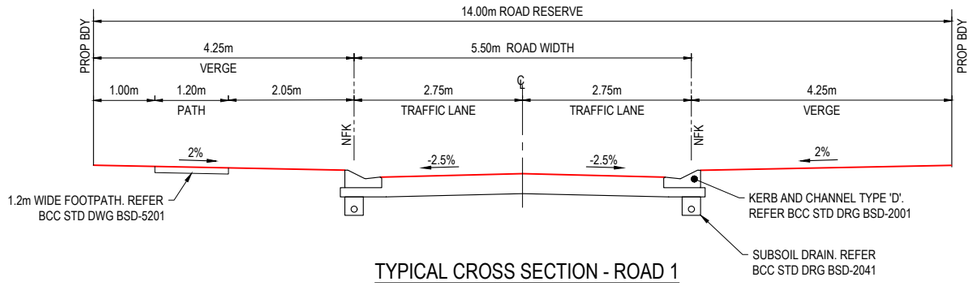
CLIENT
KEYLIN UMG PTY LTD

PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

STATUS
ISSUE FOR APPROVAL

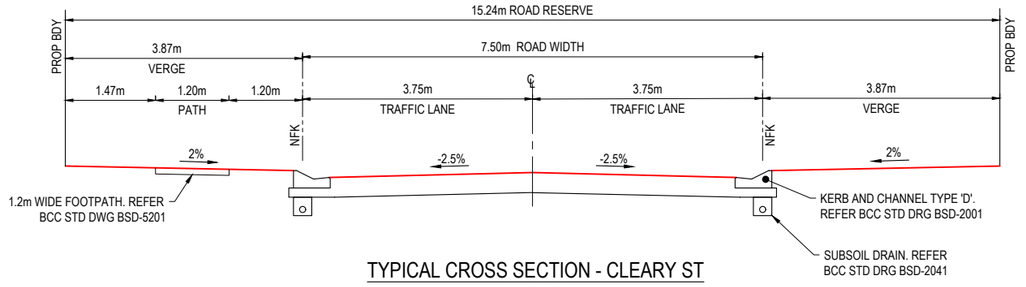
DRAWING TITLE
EXISTING SERVICES & DEMOLITION PLAN

PROJECT No.	DRAWING No.	REVISION
2026050	SK030	A



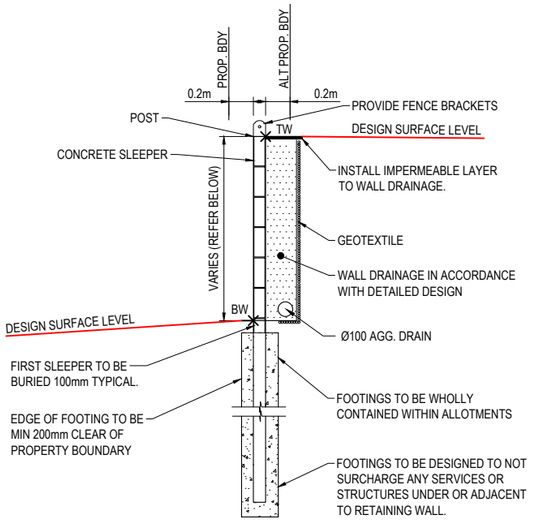
TYPICAL CROSS SECTION - ROAD 1

SCALE 1:50



TYPICAL CROSS SECTION - CLEARY ST

SCALE 1:50



CONCRETE SLEEPER RETAINING WALL

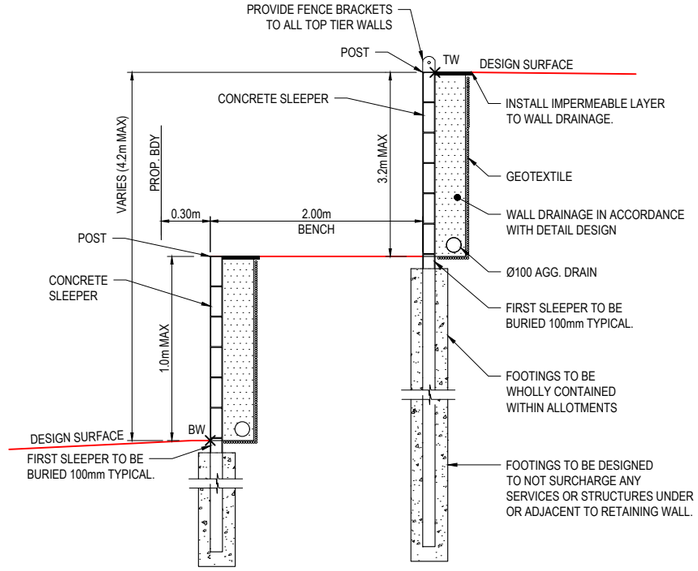
SCALE: NTS

SLEEPER WALL DESIGN AND CONSTRUCTION TO BE CERTIFIED BY A STRUCTURAL ENGINEER

1.5m MAX

3.0m MAX

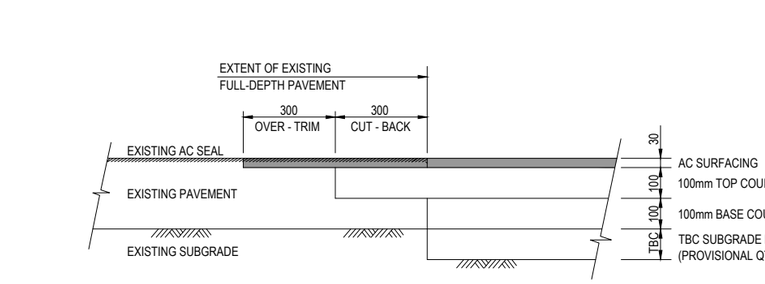
4.0m MAX



DOUBLE TIER CONCRETE SLEEPER RETAINING WALL

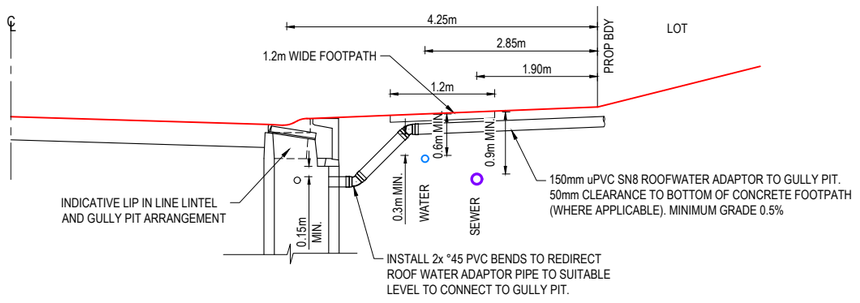
SCALE: NTS

SLEEPER WALL DESIGN AND CONSTRUCTION TO BE CERTIFIED BY A STRUCTURAL ENGINEER



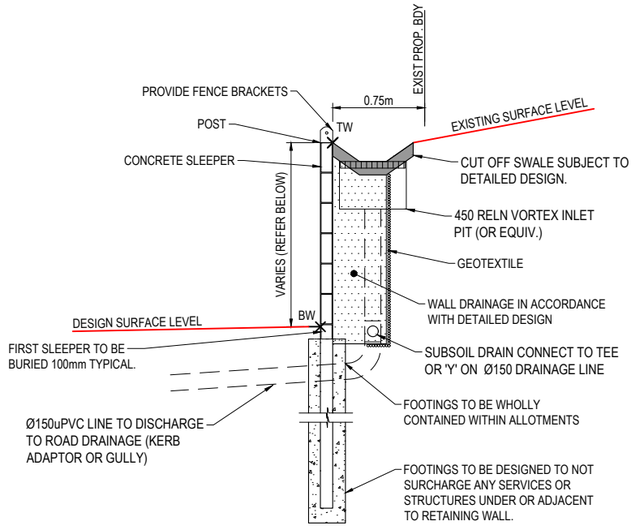
PAVEMENT CUT-BACK DETAILS

N.T.S



ROOFWATER CONNECTION TO GULLY PIT - VERGE CROSSING

NTS



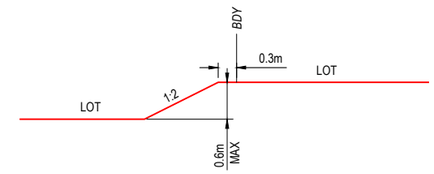
CONCRETE SLEEPER RETAINING WALL (TYPE 2)

SCALE: NTS

SLEEPER WALL DESIGN AND CONSTRUCTION TO BE CERTIFIED BY A STRUCTURAL ENGINEER

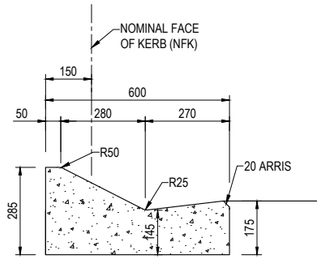
1.5m MAX

3.0m MAX



SIDE BOUNDARY TEMPORARY BATTER DETAIL

SCALE 1:50



KERB AND CHANNEL TYPE 'D'

SCALE 1:10

NOTES:

1. KERB PROFILES ARE TO BE IN ACCORDANCE WITH BCC STD DRG BSD-2001.
2. SUB SURFACE DRAINAGE IN ACCORDANCE WITH BCC STD DRG BSD-2041.
3. REFER TO BCC STD DRGS BSD-5201 & 5203 FOR CONCRETE FOOTPATH DETAILS.
4. VERGE PROFILE TO BE IN ACCORDANCE WITH B.C.C. STANDARD DRAWINGS.

PAVEMENT NOTES:

1. THE COMPACTED DEPTHS OF PAVEMENT SHOWN ON THE DRAWINGS ARE DESIGN DEPTHS ONLY AND MAY BE VARIED AFTER SUBGRADE TESTS ARE TAKEN. PAVEMENT DEPTHS SHALL BE SUBJECT TO APPROVAL BY B.C.C.
2. PAVEMENT MATERIAL SHALL CONFORM TO B.C.C. SPECIFICATION.

FIRE ANT MOVEMENT CONTROLS

TO PREVENT THE SPREAD OF FIRE ANTS, THE QUEENSLAND GOVERNMENT HAS IMPLEMENTED CONTROLS THAT APPLY TO INDIVIDUALS AND COMMERCIAL OPERATORS, TO RESTRICT THE MOVEMENT OF MATERIALS THAT COULD CARRY FIRE ANTS INCLUDING SOIL, TURF, POTTED PLANTS, MULCH, BALED HAY OR STRAW, ANIMAL MANURES, MINING OR QUARRY PRODUCTS.

PENALTIES APPLY FOR NON-COMPLIANCE WITH THE MOVEMENT CONTROLS. IF YOU ARE UNSURE OF YOUR OBLIGATIONS UNDER BIOSECURITY ACT 2014 CONTACT THE RELEVANT QUEENSLAND STATE GOVERNMENT DEPARTMENT.

REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE

1 : 10 / 1 : 20 — 100 0 100 200 300 400 500mm — A1 / A3

1 : 50 / 1 : 100 — 0.5 0 0.5 1.0 1.5 2.0 2.5m — A1 / A3

COUNCIL: BRISBANE CITY COUNCIL

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CIVIL 360 ENGINEERING
PROJECT MANAGEMENT
CIVIL ENGINEERING
LAND DEVELOPMENT
0406 424 223 / 0423 593 058
info@civil360.com.au

CLIENT: KEYLIN UMG PTY LTD

PROJECT: 2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE: TYPICAL DETAILS

STATUS: ISSUE FOR APPROVAL

PROJECT No.: 2026050

DRAWING No.: SK100

REVISION: A

EARTHWORKS VOLUMES

TOTAL CUT: 20,347 m^3 (SOLID MEASURE)

TOTAL FILL: 28,209 m^3 (SOLID MEASURE)

QUANTITIES SHOWN ARE BASED ON THE FOLLOWING:

- UNFACTORED VOLUMES;
- DESIGN SURFACE v EXISTING SURFACE, NO ALLOWANCE FOR TOPSOIL STRIP;
- VOLUMES ARE SUBJECT TO LEVEL 1 GEOTECHNICAL ASSESSMENT;
- TRENCH / WALL SPOIL EXCLUDED

LEGEND

- LIMIT OF WORKS
- PROPOSED NOMINAL KERB
- 73.0 — FINISHED SURFACE CONTOURS
- PROPOSED CONCRETE SLEEPER RETAINING WALL (1.5m MAX)
- PROPOSED CONCRETE SLEEPER RETAINING WALL (3.0m MAX)
- PROPOSED CONCRETE SLEEPER RETAINING WALL (4.0m MAX)
- PROPOSED CONCRETE SLEEPER RETAINING WALL (TYPE 2 - 1.5m MAX)
- PROPOSED CONCRETE SLEEPER RETAINING WALL (TYPE 2 - 3.0m MAX)
- PROPOSED DOUBLE TIER CONCRETE SLEEPER RETAINING WALL
- PROPOSED BESSER BLOCK PMT WALL TO ENERGEX STANDARDS
- PROPOSED SWALE
- EARTHWORKS BATTER TOP
- EARTHWORKS BATTER TOE
- PROPOSED BUSHFIRE MANAGEMENT ZONE
- × 50.95 FINISHED SURFACE LEVEL
- × EX50.85 EXISTING SURFACE LEVEL
- AREA OF CUT
- AREA OF FILL
- PROPOSED ACCESS EASEMENT
- ADJACENT BOUNDARY
- 77.0 EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- SWD EXISTING STOMWATER DRAINAGE
- W EXISTING WATER
- S EXISTING SEWER
- OE EXISTING ELECTRICITY OVERHEAD
- E EXISTING UNDERGROUND ELECTRICITY
- T EXISTING TELSTRA
- EXISTING EDGE OF BITUMEN
- EXISTING FENCE
- EXISTING KERB
- EXISTING TREE

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REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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PROJECT MANAGEMENT
CIVIL ENGINEERING
LAND DEVELOPMENT
0406 424 223 / 0423 593 058
info@civil360.com.au

CLIENT
KEYLIN UMG PTY LTD

PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE
CONCEPT EARTHWORKS PLAN

STATUS
ISSUE FOR APPROVAL

PROJECT No.	DRAWING No.	REVISION
2026050	SK200	A

SLOPE ANALYSIS LEGEND

1	0%	TO	2.5%	
2	2.5%	TO	5%	
3	5%	TO	10%	
4	10%	TO	15%	
5	15%	TO	35%	
6	GREATER THAN 35%			

LEGEND

- LIMIT OF WORKS
- PROPOSED NOMINAL KERB
- 73.0 FINISHED SURFACE CONTOURS
- PROPOSED SWALE
- EARTHWORKS BATTER TOP
- EARTHWORKS BATTER TOE
- PROPOSED BUSHFIRE MANAGEMENT ZONE
- PROPOSED ACCESS EASEMENT
- ADJACENT BOUNDARY
- 77.0 EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- SWD EXISTING STOMWATER DRAINAGE
- W EXISTING WATER
- S EXISTING SEWER
- OE EXISTING ELECTRICITY OVERHEAD
- E EXISTING UNDERGROUND ELECTRICITY
- T EXISTING TELSTRA
- EXISTING EDGE OF BITUMEN
- EXISTING FENCE
- EXISTING KERB

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REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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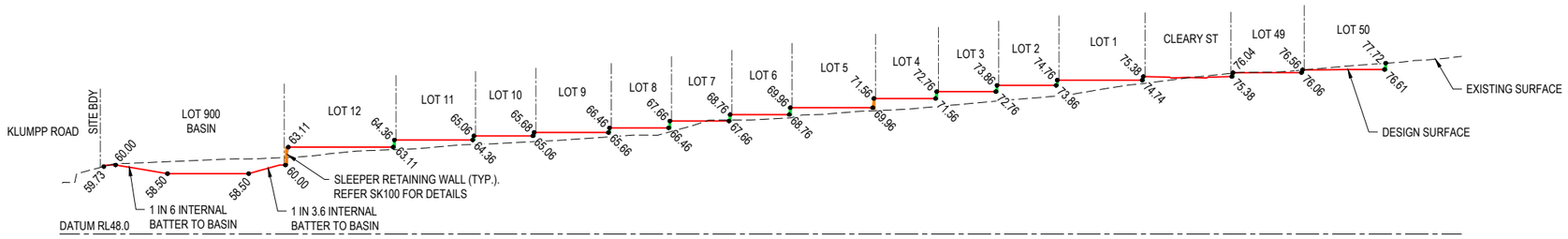
CLIENT
KEYLIN UMG PTY LTD

PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

STATUS
ISSUE FOR APPROVAL

DRAWING TITLE
CONCEPT EARTHWORKS SLOPE ANALYSIS PLAN

PROJECT No.	DRAWING No.	REVISION
2026050	SK210	A



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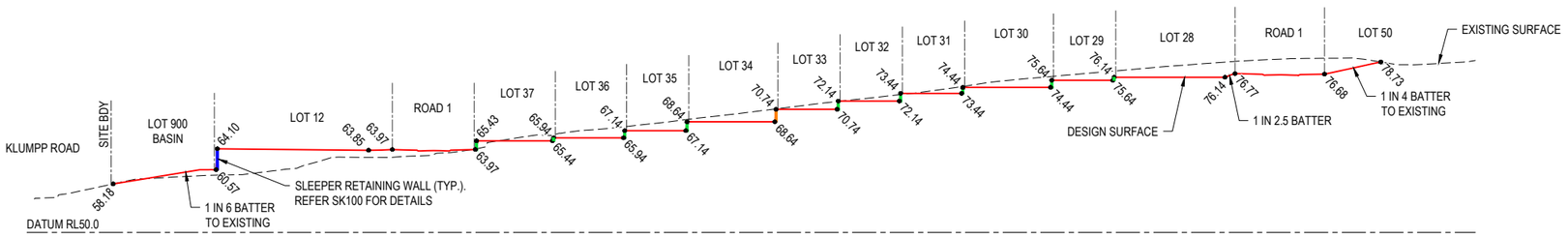

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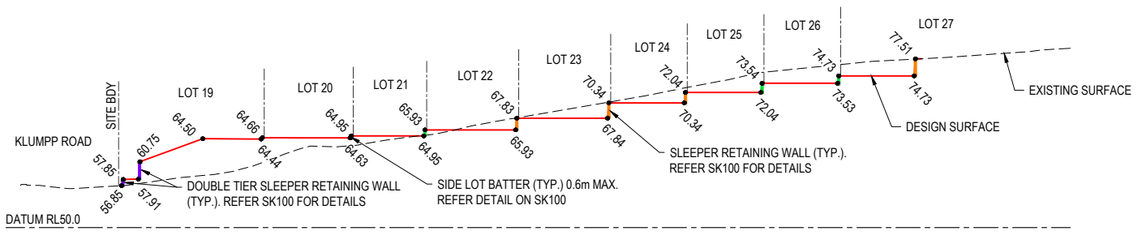

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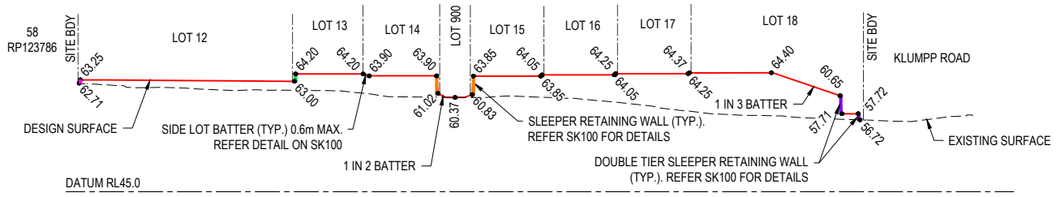
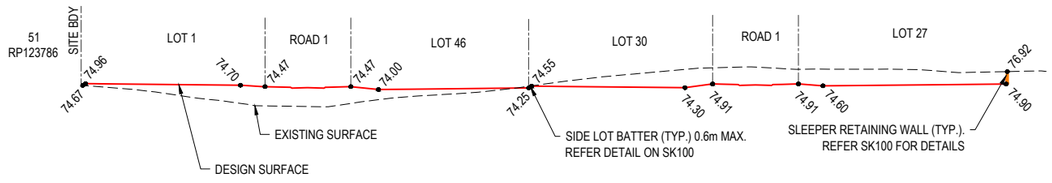


SECTION D
SCALE 1:500 200



SECTION E
SCALE 1:500 200

REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
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1 : 1000 A3

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info@civil360.com.au

CLIENT
KEYLIN UMG PTY LTD

PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE
CONCEPT EARTHWORKS SECTIONS

STATUS
ISSUE FOR APPROVAL

PROJECT No.
2026050

DRAWING No.
SK220

REVISION
A

N

KLUMPP ROAD

Warning Underground High Voltage Electrical in This Area

ACCESS EASEMENT

BUSHFIRE MANAGEMENT ZONE

ROAD 1

PROVIDE GROUTED ROCK PROTECTION TO ROADSIDE DRAIN

PROVIDE GROUTED ROCK PROTECTION FROM SPILLWAY TO ROADSIDE DRAIN

BASIN WEIR RL=59.55. REFER SK400 FOR DETAILS

3.0m WIDE BASIN MAINTENANCE ACCESS 180mm THICK N32 CONCRETE WITH SL92 MESH 50 CLEAR TOP COVER IN ACCORDANCE WITH BCC STD DRG BSD-2021

PROPOSED BIO RETENTION BASIN. REFER SK400 FOR DETAILS

OUTLET TO SEDIMENT FOREBAY

ANTIPONDING GULLY (REFER BCC STD DWG BSD-8056)

PROPOSED 6 BIN PADS FOR LOTS 11,12 & 13

CONNECT TO EXISTING STORMWATER PIT

4.0m WIDE,180mm THICK N32 CONCRETE WITH SL92 MESH 50 CLEAR TOP COVER DRIVEWAY IN ACCORDANCE WITH BCC STD DRG BSD-2021

4.0m WIDE GRAVEL ACCESS PATH

1.2m WIDE FOOTPATH

MATCH NEATLY INTO EXISTING PAVEMENT SURFACE & KERB

CLEARY ST

PMT

900 BASIN

LEGEND

- FINISHED SURFACE CONTOURS
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED BESSER BLOCK PMT WALL TO ENERGEX STANDARDS
- PROPOSED STORMWATER
- PROPOSED SWALE
- PROPOSED KERB & CHANNEL
- PROPOSED CIVIL PAVEMENT
- PROPOSED DRIVEWAY
- PROPOSED FOOTPATH
- INDICATIVE DRIVEWAY (BY OTHERS)
- PROPOSED Ø150 ROOFWATER CONNECTION TO STORMWATER PIT
- BCC KERB ADAPTOR AND 125 x 75 RHS ACROSS FULL VERGE (BSD-8114)
- PROPOSED SEWER MAIN
- PROPOSED WATER MAIN
- PROPOSED EASEMENT
- PROPOSED BUSHFIRE MANAGEMENT ZONE
- PROPOSED ACCESS EASEMENT
- ADJACENT BOUNDARY
- EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- EXISTING STOMWATER DRAINAGE
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICITY OVERHEAD
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING TELSTRA
- EXISTING EDGE OF BITUMEN
- EXISTING FENCE
- EXISTING KERB
- EXISTING TREE

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REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
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1 : 1000 A3

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0406 424 223 / 0423 593 058
info@civil360.com.au

CLIENT
KEYLIN UMG PTY LTD

PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE
CONCEPT ROADWORKS AND DRAINAGE PLAN

STATUS
ISSUE FOR APPROVAL

PROJECT No.
2026050

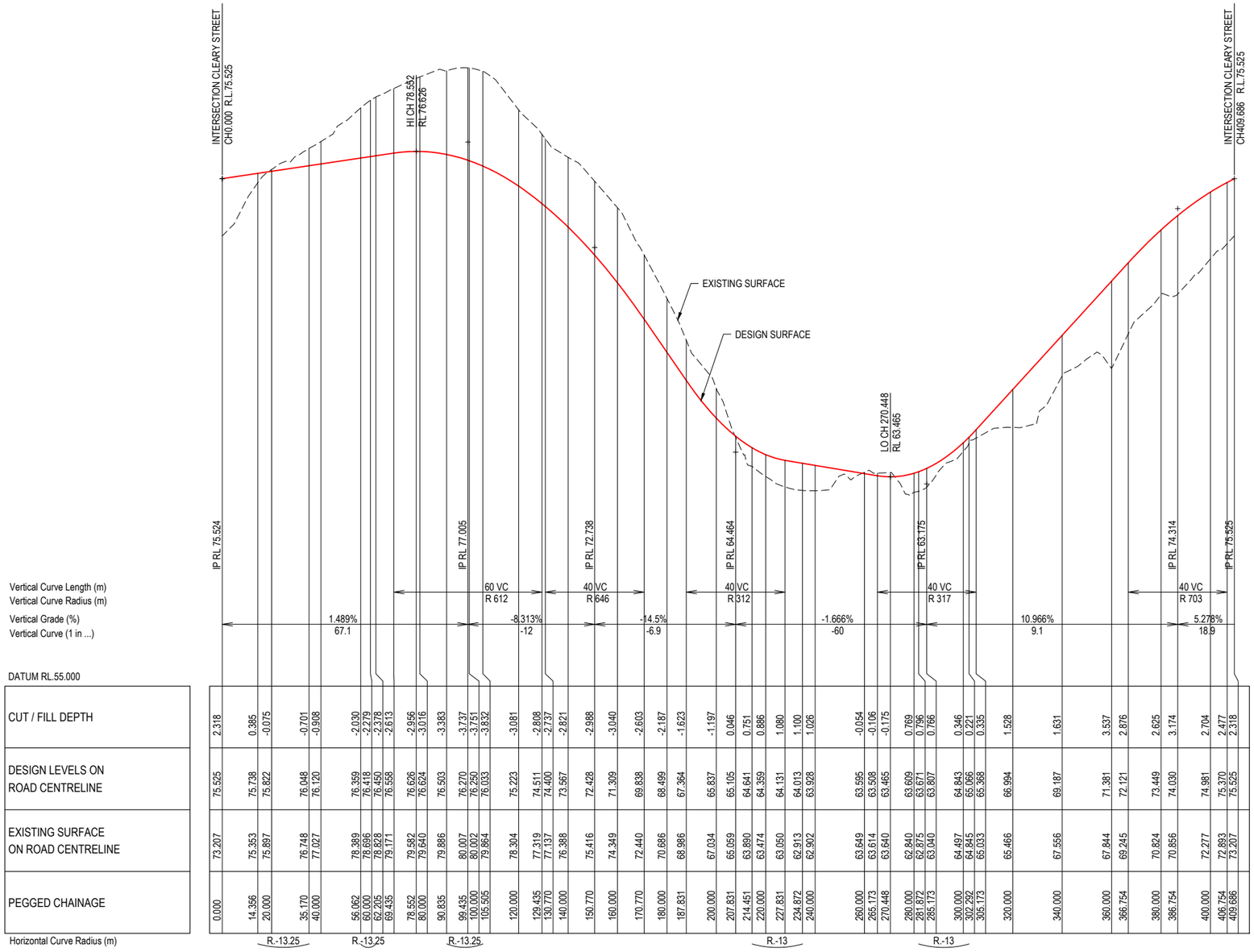
DRAWING No.
SK300

REVISION
A

PAVEMENT THICKNESS ROAD 1 & CLEARY ST

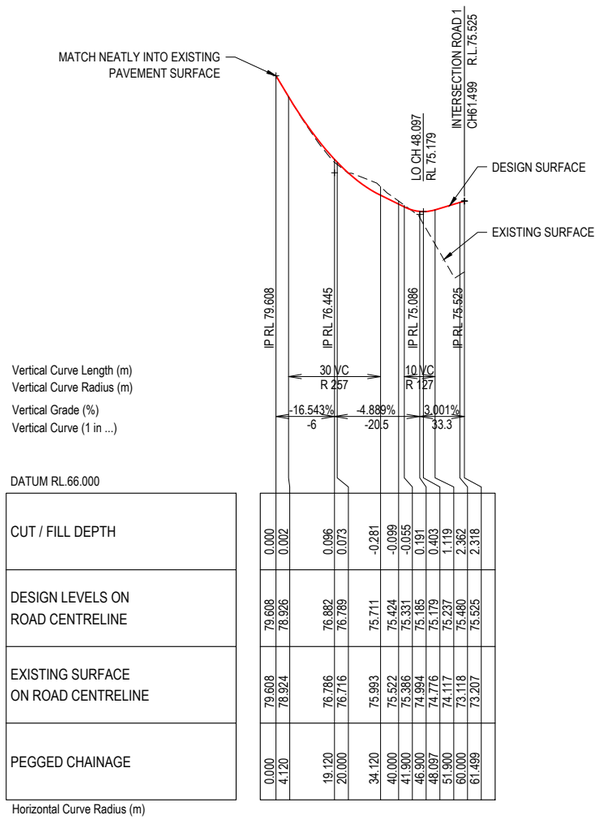
A.C. (mm)	PRIME	BASE 2.1 (CBR 80) (mm)	SUB-BASE 2.3 (CBR 45) (mm)	LOWER SUB-BASE 2.3 (CBR 45) (mm)	MINIMUM TOTAL PAVEMENT DEPTH (mm)*	DESIGN ESA
30	YES	100	100	-	230	1.5×10^5

* NOMINAL MINIMUM PAVEMENT DEPTHS ARE SUBJECT TO GEOTECHNICAL TESTING, APPROVED PAVEMENT DESIGN AND SUBGRADE INSPECTION.



ROAD 1

SCALE: HORIZONTAL - 1:1000
VERTICAL - 1:100



CLEARY ST

SCALE: HORIZONTAL - 1:1000
VERTICAL - 1:100

REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
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1 : 200 VERT. A3
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1 : 2000 HORIZ. A3

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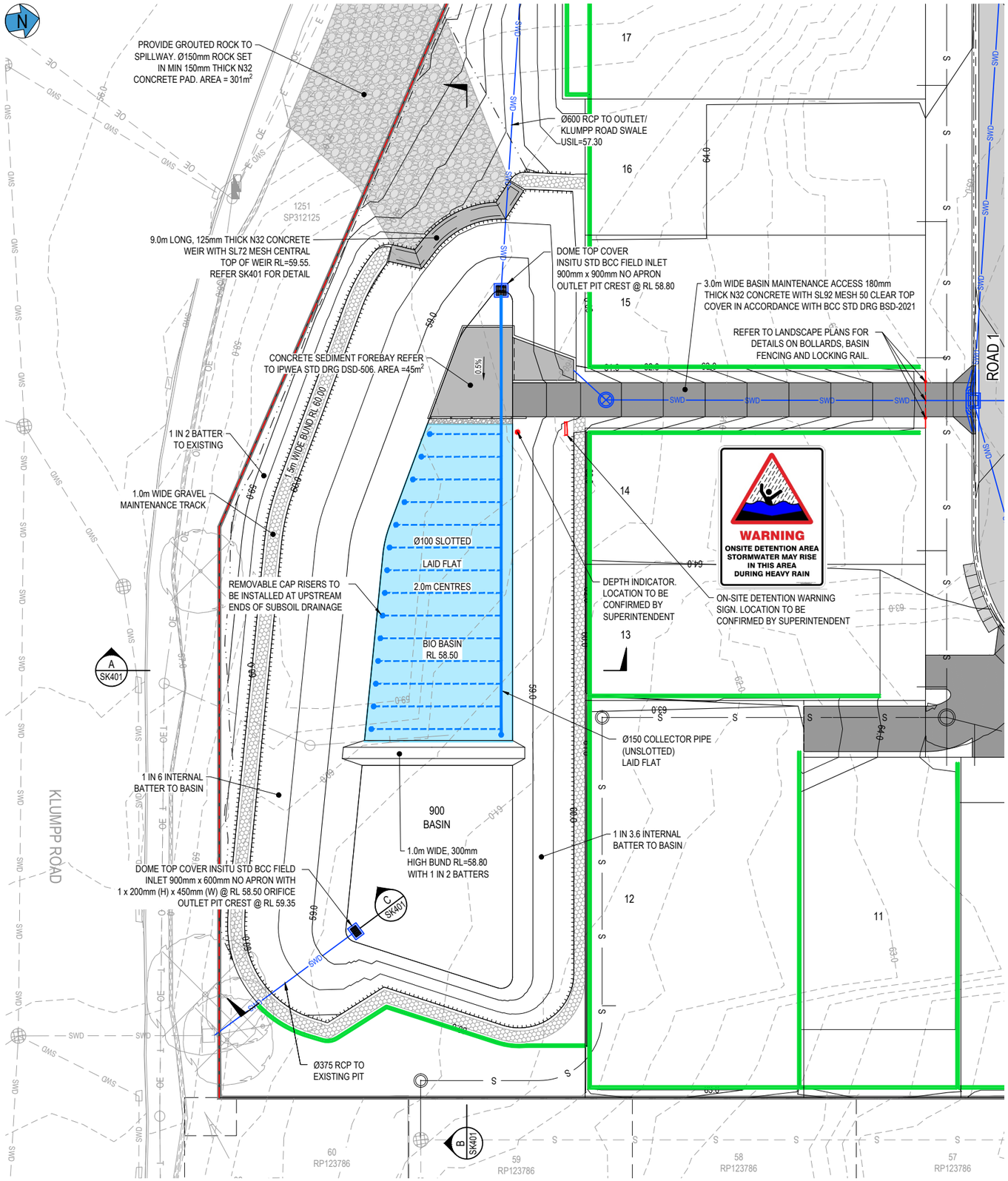
CLIENT: KEYLIN UMG PTY LTD

PROJECT: 2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE: CONCEPT ROAD LONGITUDINAL SECTIONS

STATUS: ISSUE FOR APPROVAL

PROJECT No.	DRAWING No.	REVISION
2026050	SK310	A



NOTE:

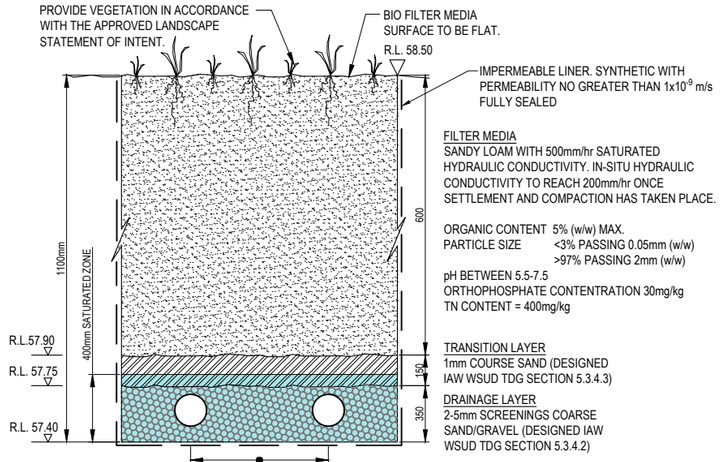
BIORETENTION LAYER DESIGN IS TO BE IN ACCORDANCE WITH WSUD BIORETENTION TECHNICAL DESIGN GUIDELINES.

BIORETENTION BASIN

SURFACE LEVEL: RL. 58.50
FILTER MEDIA SURFACE AREA (MIN) = 310m²
TOP OF BUND: RL. 60.00

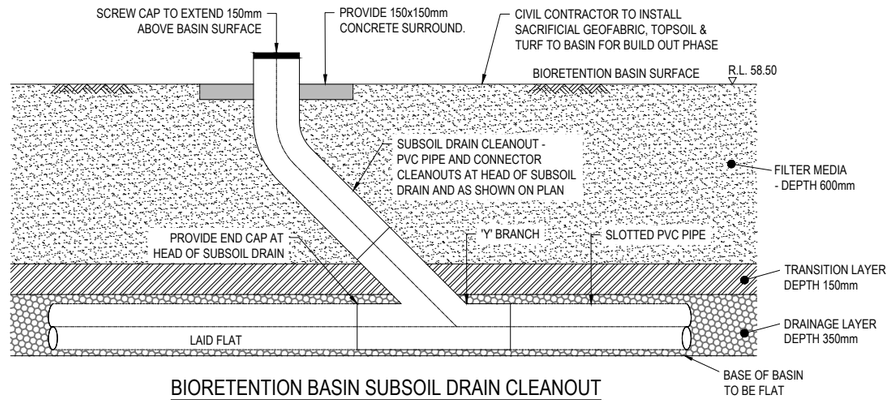
DETENTION BASIN

MIN STORAGE VOLUME = 833m³ ABOVE THE 300mm EXTENDED DETENTION DEPTH.



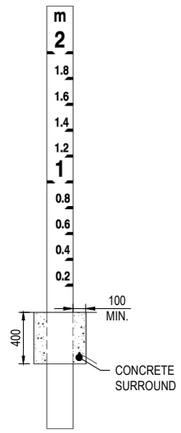
TYPICAL BIORETENTION (TYPE 1 SATURATED) MEDIA CROSS SECTION

N.T.S.



BIORETENTION BASIN SUBSOIL DRAIN CLEANOUT

N.T.S.



DEPTH INDICATOR

N.T.S.

NOTE:

FLOOD DEPTH INDICATORS:

1. DEPTH INDICATORS ARE TO HAVE A ZERO LEVEL RELATIVE TO THE LOWEST POINT IN THE BASIN FLOOR SO AS TO CLEARLY SHOW CURRENT WATER DEPTHS

CONCRETE SURROUND:

2. TO BE CLASS N20/20 AND PROVIDE 100mm MINIMUM COVER ALL ROUND.
3. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

LEGEND

- 73.0 — FINISHED SURFACE CONTOURS
- PROPOSED SLEEPER RETAINING WALL
- SWD — PROPOSED STORMWATER
- PROPOSED KERB & CHANNEL
- PROPOSED CIVIL PAVEMENT
- PROPOSED DRIVEWAY
- PROPOSED FOOTPATH
- SUB-SOIL DRAIN AND FLUSHING POINT
- S — PROPOSED SEWER MAIN
- W — PROPOSED WATER MAIN
- PROPOSED EASEMENT
- ADJACENT BOUNDARY
- 77.0 — EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- SWD — EXISTING STOMWATER DRAINAGE
- EXISTING KERB
- EXISTING TREE

REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
1 : 200 2 0 2 4 6 8 10m A1
1 : 400 A3

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CLIENT
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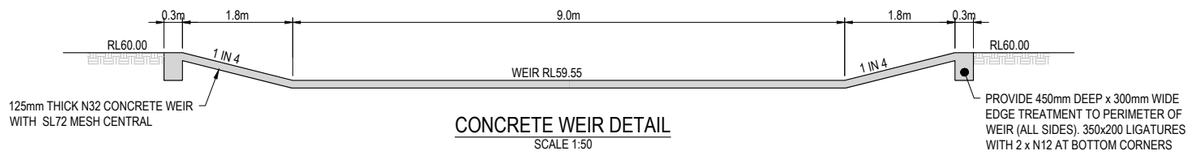
PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

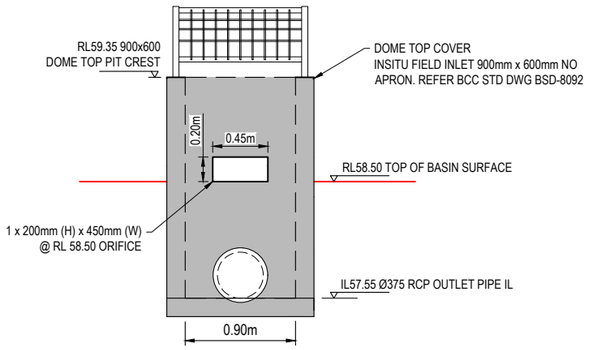
STATUS
ISSUE FOR APPROVAL

DRAWING TITLE
CONCEPT BASIN LAYOUT & DETAILS

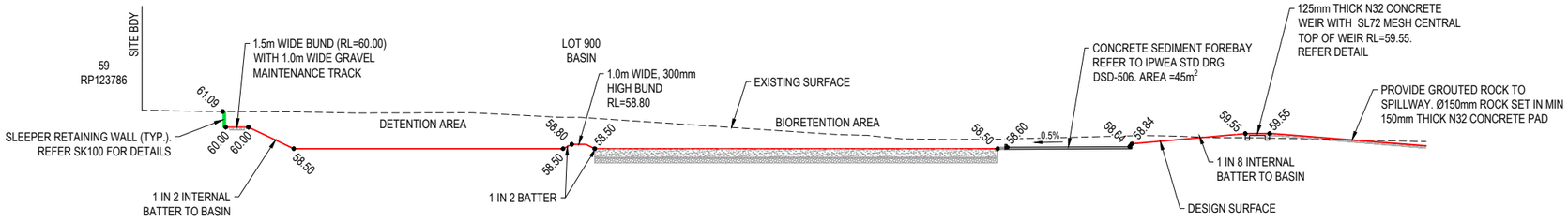
PROJECT No.	DRAWING No.	REVISION
2026050	SK400	A



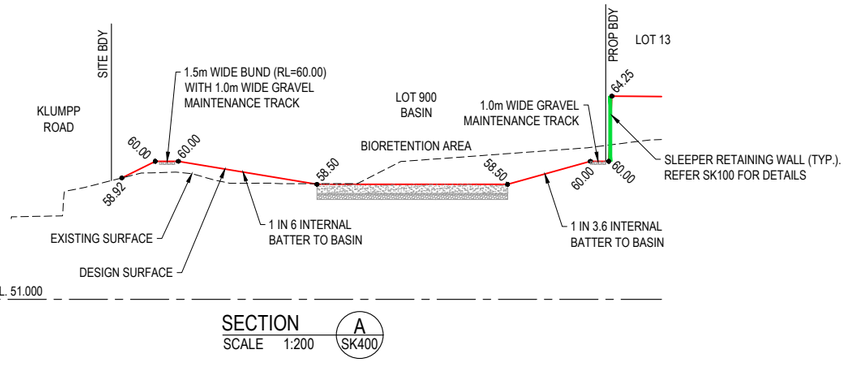
CONCRETE WEIR DETAIL
SCALE 1:50



SECTION C/400
900 x 600 DOME TOP FIELD INLET
SCALE 1:25



SECTION B/SK400
SCALE 1:200



SECTION A/SK400
SCALE 1:200

REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
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1 : 400 A3

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PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE
CONCEPT BASIN SECTIONS

STATUS
ISSUE FOR APPROVAL

PROJECT No.
2026050

DRAWING No.
SK401

REVISION
A

N

KLUMPP ROAD

Warning Underground High Voltage Electrical in This Area

ROAD 1

CLEARY ST

KLUMPP ROAD

BUSHFIRE MANAGEMENT ZONE

ACCESS EASEMENT

900 BASIN

20mm WATER METERS PROVIDED TO ALL LOTS, DIRECT ACCESS FROM ROAD RESERVE

LIVE CONNECTION TO EXISTING SEWER MANHOLE ASSET ID: MH41595

LIVE CONNECTION TO EXISTING DN150 DI WATER ASSET ID: RS204556

1.20m TYPICAL

1.875m

2.845m

1.50m

2.464m

1.08m

1.47m

PMT

FH

SWD

1251 SP312125

1050 SP312123

2 RP138498

1006 SL9128

LEGEND

- PROPOSED DN 160 PE SEWER MAIN
- PROPOSED WATER MAIN
- PROPOSED END CAP, FIRE HYDRANT, & SLUICE VALVE
- PROPOSED CONDUIT DN100 mPVC
- PROPOSED WATER METER SERVICE PER SEQ-WAT-1107-1 TO 1107-3
- PROPOSED STORMWATER
- FINISHED SURFACE CONTOURS
- PROPOSED RETAINING WALL
- PROPOSED EASEMENT
- PROPOSED DRIVEWAY
- PROPOSED BUSHFIRE MANAGEMENT ZONE
- PROPOSED ACCESS EASEMENT
- ADJACENT BOUNDARY
- EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- EXISTING STOMWATER DRAINAGE
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICITY OVERHEAD
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING TELSTRA
- EXISTING EDGE OF BITUMEN
- EXISTING FENCE
- EXISTING KERB
- EXISTING TREE

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REV	REVISION DESCRIPTION	DESIGN	DRAWN	DATE
A	ISSUE FOR APPROVAL	AS	MT	15.10.26

SCALE
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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CLIENT
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PROJECT
2 O'GRADY STREET
UPPER MOUNT GRAVATT QLD 4122
2 O'GRADY STREET, UPPER MOUNT GRAVATT QLD 4122
LOT 3 ON RP138498

DRAWING TITLE
CONCEPT SEWER AND WATER PLAN

STATUS
ISSUE FOR APPROVAL

PROJECT No.
2026050

DRAWING No.
SK500

REVISION
A

APPENDIX D EROSION HAZARD ASSESSMENT

BRISBANE CITY COUNCIL ABN 72 002 765 795

Erosion Hazard Assessment

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?

Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?

An Erosion Hazard Assessment form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

Failure to submit this form during lodgement of an application may result in assessment delays or refusal of the application.

Privacy Statement

The personal information collected on this form will be used by Brisbane City Council for the purposes of fulfilling your request and undertaking associated Council functions and services. Your personal information will not be disclosed to any third party without your consent, unless this is required or permitted by law.

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the side:

☐ ***A 'low' risk site***

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at https://waterbydesign.com.au/download/erosion-sediment-control-for-small-construction-sites

☐ ***A 'medium' risk site***

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

☑ ***A 'high' risk site***

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

Site address

2 O'GRADY STREET

UPPER MT GRAVATT Postcode **4122**

I certify that:

☑ I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.

☑ I am a person with suitable qualifications and/or experience in erosion and sediment control.

☑ The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.

☑ The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.

☑ I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *(Print name)*

DAVID HOLSTEIN

Certifier's signature

2026.10.20 15:25:39 +10'00'

Date

20 / **10** / **2026**

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Stock Code no. 262006

Assessment Table

Table 1: Low Risk Test

		Yes	*No*
1.1	is the area of land disturbance > 1000 m2?	☑	☐
1.2	does any land disturbance occur in a BCC mapped waterway corridor?	☐	☑
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%?	☑	☐
1.4	does any land disturbance occur below 5 m AHD?	☐	☑
1.5	does development involve endorsement of a staging plan?	☐	☑
1.6	is there an upstream catchment passing through the site > 1 hectare?	☐	☑

If you answered ***'No'*** to **ALL** of these questions, then the site is **low risk** with respect to erosion and sediment control. (Do not continue to Table 2)

If you answered ***'Yes'*** to **ANY** of these questions, then proceed to ***Table 2***

Table 2: Medium Risk Test

		Yes	*No*
2.1	is the area of land disturbance > 1 hectare?	☑	☐

If ***'No'*** then the site is **medium risk** with respect to erosion and sediment control. (Do not continue to Table 3)

If ***'Yes'*** then proceed to ***Table 3***

Table 3: High Risk Test

		Yes	*No*
3.1	is there an upstream catchment passing through the site > 1 hectare?	☐	☑
3.2	does any land disturbance occurs in a BCC mapped waterway corridor?	☐	☑
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%?	☑	☐

If you answered ***'No'*** to **ALL** of these questions, then the site is also **medium risk** with respect to erosion and sediment control.

If you answered ***'Yes'*** to **ANY** of these questions, then the site is **high risk** with respect to erosion and sediment control.

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APPENDIX E DBYD PLANS

Job ID 54466133
2026050

Review responses online



Received 7 of 7 responses
All responses received

166 Mount Gravatt Road, Upper Mount Gravatt QLD 4122

Job dates
12/10/2026 → 14/10/2026

These plans expire on
9 Nov 2026

Lodged by
David Holstein

Authority	Status	Page
BYDA Confirmation		2
APA Group Gas Networks (90073)	Received	4
Brisbane City Council	Received	14
Energex QLD	Received	28
NBN Co Qld	Received	83
Powerlink Qld	Received	101
Queensland Urban Utilities	Received	110
Telstra QLD FA	Received	115

Job No 54466133

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Zero damage - Zero harm - Zero disruption

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Contact Details

Contact	Contact number	Company	Enquirer ID
David Holstein	0406 424 223	CIVIL360 ENGINEERING PTY LTD	3044194

Email
david@civil360.com.au

Address
PO BOX 360
ELANORA QLD 4221

Job Site and Enquiry Details

WARNING: The map below only displays the location of the proposed job site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

Enquiry date	Start date	End date	On behalf of	Job purpose	Locations	Onsite activities
12/10/2026	12/10/2026	14/10/2026	Private	Design	Both Road, Nature Strip, Footpath	Planning & Design, Subdivision



Check that the location of the job site is correct. If not, you must submit a new enquiry.

If the scope of works change or plan validity dates expire, you must submit a new enquiry.

Do NOT dig without plans. Safe excavation is your responsibility. If you don't understand the plans or how to proceed safely, please contact the relevant asset owners.

User Reference	Address	Notes/description
2026050	166 Mount Gravatt Road Upper Mount Gravatt QLD 4122	subdivision

Your Responsibility and Duty of Care

- **Lodging an enquiry does not authorise project commencement.** Before starting work, you must obtain all necessary information from all affected asset owners.
- If you don't receive plans within 2 business days, contact the asset owner & quote their sequence number.
- Always follow the 5Ps of Safe Excavation (page 2), and locate assets before commencing work.
- Ensure you comply with State legislative requirements for Duty of Care and safe digging.
- If you damage an underground asset, you MUST advise the asset owner immediately.
- By using the BYDA service, you agree to the Privacy Policy and Term of Use.
- For more information on safe digging practices, visit www.byda.com.au

Asset Owner Details

Below is a list of asset owners with underground infrastructure in and around your job site. It is your responsibility to identify the presence of these assets. Plans issued by Members are indicative only unless specified otherwise. Note: not all asset owners are registered with BYDA. You must contact asset owners not listed here directly.

Referral ID (Seq. no)	Authority Name	Phone	Status
280770987	APA Group Gas Networks (90073)	1800 085 628	NOTIFIED
280770983	Brisbane City Council	(07) 3403 8888	NOTIFIED
280770981	Energex QLD	13 12 53	NOTIFIED
280770982	NBN Co Qld	1800 687 626	NOTIFIED
280770986	Powerlink Qld	(07) 3866 1313	NOTIFIED
280770985	Queensland Urban Utilities	13 26 57	NOTIFIED
280770984	Telstra QLD FA	1800 653 935	NOTIFIED

END OF UTILITIES LIST

The 5Ps of Safe Excavation

Plan

Plan your job. Use the BYDA service at least one day before your job is due to begin, and ensure you have the correct plans and information required to carry out a safe project.

Prepare

Prepare by communicating with asset owners if you need assistance. Look for clues onsite. Engage a skilled Locator.

Pothole

Potholing is physically sighting the asset by hand digging or hydro vacuum extraction.

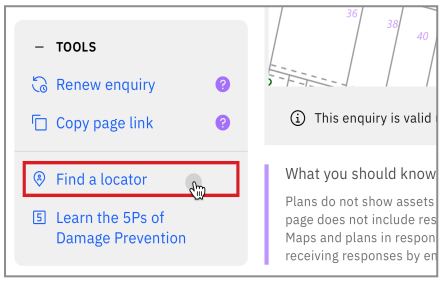
Protect

Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.

Proceed

Only proceed with your excavation work after planning, preparing, potholing (unless prohibited), and having protective measures in place.

Engage a skilled Locator



When you lodge an enquiry you will see skilled Locators to contact

Visit the Certified Locator website directly and search for a locator near you

certloc.com.au/locators

Get FREE Quotes for Contractors & Equipment Fast

Use iseekplant's FREE marketplace to get quotes for the equipment or services you need on your project. Compare quotes from trusted local contractors and get your project done on time and in budget.

1. Fill out your job details in our FREE quick quote form.
2. We send the request to trusted local contractors.
3. The local contractors will contact you directly with quotes

GET QUOTE

Use iseekplant to find trusted contractors near you today, visit:
blog.iseekplant.com.au/byda-isp-get-quotes

Book a FREE BYDA Session

BYDA offers free training sessions to suit you and your organisation's needs covering safe work practices when working near essential infrastructure assets. The free sessions are offered in two different formats - online and face-to-face.

To book a session, visit:
byda.com.au/contact/education-awareness-enquiry-form

BOOK NOW

Lodge your FREE enquiry online any time at byda.com.au

APA Group Gas Networks (90073)

Referral
280770987

Member Phone
1800 085 628

Responses from this member

Response received Mon 12 Oct 2026 2.51pm

File name	Page
Response Body	5
280770987.pdf	6

PLEASE NOTE: This is an automated response. Please **DO NOT REPLY to this email**. If you require further information in relation to this Before You Dig response, please contact

BYDA_APA@apa.com.au

Enquiry Details:

Impact	not affected
Sequence Number	280770987
Enquirer Id	3044194
Activity	Planning and Design,Subdivision
Job Number	54466133
User Reference	2026050
Message	subdivision

Site Details:

Address	166 Mount Gravatt Road Upper Mount Gravatt QLD 4122

Enquirers Details:

Contact	David Holstein
Company	CIVIL360 ENGINEERING PTY LTD
Email	david@civil360.com.au
Phone	+61406424223
Address	PO BOX 360 ELANORA QLD 4221

APA Group

APA
Australia's energy infrastructure partner

BEFORE YOU DIG
www.byda.com.au

Before You Dig Australia

Classification: Networks

Enquiry date	12/10/2026
Sequence number	280770987
Work site address	166 Mount Gravatt Road Upper Mount Gravatt QLD 4122



Enquiry Date:	12/10/2026
Enquirer:	David Holstein
Sequence Number:	280770987
Work Site Address:	166 Mount Gravatt Road
	Upper Mount Gravatt
	QLD 4122

Thank you for your Before You Dig enquiry regarding the location of gas assets.

We confirm there are NO Gas Assets located in close vicinity of the above location.

Caution: Damage to gas assets may result in explosion, fire and personal injury.

Please ensure you read and comply with all the relevant information contained in this response to your BYDA enquiry.

Before You Dig Checklist



1. Plan

- Review maps provided with this BYDA response and confirm the location of your work site is correct.



2. Prepare

- Electronically locate gas assets and mark locations.
- Note: Look for visible evidence of gas assets at the worksite which may not be shown on plans.



3. Pothole

- Not applicable where no gas assets present.



4. Protect

- Not applicable where no gas assets present.



5. Proceed

- Only proceed with your work once you are confident no gas assets are located in vicinity to your work location.
- APA BYDA response (including maps) are on site for reference at all times, and less than 30 days old.

Contacts

Contacts APA Group	
Enquiry	**Contact Numbers**
General enquiries or feedback regarding this information or gas assets.	APA – Before You Dig Officer Phone: 1800 085 628 Email: BYDA_APA@apa.com.au
Gas Emergencies	Phone: 1800 GAS LEAK (1800 427 532)

Site Watch

Site Watch is where an APA field officer attends your work site to monitor and ensure controls are in place to protect critical gas assets from damage during work.

The following rates* apply for this service (1 hour minimum charge):

Item	Rate (excl. gst)
Site Watch – Business Hours	$143.42 per hour
Site Watch – After Hours	$175.06 per hour
Cancellation Fee *Fee applies where cancelations received after 12pm (midday), 1 business day prior to the booking*	$286.84

Contact APA – Before You Dig officer for state specific hours of business.

**The specified rates do not apply to Origin Energy LPG assets. All charges and invoicing related to these assets will be administered directly by Origin Energy. For further information contact Origin Energy.*

Site Address:	166 Mount Gravatt Road Upper Mount Gravatt QLD 4122	**Sequence Number:**	280770987



Scale 1: 6000

Map Sources: Esri, Garmin, HERE, FAO, NOAA, USGS,
© OpenStreetMap contributors, and the GIS User Community

Enquiry Area

Map Key Area

Legend

PIPE LEGEND: GAS TYPE AND PRESSURE

	Low pressure	Medium pressure	High pressure	Transmission
Natural gas				
Natural gas – proposed				
LPG (yellow dash)	*not applicable*			*not applicable*
Hydrogen blended (aqua dash)	*not applicable*			*not applicable*

PIPE LEGEND: SPECIAL DESIGNATION

	Low pressure	Medium pressure	High pressure	Transmission
Critical main (yellow highlight)				
Casing (grey highlight)				*not applicable*

These designations typically apply to any pipe type and pressure

PIPE LEGEND: OTHER STATUS

- Abandoned pipe
- Idle or inactive pipe

ABBREVIATION

BoK	Back of kerb
C	Depth of cover
CP	Cathodic protection
FoK	Front of kerb
NTI	Not tied in

OBJECT SYMBOLS

- Valve
- Buried valve
- Regulator station
- Gas connected property
- CP test station
- CP anode
- CP bond wire
- CP rectifier terminal
- Syphon
- Marker
- Part service^

^A live gas service terminated underground within the property boundary, available for future extension to the gas meter.

PIPE CODE AND MATERIAL

P*	Polyethylene (PE)
P3	Polyvinyl chloride (PVC)
S*	Steel
C*	Cast iron
CU	Copper
N2	Nylon
W2	Wrought galv iron
W3	PE coat wrought galv iron

INTERPRETATION EXAMPLE

40P6 in 80C2 — High pressure, 40 mm polyethylene in an 80 mm cast iron casing

63S8 — Medium pressure, 63 mm steel

Pipe diameter in millimetres is shown before pipe code.
40P6 = 40 mm nominal diameter

This map was created in colour and should be printed in colour

Important information

- Refer to requirements relating to construction, excavation and other work activities in the **APA Guidelines for Works Near Existing Gas Assets** document with this BYDA response.
- BYDA enquiries are valid for 30 days. If your works commence after 30 days from the date of this response a new enquiry is required to validate location information.
- **For some BYDA enquiries, you may receive two (2) responses from APA. Please read both responses carefully as they relate to different assets.**
- Gas (inlet) services connecting Gas Assets in the street to the gas meter on the property are not marked on the map. South Australia Only – if a meter box is installed on the property, a sketch of the gas service location may be found inside the gas meter box. APA does not guarantee the accuracy or completeness of these sketches.

Free Gas Pipeline Awareness Training and Information

PROFESSIONALS

APA offers online and in-person toolbox forums to support safe work near underground gas assets. Topics include distribution and transmission pipelines, the permit process, and gas emergencies, with content suited for companies of all sizes. A Continuing Professional Development certificate is available upon completion.

Scan the QR code to register for an online toolbox, or email **damageprevention@apa.com.au** to request an in-person presentation.

HOMEOWNERS

If you're working near your home's gas pipes stay safe and view APA's video guide **'Working Safely Near Gas Lines: A DIY Homeowner's Guide'** which offers simple tips to avoid damaging gas pipes.

Scan the QR code to view the video, or for more information email **damageprevention@apa.com.au**

Disclaimer and legal details

- This information is valid for 30 days from the date of this response.
- This information has been generated by an automated system based on the area highlighted in your BYDA request and has not been independently verified.
- Map location information is provided as AS5488-2022 Quality Level D, as such supplied location information is indicative only.
- Whilst APA has taken reasonable steps to ensure that the information supplied is accurate, the information is provided strictly on the condition that no assurance, representation, warranty or guarantee (express or implied) is given by APA in relation to the information (including without limitation quality, accuracy, reliability, completeness, currency, sustainability, or suitability for any particular purpose) except that the information has been disclosed in good faith.
- Any party who undertakes activities in the vicinity of APA operated assets has a legal duty of care that must be observed. This legal obligation requires all parties to adhere to a standard of reasonable care while performing any acts that could foreseeably harm these assets



APA
Australia's energy infrastructure partner

Brisbane City Council

Referral
280770983

Member Phone
(07) 3403 8888

Responses from this member

Response received Mon 12 Oct 2026 2.51pm

File name	Page
Response Body	15
ASSET 280770983.pdf	16

Attention: David Holstein

Thank you for your enquiry with Brisbane City Council's Before You Dig service.

Job Number: **54466133**
Sequence Number: **280770983**

The attached .PDF file contains the location of Council's relevant services for your requested location. If you are having trouble viewing these files, it is recommended you upgrade your version of Adobe Reader. You can download the latest version of Adobe Reader for free at http://get.adobe.com/reader/

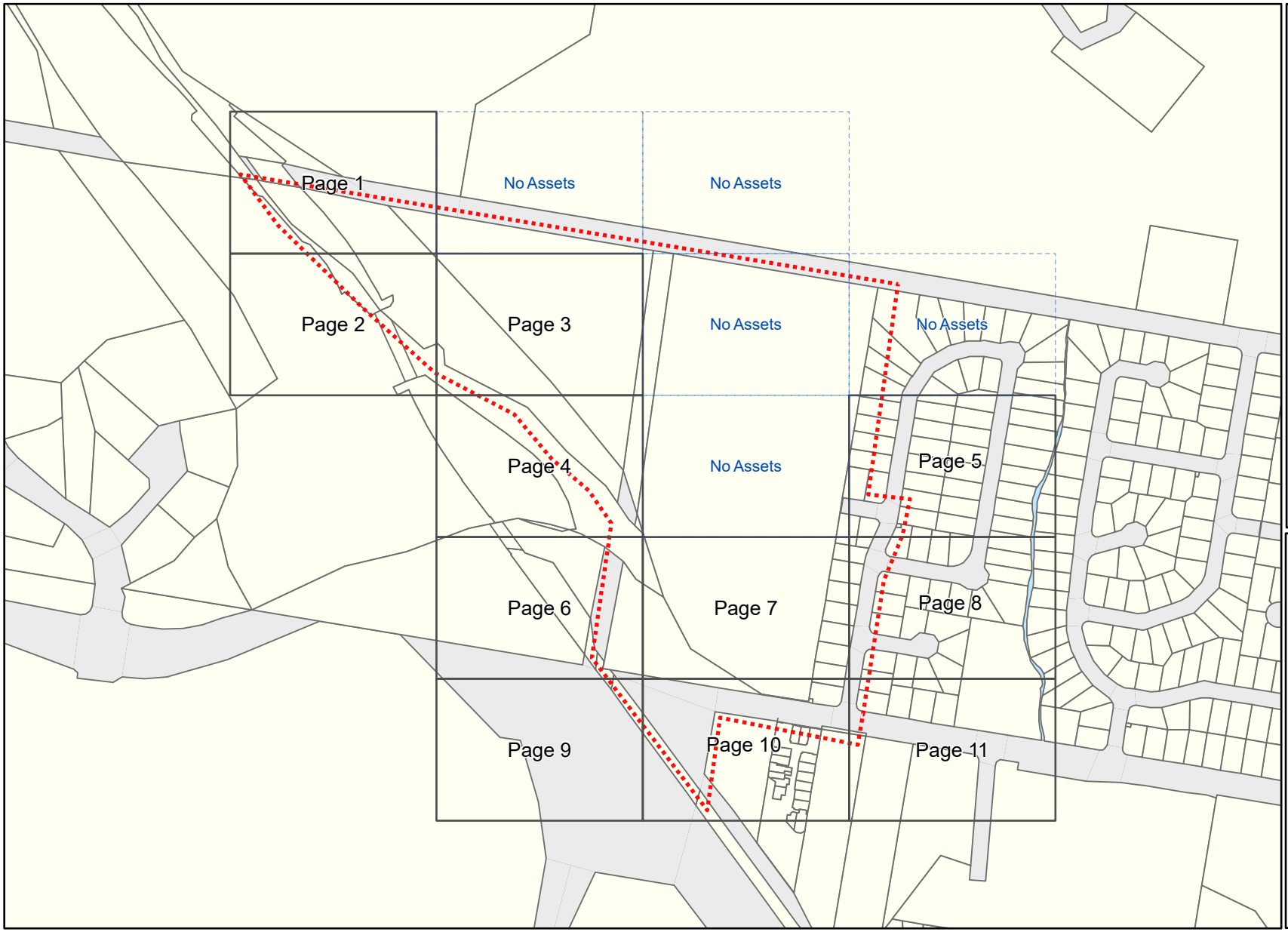
If you require more information, Council offers a convenient online mapping subscription service containing additional services data. The online service offers a wide variety of spatial information suitable for searches over large areas, including information previously available only by visiting Council's Customer Service Centres.

For more information on Council's online mapping services, visit http://www.brisbane.qld.gov.au/planning-building/planning-guidelines-and-tools/online-tools/ebimap/index.htm

Kind regards,

Brisbane City Council
Before You Dig

Job # 54466133
Seq # 280770983
Provider: Brisbane City Council
Telephone: (07) 3403 8888



Legend

- BYDA Enquiry
- Detailed map page
- No dig site assets

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In an emergency contact Brisbane City Council on 07 3403 8888

Index Sheet

0 60 120 240 m

Scale 1:5,500

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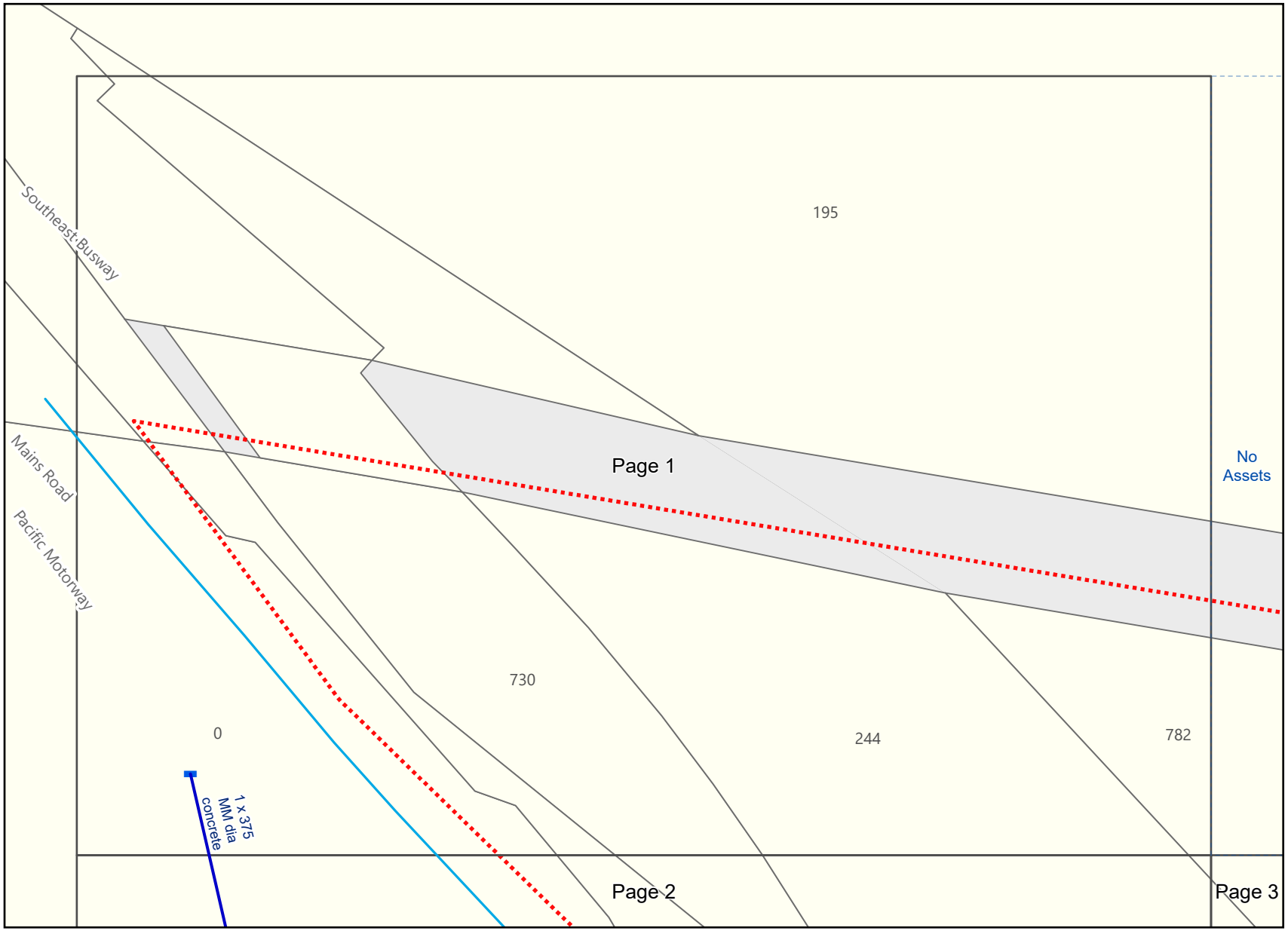
Seq # 280770983
Provider: Brisbane City Council
Telephone: (07) 3403 8888



Legend

- BYDA Enquiry

Stormwater Network

- Stormwater Drain
- Stormwater Gully Pit

BCC Cable Network

- Fibre Optic Cable Location

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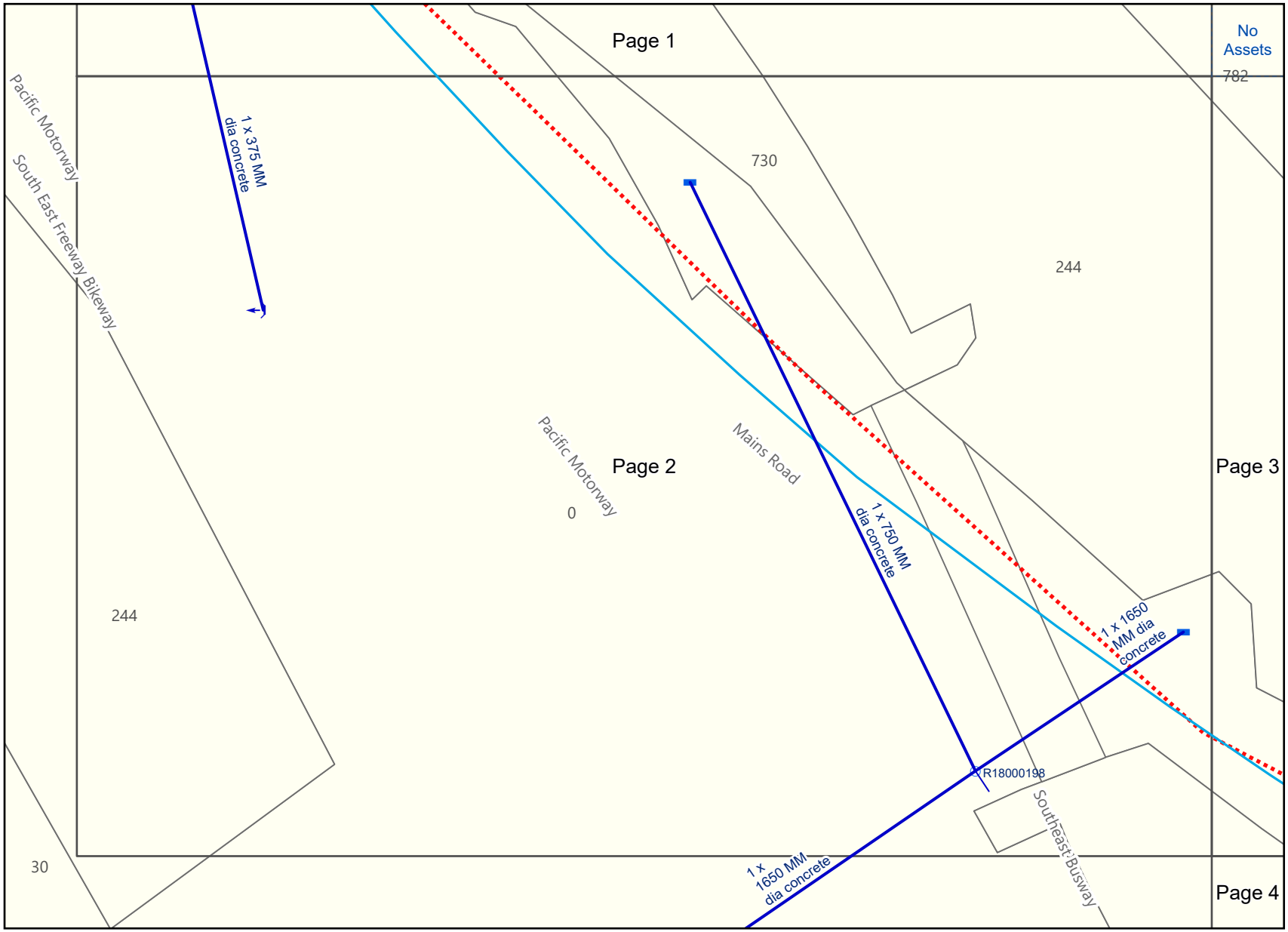

Legend

BYDA Enquiry

Stormwater Network

- Stormwater Drain
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- Pipe End Outlet

BCC Cable Network

- Fibre Optic Cable Location

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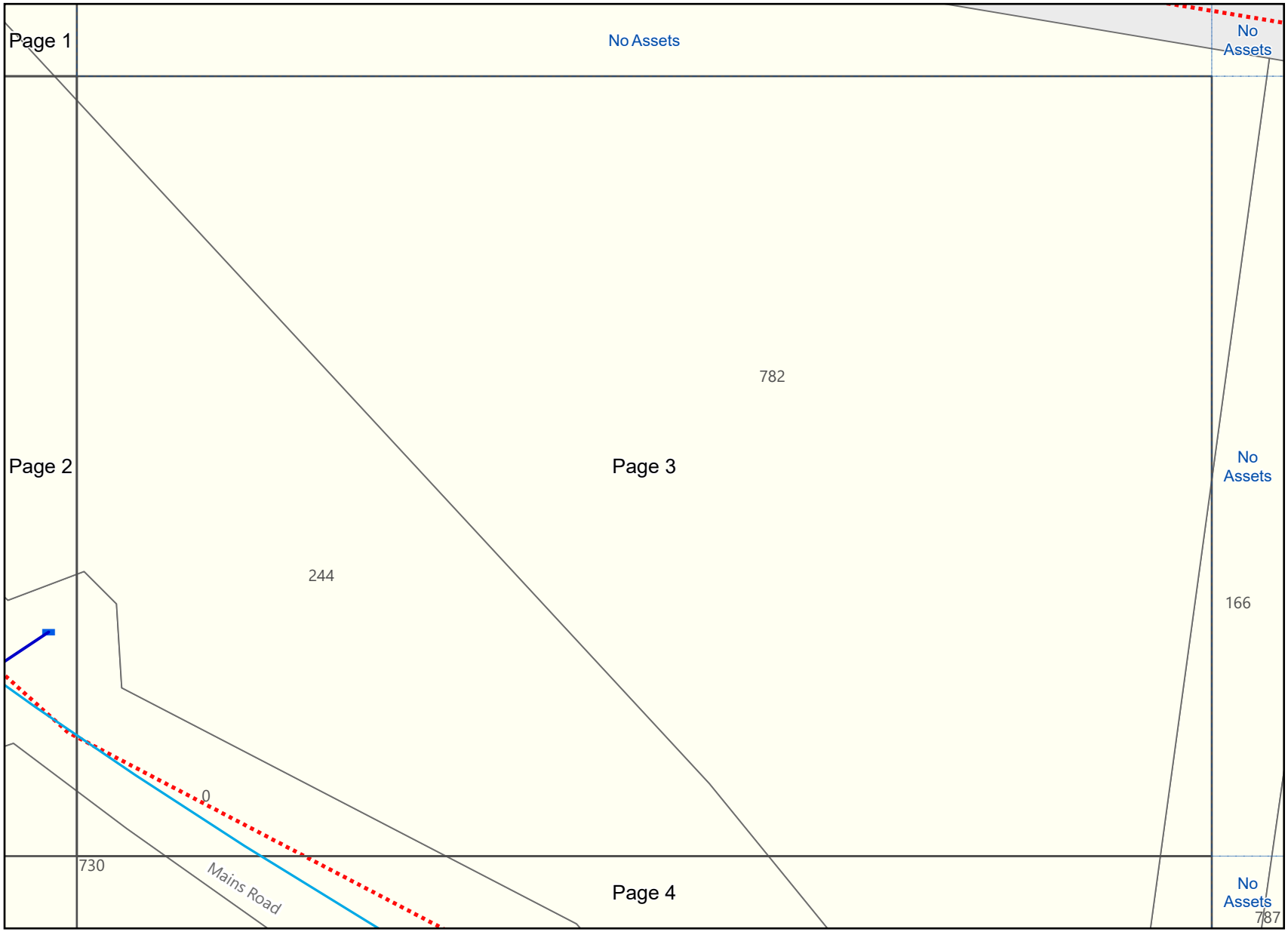

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BYDA Enquiry

Stormwater Network

Stormwater Drain

Stormwater Gully Pit

BCC Cable Network

Fibre Optic Cable Location

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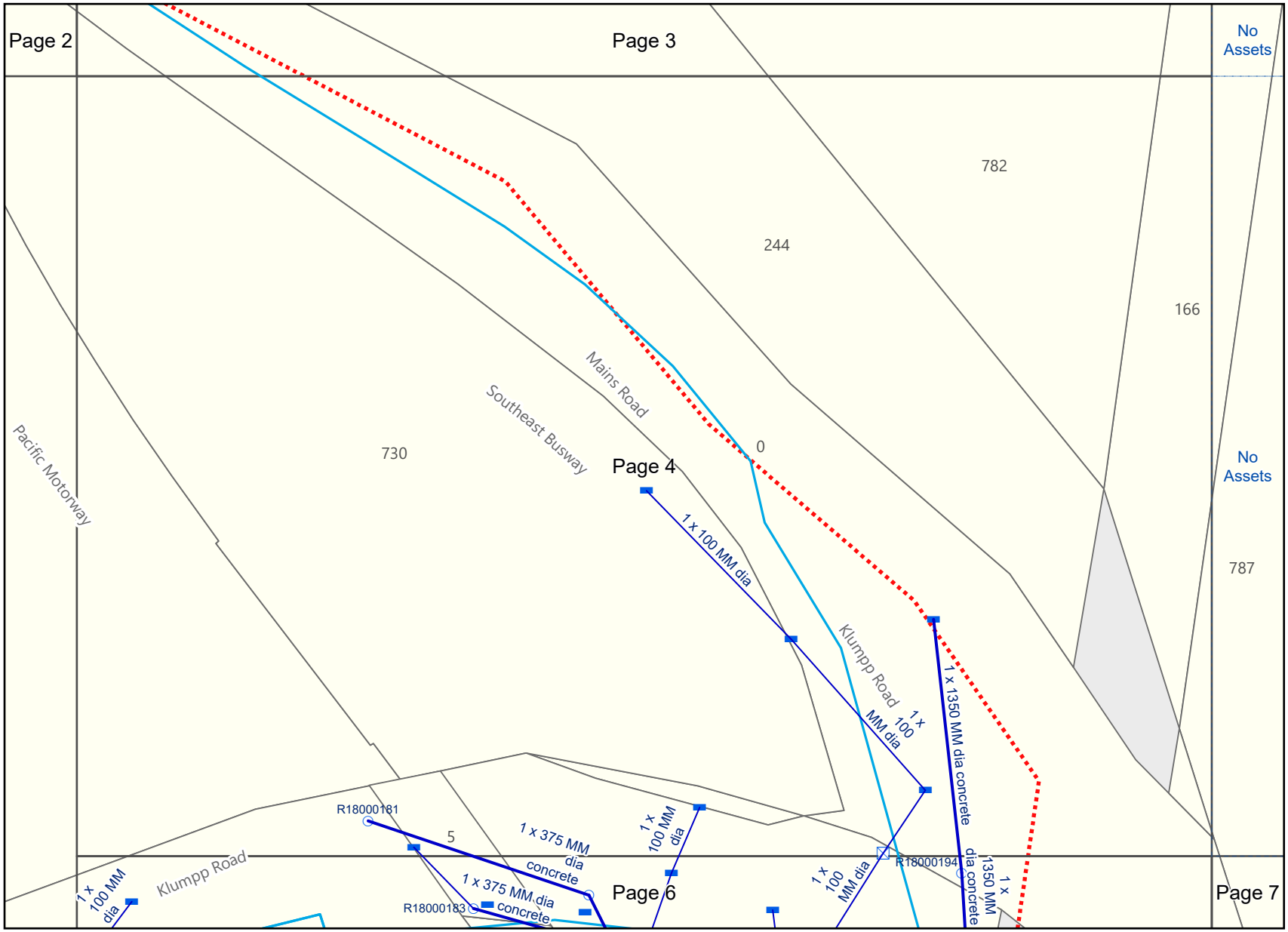

Legend

BYDA Enquiry

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- Stormwater Gully Pit
- Stormwater Field Inlet

BCC Cable Network

- Fibre Optic Cable Location

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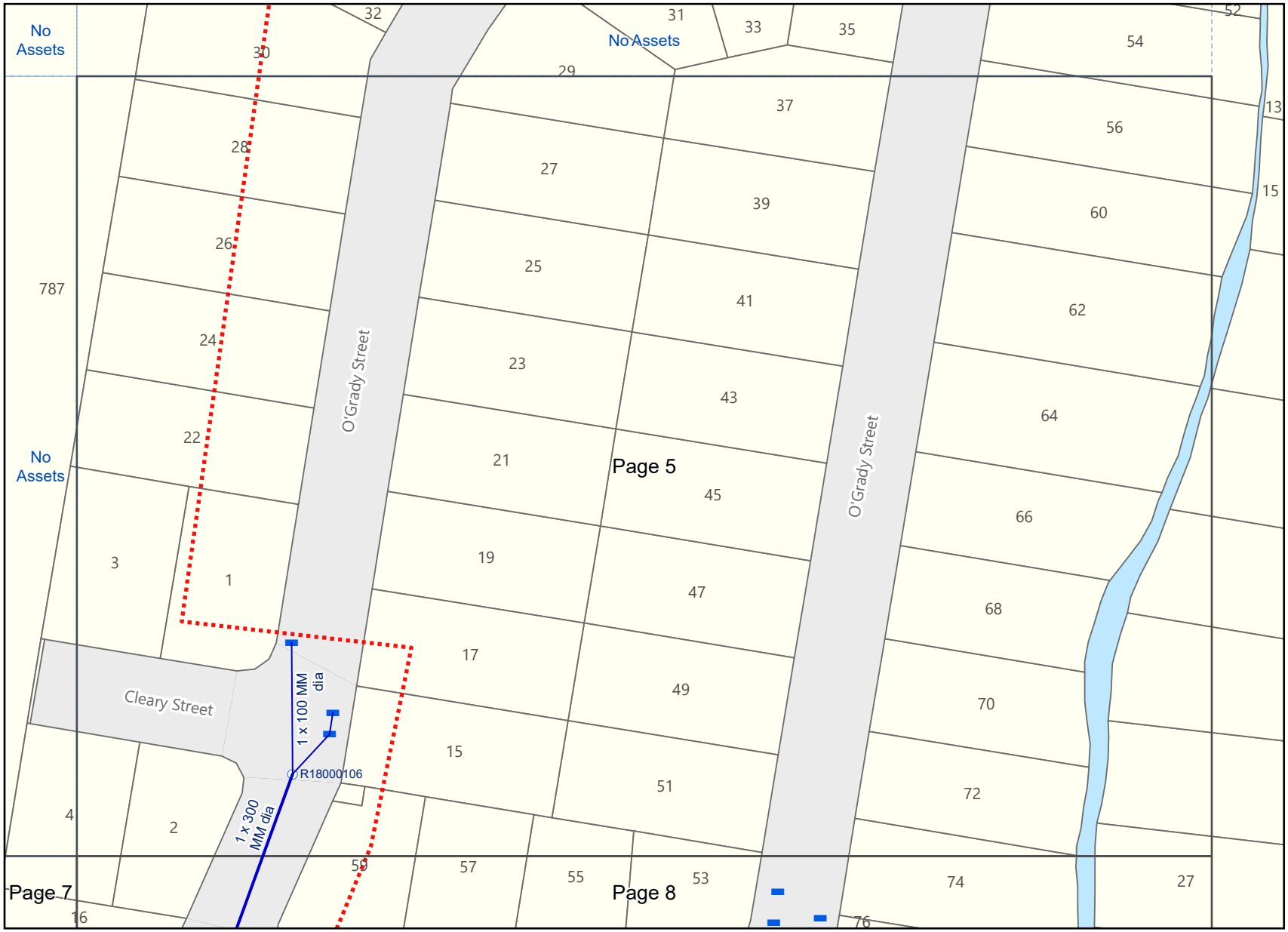

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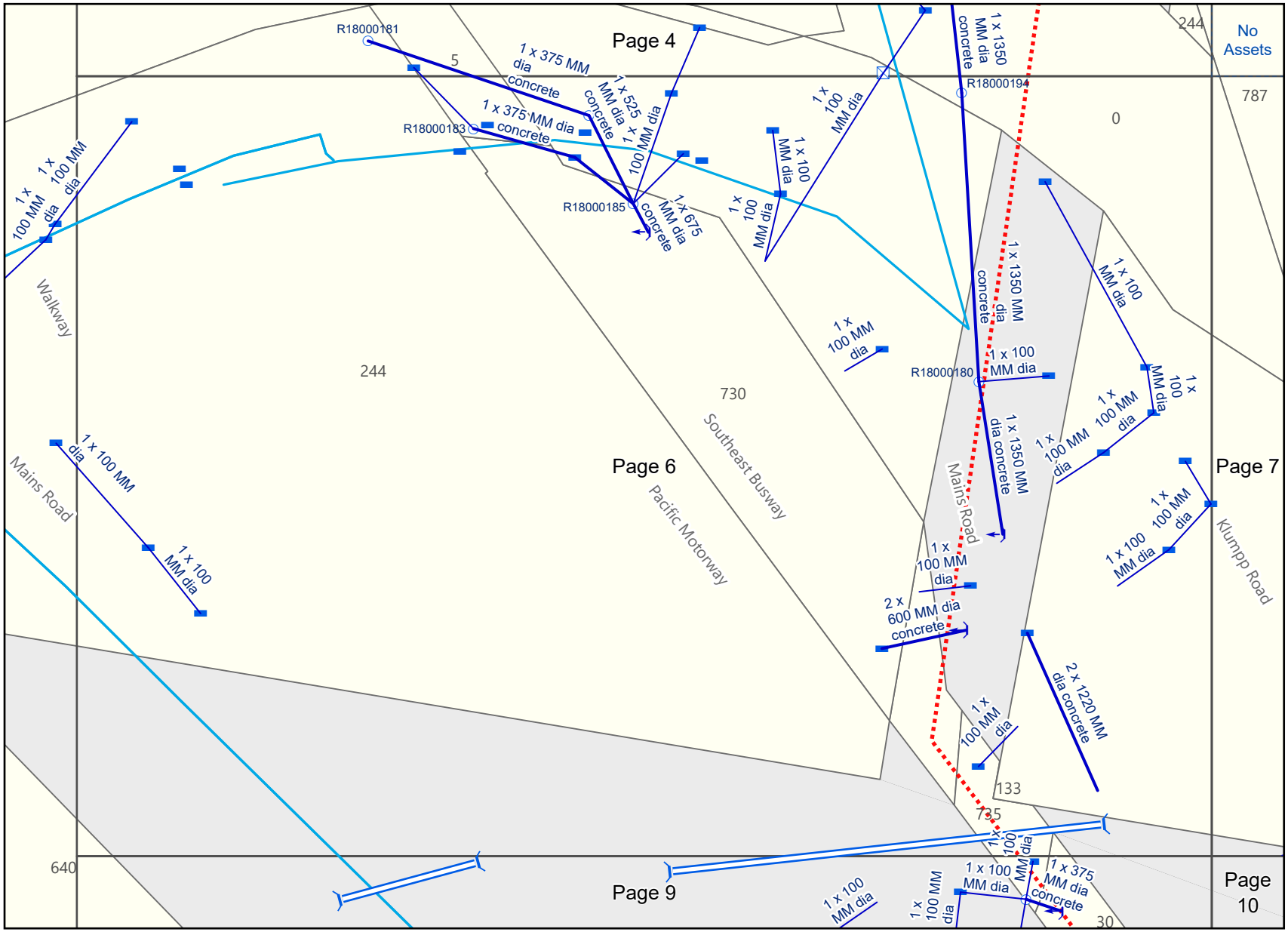

Legend

BYDA Enquiry

Stormwater Network

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- Stormwater Field Inlet
- Stormwater Culvert
- Pipe End Outlet

BCC Cable Network

- Fibre Optic Cable Location

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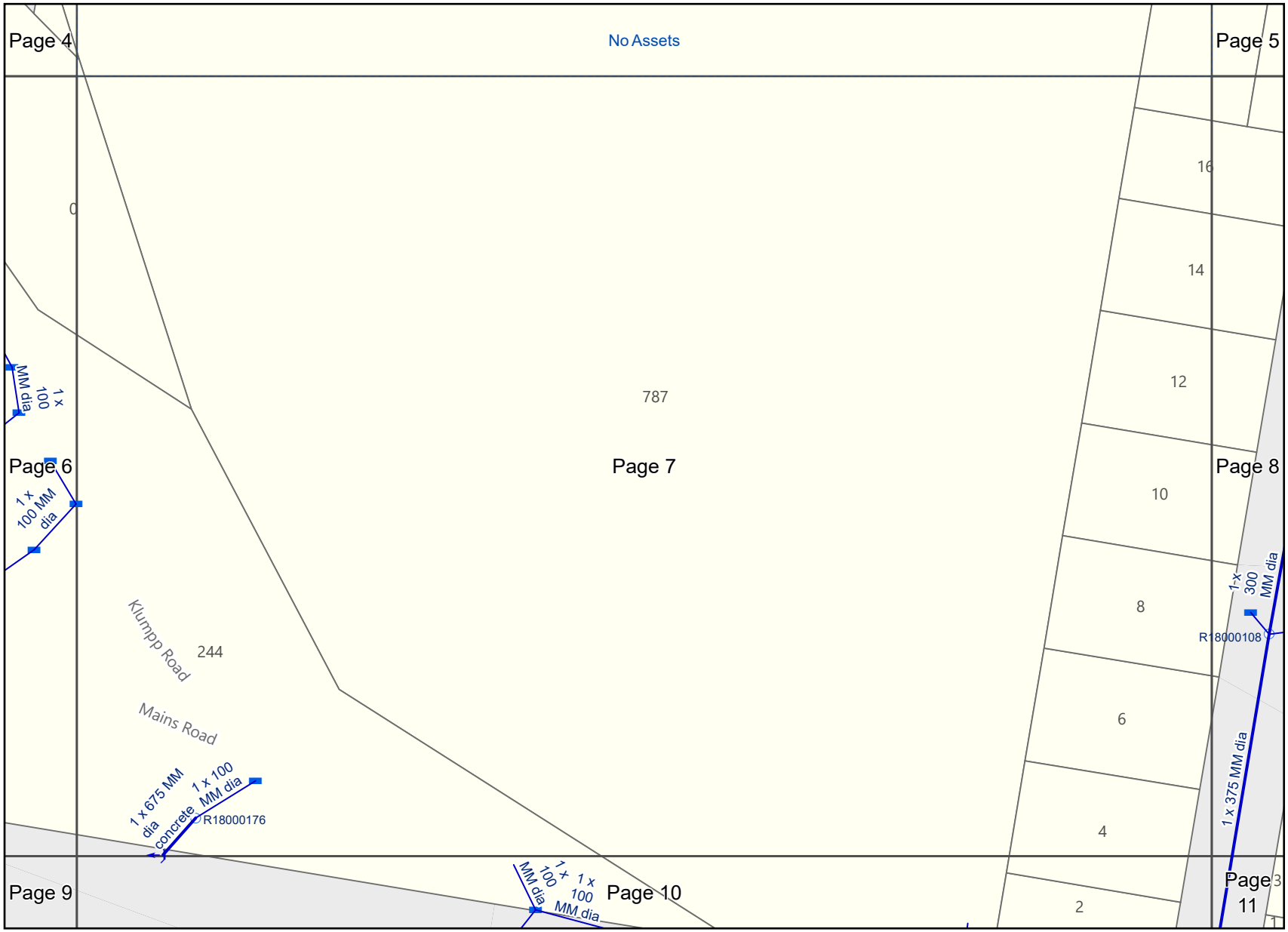

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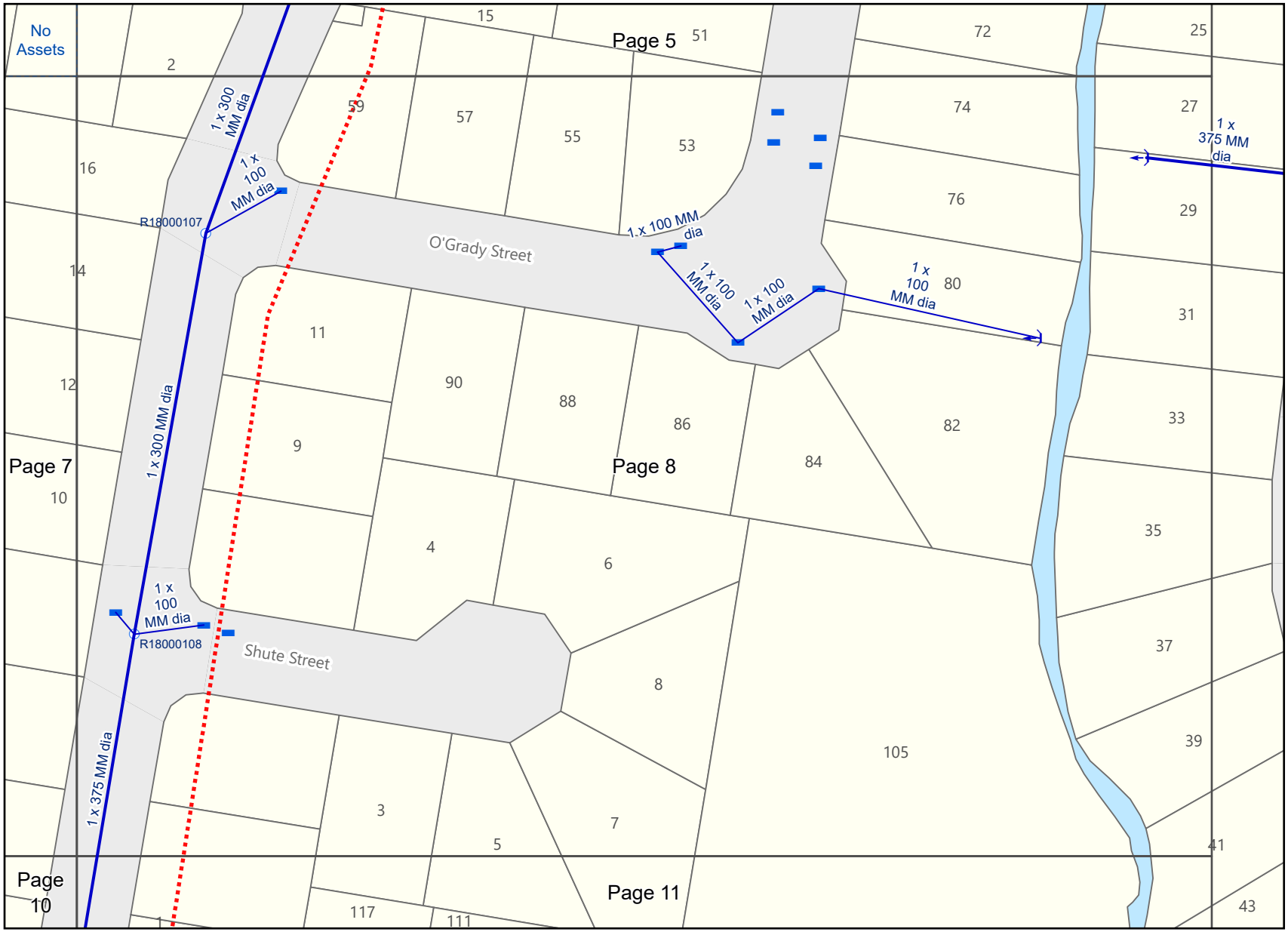

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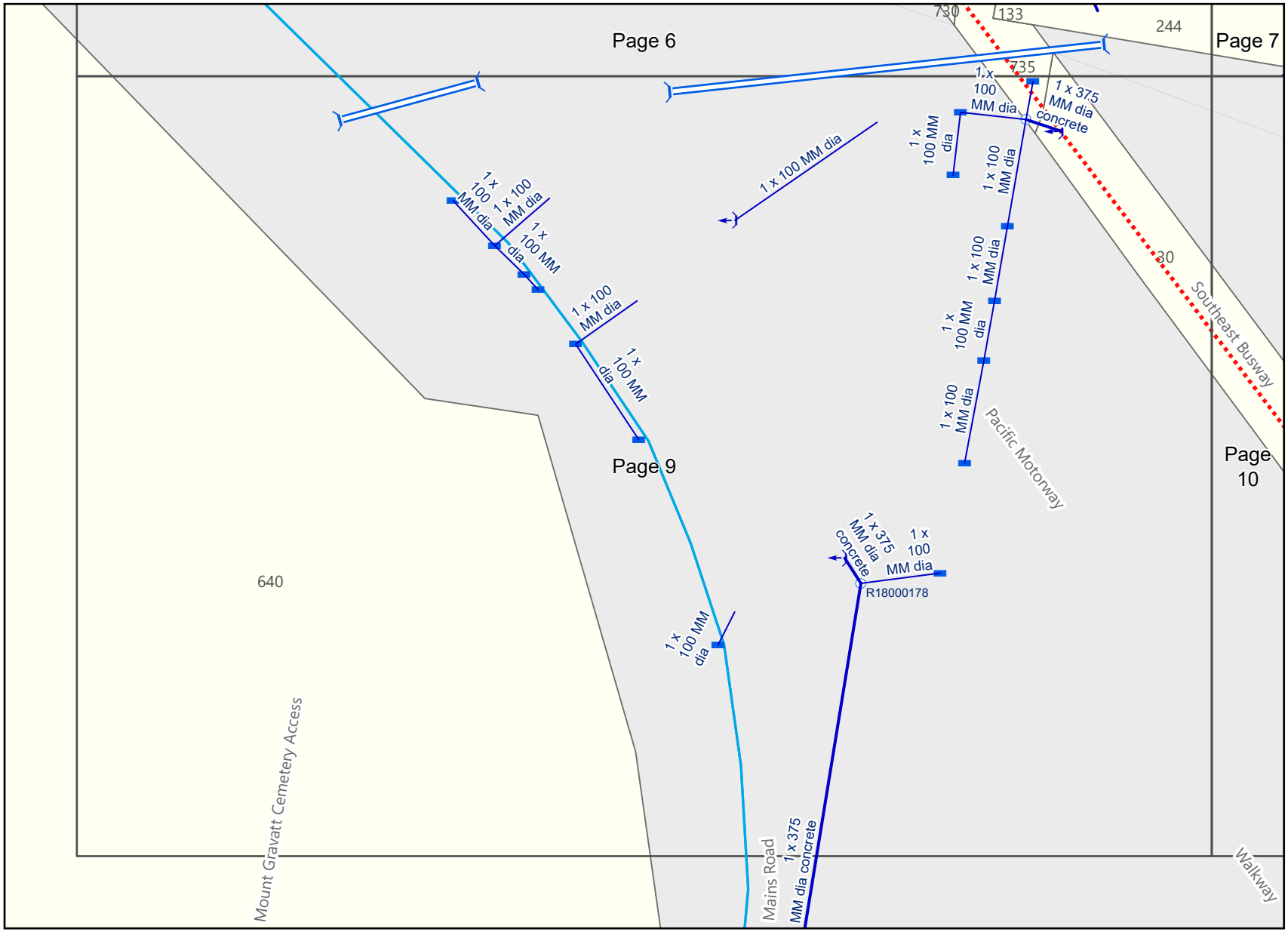

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BYDA Enquiry

Stormwater Network

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- Stormwater Gully Pit
- Stormwater Culvert
- Pipe End Outlet

BCC Cable Network

- Fibre Optic Cable Location

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Caution: This map may contain the locations of abandoned underground asbestos pipes. Council gives no warranty to the completeness or accuracy of these records. Appropriate care needs to be taken in all cases.

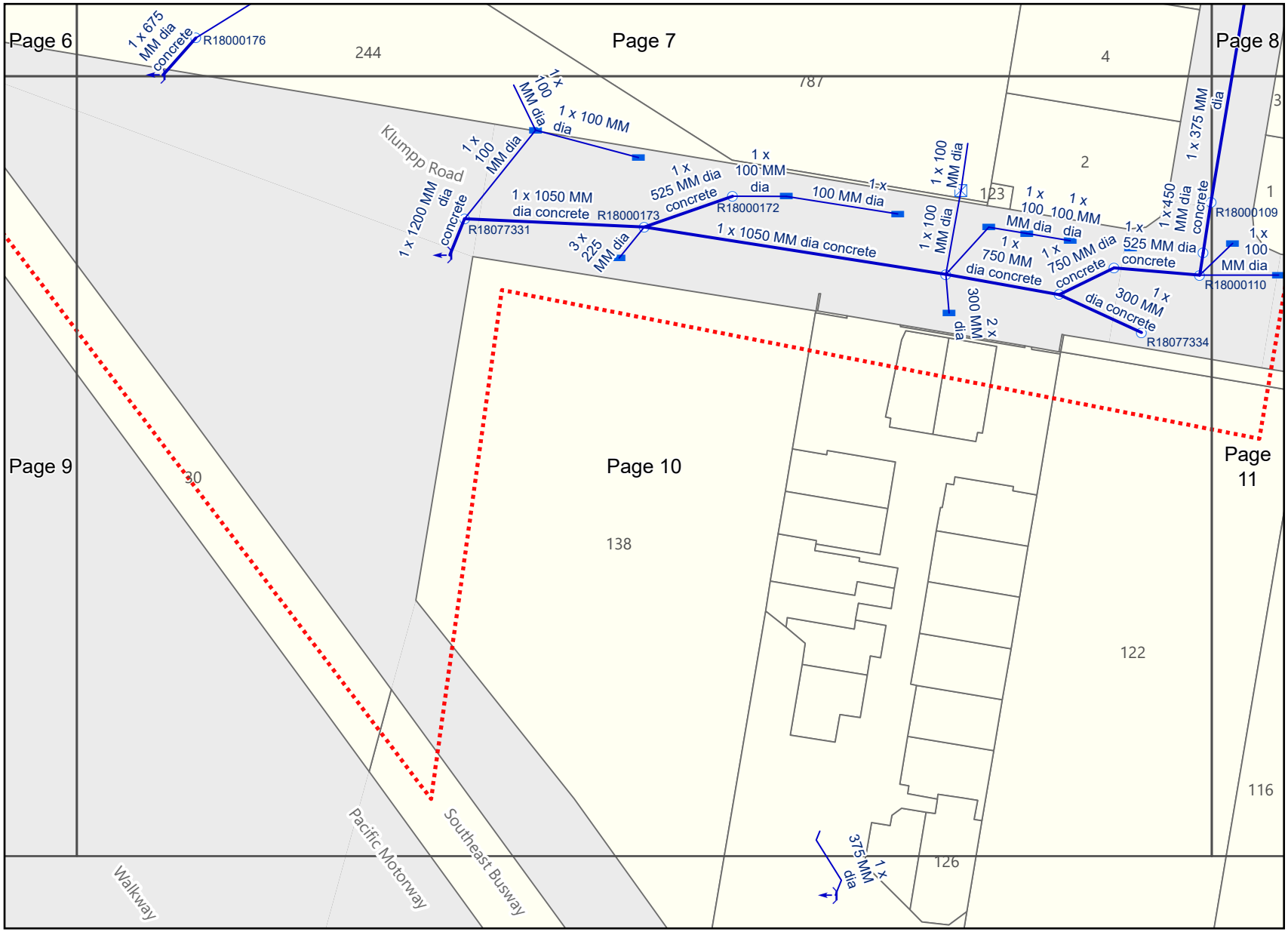
In an emergency contact Brisbane City Council on 07 3403 8888
12/10/26 (valid for 30 days)

0 10 20 40 m

Scale 1:1,000

Plans generated by SmarterWX™ Automate

Job # 54466133
Seq # 280770983
Provider: Brisbane City Council
Telephone: (07) 3403 8888



Legend

BYDA Enquiry

Stormwater Network

- Stormwater Drain
- Stormwater Gully / Roofwater Connection
- Stormwater Maintenance Hole
- Stormwater Gully Pit
- Stormwater Field Inlet
- Pipe End Outlet

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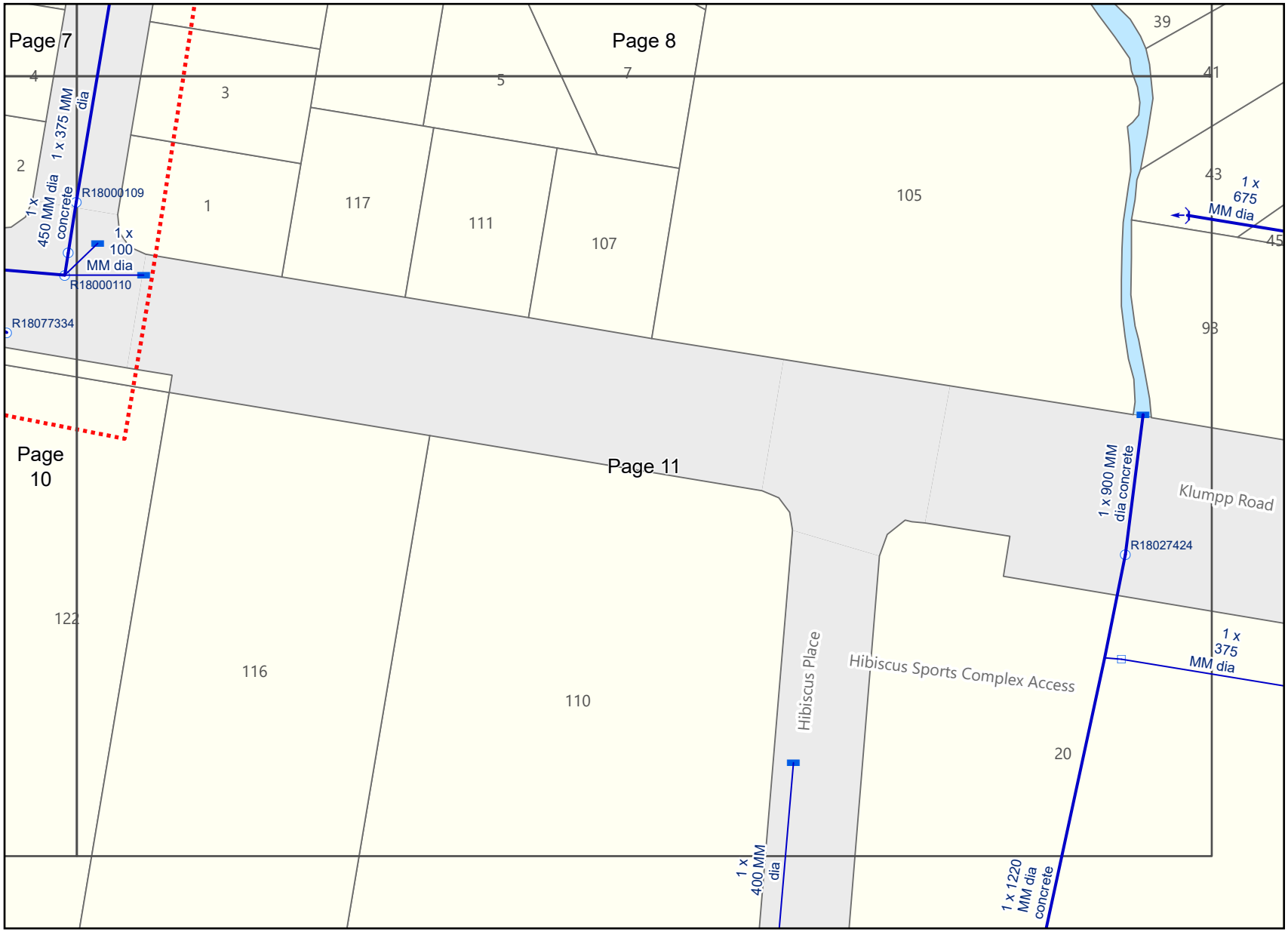

Legend

BYDA Enquiry

Stormwater Network

- Stormwater Drain
- Stormwater Gully / Roofwater Connection
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- Stormwater Roofwater Pit
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12/10/26 (valid for 30 days)

0 10 20 40 m

Scale 1:1,000

Plans generated by SmarterWX™ Automate

Energex QLD

Referral
280770981

Member Phone
13 12 53

Responses from this member

Response received Mon 12 Oct 2026 2.54pm

File name	Page
Response Body	29
280770981 - Energex Plan.pdf	32
Energex BYDA Terms and Conditions.pdf	47
Working Near Overhead and Underground Electric Lines.pdf	52

Assets found

Before You Dig Australia (BYDA) Request

Please DO NOT SEND A REPLY to this email as it has been automatically generated and replies are not monitored.

The attached Plan details ENERGEX's Assets in relation to Your nominated search area.

Ensure You read and understand the important notes outlined below.

You:	**BYDA Enquiry No:**
David Holstein	280770981
Company:	**Date of Response:**
CIVIL360 ENGINEERING PTY LTD	12 Oct 2026
Search Location:	**Period of Plan Validity:**
166 Mount Gravatt Road Upper Mount Gravatt, QLD 4122	4 Weeks

External Comments (if any):

subdivision

WARNING: When working in the vicinity of Energex's Assets You have a legal *Duty of Care* that must be observed.

It is important that You note:

1. Immediately report life threatening emergencies to Emergency Services on **000** or to ENERGEX on **13 19 62**.
2. Please read and understand all the information and disclaimers provided - including the Terms and Conditions on the attached pages.
3. We have only searched the area which has been nominated in the request. If this nominated area is not what You require, please resubmit another enquiry with BYDA.
4. Plans provided by ENERGEX are only an indication of the presence of underground Assets within the nominated area. Locations provided are approximate and the plans are not suitable for scaling purposes, as exact ground cover and alignments cannot be provided. You must confirm the exact location of Assets by use of an electronic cable locator followed by careful, non-mechanical excavation (i.e. potholing).
5. Plans provided by ENERGEX do not encompass ENERGEX's overhead Assets.
6. ENERGEX, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and details supplied pursuant to the BYDA Request and You agree to indemnify ENERGEX against any claim or demand for any such loss or damage to You, Your servants or Your agents.
7. You are responsible for any damage to underground Assets caused by works pursuant to or in any way connected with this BYDA Request.

8. In addition to underground cables marked on attached plan, there could be underground earth conductors, underground substation earth conductors, Multiple Earthed Networks (MEN) conductors, Single Wire Earth Return (SWER) Substation Earth Conductors, Air Break Switch (ABS) Earth Mats or Consumer Mains in the vicinity or private underground cables (inc. consumers' mains that may run from ENERGEX mains onto private property) in the vicinity of the nominated work area(s) that are not marked on the plans.
9. To locate underground assets, independent Certified Locators may be sourced using the 'Find a Locator' tool available within the BYDA enquiry response on the BYDA website.
10. The ENERGEX Before You Dig Australia (BYDA) information map(s) provide the vicinity of underground cable and will not be adequate for conveyancing purposes. A Request for Search (Property Search) can be arranged through ENERGEX.
11. The attached plans are only valid for a period of four weeks from receipt. If excavation does not commence within four weeks, a new plan should be obtained.
12. The ENERGEX BYDA map (named maps.pdf) may contain shaded area(s), indicating the location of planned work(s). Should You find planned works that You believe may affect Your planned work(s), please contact the ENERGEX BYDA team on the details listed below.
13. ENERGEX may contact You to discuss Your proposed excavation in the vicinity of feeders identified on the attached plan(s).
14. Do not access Assets, for example, conduits, cables, pits or cabinets.
15. Your work will need to comply with:
    - Working near overhead and underground electric lines - Electrical safety code of practice 2020
    - Managing Electrical Risk in Workplace Electrical Safety Code of Practice (2013)
    - Excavation Work Code of Practice (2021)

NOTE: Where Your proposed work location contains Energex 33kV or greater Underground cables please access the Energex before you dig Website for more information.

General enquiries (7:00am - 5:30pm Mon to Fri)	**13 12 53**
Life threatening emergencies only triple zero (000) or	**13 19 62**

To re-submit or change the nominated search area please visit **BYDA.com.au**

E: **custserve@energex.com.au**

E: **byda@energyq.com.au** ABN: 40 078 849 055

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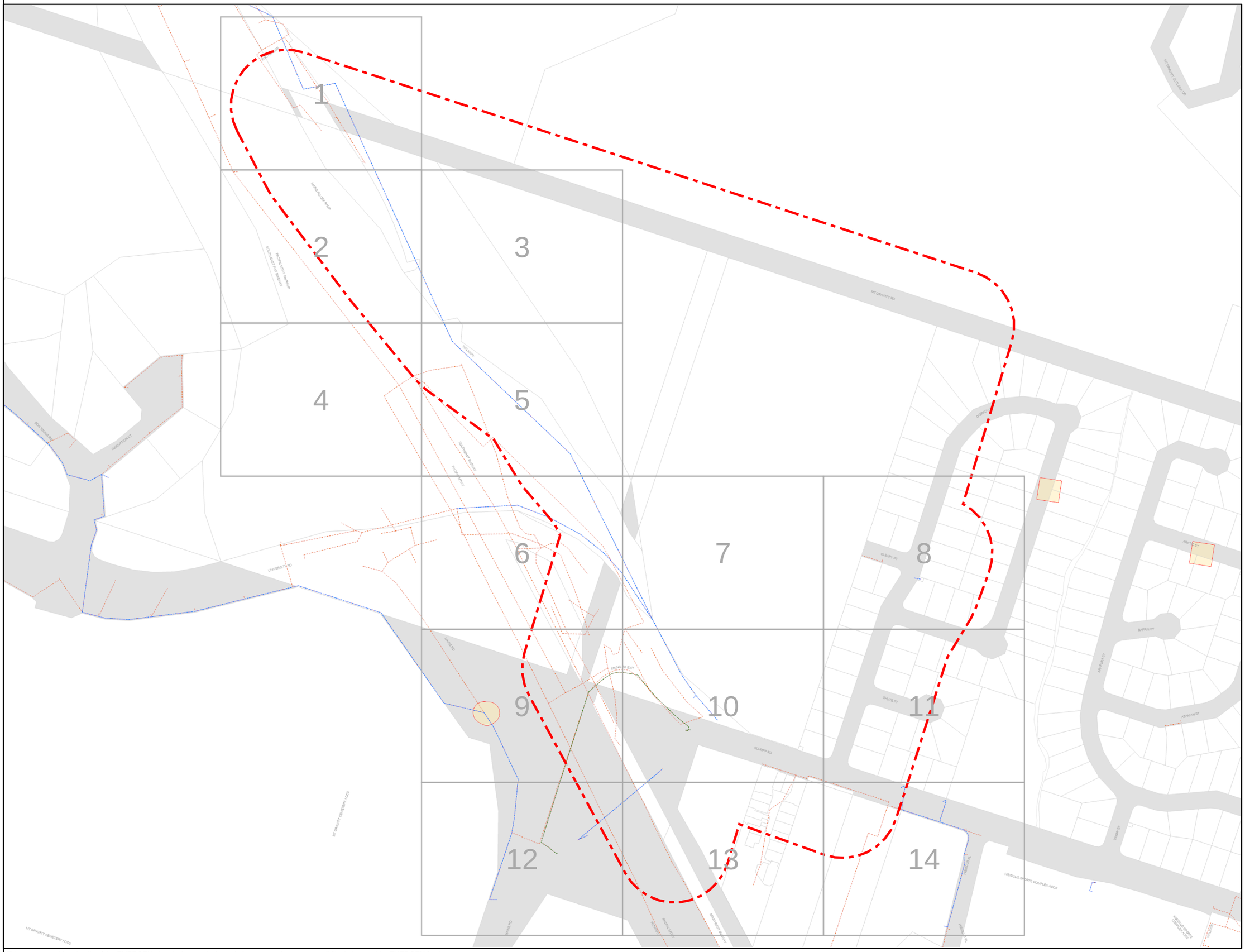
If you are unable to launch any of the files for viewing and printing, you may need to download and install free viewing and printing software such as Adobe Acrobat Reader (for PDF files)

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ENERGEX BYDA map, then ENERGEX shall be contacted immediately.

For Emergency Situations
Please Call 13 19 62



energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:3075
Tile No: **OVERVIEW**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

N
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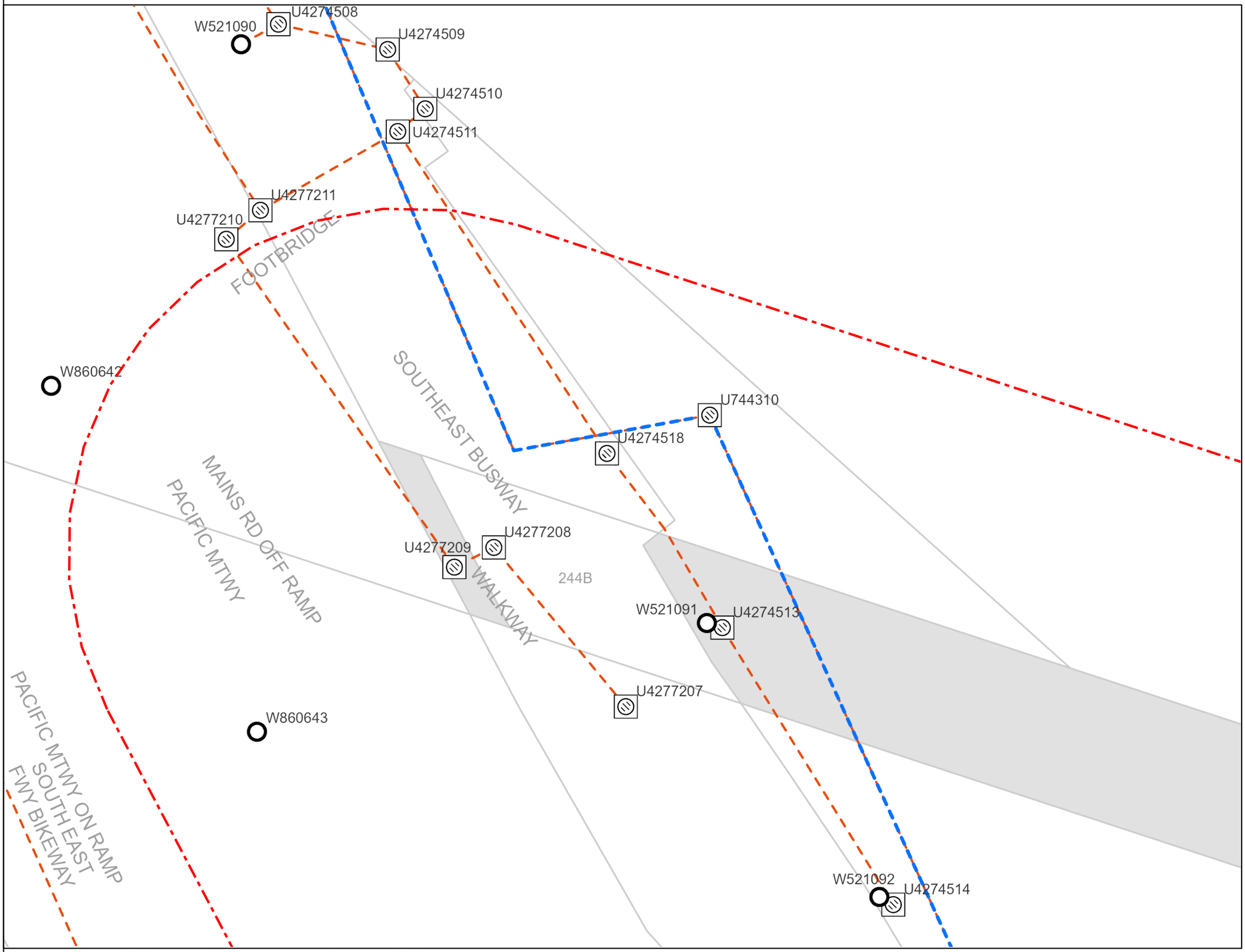

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 1**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

N
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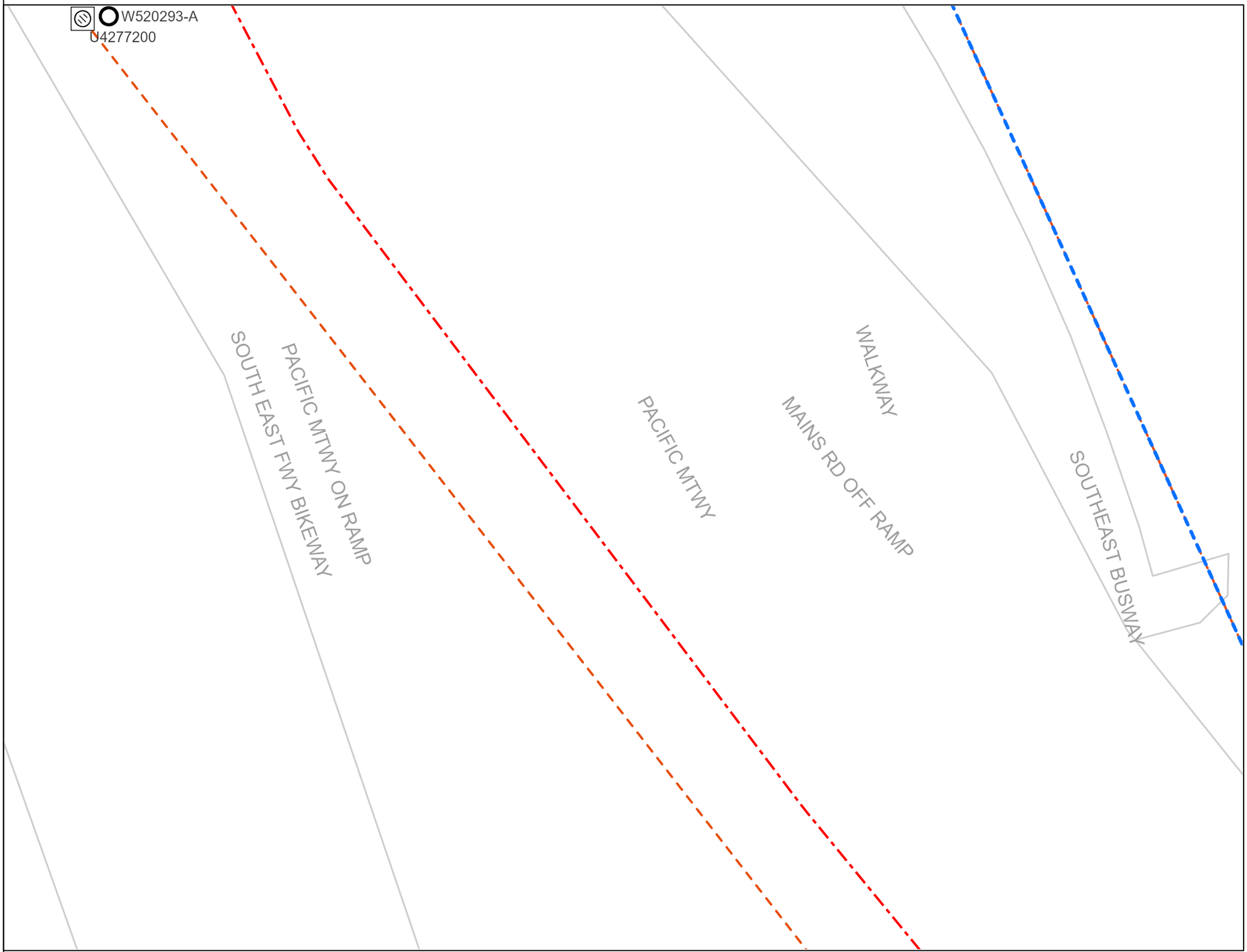

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 2**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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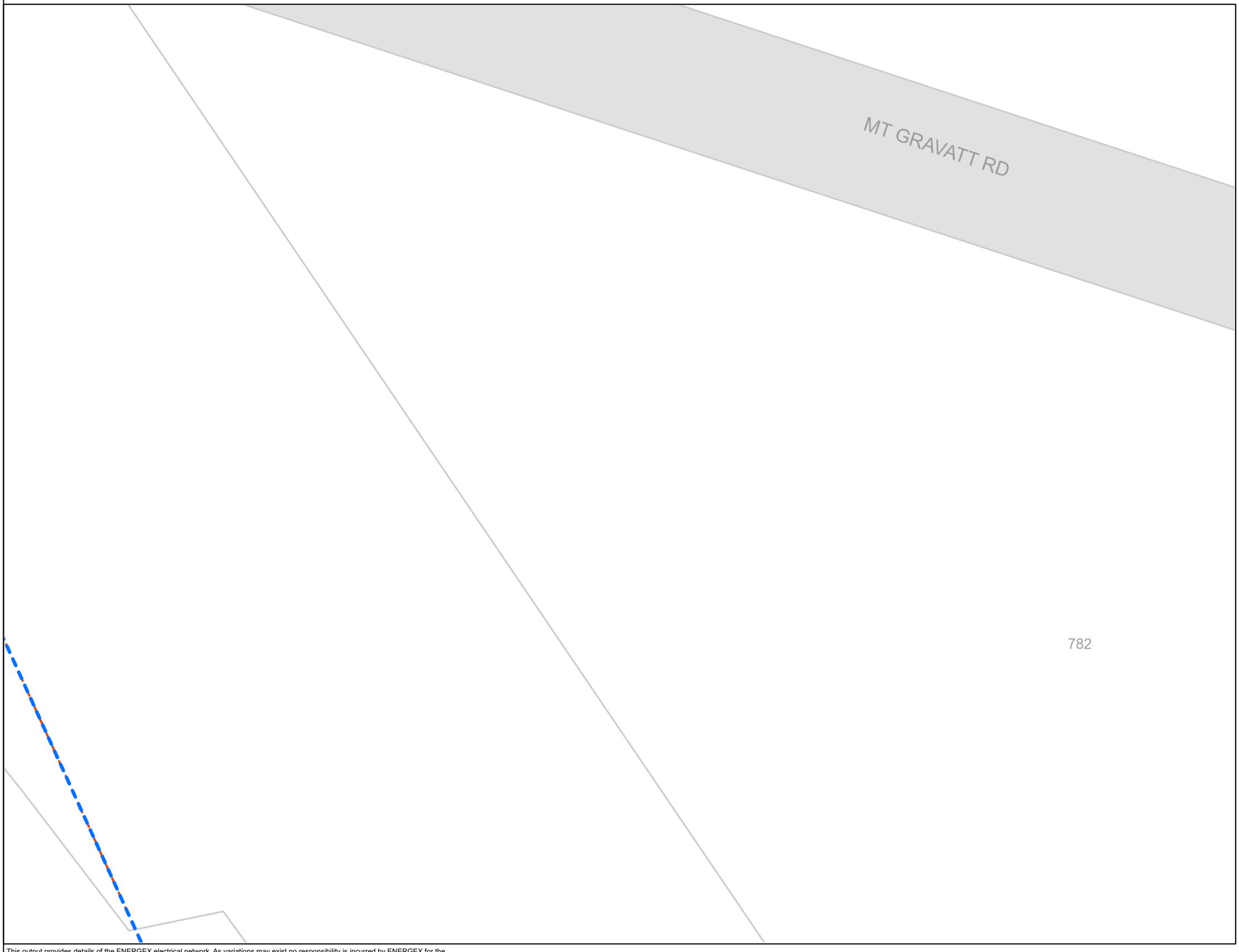

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 3**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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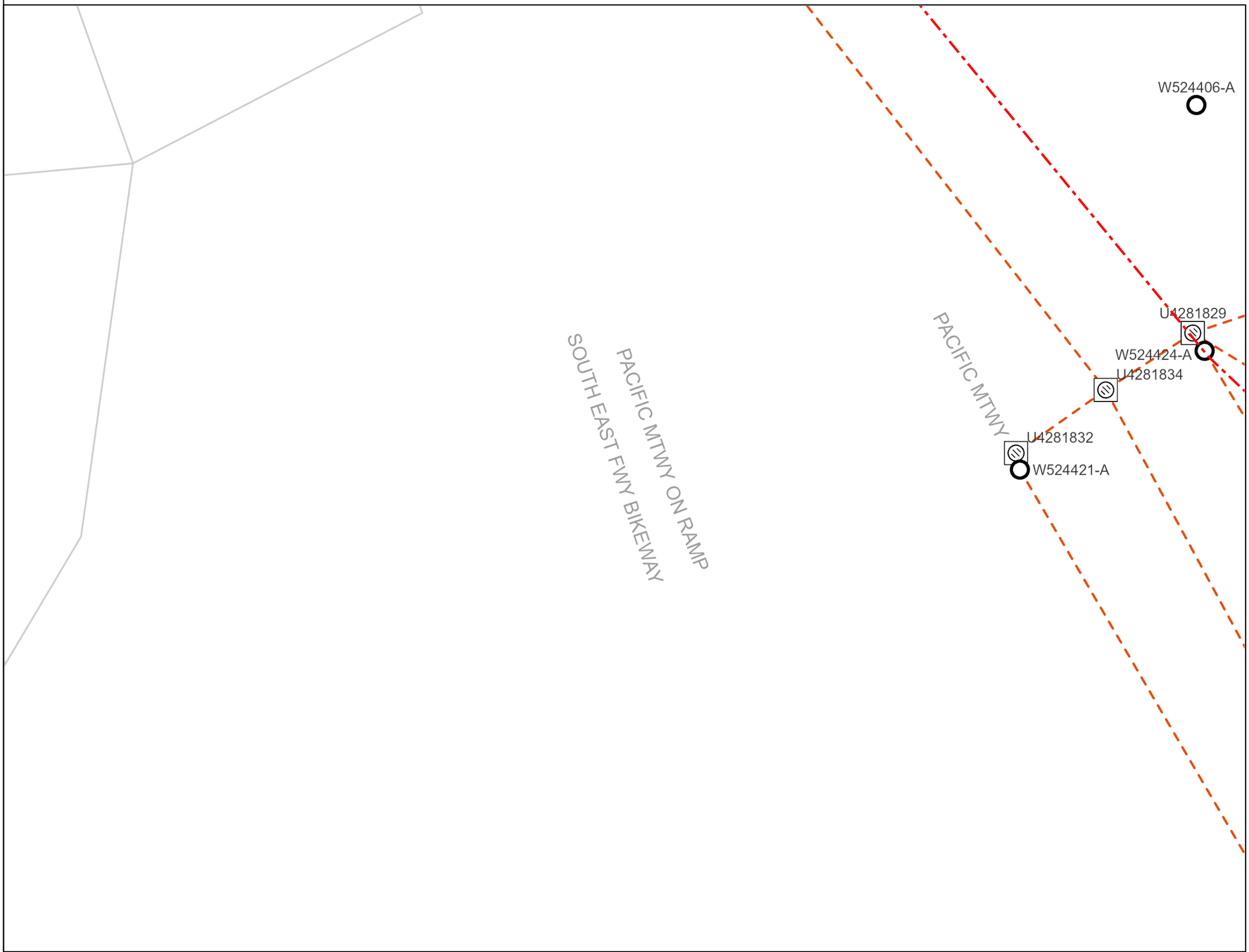

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 4**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

N
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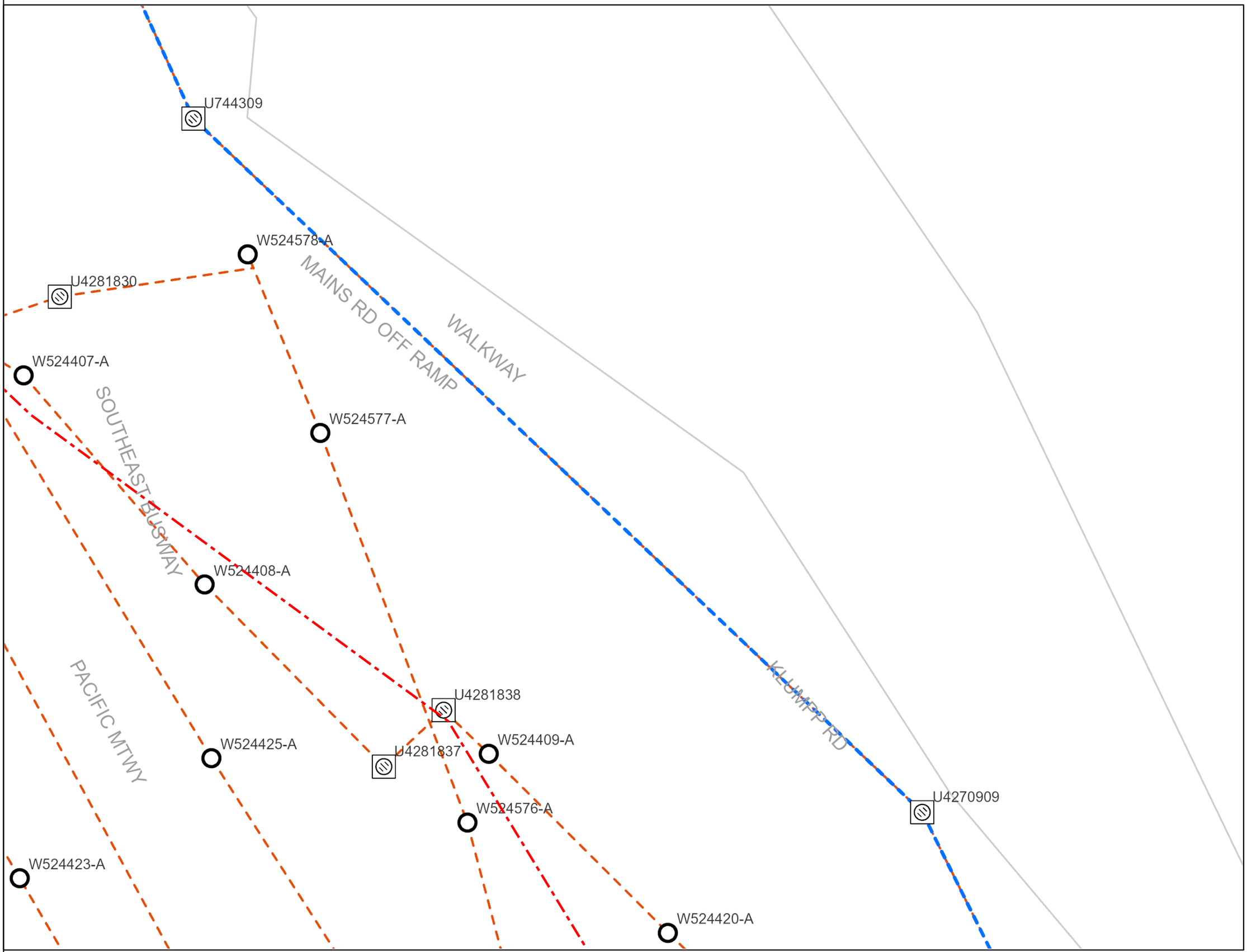

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 5**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category "D" Plan

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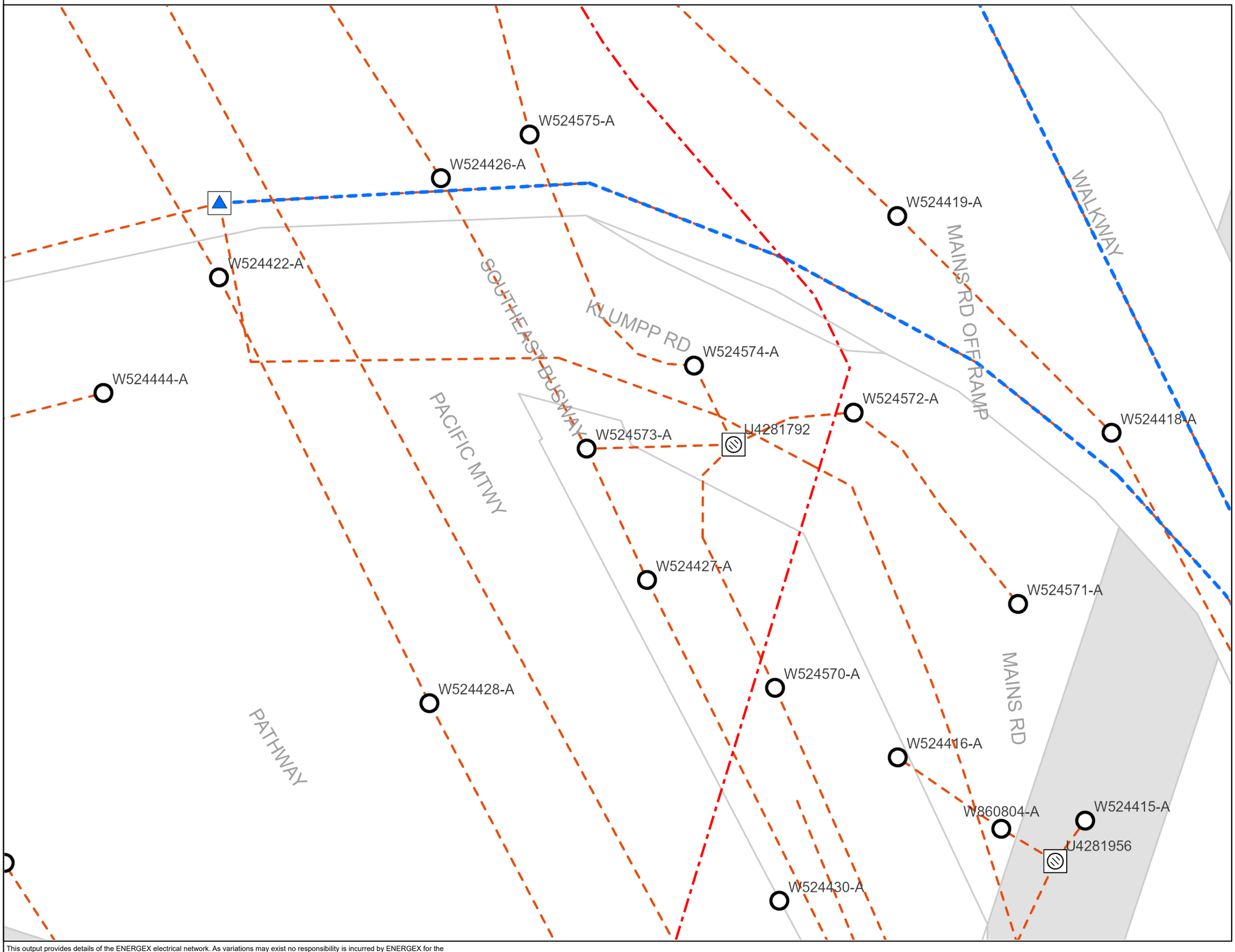

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 6**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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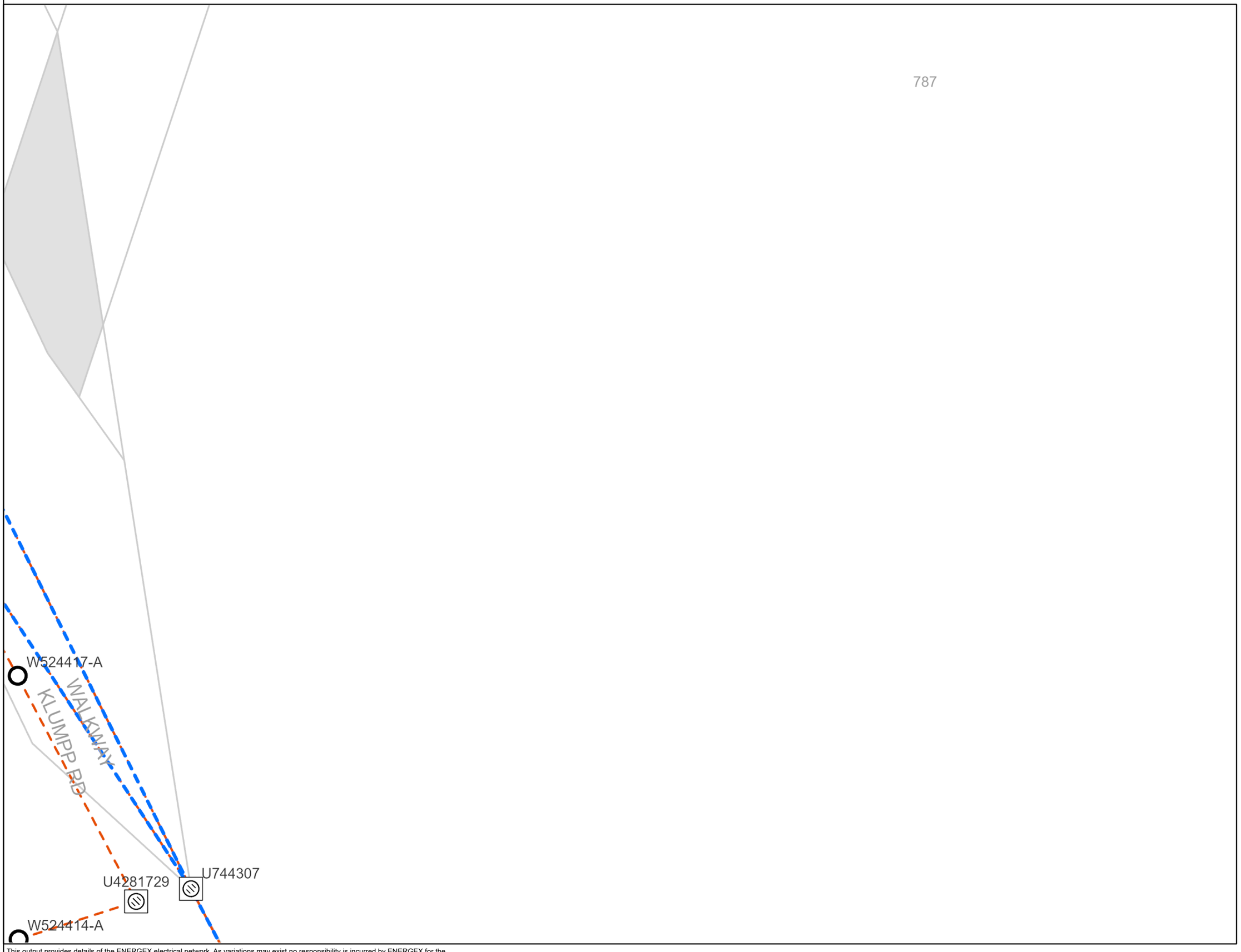

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 7**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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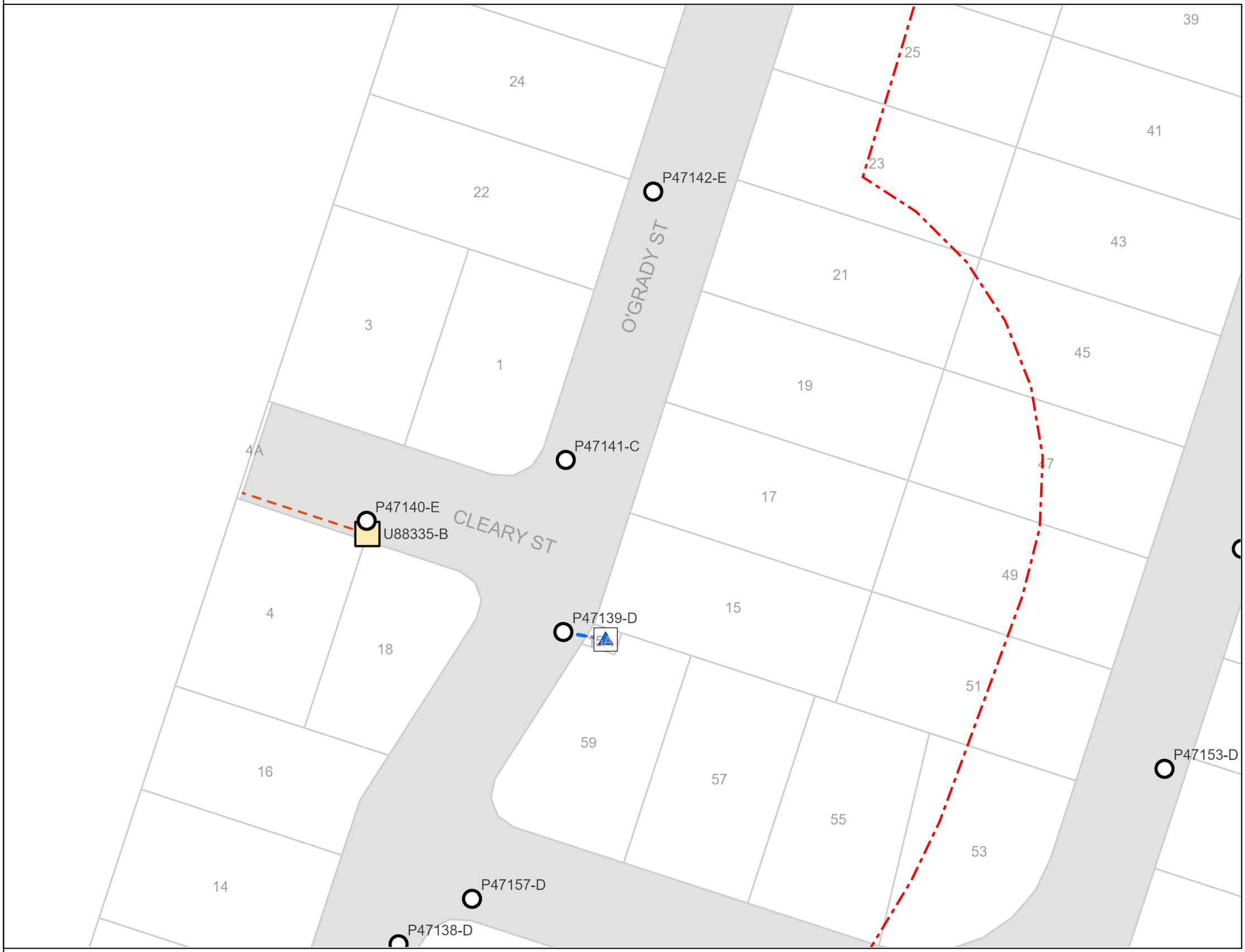

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 8**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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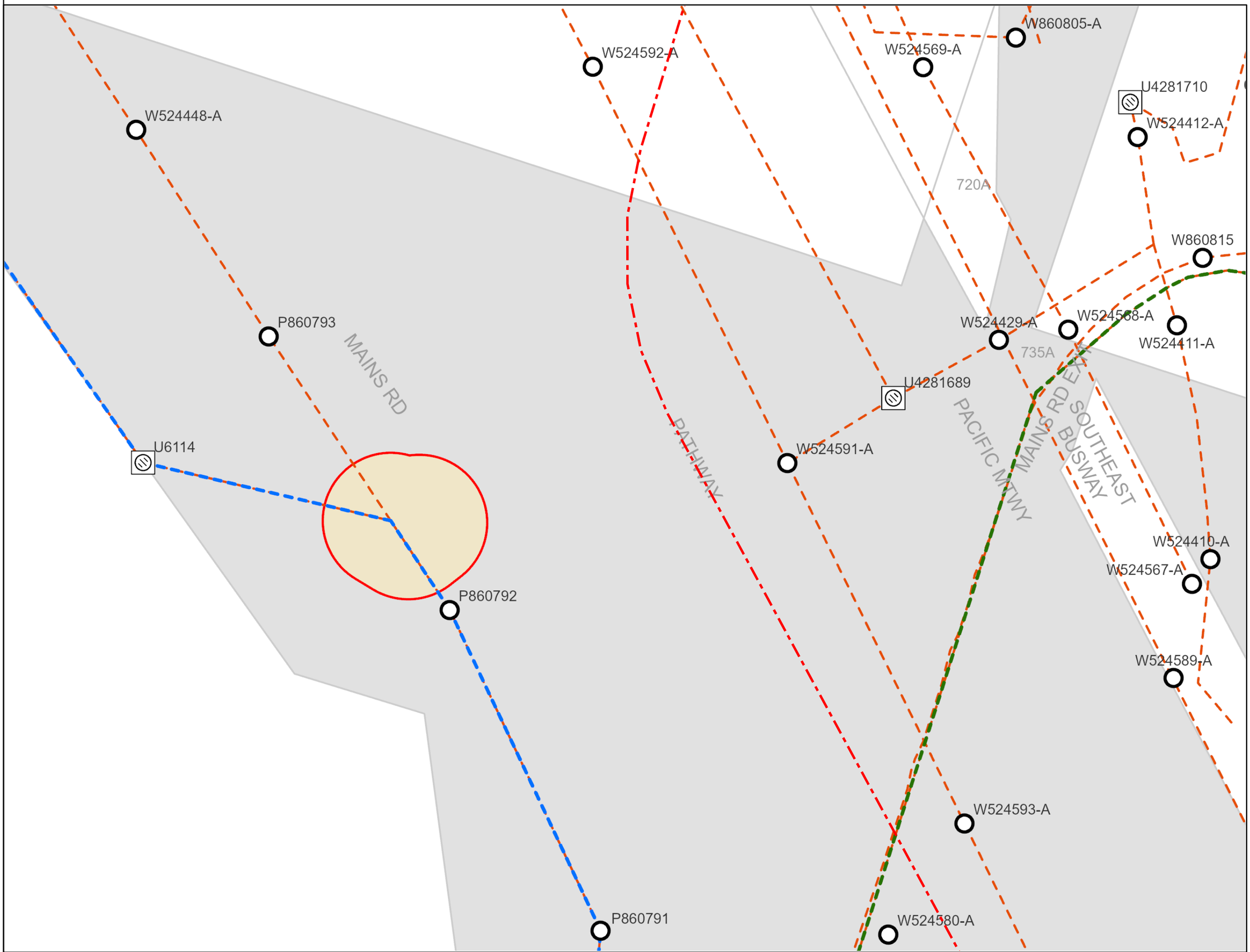

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 9**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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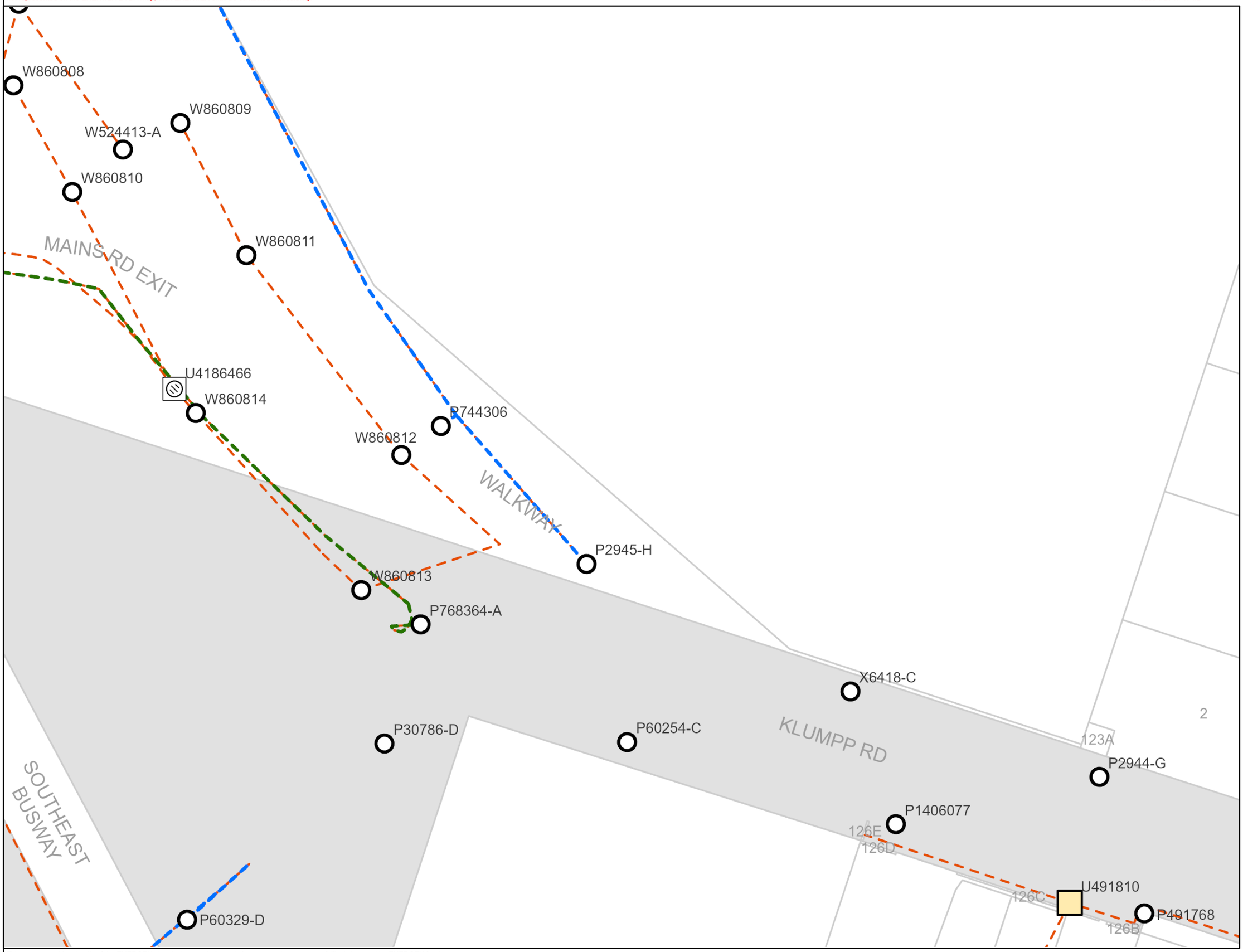

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 10**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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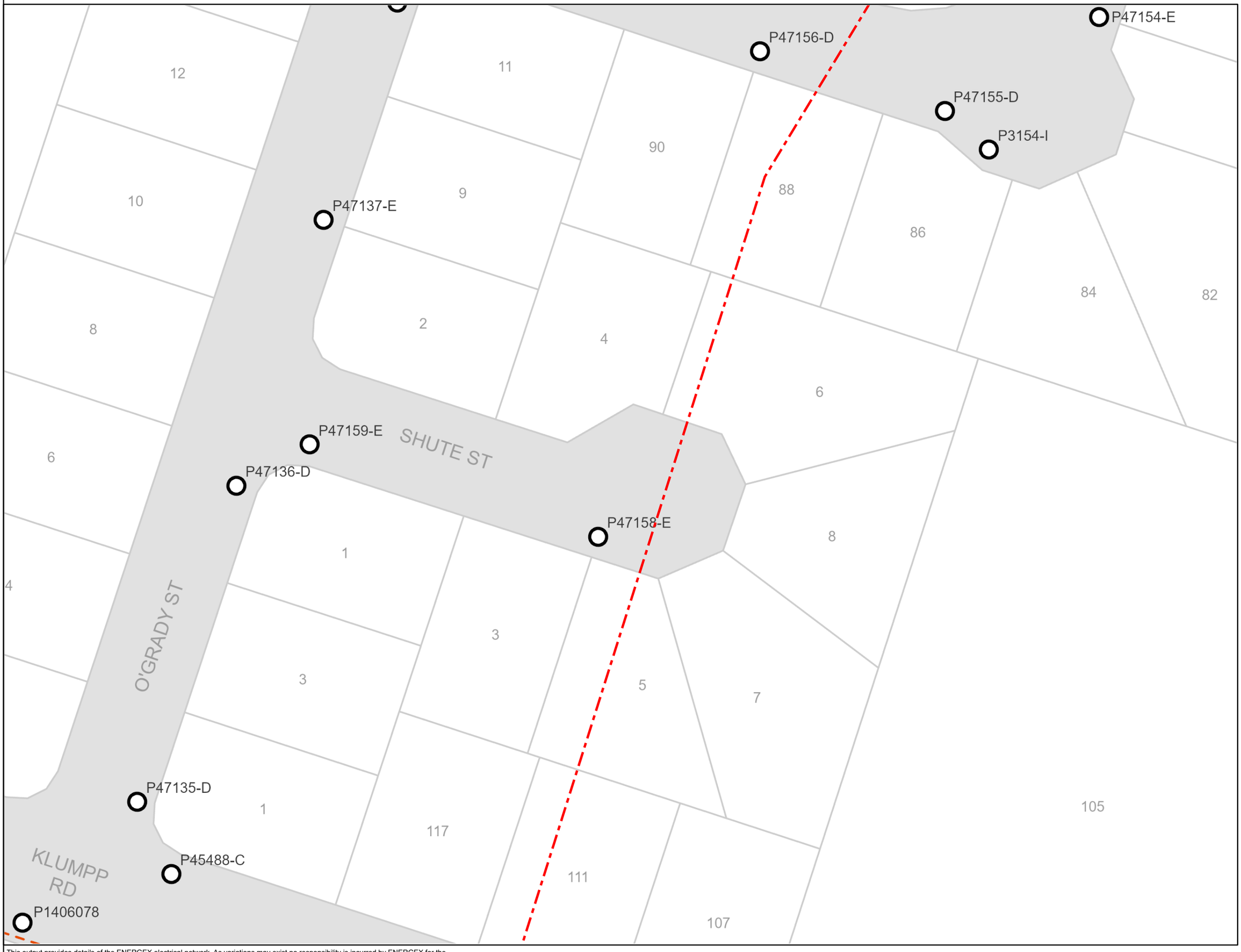

energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 11**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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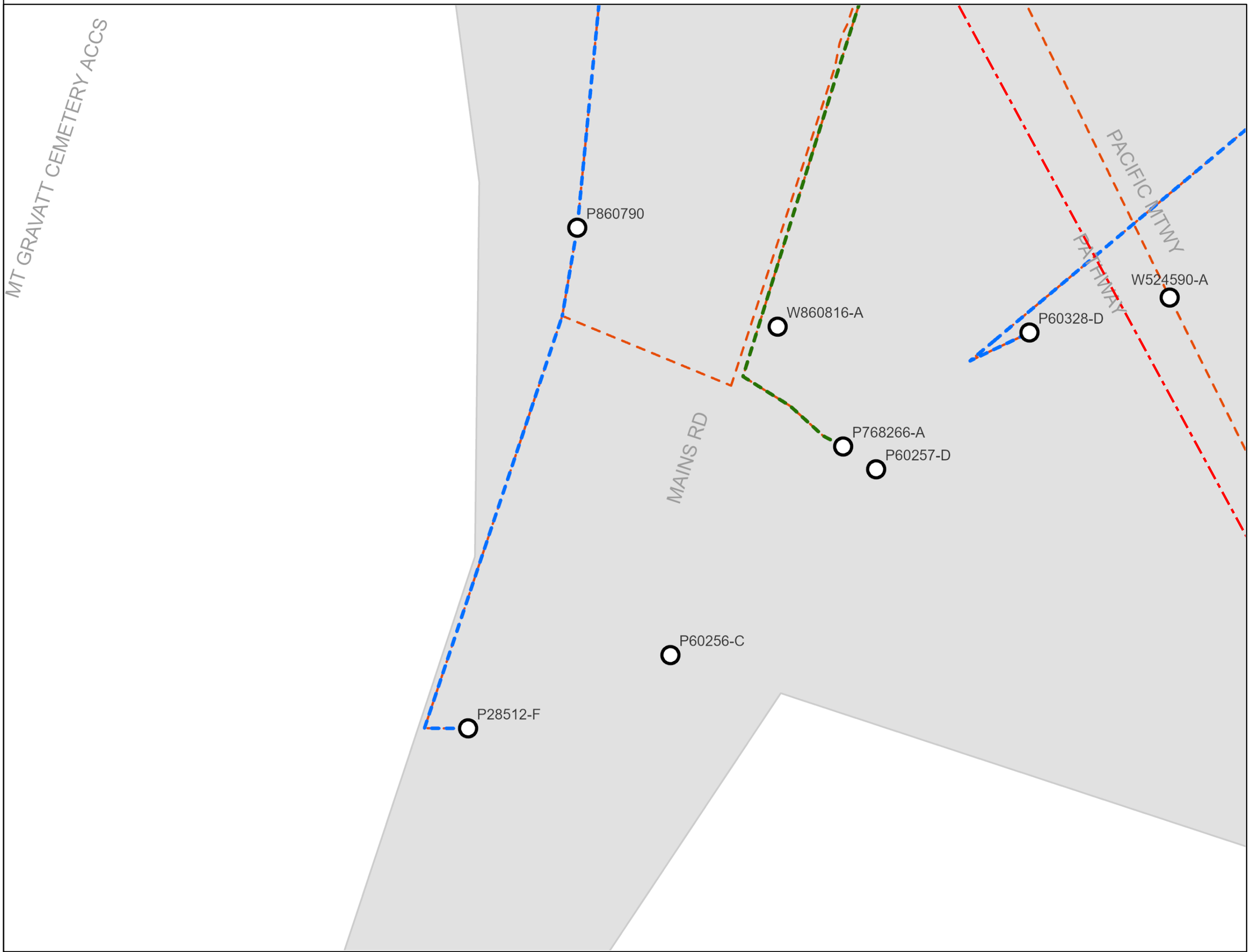
For Emergency Situations
Please Call 13 19 62



energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 12**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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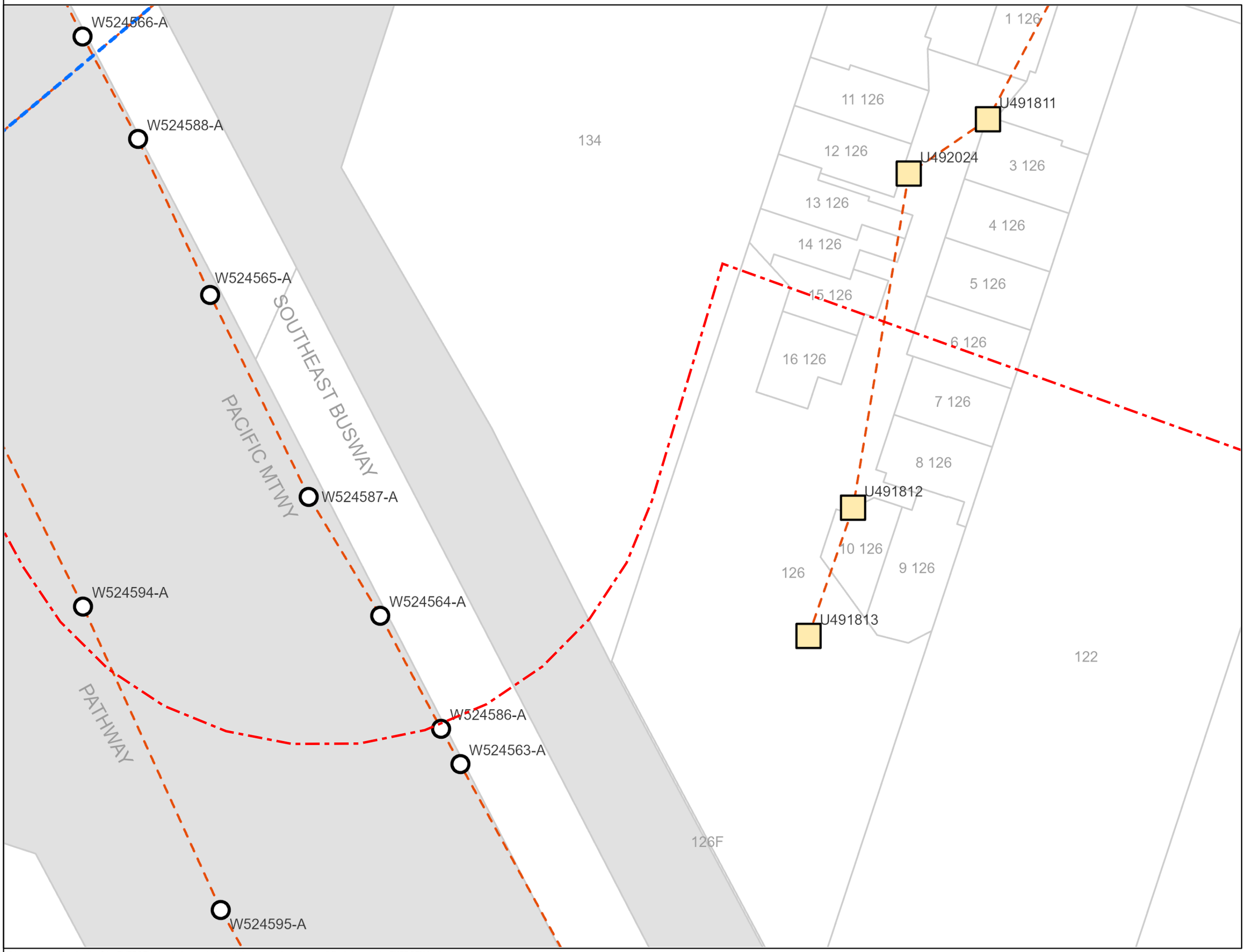
This output provides details of the ENERGEX electrical network. As variations may exist no responsibility is incurred by ENERGEX for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ENERGEX BYDA map, then ENERGEX shall be contacted immediately.

For Emergency Situations
Please Call 13 19 62



energex

BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 13**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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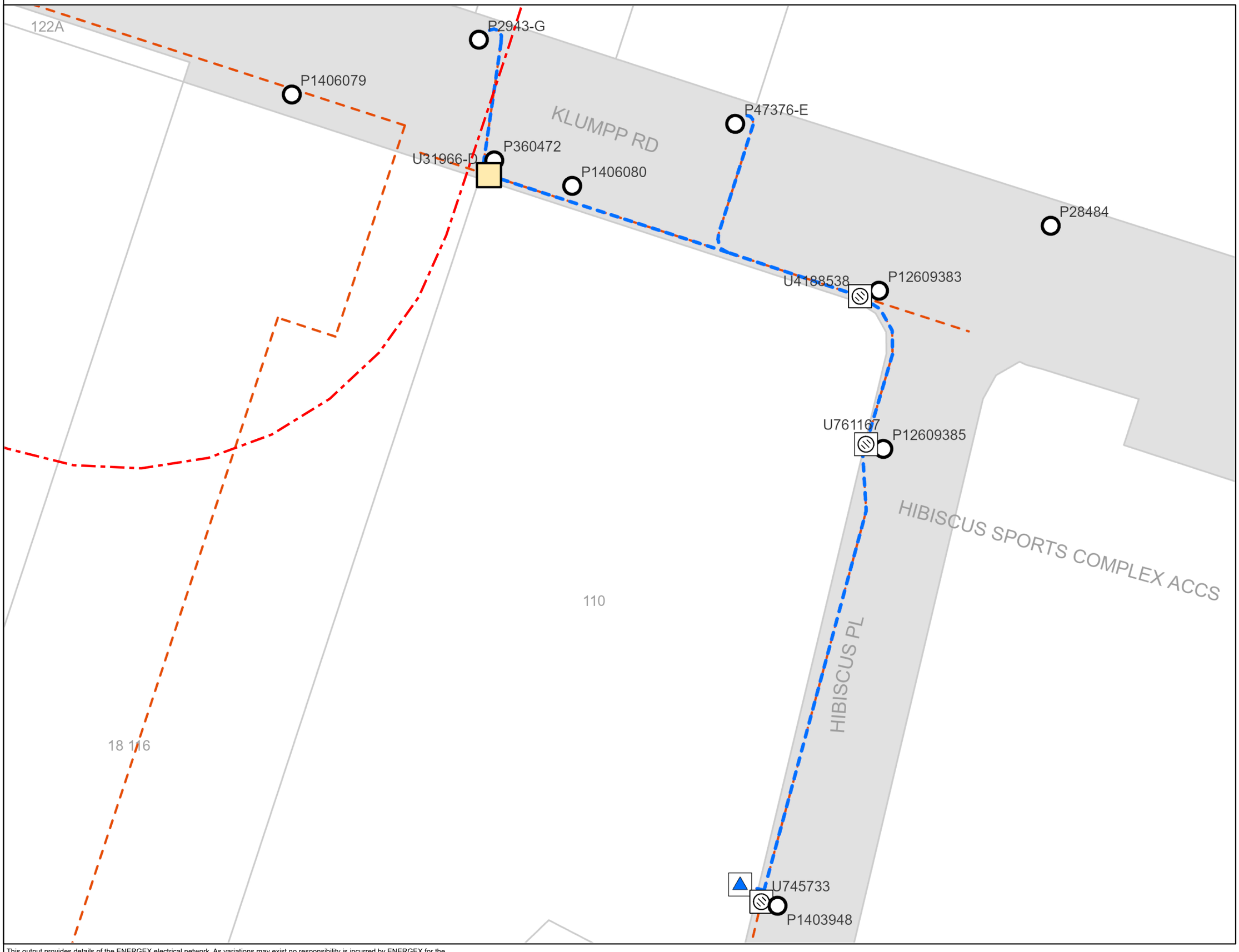
Please Call 13 19 62



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BYDA

Sequence: 280770981
Date: 12/10/2026

Scale: 1:500
Tile No: **Tile No: 14**

CAUTION - HIGH VOLTAGE

LEGEND

- Substation
- Cable Marker
- Pit
- Pole
- Pillar
- LV Cable (up to 1kV)
- HV Cable (1kV – <33kV)
- HV Cable (33kV and over)
- Pit Boundary
- Planned Work Area

AS5488 Category “D” Plan

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This output provides details of the ENERGEX electrical network. As variations may exist no responsibility is incurred by ENERGEX for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.



Responsibilities – (When Working in the Vicinity of Energex Assets)

Extreme care must be taken during non-mechanical or mechanical excavation as damage to Energex Assets can lead to injury or death of workers or members of the public. Assets include underground cables, conduits and other associated underground Asset used for controlling, generating, supplying, transforming or transmitting electricity.

In accordance with the Electrical Safety Act 2002, a Person Conducting a Business or Undertaking (**PCBU**) must ensure the person's business or undertaking is conducted in a way that is electrically safe. This includes:

a) ensuring that all Assets used in the conduct of the person's business or undertaking are electrically safe;

b) if the person's business or undertaking includes the performance of electrical work, ensuring the electrical safety of all persons and property likely to be affected by the electrical work; and

c) if the person's business or undertaking includes the performance of work, whether or not electrical work, involving contact with, or being near to, exposed parts, ensuring persons performing the work are electrically safe.

In addition, a PCBU at a workplace must ensure, so far as is reasonably practicable, that no person, Asset or thing at the workplace comes within an unsafe distance of an underground electric line.

Workers and other persons must also take reasonable care for their own and other person's electrical safety. This includes complying, so far as is reasonably able, with any reasonable instructions given by Energex to ensure compliance with the Electrical Safety Act 2002

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Life threatening emergencies only triple zero (000) or 13 19 62

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E: byda@energyq.com.au ABN: 40 078 849 055

The following matters must be considered when working near Energex Assets:

The PCBU must ensure, so far as is reasonably practicable, that no person, Asset or thing at the workplace comes within an unsafe distance of an underground electric line (see section 68 of the Electrical Safety Regulation 2013)

1. It is the responsibility of the architect, consulting engineer, developer and head contractor in the project planning stages to design for minimal impact and protection of Energex Assets.
2. It is the constructor's responsibility to:
   a) Anticipate and request plans of Energex Assets for a location at a reasonable time before construction begins.
   b) Visually locate Energex Assets by hand or vacuum excavation where construction activities may damage or interfere with Energex Assets.
   c) notify Energex if the information provided is found to be not accurate or Assets are found on site that are not recorded on the Energex BYDA plans.
   d) Read and understand all the information and disclaimers provided.

   Note: A constructor may include but not limited to a PCBU, Designer, Project Manager, Installer, Contractor, Electrician, Builder, Engineer or a Civil Contractor

3. Comply with applicable work health and safety and electrical safety codes of practice including but not limited to:
   a) Working near Assets – Electrical safety codes of practice 2020
   b) Managing electrical risk in the workplace – Managing Electrical Risks in the workplace Code of Practice 2021
   c) Excavation work – Code of practice 2021

IMPORTANT NOTES:

- As the alignment and boundaries of roadways with other properties (and roads within roadways) frequently change, the alignments and boundaries contained within Energex plans and maps will frequently differ from present alignments and boundaries "on the ground". Accordingly, in every case where it appears that alignments and boundaries have shifted, or new roadways have been added, the constructor should obtain confirmation of the actual position of Energex cables and pipelines under the roadways. In no case should the constructor rely on statements of third parties in relation to the position of Energex cables and pipelines. It is the applicant's responsibility to accurately locate all services as part of the design and/or prior to excavation.
- Energex does not provide information on private underground installations, including consumers' mains that may run from Energex mains onto private property. Assets located on private property are the responsibility of the owner for identification and location.
- Energex plans are circuit diagrams or pipe indication diagrams only and indicate the presence of Asset in the general vicinity of the geographical area shown. Exact ground cover and alignments cannot be given with any certainty; as such levels can change over time.
- All underground conduits are presumed to contain asbestos. Refer to the:
  - Electrical safety codes of practice 2020
  - Model Code of Practice: How to manage and control asbestos in the workplace | Safe Work Australia
  - How to manage and control asbestos in the workplace code of practice 2021 (Workplace Health and Safety Queensland (WHSQ)
  - How to safely remove asbestos code of practice 2021 (WHSQ)
- Plans provided by Energex are not guaranteed to show the presence of above ground Assets.
- In addition to underground cables marked on attached plan there could be underground substation, underground earth conductors, Multiple Earthed Neutral(MEN) conductors, Single Wire Earth Return(SWER), substation Earth Conductors, ABS Earth Mats or Consumer Mains in the vicinity or private underground cables (inc. consumers' mains that may run from Energex mains onto private property) in the vicinity of the nominated work area(s) that are not marked on the plans.
- Being aware of Your obligations including but not limited to [ss 304, 305] Excavation work— underground essential services information under the Work Health and Safety Regulation 2011 , Chapter 6 Construction work, Part 6.3 Duties of person conducting business or undertaking. This includes but is not limited to taking reasonable steps to obtain the current information & providing this information to persons engaged to carry out the excavation work. For further information please refer to: - http://www.legislation.qld.gov.au/LEGISLTN/SLS/2011/11SL240.pdf
- Energex plans are designed to be printed in colour and as an A3 Landscape orientation.

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Conditions – (When Working in the Vicinity of Energex Assets)

Records:
The first step before any excavation commences is to obtain records of Energex Assets in the vicinity of the work. For new work, records should be obtained during the planning and design stage. The records provided by Energex must be made available to all construction groups on site. Where Asset information is transferred to plans for the proposed work, care must be exercised to ensure that important detail is not lost in the process.

Plans and or details provided by Energex are current for four weeks from the date of dispatch and should be disposed of by shredding or any other secure disposal method after use. A new BYDA enquiry must be made for proposed works/activities to be undertaken outside of the four-week period.

Energex retains copyright of all plans and details provided in connection with Your request.

Energex plans or other details are provided for the use of the applicant, its servants, or agents, and shall not be used for any unauthorised purpose.

On receipt of BYDA plans and before commencing excavation work or similar activities near Energex's Assets check to see that it relates to the area You have requested and carefully locate this Asset first to avoid damage. If You are unclear about any information contained in the plan, You must contact Energex on the General Enquiries number listed below for further advice.

Energex, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Energex against any claim or demand for any such loss or damage.

The contractor is responsible for all Asset damages when works commence prior to obtaining Energex plans, or failure to follow agreed instructions, or failure to demonstrate all reasonable measures were taken to prevent the damage once plans were received from Energex.

Energex reserves all rights to recover compensation for loss or damage caused by interference or damage, including consequential loss and damages to its Assets, or other property.

NOTE: Where Your proposed work location contains Energex 33kV or greater Underground cables please access the Energex BYDA website for more information.

Location of Assets:
Examining the records is not sufficient, as reference points may change from the time of installation. Records must also be physically proven when working in close proximity to them. The exact location of Assets likely to be affected shall be confirmed by use of an electronic cable and pipe locater followed by **careful hand or vacuum excavation to the level of cable protection cover strips or conduits.** When conducting locations, please be aware that **no** unauthorised access is permitted to Energex Assets– including Pits, Low Voltage Disconnection Boxes, Low Voltage Pillars or High Voltage Link Boxes.

Hand or vacuum excavation must be used in advance of excavators. In any case, where any doubt exists with respect to interpretation of cable records, You must contact Energex on the General Enquires number listed below for further advice.

If the constructor is unable to locate Energex underground Assets within 5 metres of nominal plan locations, they must contact the Energex General Enquires number listed below for further advice.

If unknown cables or conduits (i.e. not shown on issued BYDA plans) are located during excavation:
1. Call the ELECTRICITY EMERGENCIES number listed below
2. Treat Assets as if alive, post a person to keep all others clear of the excavation until Energex crew attend to make safe.
3. All work in the vicinity of damaged Asset must cease and the area must be vacated until a clearance to continue work has been obtained from an Energex officer.

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Asset Installation Methods:
Energex Assets are installed with a variety of protection devices including:

1. Clay paving bricks or tiles marked “Electricity” or similar (also unmarked)
2. Concrete or PVC cover slabs
3. PVC, A/C or fibro conduit, fibre reinforced concrete, iron or steel pipe
4. Concrete encased PVC or steel pipe
5. Thin plastic marker tape
6. Large pipes housing multiple ducts
7. Multiple duct systems, including earthenware or concrete 2, 4, and 6-way ducts and shamrocks

Note: Some Assets are known to be buried without covers and may change depth or alignment along the route.

Excavating Near Assets:
For all work within 2.5 m of nominal location, the constructor is required to hand or vacuum excavate (pothole) and expose the Assett, hence proving its exact location before work can commence.

Cable protection cover strips shall not be disturbed. Excavation below these cover strips, or into the surrounding backfill material is not permitted.

Excavating Parallel to Assets:
If construction work is parallel to Energex cables, then hand or vacuum excavation (potholing) at least every 4m is required to establish the location of all cables, hence confirming nominal locations before work can commence. *Generally, there is no restriction to excavations parallel to Energex cables to a depth not exceeding that of the cable.* ***Note: Cable depths & alignment may change suddenly***.

Separation from Assets:
Any service(s) must be located at the minimum separation as per the tables below:

Table 1. Minimum Separation Requirements for Underground Services Running Parallel with Energex Assets

(Minimum Separation required in mm)							
Voltage Level	**Gas**	**Communication or TV**	**Water**		**Sanitary drainage**		**Storm Water**
			≤DN 200	**>DN200**	**≤DN 200**	**>DN 200**	
LV	250	100	500	*1000	500	1000	500
HV		300					
*Contact Energex/council to obtain specific separation distances							

Table 2. Minimum Separation Requirements for Underground Services Crossing Energex Assets

(Minimum Separation required in mm)					
Voltage Level	**Gas**	**Communication or TV**	**Water**	**Sanitary drainage**	**Storm Water**
LV & HV	100	100	300	300	100

Where the above table does not list a separation requirement for a particular underground service then 300mm shall be used.

Excavating Across Assets:
The standard clearance between services shall be maintained as set down in Table 2 above. If the width or depth of the excavation is such that the Asset will be exposed or unsupported, then Energex shall be contacted to determine whether the Assets should be taken out of service, or whether they need to be protected or supported. In no case shall an Asset cover be removed without approval. An Asset cover may only be removed under the supervision of an Energex authorised representative. Protective cover strips when removed must be replaced under Energex supervision. Under no circumstances shall they be omitted to allow separation between Energex Assets and other services.

Heavy Machinery Operation Over Assets:
Where heavy "Crawler" or "Vibration" type machinery is operated over the top of Assets, a minimum cover of 450 mm to the cable protective cover mains must be maintained using load bearing protection whilst the machinery is in operation. For sensitive cables (i.e. 33 and 110kV fluid and gas filled cables), there may be additional constraints placed on vibration and settlement by Energex.

Directional Boring Near Assets:
When boring parallel to Assets, it is essential that trial holes are carefully hand or vacuum excavated at regular intervals to prove the actual location of the Asset before using boring machinery. Where it is required to bore across the line of Assets, the actual location of the Asset shall first be proven by hand or vacuum excavation. A trench shall be excavated 1m from the side of the Asset where the auger will approach to ensure a minimum clearance of 500mm above and below all LV, 11kV, 33kV & 110/132kV Asset shall be maintained.

Explosives:
Explosives must not be used within 10 metres of Assets, unless an engineering report is provided indicating that no damage will be sustained. Clearances should be obtained from Energex's Planning Engineer for use of explosives in the vicinity of Energex cables.

Damage Reporting:
All damage to Assets must be reported no matter how insignificant the damage appears to be. Even very minor damage to Asset protective coverings can lead to eventual failure of Assets through corrosion of metal sheaths and moisture ingress.

If any Damaged Asset is found:
1. Call the ELECTRICITY EMERGENCIES number listed below
2. Treat Assets as if alive, post a person to keep all others clear of the excavation until Energex crew attend to make safe.
3. All work in the vicinity of damaged Asset must cease and the area must be vacated until a clearance to continue work has been obtained from an Energex officer.

Solutions and Assistance:
If Asset location plans or visual location of Asset by hand or vacuum excavation reveals that the location of Energex Asset is situated wholly or partly where the developer or constructor plans to work, then Energex shall be contacted to assist with Your development of possible engineering solutions.

If Energex relocation or protection works are part of the agreed solution, then payment to Energex for the cost of this work shall be the responsibility of the, PCBU, principal developer or constructor. Energex will provide an estimated quotation for work on receipt of the PCBU's, developer's or constructor's order number before work proceeds.

It will be necessary for the developer or constructor to provide Energex with a written Safe Work Method Statement for all works in the vicinity of or involving Energex Assets. This Safe Work Method Statement should form part of the tendering documentation and work instruction. Refer Interactive Tool on Safe Work Australia site: Interactive SWMS guidance tool - Overview (safeworkaustralia.gov.au)

Vacuum Excavations (Hydro Vac)

When operating hydro vac equipment to excavate in vicinity of Assets fitted with:

- Nonconductive (neoprene rubber or equivalent) vacuum (suction) hose
- Oscillating nozzle on pressure wand with water pressure adjusted to not exceeding 2000 Pound force per Square Inch(PSI).

Maintain a minimum distance of 200mm between end of pressure wand and underground electrical Assets. DO NOT insert the pressure wand jet directly into subsoil.

Ensure pressure wand is not directly aimed at underground electrical Assets (cables/conduits).

Safety Notices (Underground Work)

It is recommended that You obtain a written Safety Advice from Energex when working close to Energex Assets. For Safety Advice please contact custserve@energex.com.au

Further information on Working Safely around Energex Assets: Working near powerlines | Energex

Thank You for Your interest in maintaining a safe and secure Electricity Distribution network. Energex welcomes Your feedback on this document via email to byda@energyq.com.au.

General enquiries (7:00am - 5:30pm Mon to Fri) 13 12 53
Life threatening emergencies only triple zero (000) or 13 19 62

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Part of Energy Queensland

Electricity Entity Requirements - Working Near Overhead and Underground Electric Lines

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1. PURPOSE AND SCOPE

The purpose of this document is to set out the Electricity Entity requirements for anyone who may be contemplating working or operating plant near any Ergon Energy or Energex's overhead or underground electric lines.

2. DEFINITIONS, ABBREVIATIONS AND ACRONYMS

Term	Definition
Applicant	A person contacting or submitting an application to the Electricity Entity for Safety Advice.
Authorised Person	For work near an electrical line, means a person who has enough technical knowledge and experience to do work that involves being near to the electrical line; and has been approved by the person in control of the electrical line (Electricity Entity) to do work near to the electrical line.
Authorised Person (Electrical)	An Electrical Mechanic or Electrical Linesperson (holding current Queensland Licence) working on behalf of an electrical contractor, an Electrical Contractor, or a person who holds an electrical mechanic licence and is performing work for the person or a relative of the person at premises owned or occupied by the person or relative, and accredited with the Electricity Entity who is permitted to remove and replace LV service fuse(s) when isolation of customer LV service line is required to eliminate the exclusion zone around the LV service line, or to work on the customer's mains and / or switchboard.
Earthworks	Any digging, penetration or disturbance of ground including but not limited to post hole digging, excavating, trenching, directional boring, bore hole sinking, driving pickets/posts into ground, cut and fill, dam or levee bank construction, blasting.
Electricity Entity	Where Electricity Entity appears throughout this document, it relates to either Energex or Ergon Energy area of responsibility. Refer to respective contact details below. **Energex:** • General Enquiries - ph 13 12 53 • Loss of Supply - ph 13 62 62 • Emergencies - ph 13 19 62 **Ergon Energy:** • General Enquiries - ph 13 74 66 • Loss of Supply - ph 13 22 96 • Emergencies - ph 13 16 70
Exclusion Zone	A safety envelope around an electric line as specified by the Electrical Safety Regulation 2013.
RPA (Drone)	Australia's safety laws for remotely piloted aircraft (RPA) / drones are defined under the Civil Aviation Safety Authority. Under this definition the use of RPA's are not classified as Operating plant (section 5.2) as prescribed in this document.

Term	Definition
Instructed Person	For an electrical line, means a person who is acting under the supervision of an Authorised Person for the electrical line.
Safety Advice	A written notice identifying the known electrical hazards at a specific site and advising the control measures required to be implemented by Responsible Person (person responsible for worksite) to reduce the likelihood of harm to person, plant or vehicle at site.
Safety Observer	A safety observer or "spotter", for the operation of operating plant, means a person who: (a) observes the operating plant; and (b) advises the operator of the operating plant if it is likely that the operating plant will come within an exclusion zone for the operating plant for an overhead electric line. This is a person who has undergone specific training and is competent to perform the role in observing, warning and communicating effectively with the operator of the operating plant.
Untrained Person	For an electrical line, means a person who is not an Authorised Person or an Instructed Person for the electrical line.

3. REFERENCES

Electrical Safety Regulation 2013: Part 5 - Overhead and Underground Electric Lines

Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines

Work Health and Safety Act 2011

Work Health and Safety Regulation 2011

Energex: Safety Advice Request Form

Ergon Energy: Safety Advice Request Form

Copies of the relevant Acts, Regulation and Codes of Practice and any other relevant legislation can be found on the Queensland Government web site - https://www.worksafe.qld.gov.au/.

Disclaimer

This document refers to various standards, guidelines, calculations, legal requirements, technical details and other information and is not an exhaustive list of all safety matters that need to be considered.

Over time, changes in industry standards and legislative requirements, as well as technological advances and other factors relevant to the information contained in this document, may affect the accuracy of the information contained in this document. Whilst care is taken in the preparation of this material, Energex and Ergon Energy do not guarantee the accuracy and completeness of the information. Accordingly, caution should be exercised in relation to the use of the information in this document.

To the extent permitted by law, Energex and Ergon Energy will not be responsible for any loss, damage or costs incurred as a result of any errors, omissions or misrepresentations in relation to the material in this document or for any possible actions ensuing from information contained in the document.

4. ABOUT THIS GUIDE

This guide to working near the Electricity Entity network is designed to assist any person working, contemplating work or operating plant near any Electricity Entity overhead or underground electric lines to meet their duties under the Work Health and Safety Act 2011, Electrical Safety Act 2002, Electrical Safety Regulation 2013 and relevant Codes of Practice including Electrical Safety Code of Practice 2020 Working Near Overhead and Underground Electric Lines and help to identify the steps needed to ensure risks are minimised for all who work or are likely to be affected by the work in these situations.

"The Electrical Code of Practice 2020 Working Near Overhead and Under Ground Electric Lines" provides practical advice on ways to manage electrical risk when working near electric lines including the exclusion zones that apply. An electronic copy of this Code of Practice as well as, Electrical Safety Act and Regulation is available at the Queensland Government Electrical Safety Office web site at https://www.worksafe.qld.gov.au/electricalsafety. You should obtain a copy and read this material, to enable you to fully understand your obligations, and prospective means of complying with them.

4.1. Who does the Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines and Electricity Entity Requirements apply to?

A person, worker or Person Conducting a Business or Undertaking (PCBU) at a workplace is required to comply with the Electricity Entity Requirements and the requirements of Electrical Safety Regulation 2013 Part 5 Overhead and Underground Electric Lines and Electrical Safety Code of Practice 2020 Working Near Overhead and Underground Electric Lines to ensure that no person, plant or thing comes within an unsafe distance (exclusion zone) of an overhead electric line. Compliance with these regulatory requirements is essential to reduce the risk of electric shock and contact with Electricity Entity electric lines and other assets which can have deadly consequences.

Examples of work activities where risk of person, plant or equipment coming near or into contact with overhead electric lines include but are not limited to:

- Pruning or felling trees or vegetation near overhead electric lines, including the service wire into a building.
- Carrying out building work, scaffolding or demolition adjacent to overhead electric lines.
- Painting fascia, replacing roofing, guttering or external cladding near service line point of entry to a building.
- Operating cranes, tip trucks, cane harvesters, elevated work platforms, fork lifts, grain augers, excavators, irrigators, etc near OH electric lines.
- Erecting or maintaining advertising signs or billboards near overhead electric lines.
- Dam or levee bank construction.

Examples of work activities that could involve risk of damage to underground cables or earthing systems include but are not limited to:

- Digging holes, excavating, sawing, trenching, under boring, sinking bore holes, earthworks or laying cables, pipes, etc or driving implements into the ground (e.g. star pickets, fence posts) near where underground cables or earthing systems may be located.

4.2. Are you working or planning to work near overhead or underground electric lines?

Electrical Safety Regulation Section 68 requires that before carrying out any work at a workplace where there is a risk of any person, plant or thing encroaching the exclusion zone of overhead electric lines, the person, worker or PCBU is required to ensure that the potential hazards are identified, a risk assessment conducted and the necessary control measures implemented to minimise electrical safety risks to ensure the safety of all workers and other persons at the workplace. The Electrical Safety Regulation 2013 and Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines detail the Exclusion Zones that must be maintained.

4.2.1 Work near overhead electric lines

Where a risk assessment has been conducted and control measures implemented in accordance with requirement of Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines and Electricity Entity Requirements (this document) and it has identified that exclusion zones from overhead electric lines cannot be maintained, the person, worker or PCBU is then required to contact Electricity Entity and request written Safety Advice (refer Section 4.3 below).

The person, worker or PCBU shall be required to maintain exclusion zones until such times as the Electricity Entity has provided written Safety Advice.

A person, worker or PCBU would not be required to contact the Electricity Entity and request a written Safety Advice where their risk assessment and implemented control measures ensure that exclusion zones from overhead electric lines will be maintained throughout performance of work to be undertaken at a particular site.

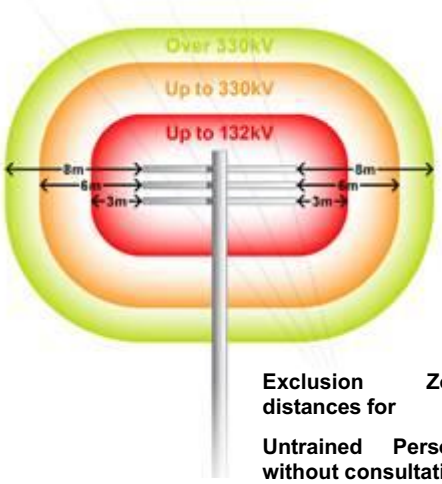
4.2.2 Exclusion Zones

An exclusion zone is a safety envelope around an overhead electric line. No part of a worker, operating plant or vehicle should enter an exclusion zone while the overhead electric line is energised (live).

Exclusion zones keep people, operating plant and vehicles a safe distance from energised overhead lines.

You must keep yourself and anything associated with the work activity out of the exclusion zone (e.g. a safe distance) unless it is not reasonably practicable to do so; and the person conducting a business or undertaking complies with the requirements of Section 68(2) of the Electrical Safety Regulation in relation to:

- conducting a risk assessment.
- implementing control measures
- adhering to any requirements of an Electricity Entity responsible for the line



Exclusion Zone - Untrained Person (distances in mm)

Nominal phase to phase voltage of electric line	Untrained Person		
	Person	Operating Plant	Operating Vehicles
Insulated LV: Consultation with and verified by the Entity	No exclusion zone prescribed	1000	300
LV with NO consultation with Electricity Entity	3000	3000	600
LV With consultation with Electricity Entity	1000		
>LV up to 33 kV with NO consultation with Electricity Entity	3000		900
LV up to 33 kV with consultation with Electricity Entity	2000		
>33 kV up to 132 kV	3000		2100
>132 kV up to 220 kV	4500	6000	2900
>220 kV up to 275 kV	5000		
>275 kV up to 330 kV	6000		3400

(information extracted from Electrical Safety Regulation 2013 Schedule 2)

Exclusion Zone - Instructed Person and Authorised Person (distances in mm)

Nominal phase to phase Voltage of electric line	Instructed Person (IP) & Authorised Person (AP)		
	AP and IP	Operating Plant with Safety Observer or another Safe System of work	Operating of Vehicles
Insulated LV: Consultation with and verified by the Entity	No exclusion zone prescribed	No exclusion zone prescribed	No exclusion zone prescribed
LV	No exclusion zone prescribed	1000	600
>LV up to 33 kV	700	1200	700
>33 kV up to 50 kV	750	1300	750
>50 kV up to 66 kV	1000	1400	1000
>66 kV up to 110 kV		1800	
>110 up to 132	1200		1200
>132 kV up to 220 kV	1800	2400	1800
>220 kV up to 275 kV	2300	3000	2300
>275kV up to 330kV	3000	3700	3000

(information extracted from Electrical Safety Regulation 2013 Schedule 2)

4.2.3 Work near underground electrical lines (underground electrical assets)

Before carrying out any earthworks at a location, the person, worker or PCBU is required to ensure that the potential hazards are identified, a risk assessment conducted, and the necessary control measures implemented to minimise the risk of damaging identified or unidentified underground electrical assets and to ensure the safety of all workers and other persons at the workplace. The Electrical Safety Regulation 2013 and Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines and Electricity Entity Requirements detail the requirement for work near underground electric lines.

4.3. Obtaining Safety Advice

To obtain written Safety Advice where identified as being required in Section 4.2.1 above, complete the Safety Advice Request Form which is accessible via the Electricity Entity website:

Energex: Safety Advice Request Form

Ergon Energy: Safety Advice Request Form

On receipt, the Electricity Entity will contact the Applicant to advise date and time to meet at site to provide written Safety Advice. It is advisable to bring to the meeting your copy of the Electrical Safety Code of Practice 2020 Working Near Overhead and Underground Electric Lines (and Before You Dig Australia Plan for location of underground assets where required), as reference to this will be necessary during the meeting. Control measures provided by the Electricity Entity may incur a fee.

Failure to adhere to the Electrical Safety Regulation Section 68 requirements and mandatory control measures as documented on written Safety Advice as issued will result in written non-compliance advice being sent to the Electrical Safety Office.

Where this work is required to occur on a regular basis at a workplace, the PCBU may consider arranging to have one or more employees trained and subsequently accredited with the Electricity Entity as Authorised Persons.

4.4. Authorised Person and how to become one?

Under the Electrical Safety Regulation 2013, the exclusion zones for working near or operating plant or vehicles near exposed, low voltage or high voltage electric lines vary depending on whether a person is classed as an “Untrained Person”, “Authorised Person” or “Instructed Person”. An Authorised Person is permitted to carry out work closer to the electric lines than an Untrained Person (refer Electrical Safety Code of Practice 2020 Working Near Overhead and Underground Electric Lines Appendix B Exclusion Zones for Overhead Electric Lines).

To become an Authorised Person, the employer / self-employed person must first satisfy the “person in control” of the electric line, in this case the Electricity Entity, that their Applicants possess the required competencies. They must then apply in writing to Electricity Entity for approval.

Removal or replacement of LV service fuse to permit work on consumers’ mains, installation switchboard, consumer’s terminals or eliminate an exclusion that would exist requires the Electrical Mechanic to hold a current Queensland Electrical Mechanic Licence and perform the work in accordance with their documented safe system of work.

An ’Authorised Person’ Electrical **must not**:

a. confirm the insulation properties of Ergon Energy Network or Energex electric lines;

b. work on or have direct contact with the works of an electricity entity (the works of Ergon Energy Network or Energex) including the entities’ electrical lines, electrical installations, electrical equipment or other entity infrastructure unless specifically approved;

c. replace a blown low voltage (**LV**) fuse after loss of supply to a customer’s connection;

d. reinstate an LV service fuse that has been removed by Ergon Energy Network or Energex;

e. alter, remove or relocate an Ergon Energy Network or Energex overhead LV service line or LV pillar connection;

f. perform LV isolation within locked Ergon Energy Network or Energex assets;

g. perform unauthorised work within locked Ergon Energy Network or Energex assets; or

h. climb Ergon Energy Network or Energex electricity poles or other infrastructure.

An Authorised Person’ Electrical **is approved** to undertake the following activities:

i. work on or near the point of attachment of Ergon Energy’s or Energex’s termination;

j. remove and replace LV service fuses when required to isolate a service line to eliminate the exclusion zone around the LV service line, or to work on the Customer’s consumer mains or switchboard;

k. isolate a Customer's LV service line at an underground pillar or service pole by removing a fuse wedge(s) from a service line, in accordance with electricity industry practices; or

l. Safety Observing under schedule 2 of the *Electrical Safety Regulation* 2013 (Qld) for the operation of operating plant, after receiving appropriate training to perform the role.

An 'Authorised Person' Non-Electrical **must not**:

a. confirm the insulation properties of Ergon Energy Network or Energex electric lines;

b. work on or have direct contact with the works of an electricity entity (the works of Ergon Energy Network or Energex) including the entities' electrical lines, electrical installations, electrical equipment or other entity infrastructure unless specifically approved; or

c. climb Ergon Energy Network or Energex electricity poles or other infrastructure.

An 'Authorised Person Non-Electrical' **is approved** to undertake the following activities:

d. Safety Observing under schedule 2 of the *Electrical Safety Regulation 2013 (Qld) for the operation of operating plant*, after receiving appropriate training to perform the role.

Websites

Energex: Authorised person | Energex

Ergon Energy: Authorised person | Ergon Energy

4.5. Contacting Electricity Entity for Safety Advice or Authorised Person Enquiries

By phone: Call Electricity Entity on General Enquiries phone number:

Energex:

- General Enquiries - ph 13 12 53

Ergon Energy:

- General Enquiries - ph 13 74 66

By email

Authorised Persons: AuthorisedPerson@energyq.com.au

Safety Advice: SafetyAdvice@energyq.com.au

Websites

Energex: Safety advice | Energex

Ergon Energy: Safety advice | Ergon Energy

5. OVERHEAD ELECTRIC LINES

The following table sets out preparatory work options that may be required to be performed by the Electricity Entity (or electrical contractor where identified as being permitted who is an Authorised Person - Electrical) to assist a person, worker or PCBU in minimising the electrical safety risks of, encroaching within the exclusion zone or, contact with electric lines.

Category of work		**Description**	**Costing arrangement**
Safety Advice	Base information	Provide Safety Advice (Can only be performed by the Entity)	**Nil cost to customer.**

Category of work		Description	Costing arrangement
LV Service isolation	1. Isolation carried out by customer's electrical contractor	Isolation of overhead or underground service by removal of the service fuse(s). (Preferred option to isolate supply and eliminate the exclusion zone).	No involvement by the Electricity Entity. May be a cost charged by the customer's electrical contractor.
	2. Isolation carried out by Electricity Entity	Customer requested isolation of overhead or underground service by removal of the service fuse(s) or Customer requested physical disconnection and reconnection of overhead or underground service.	**Cost to customer.**
Insulation integrity verification	3. Verification of insulation integrity to reduce exclusion zone to no exclusion zone prescribed e.g. no contact permitted	Verification of insulation integrity to classify as insulated service - Insulation integrity can only be verified at the time of inspection - visual inspection is required before confirmation in all cases. When service insulation integrity verified - no exclusion zone prescribed e.g. no contact permitted. (Can only be performed by the Entity)	**Cost to customer.**
Service replacement	4. Open wire service, service fuse(s) at house/building	Replacement of service with new XLPE service cable and service fuse(s) installed at origin (pole end) of service to allow isolation of service. Insulation integrity can be verified for new XLPE services at the time of installation - visual inspection is required before confirmation.	**Nil cost to customer** for service replacement. Customer responsible for necessary installation, Mains Connection Box and service support bracket upgrade and associated costs if required.

Category of work		Description	Costing arrangement
		Service installations where: a. the consumer's mains cannot be insulated and an exclusion zone must be maintained, and b. the service cannot be isolated at the service fuse. Service to be isolated by breaking the service cable connection to the LV mains at the pole. Service fuse(s) to be installed at origin (pole end) of service prior to reconnection.	**Nil cost to customer** for first disconnection and reconnection. **Cost to customer** for subsequent requests.
	5. All other service replacements	Customer requested replacement of existing service with new XLPE service cable to classify as insulated service, in lieu of isolation, to allow work close (no exclusion zone prescribed e.g. no contact permitted). Service fuse(s) to be installed at origin (pole end) of service.	**Cost to customer** for service replacement. Customer responsible for necessary installation, Mains Connection Box and service support bracket upgrade and associated costs if required.
Tiger Tails	Installation of Tiger Tails (for visual indication only - not for providing electrical insulation of LV mains)	Customer requested coverage of LV mains for visual indication only (not permitted on HV mains). The Entity may also fit tiger tails to LV service line for visual indication only.	**Cost to customer**.
Aerial Markers	Installation of aerial marker flags or rota markers (for visual indication only)	Customer requested temporary or permanent installation of appropriate aerial marker devices on LV or HV mains.	**Cost to customer**.
Switching	Customer requested switching	Customer requested switching to allow customer/contractor to work close (no exclusion zone prescribed e.g. no contact permitted).	**Cost to customer**.

5.1. Isolation of supply to customer installation to eliminate exclusion zone around LV service line

An Electrical Mechanic (holding current Queensland Licence) working on behalf of an electrical contractor and accredited with the Electricity Entity as an Authorised Person (Electrical) is permitted to remove and replace LV service fuse(s) when isolation of customer LV service line is required to eliminate the exclusion zone around the LV service line, or to work on the customer's mains and/or switchboard. Isolation of the customer's LV service line by an Authorised Person (Electrical) is only permitted at an underground service pillar or service pole by removing a fuse wedge(s) from a service line, in accordance with Electricity Industry practices e.g. from ground level using appropriate insulated tools, PPE and insulating mats. In those situations where the service fuse/circuit breaker is not located at supply end of the LV service, contact the Electricity Entity to arrange for Safety Advice where elimination of exclusion zone around LV service line is required.

Any controls used by the Authorised Person (Electrical) to identify and confirm isolation and ensure supply to the customer's installation is not inadvertently re-energised shall comply with Electrical Safety Regulation 2013 Section 14 and 15 requirements.

NOTE: **The Authorised Person (Electrical) will not be permitted to replace a blown LV service fuse(s) after loss of supply to a customer's installation or to alter the Electricity Entity overhead LV services. The low voltage pole top service fuse shall only be removed by use of an approved, in test, insulated telescopic pole device while standing at ground level and wearing class 00 insulating gloves. At no time is it permissible for an Authorised Person (Electrical) to climb or work aloft on the Electricity Entity's poles or assets unless approved by the Electricity Entity.**

5.2. Operating Plant

It can be extremely difficult for operating plant operators to see overhead lines and to judge distances from them. Contact with overhead lines can pose a risk of grounding live conductors and electrocution.

In many cases the likelihood of damage or injury can be reduced by setting up and operating the machinery well clear of overhead electric lines.

In situations where operating plant is operated by an Authorised Person or Instructed Person without a Safety Observer or another safe system, the exclusion zone requirements (refer Section 1) for an Untrained Person applies (refer Electrical Safety Regulation 2013 Schedule 2 or Electrical Safety Code of Practice 2020 Working Near Overhead and Underground Electric Lines).



For an Authorised or Instructed Person and their Operating Plant to approach overhead electric lines closer than the exclusion zone distances for an Untrained Person, a Safety Observer or another safe system shall be used. Refer to the Electrical Safety Regulation 2013 and the Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines for exclusion zone distances for Authorised and Instructed Persons operating plant with a Safety Observer or another safe system.

Where a Safety Observer is used, the Safety Observer shall:

- Be trained to perform the role.
- Not be required to carry out any other duties at the time, and
- Not be required to observe more than one item of plant operating at a time, and
- Attend all times when the item of plant is operating.

Other control measures for operating plant may include, but are not restricted to:

- Constructing physical barriers or height warning indicators either side of the overhead electric line that are lower than the maximum travel height permissible without encroaching within the exclusion zone of the overhead electric line.
- Applying appropriate signage at least 8 to 10 m either side of overhead electric lines.
- Arrange for visual indicators such as Rota Markers, Tiger Tails or aerial markers to fitted to the overhead electric lines - only erected by the Electricity Entity (tiger tails are only permitted on LV mains).
- Ground barriers, where appropriate.
- Informing workers of required work practices.
- Ensuring operators are aware of the height and reach of their machinery in both stowed and working positions.
- Lowering all machinery to the transport position when relocating.
- Providing workers with maps or diagrams showing the location of underground and overhead electric lines, and
- Where possible, directing work away from overhead electric lines not towards them.

5.3. Scaffolding Requirements

The following information provided is for guidance only and shall be read in conjunction with the Electrical Safety Regulation 2013, Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines and AS/NZS 4576:1995: Guidelines for Scaffolding.

Requirements shall be complied with where scaffolding is required to be erected within 4 m of nearby overhead electric lines:

- The scaffolding shall not be erected before contacting and obtaining Safety Advice from the Electricity Entity.
- Erection of scaffolding to comply with requirements of AS/NZS 4576:1995: Guidelines for Scaffolding.

The scaffolding can be either:

- nonconductive material scaffolding; or
- metallic scaffolding with solid nonconductive barriers (with no gaps, holes or cuts) securely fixed to the outside and/or top of the scaffolding to prevent encroachment within exclusion zones or contact with the energised mains.

Where scaffolding is erected within 3 m of nearby overhead electric lines:

- It shall be fitted with fully enclosed non-conductive solid barriers to prevent encroachment within exclusion zones or contact with the energised mains fully enclosed.
- The person required to erect and/or disassemble scaffolding as well as the required solid barrier affixed to the scaffolding should be an Authorised Person (approved in writing by the Electricity Entity - refer requirements of Section 1.4 of this Reference).
- A Safety Observer shall be used during performance of this work where there is a risk of encroachment within 3 m of nearby energised overhead electric lines for voltages up to 33 kV. Additional requirements may apply for voltage levels above 33 kV, contact the Electricity Entity for consultation.

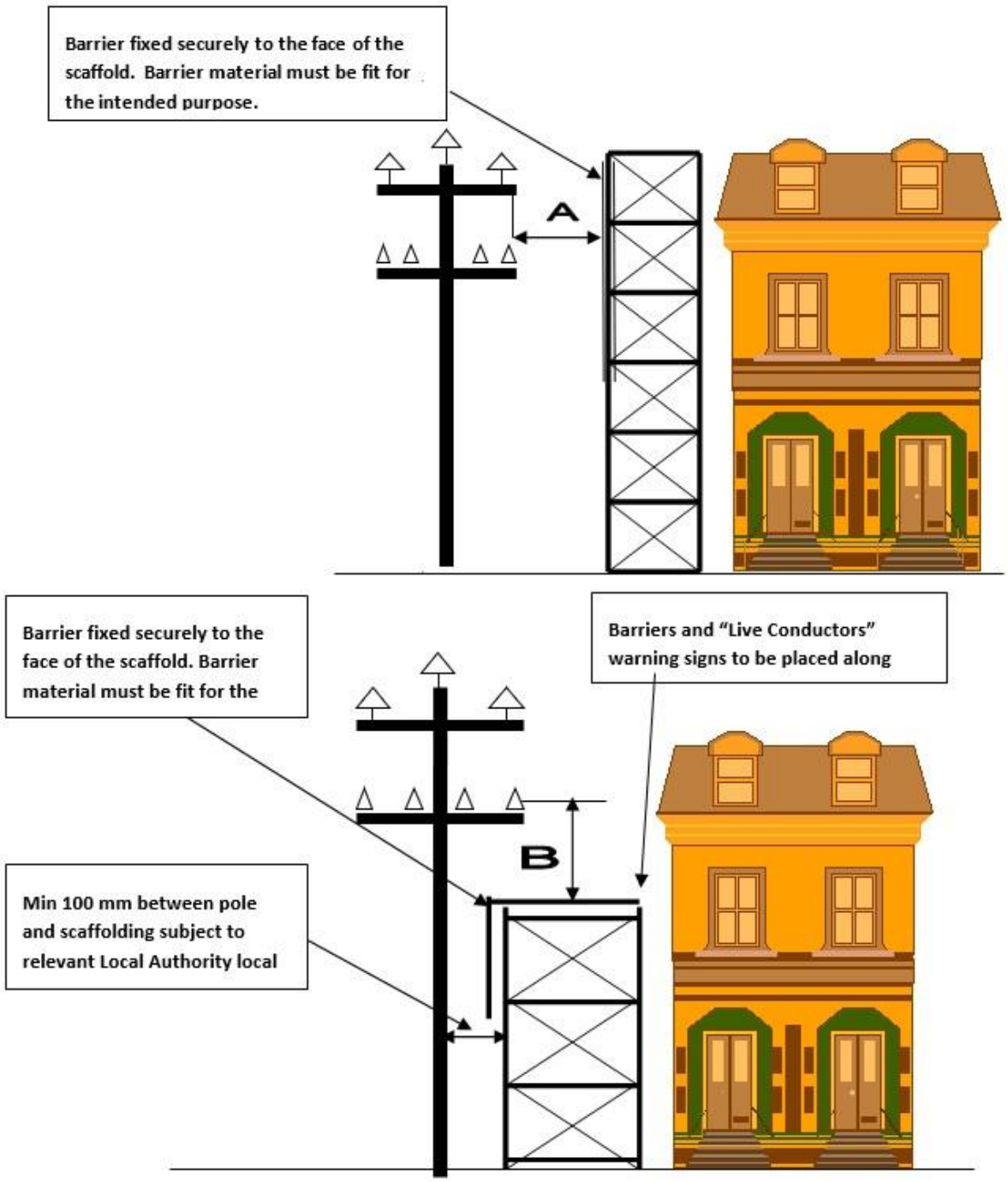
- Alternatively, consideration should be given to the de-energisation of the nearby electric lines where possible for the duration of this work. Additional requirements may apply for voltage levels above 33 kV, contact the Electricity Entity for consultation.
- Comply with the horizontal and vertical statutory clearances from overhead electric lines as set out in Electrical Safety Regulation 2013 Schedule 4.
- Persons are not permitted to go outside of or climb on top of the solid barrier fixed on the outside and/or top of the scaffolding.

Where an insulated low voltage service line passes through the scaffolding, it should either be de-energised for duration of work or be fully enclosed by non-conductive material (e.g. form ply).

Minimum statutory clearances from nearby overhead electric lines for scaffolding erected with barriers affixed.

Voltage Level	**Horizontal Distance "A" (in metres)**	**Vertical Distance "B" (in metres)**
Low voltage conductors (uninsulated)	1.5m	2.7m
Low voltage conductors (insulated) - these distances can only be applied after the integrity of the insulation has been verified by the Electricity Entity	0.3m	0.6m
Above LV and up to 33 kV (uninsulated)	1.5m	3.0m
Above LV and up to 33 kV (insulated)	Contact Electricity Entity for consultation.	
Above 33 kV (uninsulated)	Additional requirements may apply for voltage levels above 33 kV, contact the Electricity Entity for consultation.	

NOTE: **Dimensions "A" and "B" is between the scaffolding and the closest conductor of the overhead electric line. Dimension B is also taken from the lowest part of the mid span sag adjacent to the scaffolding.**



5.4. High Load transport under Overhead Electric Lines

Any person or company transporting a High Load (load in excess of 4.6 m high) under overhead electric lines must comply with Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines and is required to submit a Notification to Transport High Load form to the relevant Electricity Entity of the intended route and details of the high load involved. Before any person or company can transport a high load (load in excess of 4.6 m high), authorisation to travel must be received in writing from the Electricity Entity. Refer details below to contact the Electricity Entity for high load enquiries or to submit Notification to Transport High Load form:

Email: highloads@energyq.com.au

Phone: (07) 4932 7566 (7:30am to 3:00pm, Monday to Friday)

Energex: Vehicles with high loads | Energex

Ergon Energy: Vehicles with high loads | Ergon Energy

The Road Transport Operator has the overarching responsibility of transporting the load and is required to comply with the directions of the police, pilot, High Load Escort, and Energex / Ergon Energy Network.

When arranging the transporting of the high load, the Road Transport Operator shall determine the lowest practicable height that the load can be reduced to.

The Road Transport Operator is to have a Safe System of Work in place that supports the safe transportation of the High Load so as not to breach any exclusion zone to Entity powerlines or assets along the travel route.

5.5. Additional Details and Fact Sheets on Electricity Entity Requirements

Additional details and Fact Sheets on Electricity Entity requirements for working near overhead electric lines are located on the following internet sites

Energex: Working near powerlines | Energex

Ergon Energy: Working near powerlines | Ergon Energy

6. UNDERGROUND ELECTRICAL ASSETS

6.1. Responsibilities When Working in the Vicinity of Electricity Entity Underground Electrical Assets

Everyone has a legal “Duty of Care” that must be observed when working in the vicinity of underground electrical assets which includes underground cables, conduits and other associated underground equipment. When discharging this “Duty of Care” in relation to Electricity Entity underground electrical assets, the following points must be considered:

1. It is the responsibility of the architect, consulting Engineer, developer, and principal contractor in the project planning stages to design for minimal impact and protection of Electricity Entity underground electrical assets. The Electricity Entity will provide plans on request via BYDA showing the presence of the underground electrical assets to assist at this design stage.
2. It is the constructor’s responsibility to:
    a. Anticipate and request BYDA plans of Electricity Entity underground electrical assets for a particular location at a reasonable time before earthworks begins.
    b. Visually locate Electricity Entity underground electrical assets by use of an electronic cable locator followed by careful non-mechanical excavation (potholing using hydrovac or hand tools) when earthworks activities may damage or interfere with Electricity Entity plant.
    c. After completion of steps (a) and (b) above, if there is a risk of the Electricity Entity underground electrical assets being damaged or its structural integrity compromised by your planned earthworks activities, contact the Electricity Entity (General Enquiries phone number - refer page 3) for further advice.

    A constructor may include but not limited to designer, project manager, installer, contractor, civil contractor.
3. The alignments and boundaries contained within BYDA plans and maps will sometimes differ from present alignments and boundaries “on the ground”. Accordingly, in every case, the constructor should obtain confirmation of the actual position of Electricity Entity cables and pipelines under the roadways by non-mechanical excavation (potholing using hydrovac or

hand tools) when earthworks activities may damage or interfere with Electricity Entity underground electrical assets. In no case should the constructor rely on statements of third parties in relation to the position of Electricity Entity underground electrical assets.

6.2. Conditions of Supply of Information

- Plans and details of Electricity Entity underground electrical assets provided by BYDA are only current for 4 weeks from the date of dispatch and should not be referred to after this period, if you go past this time, please re-apply to BYDA as underground services may have been updated.

- The Electricity Entity agrees to provide plans if an Electricity Entity underground electrical assets location request is made to Before You Dig Australia (BYDA) , online at https://www.byda.com.au or the free iPhone Application, only on the basis that at least 2 business day notice is given and the BYDA applicant agrees to the terms of this agreement.

Note that the Electricity Entity only provides information on underground electrical assets it owns. Contact the owner of any privately owned underground electrical assets for details of their assets located at site.

- The Electricity Entity retains copyright of all plans and details provided in connection to your request.
- BYDA plans or other details are provided for the use of the BYDA applicant, its servants, or agents, for the sole purpose of the applicant's responsibilities in relation to the Electricity Entity underground electrical assets and shall not be used for any other purpose.
- BYDA plans are diagrams only and indicate the presence of Electricity Entity underground electrical assets in the general vicinity of the geographical area shown. Exact ground cover and alignments cannot be given with any certainty as such levels can change over time.
- On receipt of BYDA plans and before commencing excavation work or similar activities near Electricity Entity's underground electrical assets, carefully locate this plant first to avoid damage.
- The Electricity Entity, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and of details so supplied to the BYDA applicant, its servants or agents, and the BYDA applicant agrees to indemnify the Electricity Entity against any claim or demand for any such loss or damage to the BYDA applicant, its servants, or agents or to any third party.
- The constructor is responsible for all damages to the Electricity Entity underground electrical assets when work commences prior to obtaining BYDA plans, or at any time after that for failure to follow agreed instructions contained in this document or any other advice provided by the Electricity Entity.
- By undertaking any work, you acknowledge that the Electricity Entity reserves all rights to recover compensation for loss or damage to the Electricity Entity caused by interference or damage, including consequential loss and damage to its cable network, or other property.
- Be aware that some underground conduits may contain asbestos. Refer to "Code of Practice for the Management and Control of Asbestos in Workplace [NOHSC: 2018 (2005)]" for guidance.

6.3. When Working in the Vicinity of Electricity Entity Underground Electrical Assets, You Must Observe the Following Conditions

6.3.1 Records

The first step before any excavation commences is to obtain BYDA plans of Electricity Entity underground electrical assets in the vicinity of the work. For new work, records should be obtained during the planning and design stage. The records provided by BYDA must be made available to all relevant work groups on site. Where underground electrical asset information is transferred to plans for the proposed work, care must be exercised that important detail is not lost in the process.

6.3.2 Location of underground electrical assets

Examining the records is not sufficient, as reference points may change from the time of installation. Records must also be physically proven when working in close proximity to underground electrical assets. The exact location of underground electrical assets likely to be affected shall be confirmed by use of an electronic cable locator followed by careful non mechanical excavation to the level of concrete slabs or conduits. Non mechanical excavation (potholing using hydrovac or hand tools) must be used in advance of excavators. In any case, where doubt exists with respect to interpretation of cable records, contact the Electricity Entity (General Enquiries phone number - refer page 3) for further advice.

If during excavation, cables or conduits are damaged:

- call Electricity Entity (Emergencies phone number - refer page 3) to report damaged cables or conduits.
- treat cables as if alive, post a person to keep all others clear of the excavation until the Electricity Entity crew attend to make safe.

If **unknown** cables or conduits (e.g. not shown on issued BYDA plans) are located during excavation:

- call Electricity Entity (Emergencies phone number - refer page 3) to report.
- treat cables as if alive, post a person to keep all others clear of the excavation until the Electricity Entity crew attend to make safe.

If the constructor is unable to locate Electricity Entity underground electrical assets within 2.5 m of nominal plan locations, they should contact the Electricity Entity (General Enquiries phone number - refer page 3) for further advice.

6.3.3 Remote or On-Site Cable Location conducted by Electricity Entity

This service shall only be provided at Electricity Entity's discretion:

- The Electricity Entity may provide this site visit only when underground cables (33 kV or above) are present.
- Due to remote locations where external cable locator or hydro vac service providers are not readily available, Electricity Entity may attend site and assist with cable location (fees may apply for this service).
- The Electricity Entity may provide either remote over the phone or on-site cable location advice to assist in the location of Electricity Entity underground electrical assets, including how to visually locate and protect the plant when excavating.
- Where the Electricity Entity provides on-site cable location advice, any markings provided for the purpose of identifying cable location are for general guidance only, and the constructor

is still responsible for non-mechanical excavation (potholing using hydrovac or hand tools) to visually locate Electricity Entity underground electrical assets.

- If the constructor is unable to locate Electricity Entity underground electrical assets within 2.5 m of nominal plan locations, they should contact Electricity Entity (General Enquiries phone number - refer page 3) to request further advice.

6.3.4 Electrical Cables

Electricity Entity cables may have warning covers e.g.:

- Clay paving bricks or tiles marked “Electricity” or similar (also unmarked)
- Concrete or PVC cover slabs
- PVC, asbestos or fibro conduit, fibre reinforced concrete, iron or steel pipe
- Concrete encased PVC or steel pipe
- Thin plastic marker tape
- Large pipes housing multiple ducts
- Multiple duct systems, including earthenware or concrete

NOTE: **Some cables are known to be buried without covers.**

6.3.5 Separation from Electricity Entity underground electrical assets

If location plans or visual location of Electricity Entity underground electrical assets by non-mechanical excavation (potholing using hydrovac or hand tools) reveals that the location of Electricity Entity underground electrical assets is situated where the developer or constructor plans to work, then contact the Electricity Entity (General Enquiries phone number - refer page 3) for further advice.

The developer or constructor shall ensure that minimum separation distance from Electricity underground electrical assets (refer Minimum Separation Requirements tables below) is complied with when installing, altering or repairing other underground services located in the vicinity.

If the Electricity Entity relocation or protection works are part of the agreed solution, then payment to the Electricity Entity for the cost of this work shall be the responsibility of the principal developer or constructor. The Electricity Entity will provide an estimate for work on receipt of the developer’s or constructor’s order number before work proceeds.

It will be necessary for the developer or constructor to provide the Electricity Entity with a written Work Method Statement for all works in the vicinity of, or involving Electricity Entity underground electrical assets. This Work Method Statement should form part of the tendering documentation and work instruction. All Work Method Statements shall be submitted to the Electricity Entity prior to the commencement of site earthworks.

Minimum Separation Requirements

Underground Services Running Parallel with Electricity Entity Electrical Assets (Minimum Separation required in mm)							
Voltage Level	Gas	Communication or TV	Water		Sanitary drainage		Storm Water
			≤DN 200	>DN200	≤DN 200	>DN 200	
LV	300 (Ergon) 250 (Energex)	100	500	*1000	500	1000	500
HV		300					
*Contact your local utility/council to obtain specific separation distances							

Underground Services Crossing Electricity Entity Electrical Assets (Minimum Separation required in mm)					
Voltage Level	Gas	Communication or TV	Water	Sanitary drainage	Storm Water
LV	100	100	300	300	100
HV					

Notes:

- These clearances are each Electricity Entity's minimum requirements, additional separation may be required by the Service Owner. The greater of the separation requirements shall apply.
- Where the above tables do not list a separation requirement for a particular underground service type, the following minimum separation from electricity entity electrical assets shall apply:
- LV = 100 mm
- HV = 300 mm
- Compliance with these minimum separation requirements does not guarantee that issues such as Earth Potential Rise (EPR) and Low Frequency Induction (LFI) are managed, where these issues need to be managed, advice will need to be sought from an RPEQ Engineer
- All separation distances are measured from the exterior surface of the conduit / cable not centrelines or inner wall surfaces.

6.4. Additional Details and Fact Sheets on Electricity Entity Requirements

Additional details and Fact Sheets on Electricity Entity requirements for working near underground electrical assets are located on the following internet sites.

Energex: Working near powerlines | Energex

Ergon Energy: Working near powerlines | Ergon Energy

7. EXCAVATION

7.1. Excavating near Poles and Stay Wires

The following requirements are to be compiled with to minimise the risk of compromising the structural integrity of the Electricity Entity poles and stay foundations when excavation or trenching work is performed nearby that could result in the failure of one or more poles and grounding of supported electric lines.

- Excavation and trenching work undertaken by a person, worker or PCBU in the vicinity of poles and stay foundations shall:
- only be commenced after requirements of Section 3 have been complied with for any underground electrical assets located within the work site.
- upon completion of excavation and site earthworks do not restrict the Electricity Entity vehicle access to pole site for purpose of carrying out maintenance activities.
- comply with exclusion zones as detailed in the Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines.
- not be attempted**:**
    - within 5 m (horizontal distance) of **pole stays** where the excavation depth is greater than 250 mm before contacting the Electricity Entity to determine requirements.
    - within 5 m (horizontal distance) of Electricity Entity poles with earth leads or cables running down into the ground before contacting the Electricity Entity to determine requirements.
    - within “Do Not Disturb” zone of pole prior to a certified engineering assessment having been completed by a Registered Professional Engineer Queensland, and then reviewed and approved by the Electricity Entity before proceeding with work. Approval by the Electricity Entity shall not relieve the PCBU of its duties to perform the work in a safe and proper manner and in accordance with all applicable legislation.
    - if the soil is exceedingly wet (saturated) or there is more than minimal wind loading unless additional pole support is provided in accordance with certified engineering assessment and approved by Electricity Entity.
    - when a severe weather event is occurring or expected (e.g. severe weather warning has been issued by Bureau of Meteorology).
- be backfilled as soon as possible (within same day where pole is required to be supported) soil mechanically compacted in layers of 150 mm and all rock and vegetable material excluded from the backfill.
- be backfilled and pole stabilised before removal of additional support required by a certified engineering assessment are permitted to be removed.

The PCBU shall be responsible for arrangement and costs of required certified engineering assessments, approvals by other regulatory bodies (eg councils, Main Roads, pipeline owners, telecommunication owners) and placement and removal of associated pole supporting equipment.

Electricity Entity poles must not be fitted with non-approved pole holding devices.

Only approved mechanical holding devices (e.g. Proline, Borer Lifter, etc) used in accordance with a certified engineering assessment are permitted and shall be:

- only attached and removed by the Electricity Entity or persons approved by the Electricity Entity.

- used to restrain both the pole head and foot to maintain pole stability during nearby excavation work.
- set up and positioned to maximise support effectiveness and minimise impact on traffic, pedestrian, excavation and machinery at site; and maintain exclusion zone from overhead lines. If insufficient clearance exists to maintain exclusion zones to pole supporting equipment, arrangements may be required for de-energising the electric line.

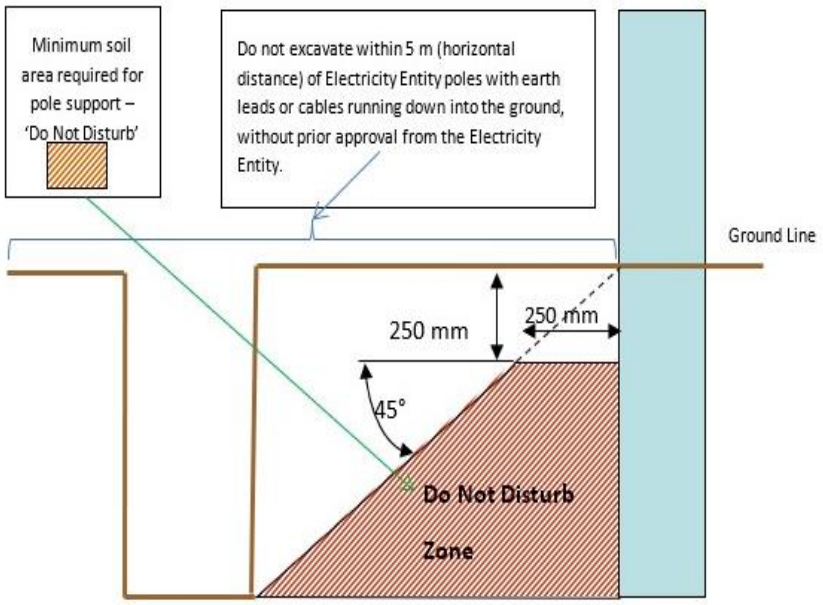


Figure 1 - Do Not Disturb Zone requirements when excavating near poles

Maximum Trench Depth	Minimum Distance from pole without pole support
Not more than 0.25 m (250 mm)	Can trench or hand dig (where cables and leads exist) right up to pole
1.0 m	1.0 m
1.5 m	1.5 m
2.0 m	2.0 m
2.5 m	2.5 m
3.0 m	3.0 m

7.1.1 Certified Engineering Assessment

Where required to be provided by the PCBU, a Certified Engineering Assessment shall:

- Ensure the stability of the Electricity Entity poles and foundations is maintained during and as a result of excavation work completed within the 'Do Not Disturb' zone.
- Include detailed design drawing of pole support method.
- Be completed and certified by a Registered Professional Engineer Queensland.
- Consider and address the following key points as a minimum:
  - Pole loading (vertical and lateral) including line deviation angles, direction of lean (towards or away from resultant loading)

- Direction of pole lean.
- Pole inspection (conducted to meet the Electricity Entity's requirements at customer cost)
- Pole foundation depth
- Proximity of excavation in relation to pole
- Soil condition
- Proposed shoring methods as well as installation and removal process
- Duration and staging of work
- Requirement to independently support pole during work
- Proximity of existing adjacent underground services and excavations
- Proposed backfilling and reinstatement method
- Monitoring and engineering/ geotechnical supervision during excavation work progress
- Other equipment attached to pole (e.g. underground cables, transformer, ACR, ABS.) must be taken into consideration and in some circumstances will prevent the pole being supported.

7.2. Excavating Near Underground Electrical Assets

For all work within 2.5 m of nominal location, the constructor is required to use non-mechanical excavation (potholing using hydrovac or hand tools) and expose the underground electrical assets, hence proving its exact location before earthworks can commence.

7.2.1 Excavating Parallel to Underground Electrical Assets

If excavation work is parallel to the Electricity Entity underground electrical cables, then non mechanical excavation (potholing using hydrovac or hand tools) at least every 4 m is required to establish the location of all cables, hence confirming nominal locations before work can commence. If an excavation exceeds the depth of the cables and it is likely that that the covers or bedding material around the cables/pipes will move causing Electricity Entity cables or conduits to be unsupported, contact Electricity Entity (General Enquiries phone number - refer page 3) for further advice.

NOTE: Be aware that cable depths and directions may change suddenly along the route.

7.2.2 Excavating Across Underground Electrical Assets

Refer Minimum Separation Requirements table in Section 6.3.5 of this document for distances that shall be maintained to prevent inadvertent contact with or damage to underground electrical assets. If the width or depth of excavation is such that the Electricity Entity cables will be unsupported, contact Electricity Entity (General Enquiries phone number - refer page 3) for further advice. In no case shall a cable cover be removed without approval. A cable cover may only be replaced under the supervision of an Electricity Entity officer. Protective cover strips when removed must be replaced under Electricity Entity supervision. Under no circumstances shall protective cover strips be omitted to achieve the minimum separation distance required between Electricity Entity cables and other underground services.

7.2.3 Heavy Machinery Operation Over Underground Electrical Assets

Where heavy "crawler" or "vibration" type machinery is operated over the top of cables, a minimum cover of 450 mm to the cable protective cover must be maintained. Alternatively, subject to a Certified Engineering Assessment, use load bearing protection whilst the machinery is in operation.

7.2.4 Directional Boring Near Underground Electrical Assets

When boring parallel to cables, it is essential that trial holes are carefully dug using non mechanical excavation (pot holing using hydrovac or hand tools) at regular intervals to prove the actual location of the conduits/cables before using boring machinery. Where it is required to bore across the line of cables/conduits, the actual location of the cables/conduits shall be proven by non-mechanical excavation (pot holing using hydrovac or hand tools). A trench shall be excavated 1 m from the side of the cables where the auger will approach to ensure a minimum clearance of 500 mm from cables/conduits can be maintained.

7.2.5 Hydro Vac Operation

When operating hydro vac equipment to excavate in vicinity of underground electrical assets (cables/conduits):

- Fitted with:
  - nonconductive (neoprene rubber or equivalent) vacuum (suction) hose.
  - oscillating nozzle on pressure wand with water pressure adjusted to not exceeding 2000 psi.
- Maintain a minimum distance of 200 mm between end of pressure wand and underground electrical assets. DO NOT insert the pressure wand jet directly into subsoil.
- Ensure pressure wand is not directly aimed at underground electrical assets (cables / conduits).

7.3. Blasting

Explosives must not be used within 5 m of cables/conduits, unless an engineering report is provided indicating that no damage will be sustained. Clearances shall be obtained from the Electricity Entity for use of explosives in the vicinity of cables/conduits. Contact Electricity Entity (General Enquiries phone number - refer page 3) for further advice.

The Electricity Entity will accept the level of 25 mm / sec as a peak component particle velocity upper limit as defined in AS 2187.2 Appendix J for blasting operations in the vicinity of these power lines.

Electric line insulators and conductors are particularly susceptible to damage from fly rock and adequate control measure including the use of blast mats shall be used to manage this. Contact Electricity Entity for consultation and application.

8. REPORTING DAMAGE CAUSED TO OVERHEAD OR UNDERGROUND ELECTRIC LINES

Any damage caused to the Electricity Entity overhead electric lines, poles, stays, underground cables, conduits and pipes must be reported no matter how insignificant the damage appears to be. Even very minor damage to cable protective coverings can lead to eventual failure of cables through corrosion of metal sheaths and moisture ingress.

All work in the vicinity of damaged overhead or underground electric lines shall cease and the area be made safe and vacated until clearance to continue earthworks has been obtained from the Electricity Entity. Call Electricity Entity (Emergencies phone number - refer page 3).

9. INFRASTRUCTURE NEAR ELECTRIC LINES

9.1. Easements and Wayleaves

This information, whilst not a legal document, has been developed to assist the community in answering some commonly asked questions about our easements and wayleaves, and briefly outlines what you can do where land is affected by an easement or where consent to installing electrical infrastructure has been given.

9.1.1 What is an Electricity Easement?

An electricity easement is the authority held by the Electricity Entity to use your land near overhead and underground electric lines and substations (electrical assets). Electricity Entity holds this authority for your own safety and to allow employees access to electrical assets at all times. Whilst it will depend on the terms of the particular grant of easement, electrical easements generally give the Electricity Entity the right to access, maintain, repair, rebuild and to restrict development within a defined area.

The easement, which is registered on the property's title, contains a plan showing the dimensions of the easement and its location on the property together with the rights and restrictions over the easement area. The Department of Natural Resources and Mines https://www.resources.qld.gov.au/ or your solicitor will be able to provide this information. Easements may also exist for telephone lines, water and sewage mains and natural gas supply lines.

9.1.2 Why are easements necessary?

Easements are also created to allow the Electricity Entity clear, 24 hour access to the electric lines. It is important to keep the easement clear at all times so regular maintenance, line upgrades, damage or technical faults can be attended to immediately to provide a safe and reliable supply of electricity. Interference with Electricity Entity's rights and electrical equipment may compromise safety of the public and the occupiers of the property. Therefore, it is essential that Electricity Entity's rights are understood and observed.

9.1.3 How do I know if there are easements on my property?

Contact your solicitor or The Department of Natural Resources and Mines to obtain a Title Search that shows all registered easements on the property.

9.1.4 Who owns the land the easement is on?

The ownership of that land encumbered with the easement remains with the property owner.

9.1.5 How does an easement affect what I can do with my property?

An easement controls what you can build, what size trees you can plant and what outdoor activities you can carry out in the easement area.

An easement affects the use of the property by limiting the development that can be undertaken within the easement area. The exact rights granted to an Electricity Entity under an electricity easement will depend on the wording used in the grant of easement. Property owners and occupiers should also be aware that an Electricity Entity has the right of access to land to undertake certain works (including reading meters and disconnecting supply). These rights of access are granted by Queensland legislation not the easement and so may not be registered on the property's title and therefore may not be revealed in a Title Search.

9.1.6 Who is responsible for maintenance of easement area?

You must provide a continuous, unobstructed area along the full length of the easement to allow an Electricity Entity access to electric lines, transformers, underground cables and other equipment at all times. A width of 4.5 m is typically required for the safe passage of vehicles and heavy plant.

You must NOT place obstructions in the easement within 5 m of any electric lines, transformer, power pole, equipment or supporting wire.

Maintenance of the easement area is generally the responsibility of the property owner and/or occupier, however, complying with regulatory and safety requirements associated with Electricity Entity's electrical assets within the easement area is the responsibility of the Electricity Entity.

9.1.7 What type of maintenance work does Electricity Entity undertake on easements?

To enable Electricity Entity to construct, maintain, repair and rebuild electric lines on some properties, access roads and tracks are required on or adjacent to the easement area. As required, Electricity Entity is able to construct access tracks, retain the right of use of these tracks and maintain them to a suitable level to permit access for its vehicles. Where gates are installed within the easement area, an Electricity Entity lock may be required to enable continual access along the easement corridor.

In addition, periodic vegetation management works are also undertaken by Electricity Entity to ensure that a specified minimum clearance between vegetation and the electric lines is maintained.

Where possible, property owners will be contacted prior to easement maintenance and vegetation works commencing.

9.1.8 Where consent (Wayleave) to installing Electricity Entity infrastructure has been given

Much of Electricity Entity's above ground electricity network is constructed without easements. Instead, the consent of the owner of the affected land is obtained and the electrical infrastructure is installed. Historically this consent has been in the form of a document known as a Wayleave.

This consent (or Wayleave) is a document evidencing the agreement from a particular owner, but it is not registered on the title of the land like an easement.

Once consent is obtained from an owner, Queensland legislation (the Electricity Act 1994) says that the consent of all future owners to the electrical infrastructure is not required.

Queensland legislation grants Electricity Entity rights to access, maintain, repair and replace electrical assets installed with consent.

9.2. Contact Electricity Entity when planning construction work near electric lines

When planning and before commencement (regardless of whether or not local council approval is required), it is essential to confirm that the proposed construction work (e.g. building, structure, sign, crane, scaffold) does not breach the minimum statutory clearance distances that must be maintained from nearby Electricity Entity overhead or underground electric lines. Refer Electrical Safety Regulation 2013, Schedule 4 and 5 for information on statutory clearance distances that must be complied with.

It is extremely dangerous and potentially life threatening to allow anything to come in close proximity to the conductors of an electric line.

We advise not to build **under** or **near** powerlines or add to a structure under or near powerlines. This can cause exclusion zones to be encroached, which may endanger others now and in the future. Please note obligations under section 30 of the Electrical Safety Act 2002 and sections 68 of the Electrical Safety Regulation 2013.

There is an obligation to notify the Electricity Entity, before any work starts, where work is likely to involve a building or other structure coming within clearance requirements for an overhead or underground electric line.

Where it is necessary for an Electricity Entity to relocate electric lines due to statutory clearance breach caused by work performed nearby, the Electricity Entity may be entitled to recover costs from the PCBU, property owner or occupier who caused the breach. Refer Electrical Safety Regulation 2013, Section 209 Building or adding to structure near electric lines.

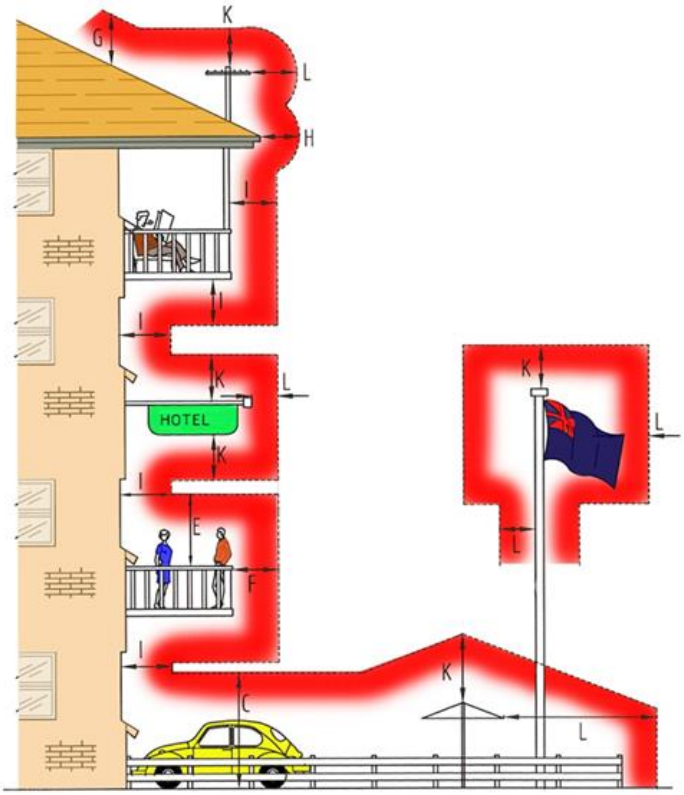
Although it is preferred that the area around Electricity Entity electrical assets (including within an Easement area) is free of development, the following examples provide property owners and occupiers with an indication of what type of development is acceptable and what is not.

NOTE: **Do not assume that your local council approval is sufficient approval for you to proceed with your work. The local council may not check whether or not your proposed construction work will comply with the Electricity Entity's statutory clearance requirements.**

9.3. What clearances must be maintained once construction work is completed?

Electrical Safety Regulation 2013, Schedule 4 - Clearance of overhead electric lines and Schedule 5 - Clearance of low voltage overhead service lines detail the statutory clearances that must be maintained from overhead electric lines for completed buildings and structures. These statutory clearances will need to be taken into consideration during the planning phase of determining the location for a building or structure. The table below sets out the minimum statutory clearances required for voltage levels up to 33 kV. Additional requirements may apply for voltage levels above 33 kV, contact the Electricity Entity for consultation.

Where the Electricity Entity has identified a breach of statutory clearance resulting from erection of a building or structure, the statutory breach will be reportable to the Electrical Safety Office as a Dangerous Electrical Event and any costs incurred in subsequent remedial work to achieve required statutory clearances may be recovered from the person or company who caused the breach of statutory clearance.



CODE	LOCATION	DIRECTION	INSULATED CABLE (ABC) (Note 1)	BARE	MORE THAN 1000 VOLTS BUT NOT MORE THAN 33kV
MINIMUM CLEARANCE FROM ROADS, GROUND, OR BOUNDARIES					
A	Crossing the carriageway, roadway	VERTICALLY	5.5m	5.5m	6.7m
A1	Designated "Over Dimension Routes"	VERTICALLY	7.0m	7.0m	7.5m
B	At other positions, footpath	VERTICALLY	5.5m	5.5m	5.5m
C	Other than roads but trafficable	VERTICALLY	5.5m	5.5m	5.5m
C1	Areas totally inaccessible to traffic or mobile machinery	VERTICALLY	4.5m	4.5m	4.5m
D	Cuttings, embankments, easement boundaries	HORIZONTALLY	1.5m	1.5m	2.1m
X	Real Property Boundaries	HORIZONTALLY	0.0m	0.0m	0.0m
MINIMUM CLEARANCE FROM STRUCTURES AND BUILDINGS					
E F	Unroofed terraces, balconies, sun-decks, paved areas, etc, subject to pedestrian traffic only. A hand rail or wall surrounding such an area and on which a person may stand. (Note)	VERTICALLY AND HORIZONTALLY (Note)	2.7m 1.2m	3.7m 1.5m	4.6m 2.1m
G H	Roofs or similar structures not used for traffic or resort but on which a person may stand. A parapet surrounding such a roof and on which a person may stand. (Note)	VERTICALLY AND HORIZONTALLY (Note)	2.7m 0.9m	3.7m 1.5m	3.7m 2.1m
I	Covered places of traffic or resort such as windows which are capable of being opened, roofed open verandahs and covered balconies.	IN ANY DIRECTION	1.2m	1.5m	2.1m
J	Blank walls, windows which cannot be opened. (Note)	HORIZONTALLY	0.6m	1.5m	1.5m
K L	Other structures not normally accessible to persons. (Note)	VERTICALLY HORIZONTALLY (Note)	0.6m 0.3m	2.7m 1.5m	3.0m 1.5m

NOTE:
The vertical clearance and the horizontal clearance specified shall be maintained.

Electricity Entity Requirements - Working Near Overhead and Underground Electric Lines

The following list of examples is not exhaustive, and it may be necessary to contact the Electricity Entity if doubt exists as to what is permitted around electricity assets.

What is PERMITTED around Electricity Entity overhead or underground electric lines	***What is NOT PERMITTED around Electricity Entity overhead or underground electric lines***
✓ Erection of fences to a maximum height of 2.4 m is generally acceptable, provided they do not affect access to, and work on, the poles, electric lines and/or cables. Trees, shrubs and plants should be located clear of vehicle access. **Note:** Maximum Growth Height of 3 m. ✓ Clothes hoists and barbecues should be located clear of the vehicle access way. **Note:** Maximum Height 2.5 m. ✓ Installation of underground utility services, such as low voltage electricity, gas, telephone and water, is generally acceptable, subject to clearances from Electricity Entity poles and supporting structures, and underground electric mains. ✓ Excavating, filling and altering of nearby land may be acceptable but full details need to be provided to the Electricity Entity for assessment. ✓ Vehicles, mobile plant and equipment within the easement area need to maintain the minimum statutory clearances distances from overhead electric lines. Normal farming, grazing and other agricultural activities can be carried out. Take care when ploughing or operating mobile machinery or irrigation equipment near Electricity Entity's equipment. ✓ Parking of vehicles, trucks, trailers, etc. is normally allowed. **Note:** Maximum Load and Aerial Height of 4 m. Barriers of an approved design (e.g. bollards) may be required to protect poles from vehicle contact damage. Heavy vehicle or operating plant crossings may need a protective concrete cover to ensure underground cables are not damaged.	✗ Build houses, sheds, garages or other large structures. Building of roofed/ unroofed verandas, swimming pools and pergolas are generally not acceptable. ✗ Flying kites or model aircraft within the easement. ✗ Driving fence posts or stakes into ground within easements where there is underground cabling. ✗ Storing liquids such as petrol, diesel fuel, or any flammable or combustible material that will burn. ✗ Installing lighting poles. ✗ Stockpiling soil or garbage within the easement. ✗ Planting trees in large quantities that could create a fire hazard or that grow in excess of the approved maximum height of 3 m. ✗ Storing or using explosives. ✗ Residing in or occupying any caravan or mobile home within an easement. ✗ Placing obstructions within the vicinity of any Electricity Entity assets (e.g. power pole, overhead electric line, equipment or pole stay) that impede access to or work on these assets.

9.4. What about Electric and Magnetic Fields?

The Electricity Entity operates its electric lines within the current guidelines set by the National Health and Medical Research Council for exposure to 50/60 hertz electric and magnetic fields (EMF) and is mindful of some community concern about such fields and health. Contact the Electricity Entity (General Enquiries phone number - refer page 3). Alternatively, further information can be sourced from:

Energy Networks Association (ENA) brochure - "Electric and Magnetic Fields - What We Know", January 2014

http://www.ena.asn.au/sites/default/files/emf-what-we-know-jan-2014-final_1_1.pdf

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) brochure - "Electricity and Health", May 2011

http://www.arpansa.gov.au/RadiationProtection/Factsheets/is_electricity.cfm

NBN Co Qld

Referral
280770982

Member Phone
1800 687 626

Responses from this member

Response received Mon 12 Oct 2026 4.06pm

File name	Page
Response Body	84
280770982_20261012_060533649359_1.pdf	85
4678_NBN_Dial_Before_You_Dig_Poster_20170517.pdf	95
Disclaimer_280770982_20261012_060533649359.pdf	97

Hi David Holstein,

Please find attached the response to your DBYD referral for the address mentioned in the subject line.
The location shown in our DBYD response is assumed based off the information you have provided. If the location shown is different to the location of the excavation then this response will consequently be rendered invalid.
Take the time to read the response carefully and note that this information is only valid for 28 days after the date of issue.
If you have any further enquiries, please do not hesitate to contact us.

Regards,
Network Services and Operations
NBN Co Limited
P: 1800626329
E: dbyd@nbnco.com.au
www.nbnco.com.au

Confidentiality and Privilege Notice
This e-mail is intended only to be read or used by the addressee. It is confidential and may contain legally privileged information. If you are not the addressee indicated in this message (or responsible for delivery of the message to such person), you may not copy or deliver this message to anyone, and you should destroy this message and kindly notify the sender by reply e-mail. Confidentiality and legal privilege are not waived or lost by reason of mistaken delivery to you. Any views expressed in this message are those of the individual sender, except where the sender specifically states them to be the views of NBN Co Limited

Please Do Not Reply To This Mail

To:	David Holstein
Phone:	Not Supplied
Fax:	Not Supplied
Email:	david@civil360.com.au

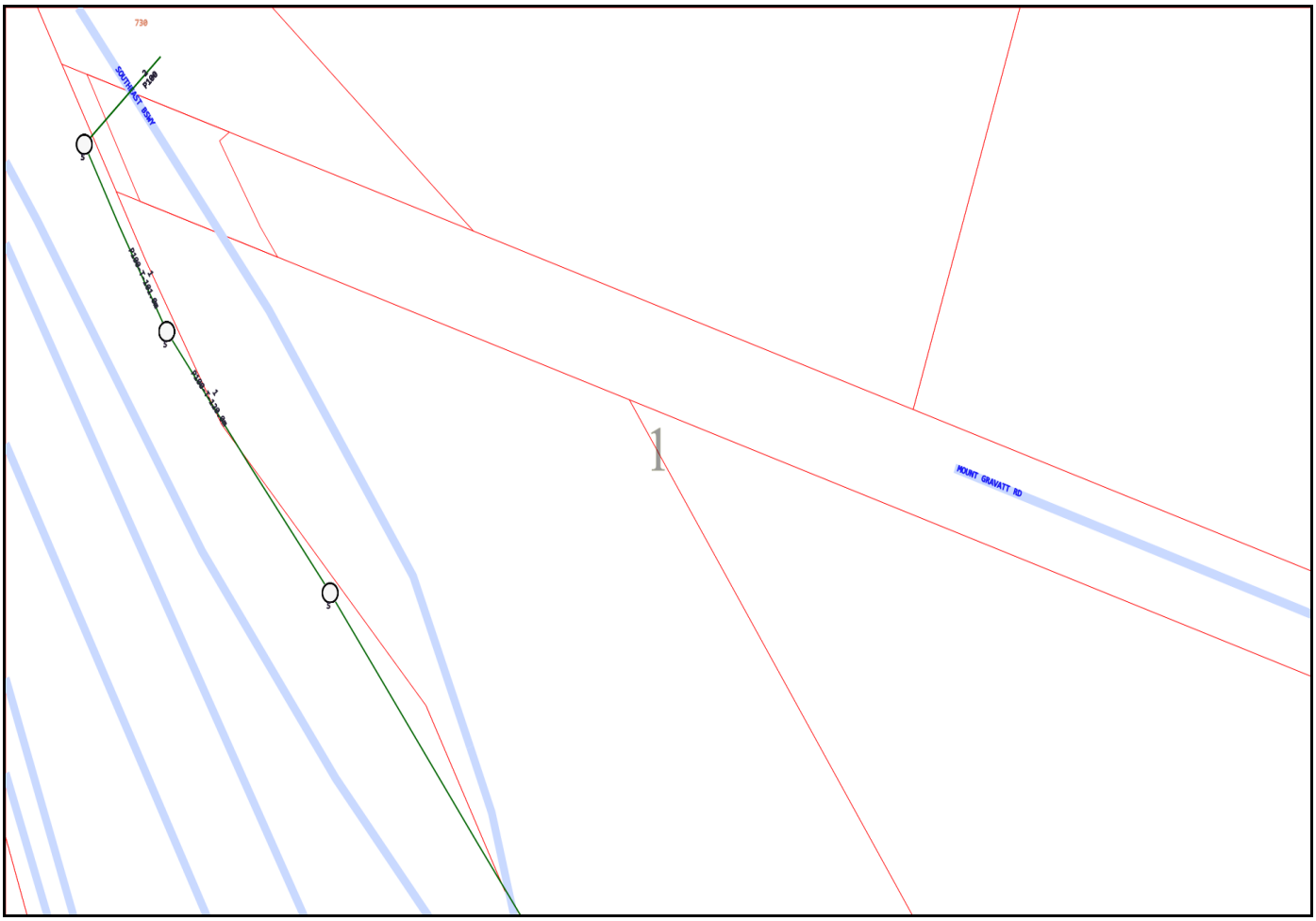
Dial before you dig Job #:	54466133	BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm
Sequence #	280770982	
Issue Date:	12/10/2026	
Location:	166 Mount Gravatt Road , Upper Mount Gravatt , QLD , 4122	

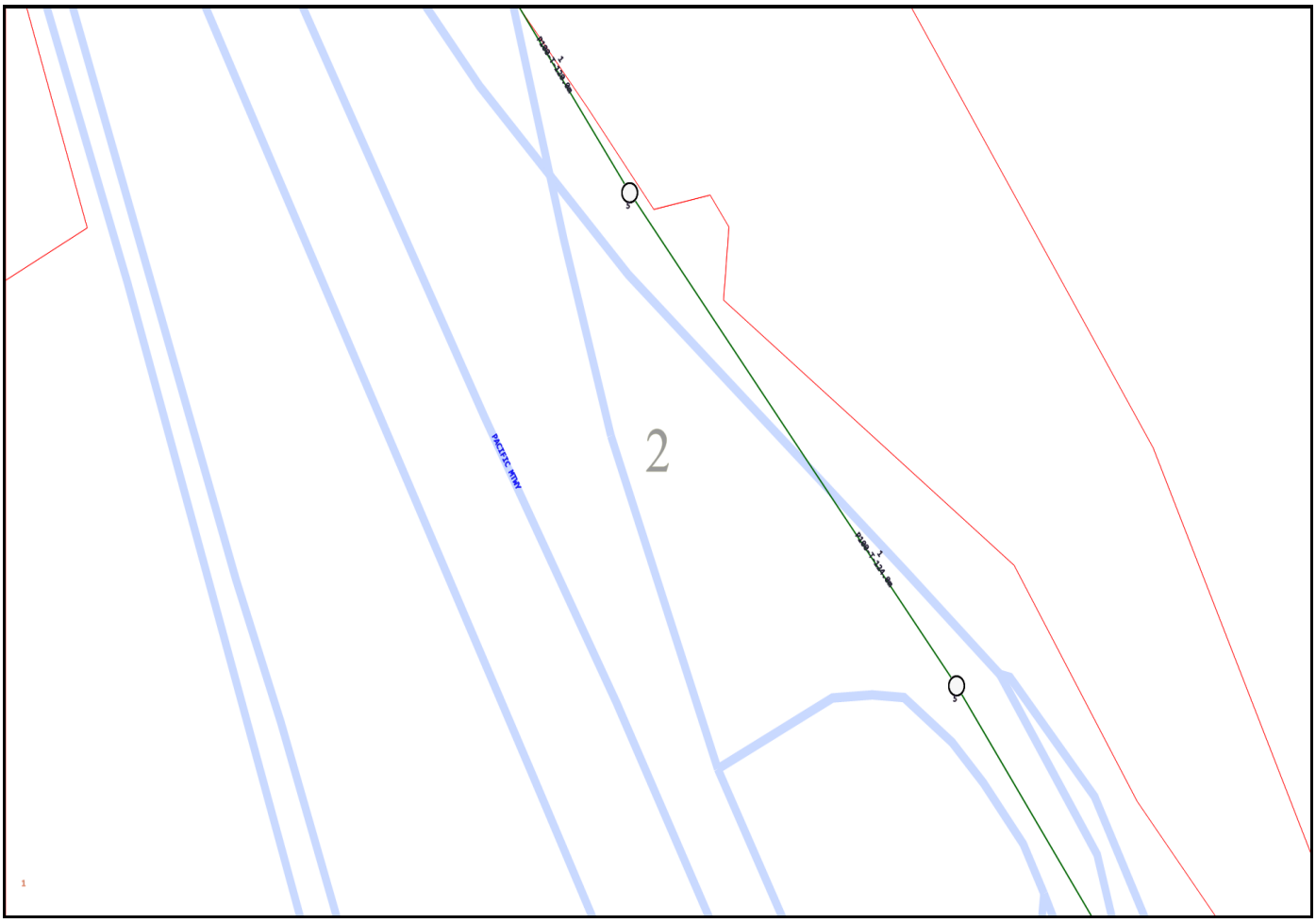
Indicative Plans are tiled below to demonstrate how to layout and read nbn asset plans

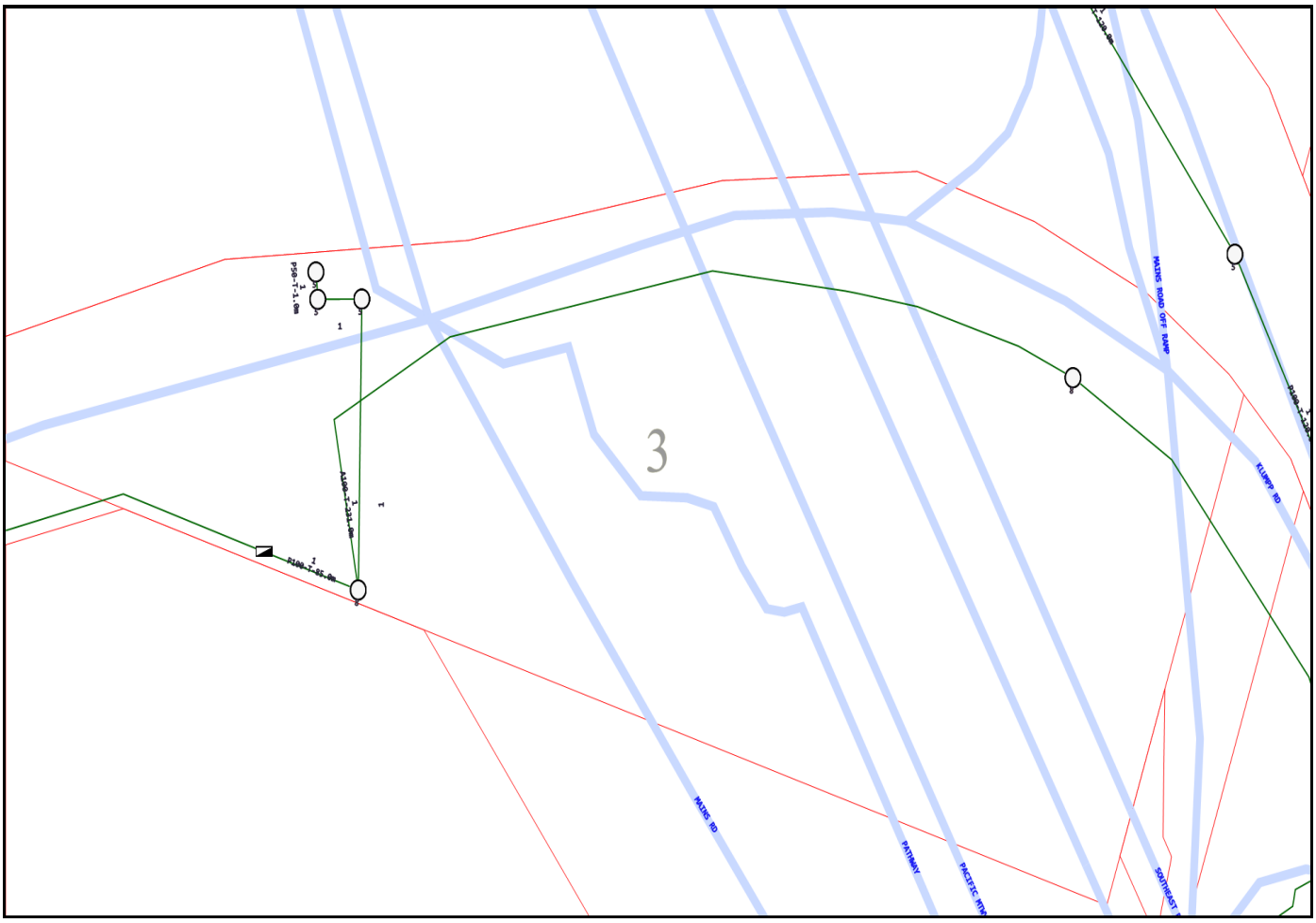
1	5
2	6
3	7
4	8

LEGEND

34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m


730
SOUTHEAST HWY
HOLMES GRAVATT RD


2
PACIFIC HWY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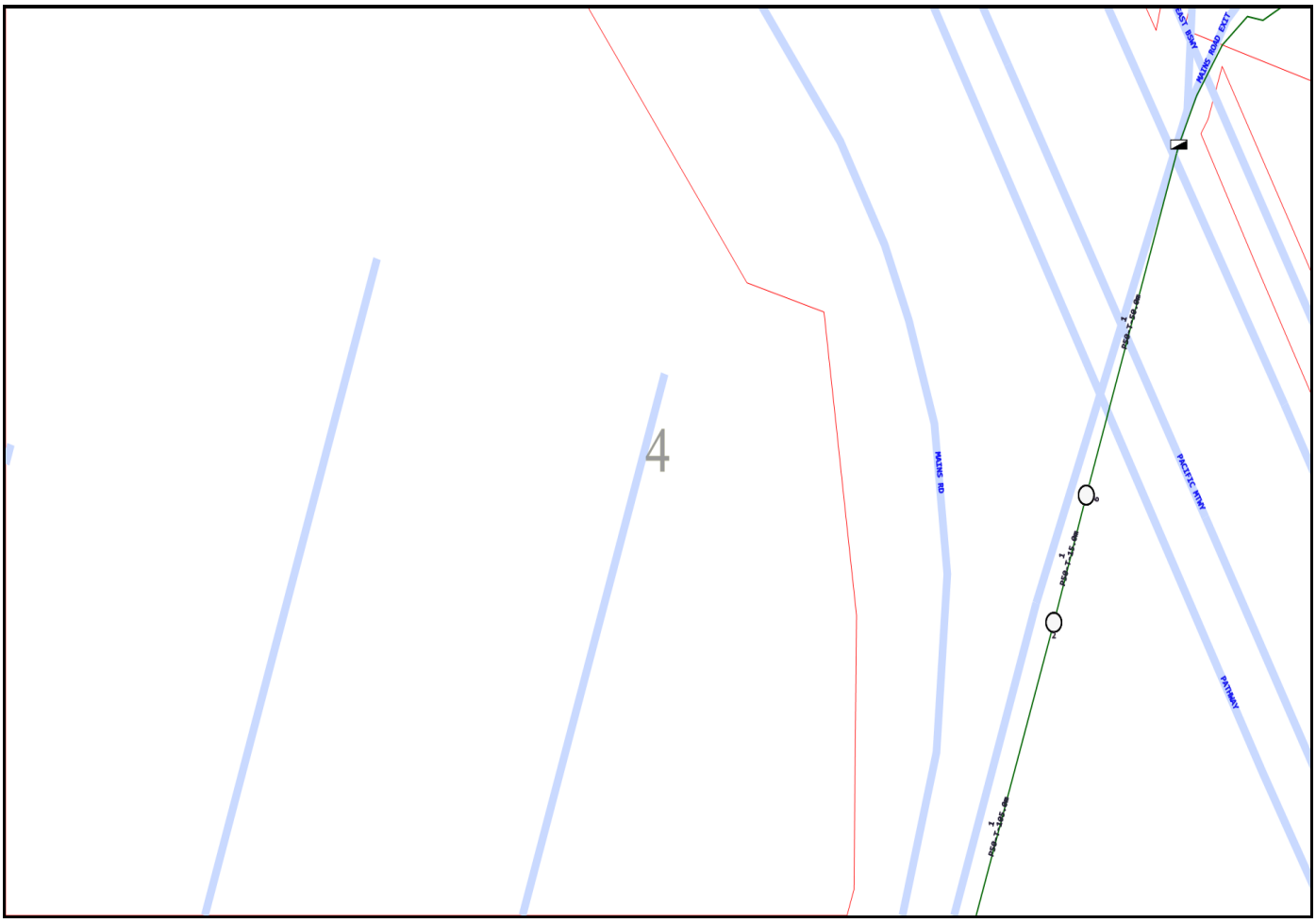
MAINS ROAD OFF RAMP
KLUMPP RD
MAINS RD
PATHWAY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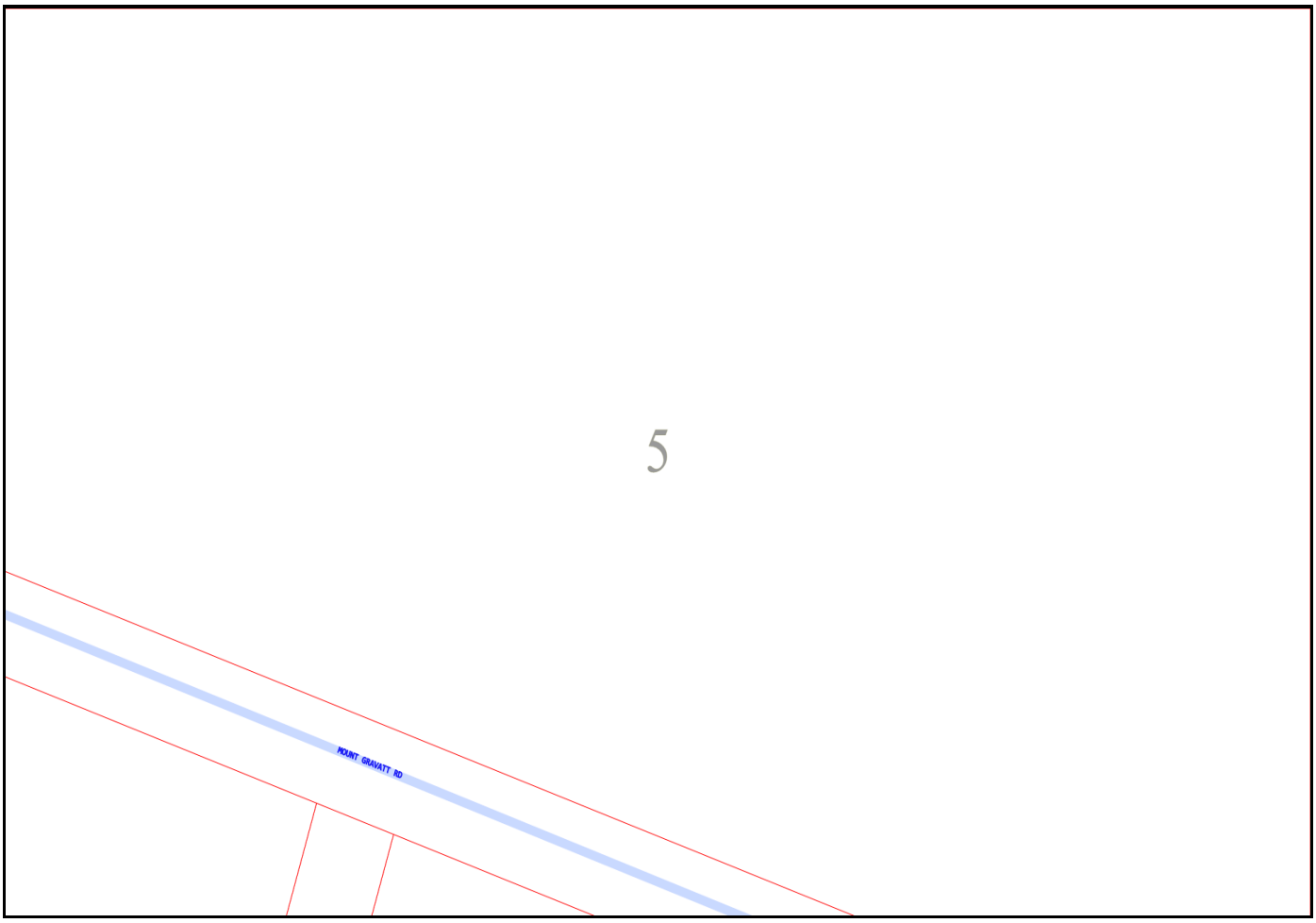
MAINS RD
PACIFIC HWY
PATHWAY
MAINS ROAD EXIT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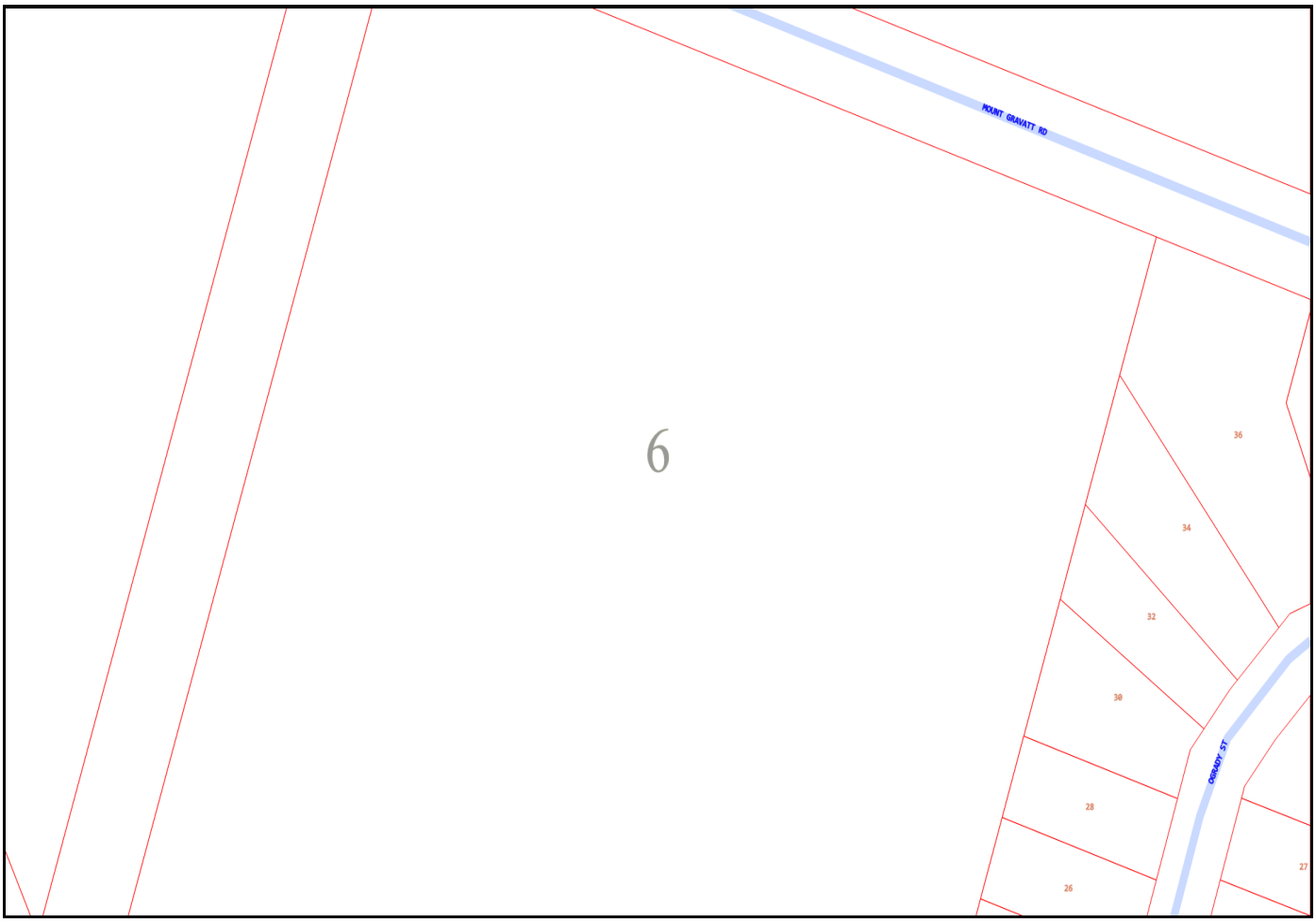
MOUNT GRAVATT RD


MOUNT GRAVATT RD
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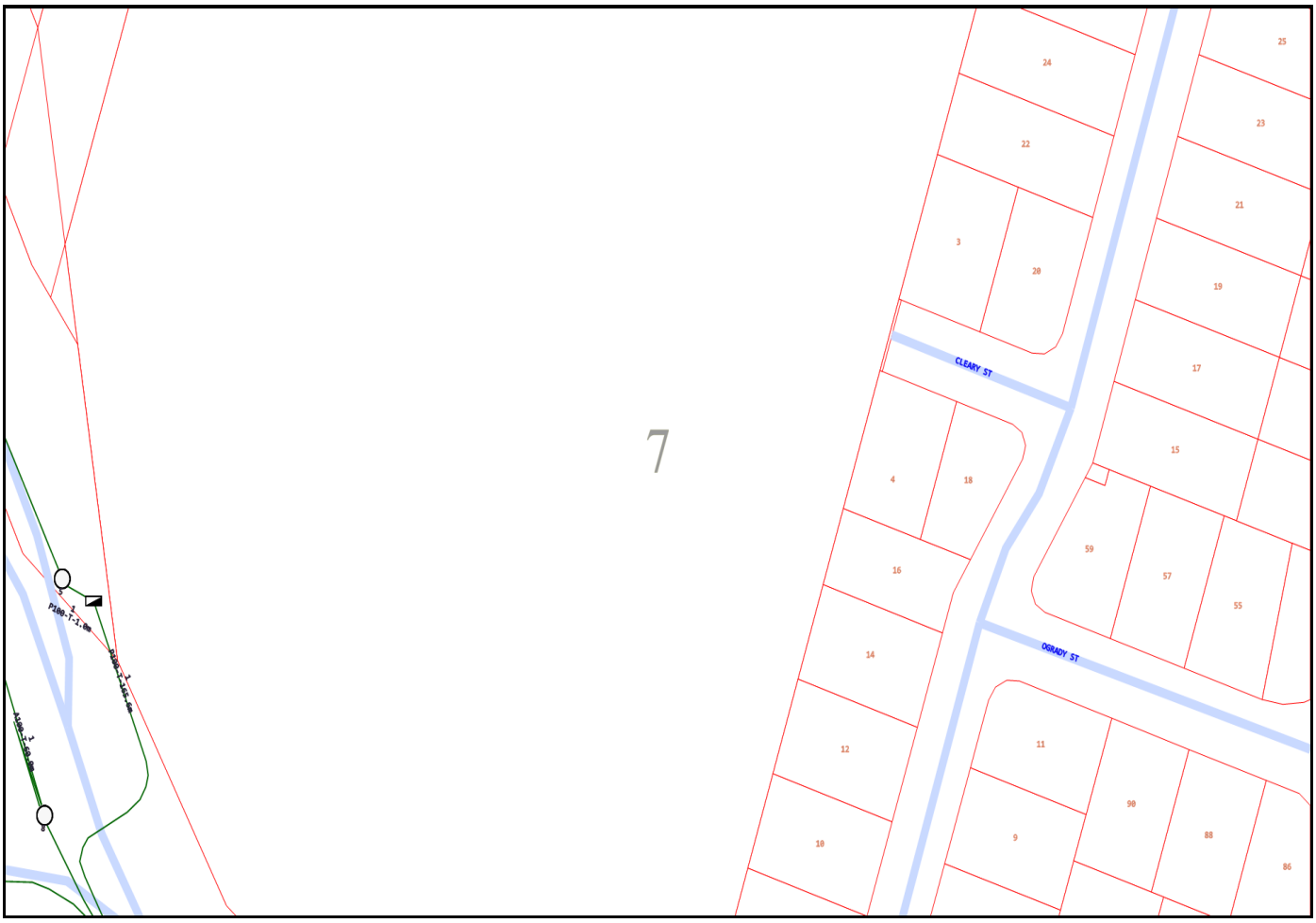
ORMADY ST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CLEARY ST
O'GRADY ST
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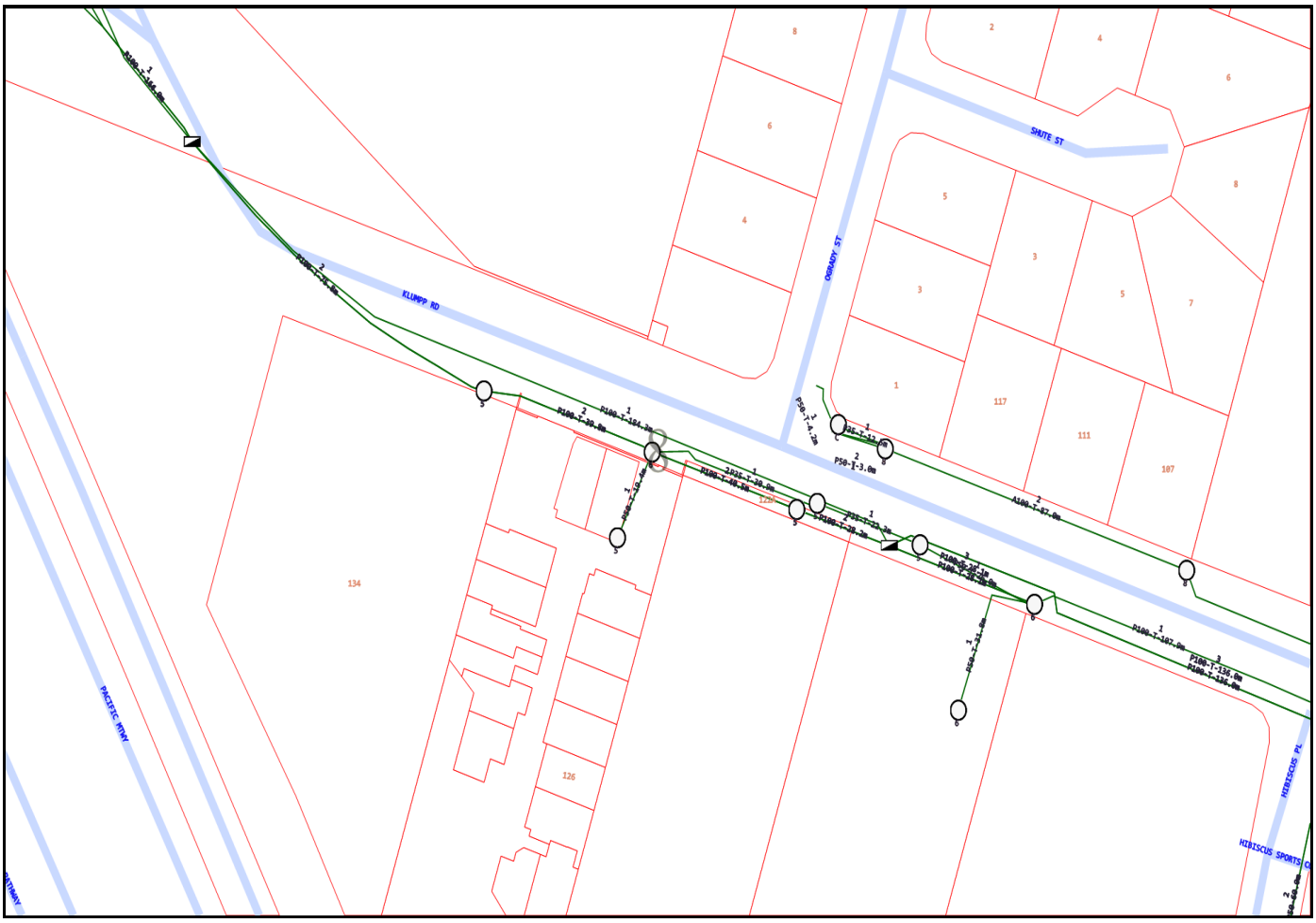


Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.



Working near nbn™ cables

nbn has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service providers in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

Practice safe work habits

Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.

Plan: Plan your job by ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.

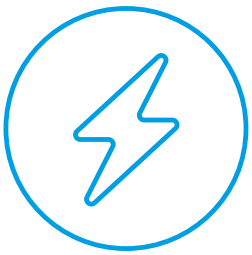
Prepare: Prepare for your job by engaging a DBYD Certified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.

Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

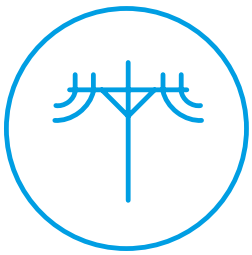
Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

Proceed: Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

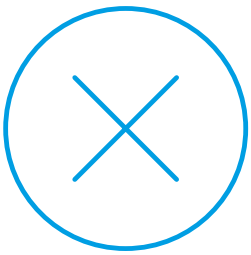
Working near nbn™ cables



Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

Contact

All nbn™ network facility damages must be reported online here.
For enquiries related to your DBYD request please call 1800 626 329.

Disclaimer

This brochure is a guide only. It does not address all the matters you need to consider when working near our cables. You must familiarise yourself with other material provided (including the Referral Conditions) and make your own inquiries as appropriate.

nbn will not be liable or responsible for any loss, damage or costs incurred as a result of reliance on this brochure.

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DIAL BEFORE YOU DIG
www.1100.com.au

To:	David Holstein
Phone:	Not Supplied
Fax:	Not Supplied
Email:	david@civil360.com.au

Before You Dig Australia Job #:	54466133
Sequence #	280770982
Issue Date:	12/10/2026
Location:	166 Mount Gravatt Road , Upper Mount Gravatt , QLD , 4122

BEFORE YOU DIG www.byda.com.au
Zero Damage - Zero Harm

Information

The area of interest requested by you contains one or more assets.

nbn™ Assets	Search Results
Communications	Asset identified
Electricity	No assets

In this notice **nbn™ Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by* ***nbn™***

Location of **nbn™** Underground Assets

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE nbn™** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn™** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out above.You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g BYDA Certified Locators, at your cost to locate **nbn™** Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Before You Dig Australia Service. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** Commercial Works website to complete the online application form. If you are planning to excavate and require further information, please email dbyd@nbnco.com.au or call 1800 626 329.

Notes:

1. You are now aware that there are **nbn™** Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans,you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g BYDA Certified Locators, at your cost to locate **nbn™** Facilities during any activities you carry out on site).
2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.

3. You should not assume that **nbn™** Facilities follow straight lines or are installed at uniformed depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
4. In carrying out any works in the vicinity of **nbn™** Facilities, you must maintain the following minimum clearances:
    - 300mm when laying assets inline, horizontally or vertically.
    - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
    - 1000mm when operating mechanical excavators.
    - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn™** fibre optic,copper and coaxial cables,and power cable feed to **nbn™** assets).Damage to underground electric cables may result in:
    - Injury from electric shock or severe burns, with the possibility of death.
    - Interruption of the electricity supply to wide areas of the city.
    - Damage to your excavating plant.
    - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn™** Facilities. These precautions may include but not limited to the following:
    - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.
    - If any undisclosed underground cables are located, notify **nbn** immediately.
    - All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
    - The safety of the public and other workers must be ensured.
    - All excavations must be undertaken in accordance with all relevant legislation and regulations.
7. You will be responsible for all damage to **nbn™** Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
8. You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.
9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)

	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
VIC	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
QLD	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
SA	Electricity Act 1996
TAS	Tasmanian Electricity Supply Industry Act 1995
WA	Electricity Act 1945
	Electricity Regulations 1947
NT	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
ACT	Electricity Act 1971

Thank You,

nbn BYDA

Date: 12/10/2026

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Powerlink Qld

Referral
280770986

Member Phone
(07) 3866 1313

Responses from this member

Response received Mon 12 Oct 2026 2.51pm

File name	Page
Response Body	102
280770986.pdf	103

Dear David Holstein, RE: Before You Dig Australia (BYDA) REFERRAL NOTIFICATION Sequence No: 280770986 Enquiry Date: 12/10/2026 Thank you for your Before You Dig Australia enquiry. We have included more information to assist you with your enquiry, including a map of the enquiry area. Please take the time to read all the information provided on the attachment prior to commencing any work. This referral has been successfully processed and the results of your enquiry are contained in the attached documents. Please note that this communication, including any attachments, is confidential. If you are not the intended recipient, you should not read it please contact us immediately, destroy it, and do not copy or use any part of this communication or disclose anything about it. This BYDA enquiry does not relate to Powerlinks overhead transmission lines and easements however if your proposed area of works involves the easement area please visit our website via the following link for information on obtaining approval for such works. https://www.powerlink.com.au/co-use-form Contact Powerlinks Property Management Team on (07) 3898 4090 before commencing any work in the vicinity of any overhead lines or easements. Regards, Narelle Titman Manager Property Powerlink Queensland

Powerlink Queensland
33 Harold Street,
Virginia, Qld, 4014
Phone: (07) 3898 4090
12/10/2026

To: ('Applicant')
CIVIL360 ENGINEERING PTY LTD - David Holstein
PO BOX 360
ELANORA QLD 4221

Email: david@civil360.com.au **Phone:** +61406424223

Sequence No 280770986
Enquiry Location: 166 Mount Gravatt Road Upper Mount Gravatt
Enquiry Date: 12/10/2026 14:51

Dear David Holstein

Thank you for your enquiry in relation to the Enquiry Location. Queensland Electricity Transmission Corporation Limited ACN 078 849 233 trading as Powerlink Queensland ("Powerlink") respond as follows:

Powerlink's records show that there **ARE** underground cables in the Enquiry Location.

A plan is attached showing the approximate location of Powerlink's assets in the vicinity of the Enquiry Location.

Should our response identify the presence of decommissioned Powerlink assets it should be noted that damage to these assets may result in an environmental hazard. As a precaution, all underground assets should be treated as live, and all necessary precautions should be taken to ensure that the cables are not damaged. Should damage occur, all work in the area surrounding the cables must be ceased immediately and Powerlink called on 07 3266 9410 to report the damage and get further advice.

Proposed works in close proximity to Powerlink's plant must undergo a detailed assessment by Powerlink. Please allow at least four to six weeks (more in complex situations) for Powerlink to process your application.

All work in close proximity to Powerlink's cables must be supervised by a Powerlink-appointed person and can be arranged by contacting Powerlink on (07) 3898 4090 least seven days in advance.

The attached duty of care guidelines below must be observed at all times

Yours faithfully

Narelle Titman
Manager Property
Powerlink Queensland

Powerlink Queensland is the registered business name of the Queensland Electricity Transmission Corporation Limited. ABN 82 078 849 233

Powered by: xinfo assurancesuite

Before You Dig Terms and Conditions

"Duty of Care" for Everyone

Responsibilities When Working in the Vicinity of POWERLINK'S Plant

Everyone has a legal duty of care that must be observed, particularly when working in the vicinity of electrical plant. "Electrical plant" includes underground cables, conduits and other associated underground equipment.It should be noted that the placing or removal of soil by excavation, digging or by any other means is not allowed in a Powerlink-easement without prior written consent from Powerlink. In most cases it is unlikely that consent will be granted.

When discharging this duty of care in relation to Powerlink's plant, the following points must be considered:

1. It is the responsibility of the architect, consulting engineer, developer and head contractor in the project planning stages to design for minimal impact and adequate protection of Powerlink's plant. Powerlink will provide free plans showing the presence of its underground plant to assist.
2. It is the developer or constructor's responsibility to:
    - investigate whether Powerlink's plant is present in a particular location and obtain the most up to date plans available from Powerlink before commencing construction.
    - visually locate Powerlink's plant by hand digging where construction activities may be in close proximity to or interfere with Powerlink's plant.
    - contact Powerlink's Property Management Team on (07) 3898 4090 if Powerlink's plant is wholly or partly affected by planned development and construction activities.
3. As the alignment and boundaries of road ways with other properties (and roads within road ways) frequently change, the alignments and boundaries contained within Powerlink's plans and maps will frequently differ from present alignments and boundaries "on the ground". Accordingly, in every case where it appears that alignments and boundaries have shifted, or new road ways have been added, the constructor should obtain confirmation of the actual position of Powerlink's plant under or along the road ways. The constructor must never rely on statements made by third parties in relation to the position of Powerlink's plant.

Important Points to Note – Please Read

• Plans and details provided by Powerlink are current for one month from the Response Date and should be disposed of by shredding or any other secure disposal method after use.

• Powerlink's plans are diagrams only. They indicate the presence of underground plant in the general vicinity of the Enquiry Location. Exact ground cover and alignments cannot be given with any certainty, as suchlevels can change over time.

• To avoid damage or injury, Powerlink's plant must be carefully located under the supervision of a Powerlink-appointed person before excavation work or similar activities are undertaken near Powerlink's plant.

• Powerlink, its servants and agents will not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agreesto indemnify Powerlink against any claim or demand for any such loss or damage.

• Where work commences prior to obtaining Powerlink's plans, or Powerlink's instructions are not followed, the developer/constructor is responsible for all damages sustained to Powerlink's plant.

• Powerlink reserves all rights to recover compensation for loss or damage caused by interference or dam age, including consequential loss and damages to its cable network, or other property.

• All underground conduits and cover slabs must be presumed to contain asbestos. Refer to "Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005).]

• PCB (polychlorinated biphenyl) contamination may exist in some cables.

Remote or On-Site Location Assistance

If requested, Powerlink may provide either remote over –the-phone or on-site location assistance with locating Powerlink's plant. This assistance may include guidance on visually locating and protecting Powerlink plant when excavating. Please note that any markings or pegs placed on the site by Powerlink during any such visit are indications of approximate cable locations only. The constructor is responsible for all hand digging (potholing) to visually locate and expose POWERLINK'S plant**.**

If the constructor is unable to locate Powerlink's plant within five metres of indicative plan locations, they must contact Powerlink's Regional Officer for Local Security for further advice. Contact details are as follows;

Officers for Local Security:

Region name	Contact's name	Email	Mobile number
Southern	Bruce Muhling	ofls@powerlink.com.au	0417 294 210
Central	Jeff Anstey	ofls_central@energyq.com.au	0418 510 415
Northern	Liam Smith	ofls_northern@energyq.com.au	0418 351 666

When working in the vicinity of Powerlink's plant, please observe the following conditions:

Records
The first step before any excavation commences is to obtain records of Powerlink's plant in the vicinity of the work. For new work, records should be obtained during the initial planning and design stage. The records provided by Powerlink must also be made available to all construction groups on site. Where plant information is transferred to plans for the proposed work, care must be exercised to ensure that important detail is not lost in the process.

Location of Cables
Examining the records is not sufficient, as reference points may change from the time of installation. Records must also be validated when working in close proximity to underground plant. The exact location of plant that maybe affected must be confirmed by use of an electronic cable locater followed by careful hand excavation to the level of cover slabs or conduits. Hand excavation must be used in advance of excavators. If doubt exists with respect to interpretation of cable records, Powerlink's Regional Officer for Local Security must be contacted. Refer to the contact details above.

Electrical Cable Covers
Powerlink's cables have underground cable warning tapes installed above the cables with the wording 'high voltage cable' and some may also have additional mechanical protection. Please note that some cables are known to be buried without covers.

Supervision
Any work in close proximity (within cable easement or five metres from the cable) to Powerlink's cables will always require on site supervision arranged by Powerlink.

Proposed works
No placing or removal of soil by excavation, digging or by any other means is allowed in Powerlink's easement without prior specific written consent from Powerlink.

Excavating Near Cables
For all work within five metres of where the plant is shown on Powerlink's plans, the constructor is required to hand dig (pothole) and expose the plant to confirm its exact location before work can commence.

Excavating Parallel to Cables

If construction work is parallel to Powerlink's cables, then hand digging (potholing) at least every four metres is required to establish the location of all cables to confirm the exact location of Powerlink's plant before workcan commence. Generally, no restrictions are placed on excavations parallel to Powerlink's cables to a depthnot exceeding that of the cable and the entire excavation is located outside Powerlink's easement. If an excavation exceeds the depth of the cables and is within five metres of the edge of the easement (or within ten metres of the cable) it is likely that the covers or bedding material around the cables or conduits will move, and Powerlink must be contacted. Design for the installation of parallel infrastructure will need to take into account electrical issues, including induction and transferred potential. Please note that cable depths may change suddenly.

Excavating Across Cables

A minimum clearance of 150 mm above, below, and to the sides of cables must be maintained. A standard clearance between services must be maintained as set down by the individual authorities. If the width or depth of the excavation is such that the cable warning tapes are exposed or the cables being unsupported, then Powerlink must be contacted to determine whether the cables should be taken out of service, or whetherthey need to be protected or supported. In the case of high voltage cables, it is unlikely that Powerlink will be able to take the cables out of service, and is definitely not an option without a lead time of at least 12 months.A cable cover must never be removed without prior specific written approval. A cable cover and the warning tapes may only be replaced under the supervision of a Powerlink officer. Protective cover strips must never be omitted to allow separation between Powerlink's cables and other services.

Directional Boring Near Cables

When boring parallel to cables, it is essential that trial holes are carefully hand dug at regular intervals to validate the actual location of the Powerlink's conduits or cables before using boring machinery. Where it is required to bore across the line of cables, the actual location of the cables must first be proven by hand digging.A trench must be excavated one metre from the side of the cables where the auger will approach to ensure a minimum clearance of 150 mm from cables can be maintained.

Heavy Machinery Operation over Cables

If a heavy "crawler" or "vibration" type machinery is proposed to be operated over the top of cables, detailed engineering plans and supporting information must be submitted to Powerlink for its approval, or otherwise (in writing) prior to any on site work commencing.

Hot Work in Proximity to Exposed POWERLINK'S Plant and Underground Cables

Exposed underground electrical cables must be protected against the effects of heat by shielding or covering cables with a suitable material. Heating of exposed insulation is dangerous and must be avoided at all costs.

Explosives

Before using explosives in the vicinity of POWERLINK'S cables, clearances should be obtained from Powerlink's Design Engineer. If explosives are proposed to be used within 100 metres of cables, an engineering report demonstrating that no damage will be sustained to Powerlink's plant must be provided to Powerlink prior to using such explosives.

Damage Reporting

All damage to Powerlink's cables, conduits and pipes must be reported to Powerlink no matter how insignificant the damage appears to be. Even very minor damage to cable protective coverings can lead to eventual failure of cables through corrosion of metal sheaths and moisture ingress. Some cables contain oil, and dam-age may result in an oil leak which will seriously impact the performance of the cable and will be treated as an environmental incident. All work in the vicinity of any of Powerlink's plant that has been damaged should cease and the area should be vacated until a clearance to continue work has been obtained from an authorised Powerlink officer.

Please note that high voltage electrical cables, if damaged, can cause serious injury, or fatality. Extreme caution needs to be exercised at all times when working in close proximity to these cables.

Electricity emergencies all areas or after hours enquiries
24 Hours **1800 353 031**

Plant Solutions and Assistance

If Powerlink's plant location plans or visual location of Powerlink's plant by hand digging reveals that the location of this plant is situated wholly or partly where the developer or constructor plans to work, then Powerlink's Property Management Team must be contacted on (07) 3898 4090 to discuss possible engineering solutions.

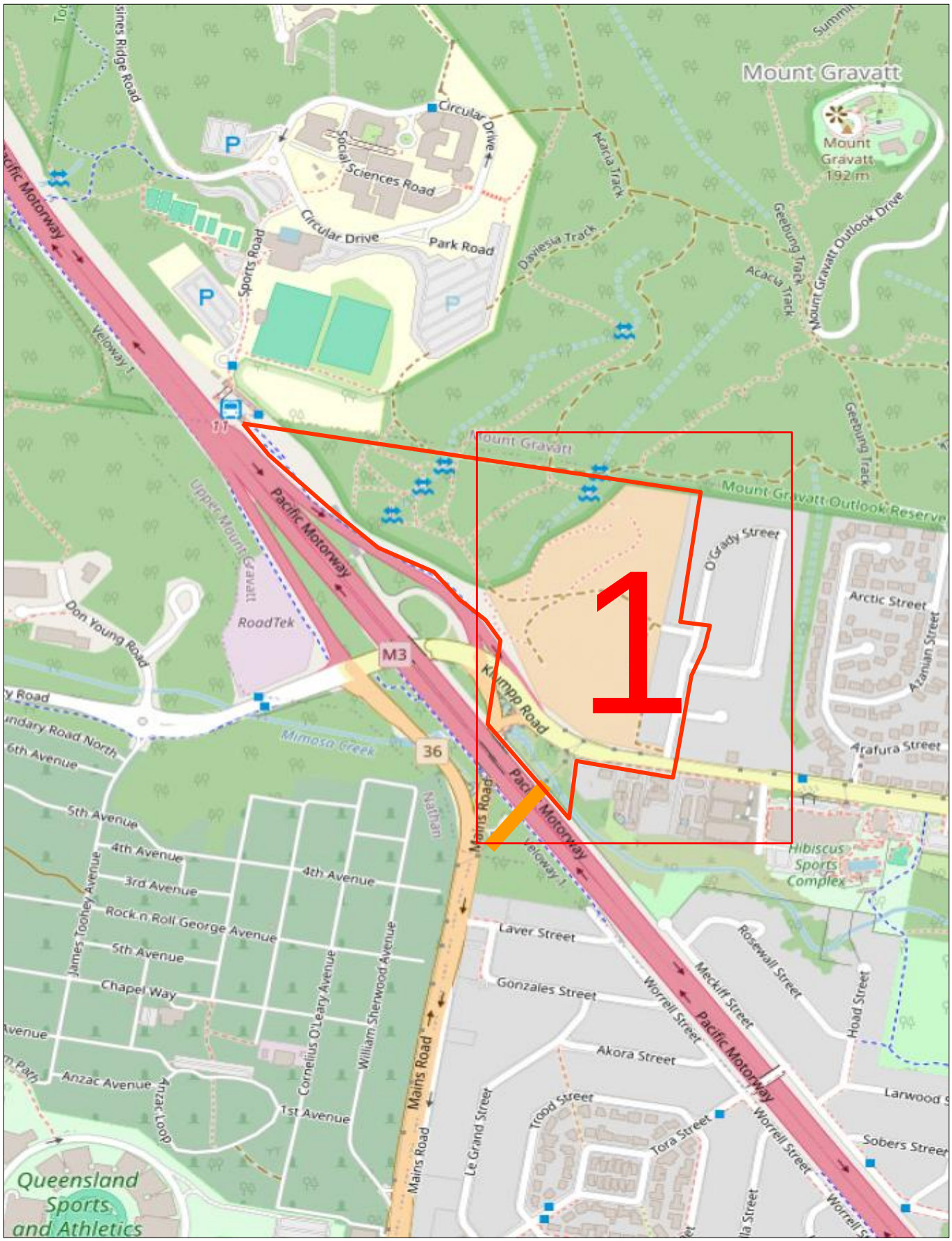
If detailed engineering assessment work, plant relocation, or protection works are part of the solution offered by Powerlink, then the cost of this work (the technical assessment and design, as well as the solution implementation cost) is recoverable by Powerlink from the principal developer or constructor. Powerlink will not commence work on the assessment and design until the developer or constructor provide a purchase order for these works. Powerlink will then provide a cost estimate for any proposed solution, and will not commence work on the solution until the developer or constructor provide a purchase order for the cost estimate.

Date: 12/10/2026

Overview Map

Enquiry No: 280770986

166 Mount Gravatt Road Upper Mount Gravatt



Powerlink Queensland makes every effort that the information contained on this map is up to date and correct but accepts no responsibility for this information.

The information is provided as a guide only. For up to date and specific information you should contact our Virginia office on (07) 3866 1313.

LEGEND:

1 Detail Map Area		High Voltage Cable	
Powerlink Substation		Pilot Cable	
Other Substation		Optic Fibre	
Possible Comms		Decommissioned	

Affected BYDA Work Area Symbols

0 0.06km

Imagery sourced from Open StreetMaps

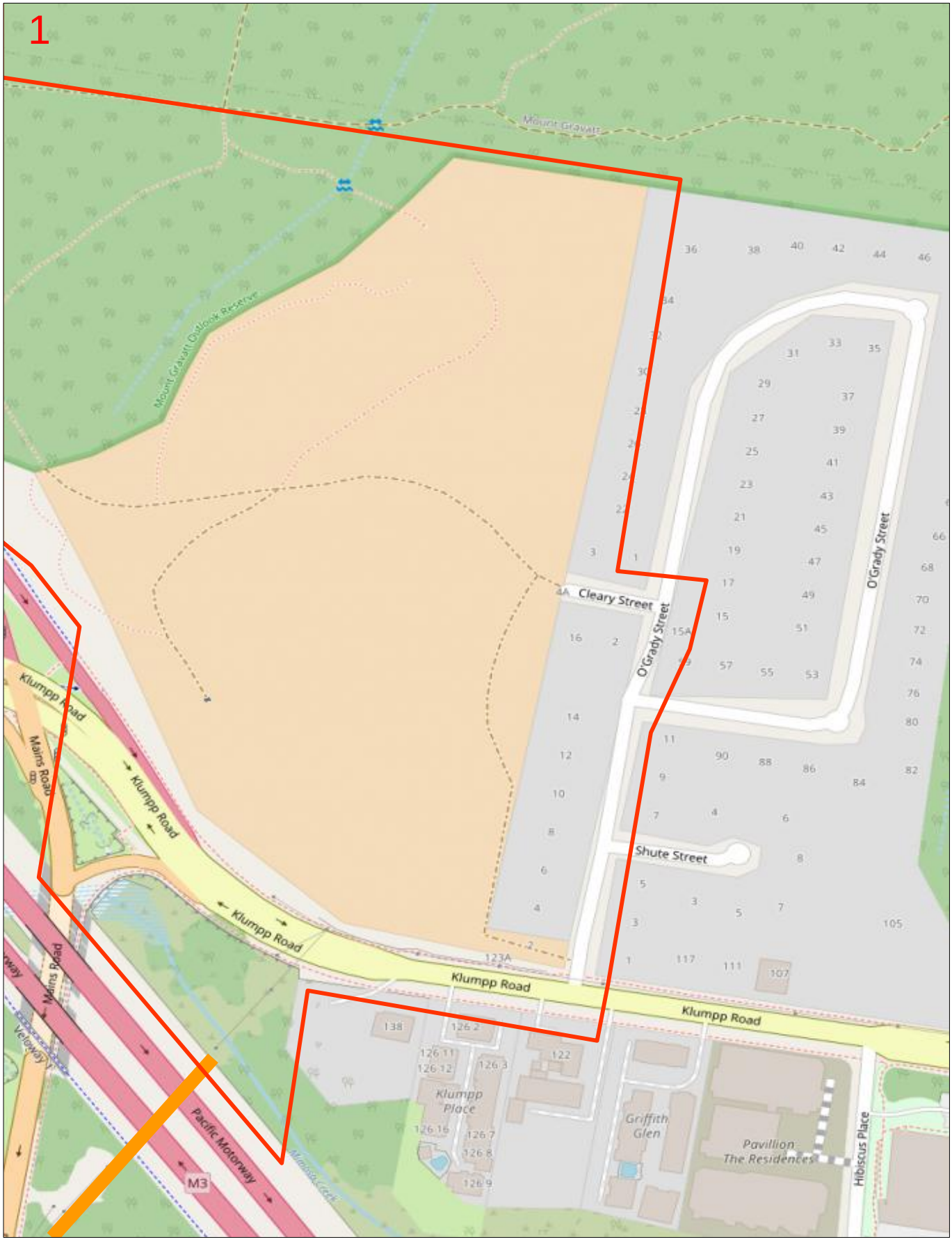
Powered by: assurancesuite

Date: 12/10/2026

Map 1

Enquiry No: 280770986

166 Mount Gravatt Road Upper Mount Gravatt



Powerlink Queensland makes every effort that the information contained on this map is up to date and correct but accepts no responsibility for this information.

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For up to date and specific information you should contact our Virginia office on (07) 3866 1313.

N
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Imagery sourced from Open StreetMaps

LEGEND:

- Powerlink Substation
- Other Substation
- Possible Comms
- High Voltage Cable
- Pilot Cable
- Optic Fibre
- Decommissioned

Affected BYDA Work Area Symbols

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Queensland Urban Utilities

Referral
280770985

Member Phone
13 26 57

Responses from this member

Response received Mon 12 Oct 2026 2.51pm

File name	Page
Response Body	111
280770985 - Urban Utilities Plan.pdf	113
Urban Utilities Important Information.pdf	114

GPO Box 2765
Brisbane QLD 4001

Date: 12 Oct 2026

Before You Dig Australia Response

Please DO NOT SEND A REPLY to this email as it has been automatically generated and replies are not monitored.

Dear David Holstein

We appreciate your diligence in contacting the Before You Dig Australia service (**BYDA**) prior to engaging in work or activities which may affect the water and sewerage infrastructure of Urban Utilities.

Job Number:	54466133
Sequence Number:	280770985
Enquiry Date:	12/10/2026 3:51:00 pm
Enquiry Location:	166 Mount Gravatt Road Upper Mount Gravatt QLD 4122

WARNING: When working in the vicinity of Urban Utilities' assets you have a legal *Duty of Care* that must be observed.

The search area you have nominated in your BYDA request is **too large to be processed and needs to be refined to a more specific location**. Please refine your search with BYDA by calling 1100 or visiting their website

Please note that you may be liable for any loss or damage to our infrastructure which is caused by any works or activities which you undertake around or near such infrastructure. Additionally, your works or activities may conflict with other works scheduled in your nominated search area. To avoid any unnecessary impacts, you must obtain a Network Access Permit from us before undertaking any works or activities that are within two metres of our infrastructure.

We have provided additional information about your responsibilities in relation to our infrastructure in the Important Information sheet attached to this letter. By accessing BYDA to obtain our records about our infrastructure, you warrant that you have read the sheet and agree to the terms and conditions set out therein.

For further enquiries or assistance with interpretation of plans and search content please contact our BYDA Support Team by email networkaccess@urbanutilties.com.au. Alternatively, you can write to us at Urban Utilities, PO Box 2765, Brisbane QLD 4001.

Thank you for taking the time to consult the BYDA service.

Yours sincerely

Before You Dig Australia Support Team
Urban Utilities
networkaccess@urbanutilties.com.au

To best manage the risk of damage and liabilitiy, we recommend that you engage the services of a BYDA Certified Locator

---

Important Notice

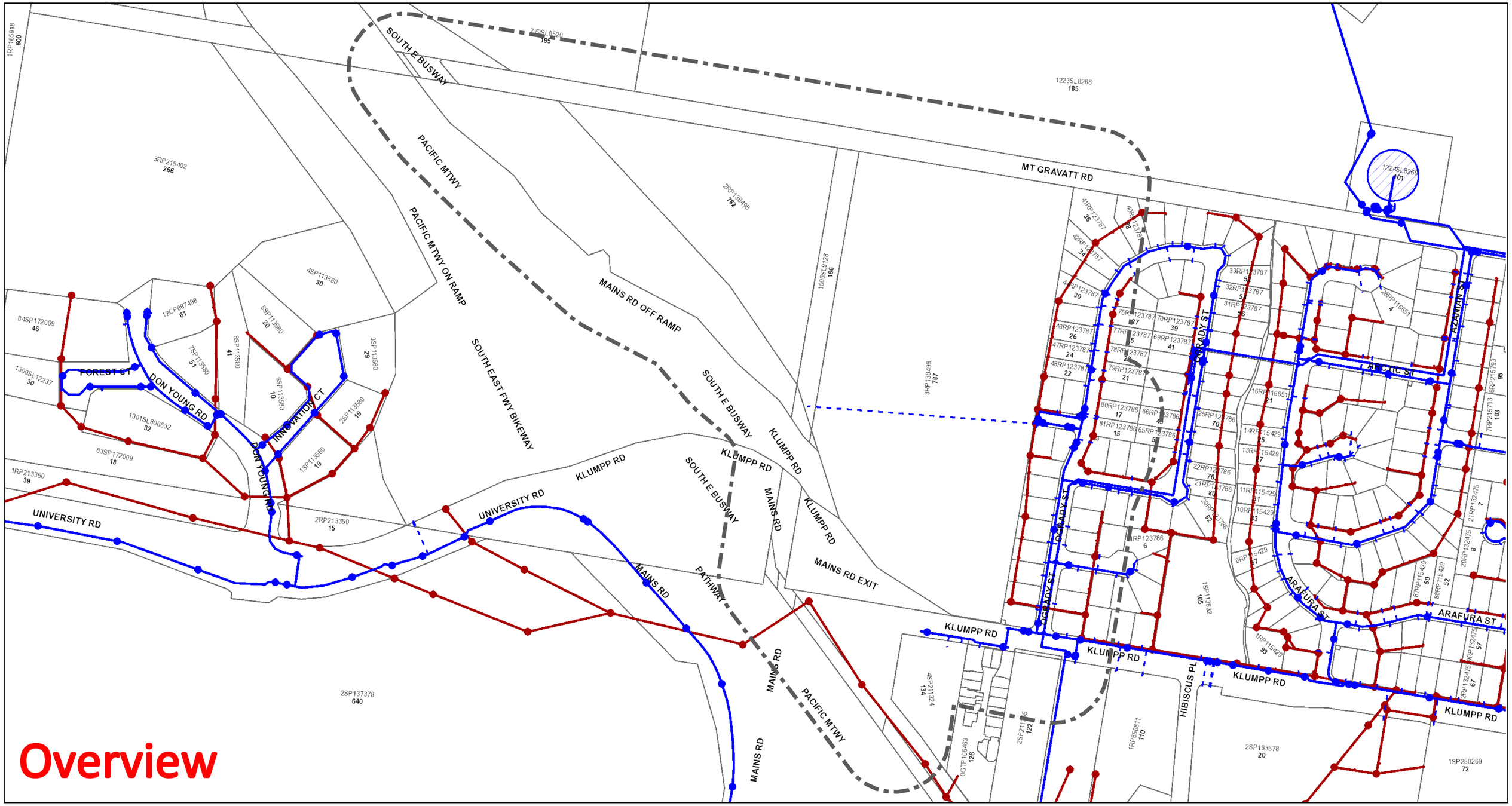
This enquiry response, including any associated documentation, has been assessed and compiled from the information detailed within the BYDA enquiry outlined above. **Please ensure that the BYDA enquiry details and this response accurately reflect your proposed works.**

This response is intended for use only by the addressee. If you have received the enquiry response in error, please let us know by telephone and delete all copies; you are advised that copying, distributing, disclosing or otherwise acting in reliance on the response is expressly prohibited.

Disclaimer: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Urban Utilities nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

If you are unable to launch any of the files for viewing and printing, you may need to download and install free viewing and printing software such as Adobe Acrobat Reader (for PDF files)

Urban Utilities - Water, Recycled Water and Sewer Infrastructure



Before You Dig Australia- Urban Utilities Water, Recycled Water and Sewer Infrastructure

BYDA Reference No: 280770985

Date BYDA Ref Received: 12/10/2026

Date BYDA Job to Commence: 12/10/2026

Date BYDA Map Produced: 12/10/2026

This Map is valid for 30 days

Produced By: Urban Utilities

Sewer	Water	Recycled Water
Infrastructure	Infrastructure	Infrastructure
Major Infrastructure	Major Infrastructure	Major Infrastructure
Network Pipelines	Network Pipelines	Network Pipelines
Network Structures	Network Structures	Network Structures
	Water Service (Indicative only)	

While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Urban Utilities nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.

Urban Utilities takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.

This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.

Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2020]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2020]

For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7).

www.urbanutilities.com.au

ABN 86 673 835 011

GPO Box 2765
Brisbane QLD 4001

Important Information

Disclaimer

All Urban Utilities' records, data and information supplied via BYDA ("**Data**") is **indicative** only. You agree that any Data supplied to you has been or will be provided only for your convenience and has not been and will not be relied upon by you for any purpose.

You also agree that Urban Utilities does not assume any responsibility or duty of care in respect of, or warrant, guarantee or make any representation as to the Data (including its accuracy, reliability, currency or suitability).

Because the location of Urban Utilities' infrastructure shown on the Data is approximate only, you must first physically locate the infrastructure by utilising relevant site detection methodologies prior to performing any works or undertaking any activities near or adjacent to infrastructure. Possible site detection methodologies include hand digging, potholing, trenching and/or probing. You are solely responsible for the selection of appropriate site detection methodologies at all times.

To the fullest extent permitted by law, Urban Utilities will not be liable to you in contract, tort, equity, under statute or otherwise arising from or in connection with the provision of any Data to you via BYDA.

Compliance with laws

There may be both indicated and unmarked hazards, dangers or encumbrances, including underground asbestos pipes and abandoned mains within your nominated search area. You are solely responsible for ensuring that appropriate care is taken at all times and that you comply with all mandatory requirements relating to such matters, including in relation to workplace health and safety.

Damaged Infrastructure

Please note that it is an offence under Section 192 of the *Water Supply (Safety and Reliability) Act 2008* to interfere with our infrastructure without Urban Utilities' written consent.

You may be liable to Urban Utilities for any loss of or damage to our infrastructure, together with any consequential or indirect loss or damage (including without limitation, loss of use, loss of profits or loss of revenue) arising from or in connection with any interference with Urban Utilities' infrastructure by you or any other person for which you are legally responsible.

Any damage to Urban Utilities' Infrastructure must be reported immediately to the (24 Hours) Faults and Emergencies Team on 13 23 64.

Links

Technical Standards: https://urbanutilities.com.au/development/help-and-advice/standards-and-guidelines

Copyright

All Data is copyright.

Referral
280770984

Member Phone
1800 653 935

Responses from this member

Response received Mon 12 Oct 2026 2.56pm

File name	Page
Response Body	116
280770984.pdf	118
AccreditedPlantLocators 2026-08-28a.pdf	120
Telstra Duty of Care v33.0b.pdf	121
Telstra Map Legend v4_0c.pdf	123

Attention: David Holstein

Site Location: 166 Mount Gravatt Road, Upper Mount Gravatt, QLD 4122

Your Job Reference: 2026050

Important - this site is within or in the vicinity of a **RED IMPORTED FIRE ANT RESTRICTED AREA**
Movement controls apply. Penalties of up to $220,000 for individuals and $1.1 million for corporations may apply.
Call **13 25 23** or visit www.daff.qld.gov.au/fireants for further information.

This is a system generated email, from a mailbox that is not monitored -

Please do not reply to this email.

Thank you for requesting Telstra information via Before You Dig Australia (BYDA). This response contains Telstra Information relating to your recent request.

When working in the vicinity of telecommunications you have a duty of care that must be observed, please ensure you read and understand all the documentation below:

Please refer to all enclosed attachments for more information.

Accredited Plant Locator	General Contact Information
Telstra Duty of Care V32	Your responsibility working near Telstra Assets
Telstra Map Legend 4.0	Common Symbols on Cable Plans and general Clearance information

Cable Plan Readers	.DWF	Autodesk: https://www.autodesk.com/products/design-review/overview (Microsoft Windows App) or https://viewer.autodesk.com/ (view in your Internet Browser)
	.PDF	Adobe: https://www.adobe.com/au/acrobat/pdf-reader.html

Best practice guides and the five P's of safe excavation	These are the essential steps to be undertaken prior to commencing construction activities	BYDA : https://www.byda.com.au/before-you-dig/best-practice-guides/

	We highly recommend using certified locators where possible.	CERTLOC : https://certloc.com.au/find-a-certified-locator/

1800 653 935 Location Intelligence	Whenever in doubt please contact this number or Telstra BYDA map related enquiries email Telstra.Plans@team.telstra.com	Note: that Telstra plans are only valid for **60** days from the date of issue

How to Report Damage to Telstra Equipment	If you've spotted damaged equipment including pits, pillars, cabinets, underground cables, overhead cables, elevated joints and manhole covers the preferred method of reporting is via	Snap Send Solve APP: https://me.snapsendsolve.com/snap Report Online: https://www.telstra.com.au/consumer-advice/digging-construction/report-damages Call: **13 22 03**

WARNING - MAJOR CABLES and/or OPTIC FIBRE IN THE AREA.
Phone 1800 653 935 for further assistance.

Note: In some areas Telstra fibre routes may be marked as "Amcom", as Telstra has purchased much of this infrastructure. If in doubt, please contact Telstra Plan services on the number above. Telstra plans and information are only valid for 60 days from the date of issue.

WARNING:
Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing them. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra assets prior to commencing work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. See the **Before You Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation** **https://www.byda.com.au/before-you-dig/best-practice-guides/**.

Please note that:
- it is a criminal offence under the *Criminal Code Act* 1995 (Cth) to tamper or interfere with telecommunications infrastructure.
- Telstra will take action to recover compensation for damage caused to property and assets, and for interference with the operation of Telstra's networks and customers' services.

Telstra's plans contain Telstra's confidential information and are provided on the basis that they are used solely for identifying the location or vicinity of Telstra's infrastructure to avoid damage to this infrastructure occurring as part of any digging or other excavation activity. You must not use Telstra's plans for any other purpose or in a way that will cause Telstra loss or damage and you must comply with any other terms of access to the data that have been provided to you by Telstra (including Conditions of Use or Access).

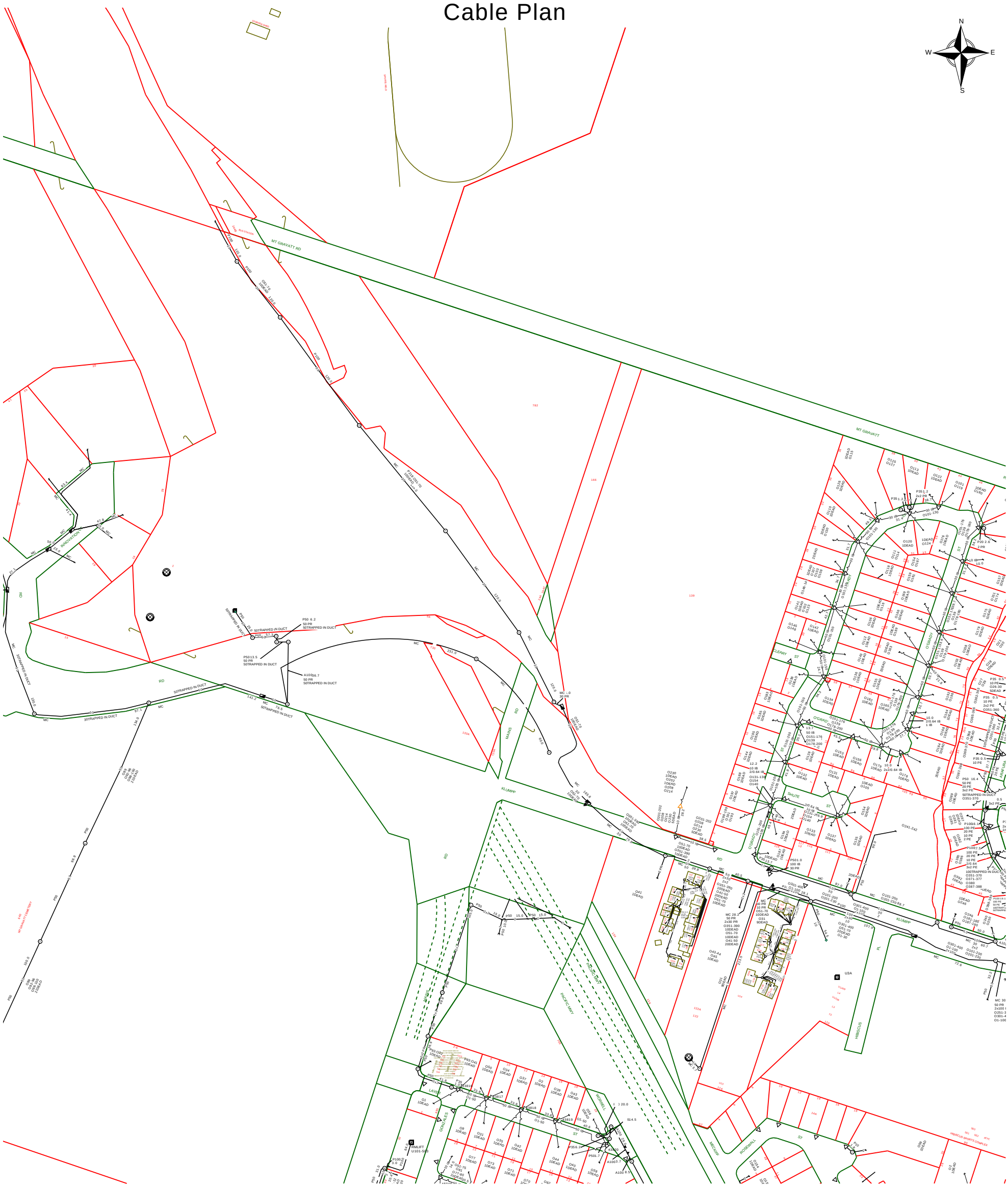
(See attached file: Telstra Duty of Care v33.0b.pdf)

(See attached file: Telstra Map Legend v4_0c.pdf)

(See attached file: AccreditedPlantLocators 2026-08-28a.pdf)

(See attached file: 280770984.pdf)

Cable Plan



Report Damage:https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra- Ph - 13 22 03 Email - Telstra.Plans@team.telstra.com Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries	Sequence Number: 280770984
TELSTRA LIMITED A.C.N. 086 174 781	CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact InfraCo Plan Services should you require any assistance.
Generated On 12/10/2026 15:54:31	

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING
Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information.
As such,Telstra supplied location information is indicative only.Spatial accuracy is not applicable to Quality Level D.
Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it.
Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy.
Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work.
A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

Mains Cable Plan



Report Damage:https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-(
Ph - 13 22 03
Email - Telstra.Plans@team.telstra.com
Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

TELSTRA LIMITED A.C.N. 086 174 781

Generated On 12/10/2026 15:54:40

Sequence Number: 280770984

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact InfraCo Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING
Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information.
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Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy.
Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work.
A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

General Information

Telstra highly recommends using Certified Locators.

For more info visit https://certloc.com.au/find-a-certified-locator/

or Telstra Location Intelligence Team 1800 653 935

Before you Dig Australia – BEST PRACTICE GUIDES
https://www.byda.com.au/before-you-dig/best-practice-guides/

OPENING ELECTRONIC MAP ATTACHMENTS –

Telstra Cable Plans are generated automatically in either PDF or DWF file types dependent on the site address and the size of area selected.
You may need to download and install free viewing software from the internet e.g.

DWF Map Files (all sizes over A3)
Autodesk Viewer (Internet Browser) https://viewer.autodesk.com/ or
Autodesk Design Review http://usa.autodesk.com/design-review/ for DWF files.
(Windows PC)

PDF Map Files (max size A3)
Adobe Acrobat Reader http://get.adobe.com/reader/



Report Damage to Telstra equipment.
Call 13 22 03 and say, "Report Damage".
Online: https://www.telstra.com.au/consumer-advice/digging-construction/report-damages



Telstra New Connections / Disconnections 13 22 00



Telstra Protection & Relocation: 1800 810 443 (AEST business hours only).
Email
Telstra Protection & Relocation Fact Sheet: Link
Telstra Protection & Relocation Home Page Link



Telstra Aerial Assets Group (overhead network) 1800 047 909

Protect our Network:

by maintaining the following distances from our assets:

- **1.0m Mechanical Excavators, Farm Ploughing, Tree Removal**
- **500mmVibrating Plate or Wacker Packer Compactor**
- **600mm Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant.**
- **1.0mJackhammers/Pneumatic Breakers**
- **2.0m Boring Equipment (in-line, horizontal and vertical**



Before You Dig Australia

Think before you dig

This document has been sent to you because you requested plans of the Telstra network through Before You Dig Australia (BYDA).

If you are working or excavating near telecommunications cables, or there is a chance that cables are located near your site, you are responsible to avoid causing damage to the Telstra network.

Please read this document carefully. Taking your time now and following the BYDA's Best Practices and 5 Ps of Safe Excavation https://www.byda.com.au/before-you-dig/best-practice-guides/

can help you avoid damaging our network, interrupting services, and potentially incurring civil and criminal penalties.

Our network is complex and working near it requires expert knowledge. Do not attempt these activities if you are not qualified to do so.

Telstra Corporation Limited ACN 051 775 556

Disclaimer and legal details

*Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013.

It is a criminal offence under the Criminal Code Act 1995 (Cth) to tamper or interfere with telecommunications infrastructure.

Telstra will also take action to recover costs and damages from persons who damage assets or interfere with the operation of Telstra's networks.

By receiving this information including the indicative plans that are provided as part of this information package you confirm that you understand and accept the risks of working near Telstra's network and the importance of taking all the necessary steps to confirm the presence, alignments and various depths of Telstra's network. This in addition to, and not in replacement of, any duties and obligations you have under applicable law.

When working in the vicinity of a telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

The Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project, it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

This Notice has been provided as a guide only and may not provide you with all the information that is required for you to determine what assets are on or near your site of interest. You will also need to collate and understand all information received from other Utilities and understand that some Utilities are not a part of the BYDA program and make your own enquiries as appropriate. It is the responsibility of the entities arranging for the works to be performed, supervising the works, and undertaking the works to protect Telstra network during excavation / construction works.

Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.

Telstra plans or other details are provided only for the use of the applicant, its servants, agents, or CERTLOC Certified Locating Organisation (CLO). The applicant must not give the plans or details to any parties other than these and must not generate profit from commercialising the plans or details. If the Applicant is aware of another party or parties about to perform or performing works at the location, it should ensure that the other party or parties have lodged a BYDA enquiry and obtained plans for that location. If you are undertaking excavations works you must follow the 5Ps of Safe Excavation. The 5 Ps of Safe Excavation are set out in the video in the below link.

https://www.byda.com.au/education/resources/

Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.

Please ensure Telstra plans and information provided always remains on-site throughout the inspection, location, and construction phase of any works.

Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.

Data Extraction Fees

In some instances, a data extraction fee may be applicable for the supply of Telstra information. Typically, a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Location Intelligence Team.

Telstra does not accept any liability or responsibility for the performance of, or advice given by a CERTLOC Certified Locating Organisation (CLO). Certification is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.

Neither the Certified Locating Organisation nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Certified Locating Organisation or its employees.

Once all work is completed, the excavation should be reinstated with the same type of excavated material unless specified by Telstra.

The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Privacy Note

Your information has been provided to Telstra by BYDA to enable Telstra to respond to your BYDA request. Telstra keeps your information in accordance with its privacy statement. You can obtain a copy at www.telstra.com.au/privacy or by calling us at 1800 039 059 (business hours only).

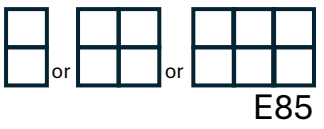
LEGEND

Leadin terminates at a Customer Address	Cable Jointing Pit Number / Letter indicating Pit type/size
Exchange Major Cable Present	Elevated Joint (above ground joint on buried cable)
Pillar / Cabinet Above ground Free Standing	Telstra Plant in shared Utility trench
Above ground Complex Equipment Please note: Powered by 240v electricity	Aerial cable / or cable on wall
OC — Other Carrier Telecommunication Cable/ Asset. Not Telstra Owned	Aerial cable (attached to joint use Pole e.g., Power Pole)
DIST — Distribution cables in Main Cable Ducts	Marker Post Installed
MC — Main Cable ducts on a Distribution Plan	Buried Transponder
Blocked or Damaged Duct	Marker Post & Transponder
Footway Access Chamber (can vary between 1-lid to 12-lid	Optical Fibre Cable Direct Buried
NBN Pillar	Direct Buried Cable
Third Party Owned Network Non-Telstra	nbn owned network



Single to Multiple Round Conduit Configurations 1,2,4,9 respectively

(attached text denotes conduit type and size)



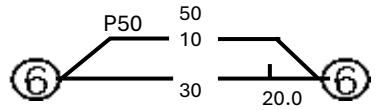
Multiple Square Conduit configurations 2,4,6 respectively

(attached text denotes conduit type and size)

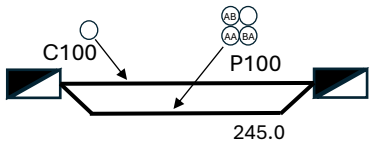
Some examples of conduit type and size:

A - Asbestos cement, P - PVC / Plastic, C - Concrete,
GI - Galvanised Iron, E - Earthenware
Conduit sizes nominally range from 20mm to 100mm
P50 50mm PVC conduit
P100 100mm PVC conduit
A100 100mm asbestos cement conduit

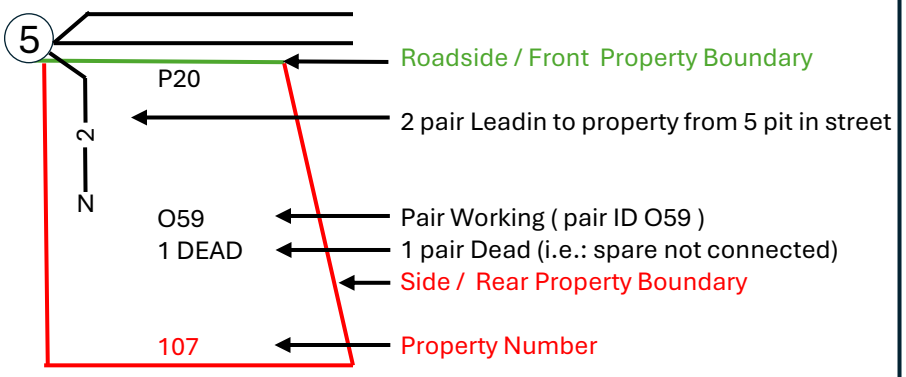
Some Examples of how to read Telstra Plans



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6 pits. approximately 20.0m apart, with a direct buried 30-pair cable along the same route.



Two separate conduit runs between two footway access chambers (manholes) approximately 245m apart A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along the same route.



The 5 Ps of Safe Excavation

https://www.byda.com.au/before-you-dig/best-practice-guides/

Plan

Plan your job. Use the BYDA service at least one day before your job is due to begin, and ensure you have the correct plans and information required to carry out a safe project.

Prepare

Prepare by communicating with asset owners if you need assistance. Look for clues onsite. Engage a Certified Locator.

Pothole

Potholing is physically sighting the asset by hand digging or hydro vacuum extraction.

Protect

Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.

Proceed

Only proceed with your excavation work after planning, preparing, potholing (unless prohibited), and having protective measures in place.

End of document

This document may exclude some files (eg. DWF or ZIP files)

This document was automatically generated at a point-in-time. Be aware that the source information from which this document was created may have changed since it was produced. This document may contain incomplete or out-of-date information. Always check your enquiry details in the BYDA Referral Service for the most recent information. For copyright information refer to individual responses.

APPENDIX F BCC CODES

9.4.3 Filling and excavation code

9.4.3.1 Application

1. This code applies to assessing:
    a. accepted development subject to compliance with identified requirements, where acceptable outcomes of this code are identified requirements in a table of assessment for an overlay (section 5.10); or
    b. operational work for filling or excavation which is assessable development if this code is an applicable code identified in the assessment benchmarks column of a table of assessment for operational work (section 5.8) or an overlay (section 5.10); or
    c. a material change of use or reconfiguring a lot if:
        i. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for material change of use (section 5.5) or reconfiguring a lot (section 5.6); or
        ii. impact assessable development, to the extent relevant.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—This code does not apply to building work as defined in the Act.

Note—A development application involving a rock anchor within an adjoining site is submitted with proof of consent from an adjoining land and building owner.

Editor's note—Guidance on managing the spread of invasive species in filling or excavation activities is provided in Minimising Pest Spread Advisory Guidelines prepared for the Petroleum industry.

Editor's note—Where filling or excavation is conducted on land previously occupied by a notifiable activity or on land listed on the Environmental Management Register or the Contaminated Land Register, the relevant Queensland Government department should be contacted for advice and guidelines.

2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

- air quality assessment, guidance is provided in the Air quality planning scheme policy;
- ecological assessment, koala habitat or development design, guidance is provided in the Biodiversity areas planning scheme policy;
- retaining wall construction, guidance is provided in the Infrastructure design planning scheme policy;
- landscape design, guidance is provided in the Landscape design planning scheme policy;
- noise and dust impacts during construction and/or demolition, guidance is provided in the Management plans planning scheme policy;
- noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy;
- the selection of planting species, guidance is provided in the Planting species planning scheme policy;
- significant vegetation, guidance is provided in the Vegetation planning scheme policy.

Editor's note—For a proposal to be accepted development, subject to compliance with identified requirements, it must meet all the identified acceptable outcomes of this code and any other applicable code. Where it does not meet all identified acceptable outcomes, the proposal becomes assessable development and a development application is required. Where a development application is triggered, only the specific acceptable outcome that the proposal fails to meet needs to be assessed against the corresponding acceptable outcome or performance outcome and relevant overall outcomes. Other identified acceptable outcomes that are met are not assessed as part of the development application.

9.4.3.2 Purpose

1. The purpose of the Filling and excavation code is to assess the suitability of development for filling or excavation.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. filling or excavation does not adversely affect the visual character and amenity of the site or the surrounding area and provides access for maintenance to any structure as a result of filling or excavation.
    b. filling or excavation does not adversely impact significant vegetation, water quality or drainage of upstream, downstream and adjoining land.
    c. filling or excavation effectively manages the impacts associated with the activity.
    d. filling or excavation and any retaining structure is designed and constructed to be fit for purpose and to protect services and utilities.

9.4.3.3 Performance outcomes and acceptable outcomes

Table 9.4.3.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
PO1 Development for filling or excavation minimises visual impacts from retaining walls and earthworks.	**AO1** Development ensures that the total height of any cut and fill, whether or not retained, does not exceed: a. 2.5m in a zone in the Industry zones category; b. 1m in all other zones, or if adjoining a sensitive zone.	Earthworks facing external properties are limited to less than 1.0m and are 1.0m offset from boundary. There is an isolated section of wall in the south east corner of Lot 12 at 1.25m high (setback 1.0m from boundary). Walls fronting Klumpp Road are set back from the road reserve boundary behind planting/screening or tiered. It is noted that Klumpp Road is a major road and the development site (and walls) are located near a major interchange with large existing concrete structures. Retaining walls exceeding 1.0m (internal to the site) are required to take up existing natural site grades.
PO2 Development of a retaining wall proposed as a result of filling or excavation:	**AO2.1** Development of a retaining structure, including footings, surface drainage and subsoil drainage:	Walls are wholly contained within the site. Walls are located on low side allotments to allow

a. is designed and constructed to be fit for purpose; b. does not impact adversely on significant vegetation; c. is capable of easy maintenance. Editor's note—A retaining wall also needs to comply with the Building Regulation and embankment gradients will need to comply with the Building Regulation. Note—Guidance on the protection of native vegetation is included in the Biodiversity areas planning scheme policy.	a. is wholly contained within the site; b. if the total height to be retained is greater than 1m, then: i. the retaining wall at the property boundary is no greater than 1m above the ground level; ii. all further terracing from the 1m high boundary retaining wall is 1 vertical unit:1 horizontal unit; iii. the distance between each successive retaining wall (back of lower wall to face of higher wall) is no less than 1m horizontally to incorporate planting areas. **AO2.2** Development of a retaining wall over 1m in height protects significant vegetation on the site and on adjoining land and is designed and constructed in accordance with the structures standards in the Infrastructure design planning scheme policy and certified by a Registered Professional Engineer Queensland.	inspection and maintenance or access is available to inspect walls. Proposed terraced walls have a 2.0m wide tier between walls. A 1.0m high bottom wall is proposed to allow easy maintenance of the tiered (landscape) zone. Proposed walls will be concrete sleeper (or approved equivalent) walls which have a maintenance free finish. Only clean fill will be used. Concept earthworks indicate export site.
	AO2.3 Development provides a retaining wall finish that presents to adjoining land that is maintenance free if the setback is less than 750mm from the boundary.	
	AO2.4 Development for filling only uses clean fill that does not include any construction rubble, debris, weed seed or viable parts of plant species listed as an undesirable plant species in the Planting species planning scheme policy.	

PO3 Development ensures that a rock anchor is designed and constructed to be fit for purpose.	**AO3** Development ensures that a rock anchor: a. is constructed in accordance with the standards in the Infrastructure design planning scheme policy; b. where it extends beyond the property boundary, is supported by a letter of consent from the adjoining land and building owners.	Not applicable
PO4 Development protects all services and public utilities.	**AO4** Development protects services and public utilities and ensures that any alteration or relocation of services or public utilities meets the standard design specifications of the responsible service authorities.	Complies
PO5 Development provides surface and sub-surface drainage to prevent water seepage, concentration of run-off or ponding of stormwater on adjacent land.	**AO5** Development ensures all flows and subsoil drainage are directed to a lawful point of discharge of a surface water diversion drain, including to the top or toe of a retaining wall in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy.	Complies
PO6 Development ensures that the design and construction of all open drainage works is undertaken in accordance with natural channel design principles, being the development of a stormwater conveyance system for major flows, by using a vegetated open channel or drain that approximates the features and functions of a natural waterway to enhance or improve riparian values of those stormwater conveyance systems. Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines.	**AO6** Filling or excavation does not involve the construction of open drainage.	Complies

PO7 Development for filling or excavation: a. does not degrade water quality or adversely affect environmental values in receiving waters; b. ensures site sediment and erosion control standards are best practice.	**AO7.1** Development for filling or excavation provides water quality treatment that complies with the stormwater drainage section of the Infrastructure design planning scheme policy. **AO7.2** Development provides erosion and sediment control standards that are in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy.	Complies
PO8 Development for filling or excavation is conducted such that adverse impacts at a sensitive use due to noise and dust are prevented or minimised. Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.	**AO8.1** Development ensures that no dust emissions extend beyond the boundary of the site, including dust from construction vehicles entering and leaving the site. **AO8.2** Development for filling or excavation activity only occurs between the hours of 6:30am and 6:30pm Monday to Saturday, excluding public holidays.	Complies – all works will be undertaken in accordance with approved ESCMP.
PO9 Development ensures that vibration generated by the filling or excavation operation does not exceed the vibration criteria in Table 9.4.3.3.B, Table 9.4.3.3.C, Table 9.4.3.3.D and Table 9.4.3.3.E. Note—A noise management report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.	**AO9** Development involving filling or excavation does not cause a ground-borne vibration beyond the boundary of the site.	Complies

PO10 Development ensures that heavy trucks hauling material to and from the site do not affect the amenity of established areas and limits environmental nuisance impact on adjacent land.	**AO10** Development ensures that heavy trucks hauling material to and from the site: a. occur for a maximum of 3 weeks; b. use a major road to access the site; c. only use a minor road for the shortest-most-direct route that has the least amount of environmental nuisance if there is no major road alternative.	Works are adjacent a major road. Concept earthworks indicate removal of approximately 10,000$m^{3.}$ All works will be undertaken in accordance with approved Construction Management Plan including staging and programming of material export.
PO11 Development for filling or excavation protects the environment and community health and wellbeing from exposure to contaminated land and contaminated material.	**AO11** Development does not involve: a. excavation on land previously occupied by a notifiable activity or on land listed on the Environmental Management Register or the Contaminated Land Register; b. filling with material containing a contaminant.	Complies
PO12 Development provides for: a. landscaping for water conservation purposes; b. water sensitive urban design measures which are employed within the landscape design to maximise stormwater use; c. drainage and stormwater measures to reduce any adverse impacts on the landscape; d. stormwater harvesting to be maximised and any adverse impacts of stormwater minimised; e. reticulated irrigation to all artificial growing environments. Note—The Landscape design planning scheme policy provides guidance on information to be provided to demonstrate compliance with the performance outcome and acceptable outcomes.	**AO12.1** Development provides drainage for artificial growing environments which is connected to the stormwater drain. **AO12.2** Development ensures that the maximum site stormwater harvest capacity is utilised to meet the irrigation demand of the development before alternative irrigation sources are utilised and is in compliance with the standards in the Landscape design planning scheme policy. **AO12.3** Development provides areas of pavement, turf, landscaping and mulched garden beds which are drained. Note—This may be achieved through the provision and/or treatment of swales, spoon drains, field gullies, sub-surface drainage and stormwater connections.	Refer to Landscape Complies with AO12.3.

	AO12.4 Development provides a reticulated irrigation system to all landscaping areas in accordance with the Landscape design planning scheme policy.	
PO13 Development ensures cutting and filling for the development of canals or artificial waterways avoids adverse impacts on coastal resources and processes.	**AO13** Development does not involve the creation of canals or artificial waterways.	Not applicable

Table 9.4.3.3.B— Recommended intermittent vibration levels for cosmetic damage

Type of building	**Peak particle velocity (mm/s)**		
Reinforced or framed structures; industrial and heavy commercial buildings	50mm/s at 4Hz and above		
Unreinforced or light-framed structures; residential or light-commercial type buildings	Below 4Hz	4Hz to 15Hz	15Hz and above
	0.6mm/s	15mm/s at 4Hz increasing to 20mm/s at 15Hz	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above

Table 9.4.3.3.C— Recommended blasting vibration levels for human comfort

Type of building	**Type of blasting operations**	**Peak component particle velocity (mm/s)**
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	5mm/s for 95% blasts per year 10mm/s maximum unless agreement is reached with the occupier that a higher limit may

		apply
Residences, educational establishments and places of worship	Operations lasting for less than 12 months or less than 20 blasts	10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Industry or commercial premises	All blasting	25 mm/s maximum unless agreement is reached with the occupier that a higher limit may apply. For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that do not adversely affect the equipment operation.

Table 9.4.3.3.D— Recommended levels for continuous and impulsive vibration acceleration (m/s^2) 1—80Hz for human comfort

Location	**Assessment period(1)**	**Preferred values(3)**		**Maximum values(3)**	
Continuous vibration		z-axis	x and y axes	z-axis	x and y axes
Critical areas(2)	Day or night	0.005 m/s^2	0.0036 m/s^2	0.01 m/s^2	0.0072 m/s^2
Residences	Day	0.01 m/s^2	0.0071 m/s^2	0.02 m/s^2	0.014 m/s^2
-	Night	0.007 m/s^2	0.005 m/s^2	0.014 m/s^2	0.01 m/s^2
Offices, educational establishments and places of worship	Day or night	0.02 m/s^2	0.014 m/s^2	0.04 m/s^2	0.028 m/s^2
Workshops	Day or night	0.04 m/s^2	0.029 m/s^2	0.08 m/s^2	0.058 m/s^2
Impulsive vibration					
Critical areas	Day or night	0.005 m/s^2	0.0036 m/s^2	0.01 m/s^2	0.0072 m/s^2
Residences	Day	0.3 m/s^2	0.21 m/s^2	0.6 m/s^2	0.42 m/s^2
-	Night	0.1 m/s^2	0.071 m/s^2	0.2 m/s^2	0.14 m/s^2

Offices, educational establishments and places of worship	Day or night	0.64 m/s^2	0.46 m/s^2	1.28 m/s^2	0.92 m/s^2
Workshops	Day or night	0.64 m/s^2	0.46 m/s^2	1.28 m/s^2	0.92 m/s^2

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

Table 9.4.3.3.E— Recommended vibration dose values for intermittent vibration ($m/s^{1.75}$) for human comfort

Location	**Daytime(1)**		**Night time(1)**	
	Preferred value	**Maximum value**	**Preferred value(3)**	**Maximum value(3)**
Critical areas(2)	0.1 $m/s^{1.75}$	0.2 $m/s^{1.75}$	0.1 $m/s^{1.75}$	0.2 $m/s^{1.75}$
Residences	0.2 $m/s^{1.75}$	0.4 $m/s^{1.75}$	0.13 $m/s^{1.75}$	0.26 $m/s^{1.75}$
Offices, educational establishments and places of worship	0.4 $m/s^{1.75}$	0.8 $m/s^{1.75}$	0.4 $m/s^{1.75}$	0.8 $m/s^{1.75}$
Workshops	0.8 $m/s^{1.75}$	1.6 $m/s^{1.75}$	0.8 $m/s^{1.75}$	1.6 $m/s^{1.75}$

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

9.4.4 Infrastructure design code

9.4.4.1 Application

1. This code applies to assessing a material change of use, reconfiguring a lot or building work if:
    a. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5), reconfiguring a lot (section 5.6),operational work (section 5.8), or an overlay (section 5.10); or
    b. impact assessable development, to the extent relevant.
2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

- ecological assessment, koala habitat or development design, guidance is provided in the Biodiversity areas planning scheme policy;
- infrastructure design and construction works, guidance is provided in the Infrastructure design planning scheme policy;
- noise and dust impacts during construction and/or demolition, guidance is provided in the Management plans planning scheme policy;
- noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy;
- refuse and recycling, guidance is provided in the Refuse planning scheme policy;
- parking or servicing management during construction, guidance is provided in the Transport, access, parking and servicing planning scheme policy.

9.4.4.2 Purpose

1. The purpose of the Infrastructure design code is to assess the suitability of infrastructure for development.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development is provided with a safe, connected and efficient transport network for all modes that has a minimal whole-of-life cost.
    b. Development provides for public utilities and services to the standards acceptable to the Council and the reasonable expectations of service providers.
    c. Development involving infrastructure which is intended to become a Council asset is safe, aesthetically pleasing, functional, fit for purpose, durable, minimises environmental impacts and has minimal whole-of-life cost.
    d. Development provides for a public space to be safe and inviting, allowing high levels of pedestrian activity.
    e. Development ensures that the community and environment are not unreasonably disrupted or impacted by construction or demolition for the development.
    f. Development involving infrastructure is designed with consideration of, and to integrate with, other related and interfacing infrastructure components.
    g. Development accessed by common private title is provided with appropriate fire hydrant infrastructure and has unimpeded access for refuse vehicles and for emergency service vehicles to protect people, property and the environment.
    h. Development ensures major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System is not compromised.
    i. Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System

avoids or otherwise minimises adverse impacts on surrounding land uses.

9.4.4.3 Performance outcomes and acceptable outcomes

Table 9.4.4.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
PO1 Development provides roads, pavement, edging and landscaping which: a. are designed and constructed in accordance with the road hierarchy; b. provide for safe travel for pedestrians, cyclists and vehicles; c. provide access to properties for all modes; d. provide utilities; e. provide high levels of aesthetics and amenity, improved liveability and future growth; f. provide for the amelioration of noise and other pollution; g. provide a high-quality streetscape; h. provide a low-maintenance asset with a minimal whole-of-life cost. Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.	**AO1** Development provides roads and associated pavement, edging and landscaping which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.	Complies
PO2 Development provides road pavement surfaces which: a. are well designed and constructed; b. durable enough to carry the wheel loads of the intended types and numbers of travelling and parked vehicles; c. ensures the safe passage of vehicles,	**AO2** Development provides road pavement surfaces which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.	Complies

pedestrians and cyclists, the discharge of stormwater run-off and the preservation of all-weather access; d. allows for reasonable travel comfort.		
PO3 Development provides a pavement edge which is designed and constructed to: a. control vehicle movements by delineating the carriageway for all users; b. provide for people with disabilities by allowing safe passage of wheelchairs and other mobility aids.	**AO3** Development provides pavement edges which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.	Complies
PO4 Development provides verges which are designed and constructed to: a. provide safe access for pedestrians clear of obstructions and access areas for vehicles onto properties; b. provide a sufficient area for public utility services; c. be maintainable by the Council.	**AO4** Development provides verges which are designed and constructed in compliance with the road corridor design and streetscape locality advice standards in the Infrastructure design planning scheme policy.	Complies
PO5 Development provides a lane or laneway identified on the Streetscape hierarchy overlay map or in a neighbourhood plan which: a. allows equitable access for all modes; b. is safe and secure; c. has 24-hour access; d. is a low-speed shared zone environment; e. has a high-quality streetscape.	**AO5** Development provides a lane or laneway identified on the Streetscape hierarchy overlay map or in a neighbourhood plan which is embellished in compliance with the streetscape locality advice standards in the Infrastructure design planning scheme policy.	Not Applicable

PO6 Development of an existing premises provides at the frontage to the site, if not already provided, the following infrastructure to an appropriate urban standard: a. an effective, high-quality paved roadway; b. an effective, high-quality roadway kerb and channel; c. safe, high-quality vehicle crossings over channels and verges; d. safe, accessible, high-quality verges compatible and integrated with the surrounding environment; e. safe vehicle access to the site that enables ingress and egress in a forward gear; f. provision of and required alterations to public utilities; g. effective drainage; h. appropriate conduits to facilitate the provision of required street-lighting systems and traffic signals.	**AO6** Development of an existing premises provides at the frontage of the site, if not already existing, the following infrastructure to the standard that would have applied if the development involved new premises as stated in the road corridor design standards in the Infrastructure design planning scheme policy: a. concrete kerb and channel; b. forming and grading to verges; c. crossings over channels and verges; d. a constructed bikeway; e. a constructed verge or reconstruction of any damaged verge; f. construction of the carriageway; g. payment of costs for required alterations to public utility mains, services or installations; h. construction of and required alterations to public utility mains, services or installations; i. drainage works; j. installation of electrical conduits.	Complies
PO7 Development provides both cycle and walking routes which: a. are located, designed and constructed to their network classification (where applicable); b. provide safe and attractive travel routes for pedestrians and cyclists for commuter and recreational purposes; c. provide safe and comfortable access to properties for pedestrians and cyclists; d. incorporate water sensitive urban design into stormwater drainage; e. provide for utilities; f. provide for a high level of aesthetics and	**AO7** Development provides cycle and walking routes which are located, designed and constructed in compliance with the road corridor design and off-road pathway design standards in the Infrastructure design planning scheme policy.	1.2m wide footpath is provided on proposed streets in accordance with infrastructure design policies.

amenity, improved liveability and future growth; g. are a low-maintenance asset with a minimal whole-of-life cost; h. minimise the clearing of significant native vegetation. Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.		
PO8 Development provides refuse and recycling collection, separation and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.	**AO8.1** Development provides refuse and recycling collection and storage facilities in accordance with the Refuse planning scheme policy. **AO8.2** Development ensures that refuse and recycling collection and storage location and design do not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note—Refer to the Refuse planning scheme policy for further guidance.	Complies – bind pads to be provided for Lots 11, 12 & 13.
PO9 Development ensures that: a. land used for an urban purpose is serviced adequately with regard to water supply and waste disposal; b. the water supply meets the stated standard of service for the intended use and fire-fighting purposes.	**AO9.1** Development ensures that the reticulated water and sewerage distribution system for all services is in place before the first use is commenced. **AO9.2** Development provides the lot with reticulated water supply and sewerage to a standard acceptable to the distributor—retailer.	Complies
PO10 Development provides public utilities and street lighting which are the best current or alternative technology and facilitate accessibility, easy maintenance, minimal whole-of-life costs, and minimal adverse environmental impacts.	**AO10.1** Development provides public utilities and street lighting which are located and aligned to: a. avoid significant native vegetation and areas identified within the Biodiversity areas overlay map;	Will comply Underground electrical and communications will be provided within BCC standard verge alignments. A PMT is proposed opposite Lot 48.

	b. minimise earthworks; c. avoid crossing waterways, waterway corridors and wetlands or if a crossing is unavoidable, tunnel-boring techniques are used to minimise disturbance, and a disturbed area is reinstated and restored on completion of the work. Note—Guidance on the restoration of habitat is included in the Biodiversity areas planning scheme policy. **AO10.2** Development provides compatible public utility services and street-lighting services which are co-located in common trenching for underground services.	
	AO10.3 Development provides public utilities and street lighting which are designed and constructed in compliance with the public utilities standards in the Infrastructure design planning scheme policy.	
PO11 Development ensures that land used for urban purposes is serviced adequately with telecommunications and energy supply.	**AO11** Development provides land with the following services to the standards of the approved supplier: a. electricity; b. telecommunications services; c. gas service where practicable.	Complies Gas is not available adjacent to the site and is not proposed for this development.
PO12 Development ensures that major public projects promote the provision of affordable, high-bandwidth telecommunications services throughout the city.	**AO12** Development provides conduits which are provided in all major Council and government works projects to enable the future provision of fibre optic cabling, if: a. the additional expense is unlikely to be prohibitive; or b. further major work is unlikely or disruption would be a major concern, such as where there is a limited capacity road; or	Not Applicable

	c. there is a clear gap in the telecommunications network; or d. there is a clear gap in the bandwidth available to the area. Editor's note—An accurate, digital 'as built' three-dimensional location plan is to be supplied for all infrastructure provided in a road.	
PO13 Development provides public art identified in a neighbourhood plan or park concept plan which: a. is provided commensurate with the status and scale of the proposed development; b. is sited and designed: i. as an integrated part of the project design; ii. as conceptually relevant to the context of the location; iii. to reflect and respond to the cultural values of the community; iv. to promote local character in a planned and informed manner.	**AO13** Development provides public art identified in a neighbourhood plan or park concept plan which is sited and designed in compliance with the public art standards in the Infrastructure design planning scheme policy.	Not Applicable
PO14 Development provides signage of buildings and spaces which promote legibility to help users find their way.	**AO14** Development provides public signage: a. at public transport interchanges and stops, key destinations, public spaces, pedestrian linkages and at entries to centre developments; b. which details the location of the key destinations, public spaces and pedestrian linkages in the vicinity, the services available within the development and where they are located. Editor's note—Signage is to be in accordance with Local Law Number 1 (Control of Advertisements Local Law).	Not Applicable

PO15 Development that provides community facilities which form part of the development is functional, safe, low maintenance, and fit for purpose.	**AO15** Development that provides community facilities which form part of the development is designed in compliance with the community facilities standards in the Infrastructure design planning scheme policy.	Not Applicable
PO16 Development provides public toilets which: a. are required as part of a community facility or park; b. are located, designed and constructed to be: i. safe; ii. durable; iii. resistant to vandalism; iv. able to service expected demand; v. fit for purpose.	**AO16** Development that provides public toilets is designed and constructed in compliance with the public toilets standards in the Infrastructure design planning scheme policy.	Not Applicable
PO17 Development provides bridges, tunnels, elevated structures and water access structures that are designed and constructed using proven methods, materials and technology to provide for: a. safe movement of intended users; b. an attractive appearance appropriate to the general surroundings and any adjacent structures; c. functionality and easy maintenance; d. minimal whole-of-life cost; e. longevity; f. current and future services. Note—All bridges and elevated and associated elements must be designed and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.	**AO17** Development that provides bridges, tunnels, elevated structures and water access structures is designed and constructed in compliance with the standards in the Infrastructure design planning scheme policy.	Not Applicable

PO18 Development provides culverts which are designed and constructed using proven methods, materials and technology to provide for: a. safety; b. an attractive appearance appropriate to the general surroundings; c. functionality and easy maintenance; d. minimal whole-of-life cost; e. longevity; f. future widening; g. current and future services; h. minimal adverse impacts, such as increase in water levels or flow velocities, and significant change of flood patterns. Note—All culverts and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.	**AO18** Development that provides culverts is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy.	Not Applicable
PO19 Development provides batters, retaining walls, and seawalls and river walls which are designed and constructed using proven methods, materials and technology to provide for: a. safety; b. an attractive appearance appropriate to the surrounding area; c. easy maintenance; d. minimal whole-of-life cost; e. longevity; f. minimal water seepage. Note—All retaining walls and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.	**AO19** Development that provides batters, retaining walls, seawalls and river walls is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy.	Complies

If for development with a gross floor area greater than 1,000m^2		
PO20 Development ensures that construction is managed so that use of public spaces and movement on pedestrian, cyclist and other traffic routes is not unreasonably disrupted and existing landscaping is adequately protected from short- and long-term impacts. Note—The preparation of a construction management plan can assist in demonstrating achievement of this performance outcome. Note—The Transport, access, parking and servicing planning scheme policy provides advice on the management of vehicle parking and deliveries during construction.	**AO20** Development ensures that during construction: a. the ongoing use of adjoining and surrounding parks and public spaces, such as malls and outdoor dining, is not compromised; b. adjoining and surrounding landscaping is protected from damage; c. safe, legible, efficient and sufficient pedestrian, cyclist and vehicular accessibility and connectivity to the wider network are maintained.	Not Applicable
PO21 Development ensures that construction and demolition activities are guided by measures that prevent or minimise adverse impacts including sleep disturbance at a sensitive use, due to noise and dust, including dust from construction vehicles entering and leaving the site. Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.	**AO21.1** Development ensures that demolition and construction: a. only occur between 6:30am and 6:30pm Monday to Saturday, excluding public holidays; b. do not occur over periods greater than 6 months. **AO21.2** Development including construction and demolition does not release dust emissions beyond the boundary of the site.	Not Applicable
	AO21.3 Development construction and demolition does not involve asbestos-containing materials.	
PO22 Development ensures that: a. construction and demolition do not result in damage to surrounding property as a result of vibration; b. vibration levels achieve the vibration criteria in Table 9.4.4.3.B, Table 9.4.4.3.C, Table 9.4.4.3.D and Table 9.4.4.3.E.	**AO22** Development ensures that the nature and scale of construction and demolition do not generate noticeable levels of vibration.	Not Applicable

Note—A vibration impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.		
If for a material change of use or reconfiguring a lot in an urban area (as defined in the Regulation) involving premises that is, or will be, accessed by common private title, where involving buildings, either attached or detached, that are not covered by other legislation mandating fire hydrants		
PO23 Development ensures that fire hydrants are: a. installed and located to enable fire services to access water safely, effectively and efficiently; b. suitably identified so that fire services can locate them at all hours.	**AO23.1** Above or below ground fire hydrants are provided on residential, commercial and industrial streets and private roads, at not more than 90m intervals, and at each street intersection. Note—On residential streets, above ground fire hydrants may be single outlet. On commercial and industrial streets above ground fire hydrants should have dual valved outlets. **AO23.2** Fire hydrants are identified by: a. raised reflectorised pavement markers (RRPM) on sealed roads; b. marker posts at the fence line where on an unsealed road, as road (HR) or path (HP) hydrants.	Not Applicable
PO24 Development ensures road widths and construction within the development, are adequate for refuse vehicles and for fire emergency vehicles to gain access to a safe working area close to buildings and near water supplies whether or not on-street parking spaces are occupied.	**AO24** Internal private roads have a minimum roadway clearance between obstructions of 3.5m wide and 4.8m high in addition to any width required for on-street parking.	Not Applicable

Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where not in the Utility services zone precinct of the Special purpose zone		
PO25 Development avoids or otherwise minimises adverse impacts on surrounding land uses through the use of buffers and setbacks and the appropriate design and location of plant and operational areas within the site.	**AO25** No acceptable outcome is prescribed.	Not Applicable
Development potentially impacting on major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where the infrastructure is not in the Utility services zone precinct of the Special purpose zone		
PO26 Development is sited and designed to: a. avoid safety risks to people or property; b. minimise noise and visual impacts to people and property; c. ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.	**AO26** No acceptable outcome is prescribed.	Not Applicable

Table 9.4.4.3.B—Recommended intermittent vibration levels for cosmetic damage

Type of building	**Peak particle velocity (mm/s)**		
Reinforced or framed structures; industrial and heavy commercial buildings	50mm/s at 4Hz and above		
Unreinforced or light-framed structures; residential or light commercial type buildings	Below 4Hz	4Hz to 15Hz	15Hz and above
	0.6mm/s	15mm/s at 4Hz increasing to	20mm/s at 15Hz increasing to

		20mm/s at 15Hz	50mm/s at 40Hz and above

Table 9.4.4.3.C—Recommended blasting vibration levels for human comfort

Type of building	Type of blasting operations	Peak component particle velocity (mm/s)
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	5mm/s for 95% blasts per year 10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Industry or commercial premises	All blasting	25mm/s maximum unless agreement is reached with the occupier that a higher limit may apply. For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that do not adversely affect the equipment operation.

Table 9.4.4.3.D—Recommended levels for continuous and impulsive vibration acceleration (m/s^2) 1—80Hz for human comfort

Location	Assessment period[1]	Preferred values[3]		Maximum values[3]	
Continuous vibration		z-axis	x and y axes	z-axis	x and y axes

Critical areas[2]	Day or night	0.005 m/s^2	0.0036 m/s^2	0.01 m/s^2	0.0072 m/s^2
Residences	Day	0.01 m/s^2	0.0071 m/s^2	0.02 m/s^2	0.014 m/s^2
-	Night	0.007 m/s^2	0.005 m/s^2	0.014 m/s^2	0.01 m/s^2
Offices, educational establishments and places of worship	Day or night	0.02 m/s^2	0.014 m/s^2	0.04 m/s^2	0.028 m/s^2
Workshops	Day or night	0.04 m/s^2	0.029 m/s^2	0.08 m/s^2	0.058 m/s^2
Impulsive vibration					
Critical areas	Day or night	0.005 m/s^2	0.0036 m/s^2	0.01 m/s^2	0.0072 m/s^2
Residences	Day	0.3 m/s^2	0.21 m/s^2	0.6 m/s^2	0.42 m/s^2
-	Night	0.1 m/s^2	0.071 m/s^2	0.2 m/s^2	0.14 m/s^2
Offices, educational establishments and places of worship	Day or night	0.64 m/s^2	0.46 m/s^2	1.28 m/s^2	0.92 m/s^2
Workshops	Day or night	0.64 m/s^2	0.46 m/s^2	1.28 m/s^2	0.92 m/s^2

Note—

[1] Day is 7am to 10pm and night is 10pm to 7am.

[2] Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

[3] Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

Table 9.4.4.3.E—Recommended vibration dose values for intermittent vibration ($m/s^{1.75}$) for human comfort

Location	**Daytime[1]**		**Night time[1]**	
	Preferred value	**Maximum value**	**Preferred value[3]**	**Maximum value[3]**

Critical areas(2)	0.1 $m/s^{1.75}$	0.2 $m/s^{1.75}$	0.1 $m/s^{1.75}$	0.2 $m/s^{1.75}$
Residences	0.2 $m/s^{1.75}$	0.4 $m/s^{1.75}$	0.13 $m/s^{1.75}$	0.26 $m/s^{1.75}$
Offices, educational establishments and places of worship	0.4 $m/s^{1.75}$	0.8 $m/s^{1.75}$	0.4 $m/s^{1.75}$	0.8 $m/s^{1.75}$
Workshops	0.8 $m/s^{1.75}$	1.6 $m/s^{1.75}$	0.8 $m/s^{1.75}$	1.6 $m/s^{1.75}$

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.