SITE-BASED STORMWATER MANAGEMENT PLAN

39-45 Homestead Drive, Flagstone, QLD 4280

Property Description:

39-45 Homestead Drive, Flagstone, QLD 4280

Single Dwelling Large Site

Lot 160 RP 848031

Project no. 3509

Prepared for:

Kazal Dewan

Ref: 3509-SMP-001

BRAVO CONSULT

Project Information

Site Address	39-45 Homestead Drive, Flagstone, QLD 4280
RP Description	Lot 160 RP 848031
Bravo Project no.	3509
Client	Kazal Dewan
Council	Logan City Council (LCC)
Council Ref.	PLM/32/2025

Document Register

Document No	Version	Date	Author	Reviewer
SMP-001	00	October 24, 2025	V Naude	S Edwards

RPEQ Certification

I, in my professional capacity as a Registered Professional Engineer of Queensland (RPEQ), hereby certify that the assessment and all provided data and/or modelling has been undertaken in accordance with the relevant assessment authorities' current engineering best practices, guidelines and policies.

Name	RPEQ No.	Date	Signature
Bruce Graham Muggeridge	8953	24/10/2025	

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1.0 Executive Summary

This Site-based Stormwater Management Plan (SBSMP) has been prepared to outline the stormwater management strategy for the proposed development at 39-45 Homestead Drive, Flagstone, QLD 4280. The subject site is formally known as Lot 160 RP 848031 and falls under the jurisdiction of Logan City Council (LCC).

This SBSMP is in response to the pre-lodgement meeting minutes from LCC, dated 26 February 2025 (Document no. PLM/32/2025).

This assessment adheres to all relevant guidelines outlined in the Logan Planning Scheme V9.2 2015 (effective date 01 Jul 2025, latest at time of assessment), the Queensland Urban Drainage Manual Fourth Edition 2016 (QUDM), Australian Rainfall and Runoff 2019 (ARR), Healthy Land and Water - Water by Design, and the International Erosion Control Association (Australasia) – “Best Practice Erosion and Sediment Control – for buildings and construction sites” and the State Planning Policy 2017.

The pre-development and post-development site and catchment characteristics were defined, assessed, and quantified for analysis.

The Rational Method determined that there will be no significant increase in the post-development peak flow rates compared to the pre-development scenario. The Initial Loss Continuing Loss hydrologic model was also applied as a sensitivity analysis and yielded similar results. The two models and the results were compared. The comparison indicated a difference in outcomes. Despite this difference the consistency in results suggests that, for specific conditions, both methods converge in predictions as the storm event severity increases.

Though the total impervious area(s) for the proposed development is higher in the post-development scenario, usually leading to higher peak flow rates, the reduction in terrain slopes through incorporation of the proposed retaining structures, mitigate the post-development peak flow rates to equal approximately the same rates as the pre-development scenario. As such, no stormwater quantity mitigation measures are recommended or required.

The stormwater quality investigation determined that the proposed development doesn’t trigger the criteria of the State Planning Policy 2017 requiring a detailed treatment strategy. Instead, various maintenance, monitoring and best practice guidelines were recommended to be implemented during the ongoing project phases, from start, to completion, to operational.

Adopting the stormwater quantity analysis results, and the stormwater quality maintenance and monitoring guidelines will ensure a compliant and effective solution for the proposed development. All stormwater quantity and stormwater quality requirements are deemed to have been achieved in accordance with the relevant stormwater management objectives. This assessment supports the Development Application in accordance with all relevant guideline requirements with regards to stormwater quantity and -quality requirements.

A flood risk assessment was also undertaken to determine the associated flood risk, and the flood risk is within the requirements as outline in the development code applicable to the development.

2.0 Background

2.1 Introduction

Bravo Consult (Pty) Ltd has been commissioned to develop a concept Site-based Stormwater Management Plan (SBSMP) for the proposed development at 35-45 Homestead Drive, Flagstone, QLD 4280. The subject site is formally known as Lot 160 RP 848031 and falls under the jurisdiction of Logan City Council (LCC).

This SBSMP is in response to the pre-lodgement meeting minutes from LCC, dated 26 February 2025 (PLM/32/2025). Refer to **Appendix A** – Logan City Council Pre-Lodgement Meeting Minutes.

This assessment adheres to all relevant guidelines outlined in the Logan Planning Scheme V9.2 2015 (effective date 01 Jul 2025, latest at time of assessment), the Queensland Urban Drainage Manual (QUDM, Fourth Edition), Australian Rainfall and Runoff 2019 (ARR) and Healthy Land and Water - Water by Design.

2.2 Assessment Objectives

1. Confirm the Lawful Point of Discharge (LPD) for the site.
2. Quantify the pre-development and the post-development runoff, peak flow scenarios.
3. Confirm the proposed development's implications on stormwater quantity and quality management.
4. Develop a comprehensive and compliant stormwater management strategy, if necessary.
5. Determine and outline all required mitigation measures, where required.

2.3 Analysis

The analysis encompasses the following:

1. Review of existing conditions.
2. Catchment analysis.
3. Impact assessment.
4. Mitigation strategies.
5. Computer modelling.
6. Compliance and regulation.

3.0 Site Characteristics

The subject site locality map is shown in Figure 3-1 below.

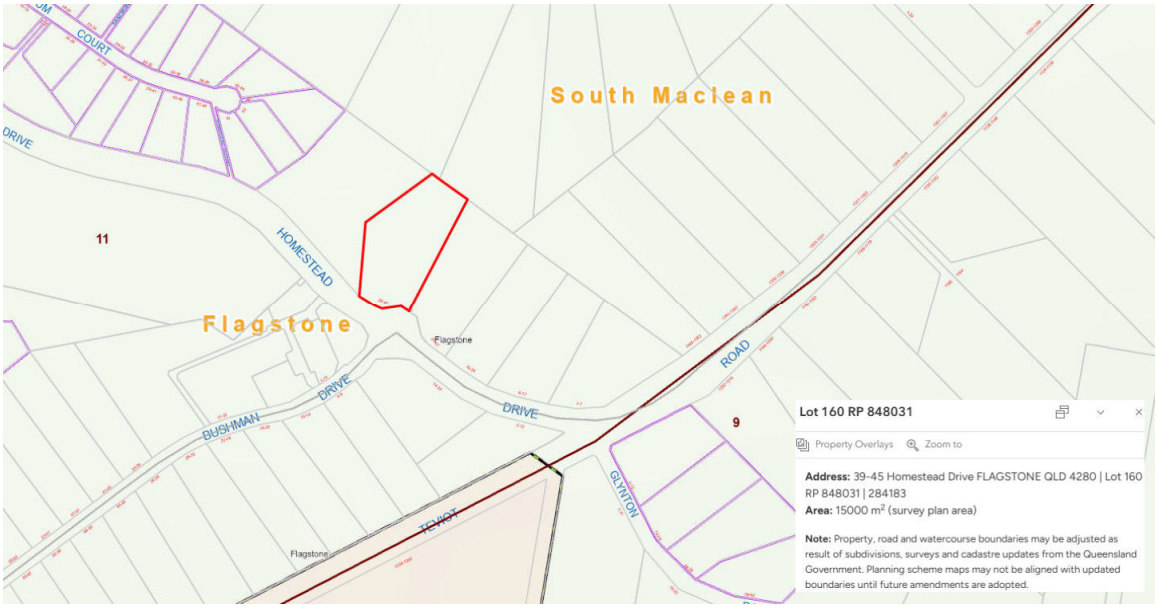


Figure 3-1: Locality Map (City of Logan PD Hub)

3.1 Zoning

Referring to the LCC Zone Map (ZM-01.00), the LCC Zone and Precincts Map (ZM-02.00), and the online Logan PD Hub, the site is located inside the *Low Density Residential* zone. The site falls under the *Suburban* zoning precinct. Refer to Figure 3-2 below.

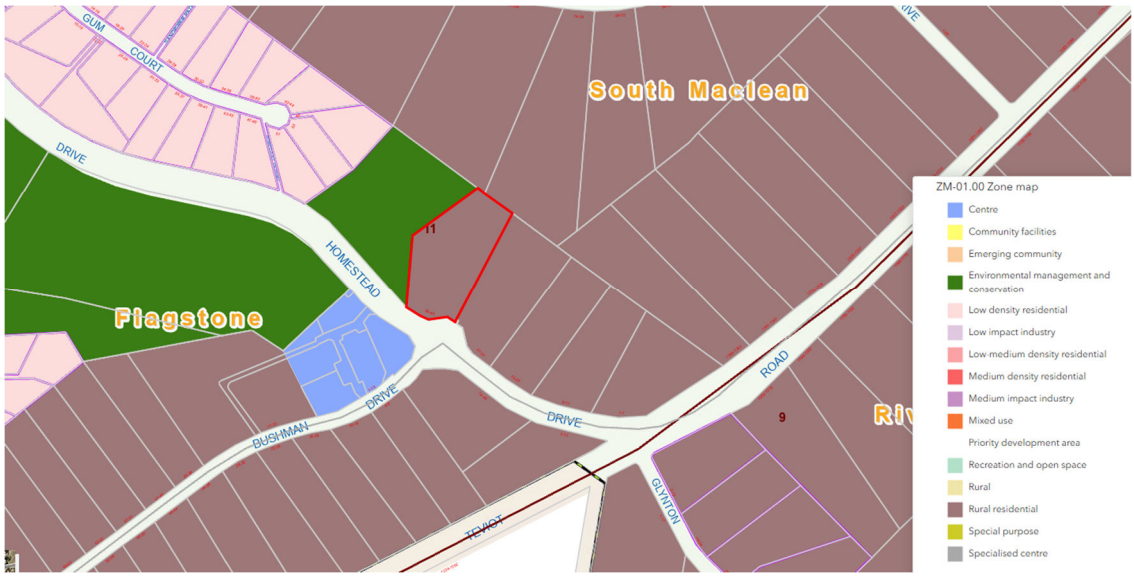


Figure 3-2: Zoning Map (Logan Planning Scheme Online Maps)

Refer to **Appendix B** – Logan City Council Zoning and Precinct Maps.

3.2 Overlay Codes

Refer to **Appendix C** – Logan Planning Scheme Property Report.

3.3 Existing Topography

The development site generally slopes into three directions:

- Towards the south (Homestead Drive) @ 4.0% (1:25 slope)
- Towards the west @ 3.1% (1: 32.25 slope)
- Towards the north @ 2.2% (1:45.45 slope)

The site ground levels range from 33.14m AHD on the southeastern corner of the property boundary to 28.55m AHD at the northerns property boundary.

Refer to Figure 3-3 below.

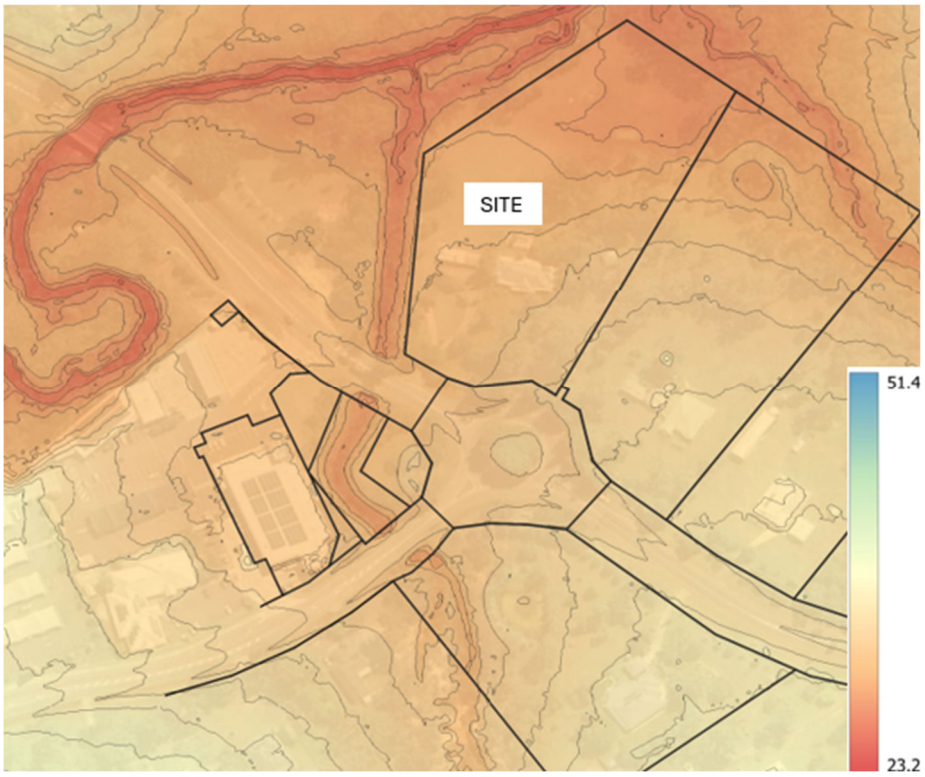


Figure 3-3: Existing Topography (QLD Government ELVIS DEM)

3.4 Existing Features

The total site area is 15 000m^2 (1.5ha).

The site consists of an existing dwelling which will remain. Existing access to the site is via a gravel vehicle crossover and driveway from Homestead Drive.

The site is bordered by an existing lot the east, Sandy Gully towards the west and north, and Homestead Drive to the south.

3.5 Existing Easements

There are no existing, registered easements (EMT) on the development site.

Refer to **Appendix D** – Subdivision and Survey Layouts.

3.6 Existing Services and Utilities

A Before You Dig (BYDA) enquiry was lodged to investigate the underground utilities and infrastructure around the site.

Refer to **Appendix I** – BYDA Asset Register.

3.7 Existing Drainage

The nearest council infrastructure is an existing stormwater culvert (Sandy Gully) located along Homestead Drive, west of the property.

3.8 Existing Lawful Point of Discharge

The pre-development scenario generally conveys the stormwater runoff toward the south to Homestead and towards the west and north towards Sandy Gully via overland flow.

The existing lawful point of discharge is Sandy Gully.

3.9 Contributing Catchments

The area surrounding the subject site was analysed to determine if there are any external catchments that will contribute to the overall site drainage.

Utilising available Queensland Government data, QGIS software, and the HEC-HMS hydrologic modelling system it was confirmed that a portion of the neighbouring Lot 161 RP848031 (27-37 Homestead Drive) and a small portion of the Lot 162 RP 848031 (19-25 Homestead Drive) to the east also contribute to the overall site drainage.

Refer to **Appendix E** – Catchment Layouts.

3.10 Flooding Conditions

The development site is in the Logan River and Sandy Gully catchment. No flood risks affect the development site. Low, moderate and high flood risk have been identified on the property.

Refer to **Appendix F** – Logan City Council Property Flood Report and Map.

4.0 Proposed Development

Refer to **Appendix G** – Development Approval Drawings.

4.1 Proposed Topography

The proposed topography will not be significantly altered during the design and construction of the proposed parking facility south of the existing building.

A review of the proposed final levels and resulting slopes is recommended at the detail design stage once a detailed design can be established.

4.2 Proposed Features

The addition of a parking facility south of the existing building is proposed for the existing property.

Access is proposed via a gravel driveway and will be upgraded to a width of 7.0m.

Though no proposal plans are available, applicable LCC Planning Scheme guidelines and performance outcomes will apply in this assessment.

4.3 Proposed Drainage

The proposed development drainage will be via controlled overland flow before discharging at the nominated LPD, as per pre-development conditions.

4.4 Proposed Lawful Point of Discharge

The post-development scenario remains generally unchanged from the pre-development scenario. Sandy Gully is deemed as the proposed lawful point of discharge.

4.5 Contributing Catchments

All contributing catchments have been accounted for as described in Section 3.9.

During the analyses of the catchments, three catchments were identified. The catchment towards Homestaed Drive to the south and towards Sandy Gully towards the north is deemed not the be affected by the proposed work proposed on this development and was excluded from this report.

Refer to **Appendix E** – Catchment Layouts.

5.0 Stormwater Quantity Assessment

This assessment adopted methods and procedures in accordance with Australian Rainfall and Runoff 2019, with IFD data and temporal patterns for each AEP/duration/ensemble derived from the Bureau of Meteorology (BOM and ARR19 DataHub). The hydrographs are then routed through the hydraulic components which represent channels and piped networks, to determine relevant information for assessment purposes.

The Rational Method estimation has also been adopted for this assessment, given its ability to produce preliminary and appropriate estimates of peak discharge rates in the pre-development and post-development scenarios.

5.1 Catchments

5.1.1 Pre-development Areas

The total catchment area, slopes/gradients, and impervious areas were calculated/measured using available Queensland Government data, the detail and contour survey data, and online aerial imagery.

The pre-development catchment characteristics are listed in Table 5-1 below.

Pre-development Catchment Characteristics						
Catchment ID	Area (m^2 / *ha*)		Impervious (m^2 / *fraction*)		Pervious (m^2 / *fraction*)	
CMT-PRE01	6685	0.6685	519	0.08	6166	0.92

Table 5-1: Pre-development Catchment Characteristics

5.1.2 Post-development Areas

The total catchment area, slopes/gradients, and impervious areas were calculated/measured using available Queensland Government data, the detail and contour survey data, proposed upgrading on development, and online aerial imagery.

Additionally, a total lot ground impervious percentage of 12% of which an additional and an 850m^2 impervious gravel driveway and parking area have been proposed on the site layout.

For comparative analysis it has been assumed that the catchment identified off being affected by the development will be captured and drained via overland flow and discharged at a single point which serves as the site LPD. An in-depth analysis of the stormwater drainage is recommended during the detail design stage.

The post-development catchment characteristics are listed in Table 5-3 below.

Post-development Catchment Characteristics						
Catchment ID	Area (*m² / ha*)		Impervious (*m² / fraction*)		Pervious (*m² / fraction*)	
CMT-POST01	6685	0.6685	1368.00	0.20	5317	0.8

Table 5-3: Post-development Catchment Characteristics

5.2 Rational Method

The Rational Method was used to estimate the peak flow rates based on the site's hydrologic- and hydraulic characteristics in both the pre-development and post-development scenarios.

The Time of Concentration was determined as per section 4.6 of Queensland Urban Drainage Manual (QUDM), Fourth Edition 2016. Rainfall intensity data was obtained from ARR19 and BOM IFD data. The data was extracted for the nearest grid cell - Latitude 27.825 (S) and Longitude 152.975 (E).

Refer to Table 5-4 and Table 5-5 below for a summary of the pre-development Rational Method calculations. Refer to Table 5-6 and Table 5-7 below for a summary of the post-development Rational Method calculations.

Refer to **Appendix H** – Rational Method Calculations.

Pre-development Catchment Calculation Summary			
Catchment ID	Rainfall Intensity $_1I_{10}$ (*mm/hr*)	C_{10} value	Time of Concentration (t) (*min*)
CMT-PRE01	56.3	0.630	31

Table 5-4: Pre-development Rational Method Catchment Calculation Summary

Pre-development Unmitigated Peak Flow Rates – Rational Method	
AEP (%)	Peak Flow Rates (*m³/s*)
	CMT-PRE01
63.2	0.043
39.35	0.053
18.13	0.082
10	0.102
5	0.124
2	0.160
1	0.185

Table 5-5: Pre-development Unmitigated Peak Flow Rates – Rational Method

Post-development Catchment Calculation Summary			
Catchment ID	Rainfall Intensity $_1I_{10}$ (*mm/hr*)	C_{10} value	Time of Concentration (t) (*min*)
CMT-POST01	56.3	0.600	30

Table 5-6: Post-development Rational Method Catchment Calculation Summary

Post-development Unmitigated Peak Flow Rates – Rational Method	
AEP (%)	Peak Flow Rates (m^3/s)
	CMT-POST01
63.2	0.042
39.35	0.051
18.13	0.079
10	0.099
5	0.120
2	0.155
1	0.180

Table 5-7: Post-development Unmitigated Peak Flow Rates – Rational Method

Unmitigated Peak Flow Rates Comparison – Rational Method				
AEP (%)	Peak Flow Rates (m^3/s)			
	CMT-PRE01	CMT-POST01	Difference	Reduction (Y/N)
63.2	0.043	0.042	0.001	Y
39.35	0.053	0.051	0.002	Y
18.13	0.082	0.079	0.003	Y
10	0.102	0.099	0.003	Y
5	0.124	0.120	0.004	Y
2	0.160	0.155	0.005	Y
1	0.185	0.180	0.005	Y

Table 5-8: Unmitigated Peak Flow Rates Comparison – Rational Method

Based off this analysis, there's a negligibly small difference in unmitigated peak flow rates resulting from the development, regardless of the increase in overall impervious areas. These minor decreases prove adherence to the 'no-worsening' principle.

As a sensitivity analysis, and for additional due diligence, the same results were modelled with a different hydrology model. The findings and results are listed in the sections to follow.

5.3 Modelling

The DRAINS model allows for ensemble storm event analysis to adopt the median events within each AEP/duration/event.

5.3.1 Adopted Design Storms

For this assessment the adopted design AEP events include all the events between the 63.2% AEP and the 1% AEP for storm durations ranging between 5 minutes and 2 hours.

5.3.2 Design Storm Selection

The median duration storm events have been adopted in accordance with ARR2019, focussing on the critical duration for each design AEP and temporal pattern event.

5.3.3 Modelling Parameters

The hydrology model used is the Initial Loss Continuing Loss model (IL-CL) with initial and continuous infiltration loss parameters. For modelling purposes, a single catchment was considered and divided into the areas: Effective Impervious Area (EIA), Remaining Impervious Area (RIA) and Pervious Area (PA). The loss models for each surface type were then applied.

The Kinematic Wave equation was used to calculate overland flows.

The initial loss and continuing loss parameters were obtained from ARR2019 and are shown in Table 5-9 below.

Model Infiltration Parameters		
Surface Type	Initial Loss (*mm*)	Continuous Loss (*mm/hr*)
Pervious (PA)	24	1.6
Impervious (EIA, RIA)	1	0

Table 5-9: Adopted DRAINS Model Infiltration Parameters

5.3.4 IL-CL Hydrologic Model

A comparison between the pre-development and post-development IL-CL model analysis is provided in Table 5-10 below.

Unmitigated Peak Flow Rates Comparison – IL-CL Model				
AEP (%)	Peak Flow Rates (m^3/s)			
	$CMT\text{-}PRE_{total}$	CMT-POST01	Difference	Reduction (Y/N)
63.2	0.032	0.034	0.002	N
39.35	0.054	0.066	0.012	N
18.13	0.094	0.100	0.006	N
10	0.118	0.130	0.012	N
5	0.152	0.158	0.006	N
2	0.182	0.187	0.005	N
1	0.208	0.212	0.004	N

Table 5-10: Unmitigated Peak Flow Rates Comparison – IL-CL Model

The IL-CL incorporates more comprehensive parameters than the Rational Method, potentially leading to more accurate estimates. The results indicate a negligibly small increase in peak flow rates during the more frequent rainfall events (63.2% AEP and 39.35% AEP) and a minor increase during the lesser frequent rainfall events (18.13% AEP up to the 1% AEP).

5.3.5 Hydrologic Model Results Comparison

A comparison between the Rational Method and the IL-CL model peak flow estimations in the pre-development scenario is provided in Table 5-11 below.

Unmitigated Peak Flow Rates Comparison – Pre-development			
AEP (%)	Peak Flow Rates (m^3/s)		
	Rational Method	IL-CL	Difference
	$CMT\text{-}PRE_{total}$	$CMT\text{-}PRE_{total}$	
63.2	0.043	0.032	0.011
39.35	0.053	0.054	0.001
18.13	0.082	0.094	0.012
10	0.102	0.118	0.016
5	0.124	0.152	0.028
2	0.160	0.182	0.022
1	0.185	0.208	0.023

Table 5-11: Pre-development Unmitigated Peak Flow Rates Comparison – Rational Method and IL-CL Method

A comparison between the Rational Method and the IL-CL model peak flow estimations in the post-development scenario is provided in Table 5-12 below.

Unmitigated Peak Flow Rates Comparison – Post-development			
AEP (%)	Peak Flow Rates (m^3/s)		
	Rational Method	IL-CL	Difference
	CMT-POST01	CMT-POST01	
63.2	0.042	0.034	0.008
39.35	0.051	0.066	0.015
18.13	0.079	0.100	0.021
10	0.099	0.130	0.031
5	0.120	0.158	0.038
2	0.155	0.187	0.032
1	0.180	0.212	0.032

Table 5-11: Post-development Unmitigated Peak Flow Rates Comparison – Rational Method and IL-CL Method

5.4 Summary

The Rational Method and IL-CL model analysis results yielded negligibly small differences in unmitigated peak flow rates generated from the proposed development when comparing the pre-development scenario to the post-development scenario.

The two hydrologic models were compared to each other as a sensitivity analysis. Despite the minor difference in outcomes, the consistency in results suggests that, for specific conditions, both methods converge in predictions as the storm event severity increases.

The post-development scenario adheres to the 'no-worsening' principle during certain rainfall events across both models. Both models indicate that the proposed development will not result in negative impact on downstream council infrastructure, nor neighbouring properties. It's also not envisaged that the peak flow frequency will change - due to similar, general site layouts and flow path durations when comparing the pre-development and post-development scenarios.

Though the total impervious area(s) for the proposed development is higher in the post-development scenario, usually leading to higher peak flow rates, the reduction in terrain slopes through incorporation of the proposed retaining structures, mitigate the post-development peak flow rates to equal approximately the same rates as the pre-development scenario.

The conclusion is that no stormwater quantity mitigation measures are recommended, nor required.

An in-depth analysis of the stormwater drainage is recommended during the design stage, to reassess the outcomes once a detail design can be established.

6.0 Stormwater Quality Management

6.1 Operational Phase

The stormwater quality management for the development assesses the project against the State Planning Policy 2017, which is applicable when:

(1) A material changes of use for an urban purpose that involves premises 2500 m² or greater in size and:

(a) will result in six or more dwellings; or

(b) an impervious area greater than 25 percent of the net developable area.

(2) Reconfiguring a lot for urban purposes that involves premises 2500 m² or greater in size and will result in six or more lots.

Based on the above the site does not warrant a detailed stormwater quality analysis. However, best management practices are recommended.

6.2 Construction Phase

During the construction phase, the activities relating the development are deemed low risk relating to potential contaminants.

A comprehensive Erosion and Sediment Control Plan (ESCP) should be drafted during the detail design stage. This plan should be readily available on-site. Erosion and sediment control measures used during the construction phase should be designed and installed in accordance with the latest International Erosion Control Association (Australasia) – "Best Practice Erosion and Sediment Control – for buildings and construction sites", the State Planning Policy 2017, and the Logan Planning Scheme V9.2 2015 (effective date 01 Jul 2025, latest at time of assessment).

6.2.1 Erosion and Sediment Control

To maintain site integrity and minimize erosion risks, proactive measures will be implemented that align with the Logan Planning Scheme guidelines to minimize exposure to disturbed soils, divert water runoff, and determine erosion risk ratings.

- **Duration Minimization**: Initiating construction activities promptly after the earthworks phase to reduce on-site disturbance time.
- **Staging of Works:** Strategically staging construction tasks to limit exposed areas, and in doing so, reducing erosion risks.
- **Turfing:** Turfing will be applied to areas susceptible to concentrated flow and cleared areas to prevent gully erosion.
- **Overburden Management**: Surplus soil not scheduled for removal will be stockpiled nearby and adequately protected to prevent entry into the nearest drainage system.
- **Dust Mitigation**: Periodic inspections and moistening of exposed areas to control dust, followed by promptly blanketing slopes with mulch or erosion control mats.
- **Wind Erosion Countermeasures**: Dust fencing will be installed around the earthworks boundaries to reduce ground-level wind speeds across the site and combat wind erosion.

  In accordance with the Logan Planning Scheme, the above measure will:

  - Minimise exposure to disturbed soils at any time.
  - Divert water run-off from undisturbed areas around disturbed areas.
  - Determine the erosion risk rating using local rainfall erosivity, rainfall depth, soil loss rate or other acceptable method.

Before commencing construction, measures will be implemented to minimize disturbance and maintain water quality. Four fundamental sediment control strategies will be deployed during construction, following IECA Guidelines and Best Practice methodologies:

- **Designation of Transport Routes**: Transport routes will minimize vegetation disturbance, with construction exits complying with IEAust Guidelines.

- **Vegetated Open Space Areas**: Maximizing vegetated open space areas to reduce soil disturbance and provide filter strip treatment for runoff.
- **Construction Entry/Exit**: Installation of designated construction entry/exit points with gravel pads or hardwood logs.
- **Sediment and Dust Control Fences**: Installation of sediment fences around proposed earthworks sites and dust control fences adjacent to property boundaries.

6.2.2 Monitoring and Maintenance

During all phases of development, monitoring and maintenance procedures must be undertaken by the site supervisor. The site supervisor must address any validated complaints or evidence of water quality deterioration and ensure proper functioning of all control devices. Regular inspections and reporting of any failures or issues must be conducted, with immediate rectification of any stormwater system failures to prevent uncontrolled discharge.

During the construction phase general monitoring requirements must be enforced. Requirements such as restricting work activities to designated construction areas and adhering to the erosion and sediment control plans during earthworks and site clearing.

It's crucial to monitor stormwater discharges to ensure that they don't adversely affect the downstream environment. Any failure in the stormwater system must be promptly rectified to prevent uncontrolled discharge and mitigate damage to the surrounding areas. Records of any device failures must be kept and reported to the Construction Manager.

These measures are implemented to minimize the negative impacts of litter, waste, hydrocarbons, and other contaminants during the construction phase. These also aim to minimize the exposure of disturbed soils at any given time, effectively reducing the likelihood of soil erosion and sedimentation during the construction process.

Additionally, these measures include diverting water runoff away from undisturbed areas surrounding construction zones to help mitigate the risk of soil erosion and maintain the quality of water in these adjacent regions.

Furthermore, the measures involve determining the erosion risk rating through a comprehensive assessment of local factors such as rainfall erosivity, depth, soil loss rate, or other approved methodologies.

This assessment is crucial in identifying areas prone to erosion, facilitating the implementation of targeted erosion control strategies to effectively manage and mitigate risks throughout the construction phase.

7.0 Flooding Risk

7.1 Terms of Reference

According to P011 from Schedule 6 planning scheme policies – SC6.2.10 Flood for vehicle manoeuvring and car parking are only located below the defined flood event where there is no increase in risk to:

a. Pedestrian and vehicular safety

b. A building or other structure

The guideline for satisfying the outcome requires the development to comply with the following risk treatment measures to address this risk for a development, being an open car park not located under a building, may be located below the flood level of the defined flood event provided the following are achieved:

i. Any increase in stormwater runoff is mitigated

ii. Car park and car park access is inundated to a maximum depth 300mm and a maximum depth multiplied by velocity value of 0.3m^2/s (AIDR hazard rating of H1)

iii. Bollards or fencing are located along the downstream perimeter of the car park in the event of cars being floated downstream in an event greater than the defined flood event;

iv. where applicable, signage is placed within the car park warning of the risk of flash flooding.

v. Adequate flood warning time is available to safely remove the vehicle before hazardous conditions are reached (time to inundation and exceedance of hazard rating H1 conditions) in an event greater than the defined flood event.

7.2 Flood Risk Analysis

The defined flood event for the development is a 1%AEP:

The data for the hazard category, flood depth and flood velocity was obtained from the following floods studies and the outcomes presented in the section 7.3, 7.4 and 7.5 respectively:

- Flagstone and Sandy Creeks Flood Study 2025
- Logan and Alberts River Flood Study 2023

Based on the data available and the guidelines outlined in section 7.1 the Hazard Category is H1, flood depth is <0.3m and the velocity is <1m/s. Therefore the flood risk is deemed acceptable for the development.

7.3 Hazard Category

The hazard category for the development is H1 and is based 1%AEP. Refer to Figure 7-1 and 7-2 for the respective flood models.

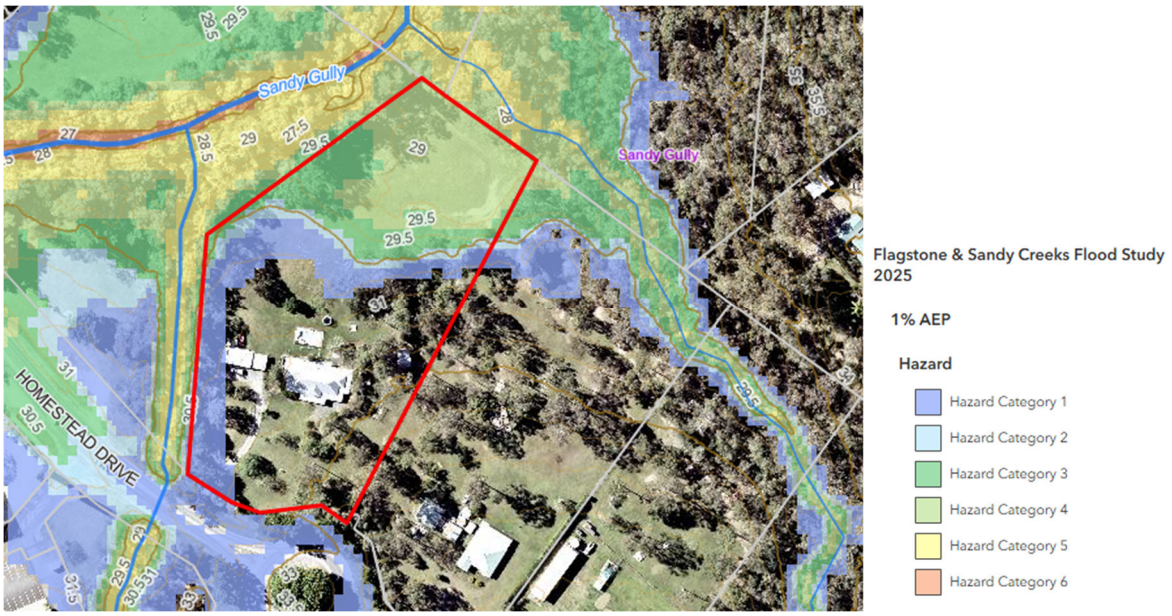


Figure 7-1: Hazard Category (Flagstone and Sandy Creeks Flood Study 2025)

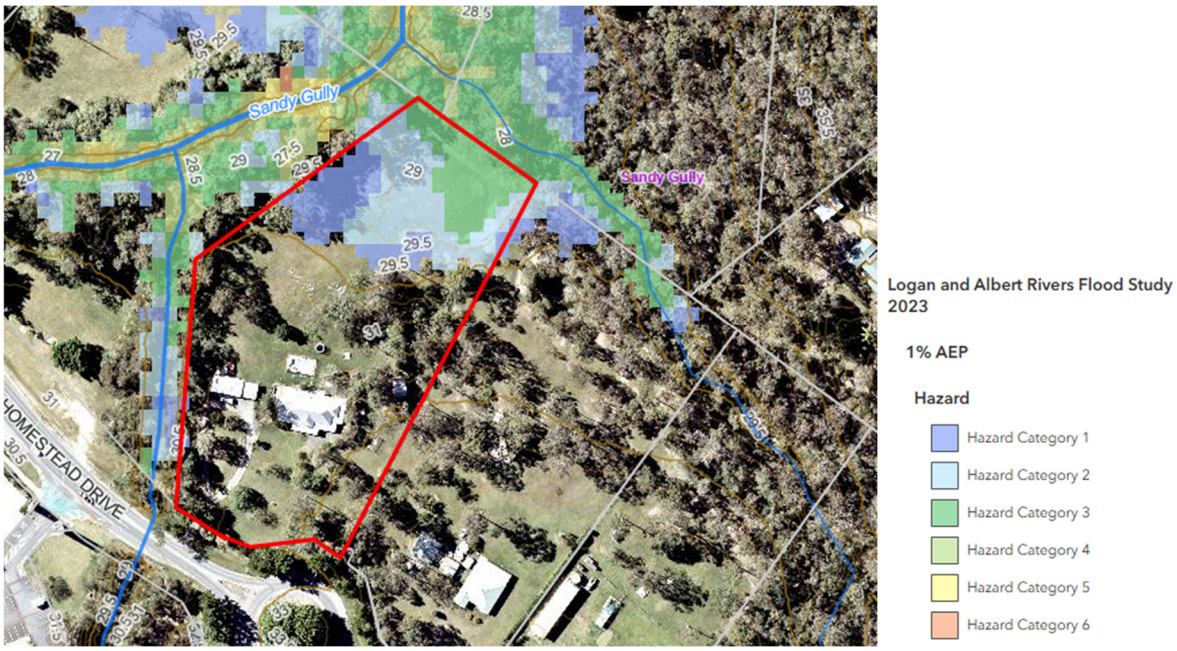


Figure 7-2: Hazard Category (Logan and Albert Rivers Flood Study 2023)

7.4 Flood Depth

The flood depth for the affected area for the development is between 0m and 0.3m and is based 1%AEP. Refer to Figure 7-3 and 7-4 for the respective flood models.

Figure 7-3: Flood Depth (Flagstone and Sandy Creeks Flood Study 2025)

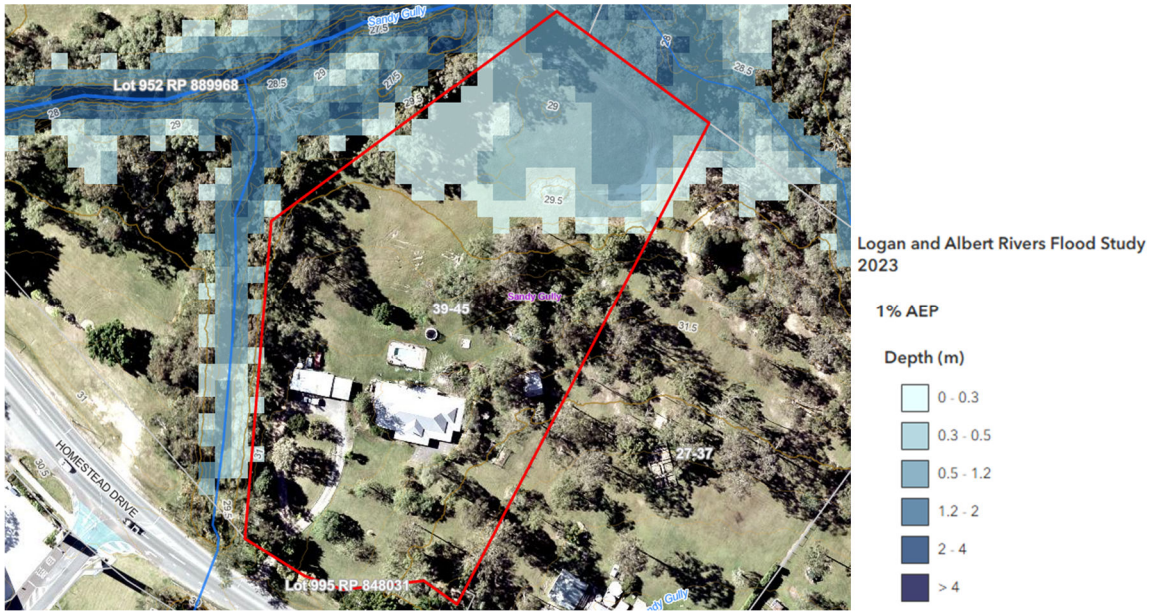


Figure 7-4: Flood Depth (Logan and Albert Rivers Flood Study 2023)

7.5 Flood Velocity

The flood velocity for the affected area of the development is between 0m/s and 1m/s and is based 1%AEP. Refer to Figure 7-5 and 7-6 for the respective flood models.

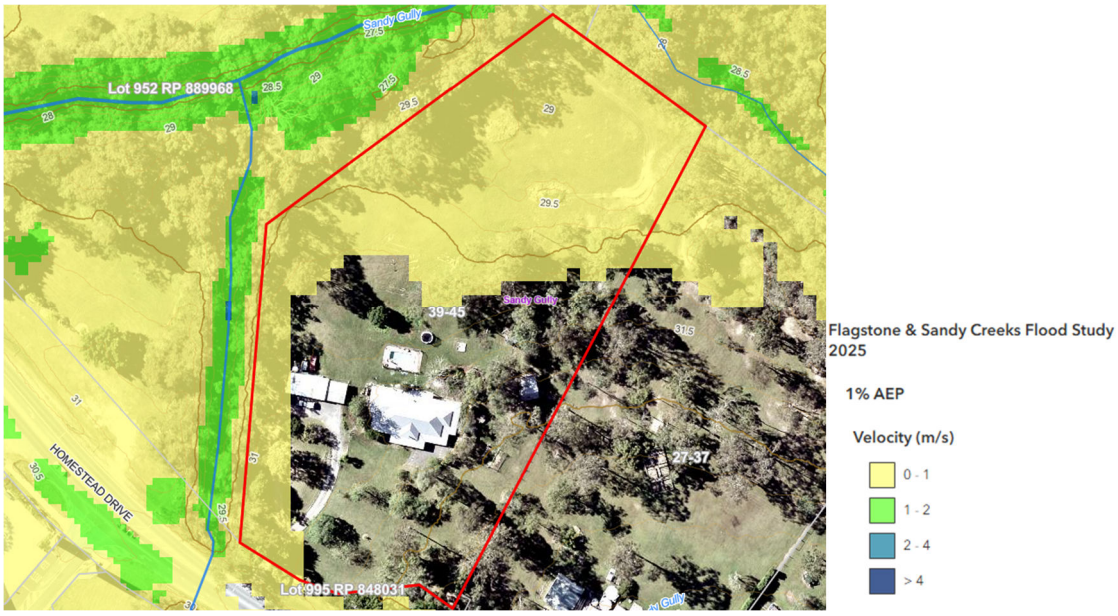


Figure 7-5: Flood Velocity (Flagstone and Sandy Creeks Flood Study 2025)

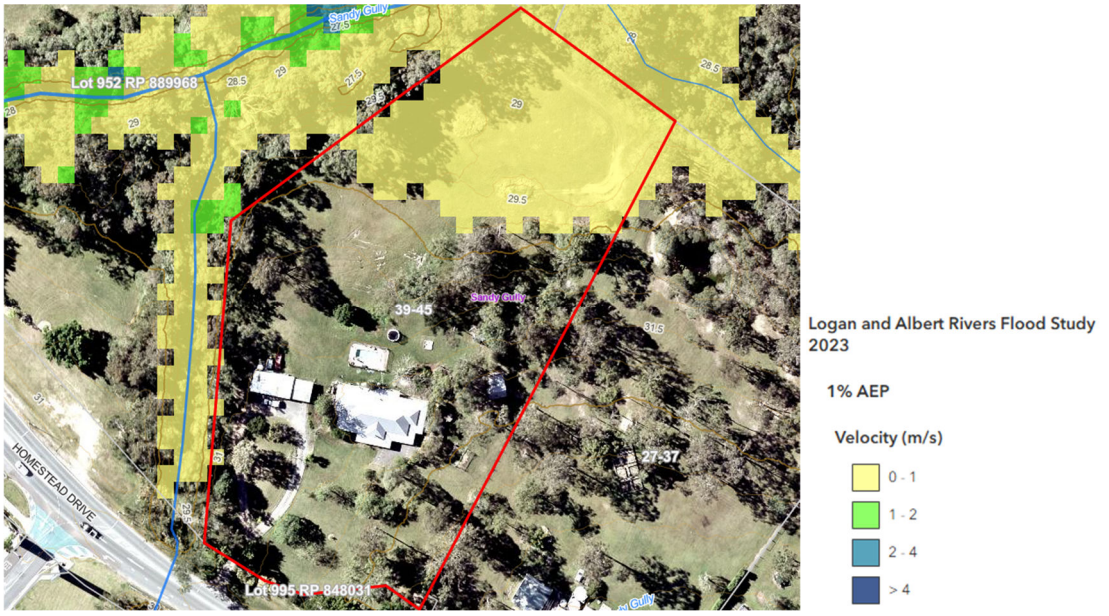


Figure 7-6: Flood Velocity (Logan and Albert Rivers Flood Study 2023)

8.0 Conclusion

This assessment adheres to all relevant guidelines outlined in the Logan Planning Scheme V9.2 2015 (effective date 01 Jul 2025, latest at time of assessment), the Queensland Urban Drainage Manual Fourth Edition 2016 (QUDM), Australian Rainfall and Runoff 2019 (ARR), Healthy Land and Water - Water by Design, and the International Erosion Control Association (Australasia) – “Best Practice Erosion and Sediment Control – for buildings and construction sites” and the State Planning Policy 2017.

A simplistic approach has been taken for concept design purposes. Confirmation and analysis of the stormwater drainage is required at the design stage once a detailed design can be established.

The stormwater quantity analysis results, and the stormwater quality maintenance and monitoring guidelines will ensure a compliant and effective solution for the proposed development.

Adopting the stormwater quantity analysis results, and the stormwater quality maintenance and monitoring guidelines will ensure a compliant and effective solution for the proposed development. All stormwater quantity and stormwater quality requirements are deemed to have been achieved in accordance with the relevant stormwater management objectives. This assessment supports the Development Application in accordance with all relevant guideline requirements with regards to stormwater quantity and -quality requirements.

A flood risk assessment was also undertaken to determine the associated flood risk, and the flood risk is within the requirements as outline in the development code applicable to the development.

9.0 Appendix List

Appendix A – Logan City Council Pre-Lodgement Meeting Minutes

Appendix B – Logan City Council Zoning and Precinct Maps

Appendix C – Logan Planning Scheme Property Report

Appendix D – Subdivision and Survey Layouts

Appendix E – Catchment Layouts

Appendix F – Logan City Council Property Flood Report and Map

Appendix G – Development Approval Drawings

Appendix H – Rational Method Calculations

Appendix I – BYDA Asset Register

Appendix A

Logan City Council Pre-Lodgement Meeting Minutes

PRE-LODGEMENT MEETING MINUTES

Meeting Date:	26 February 2025	**PLM Number**	PLM/32/2025
Meeting Time:	**2.15 pm**	**Room:**	Microsoft Teams

File Number:	1152306-1
Doc ID:	18291609/MAHERK:maherk
Property Address:	39-45 Homestead Drive, FLAGSTONE QLD 4280
Division:	Division Eleven
Property Description:	Lot 160 RP 848031
Existing Land Use:	Single Dwelling - Large Site
Development Applications over the property: ***(This is a list of all development applications made over the property extracted from Council's electronic records. Please note that not all of these applications may have been approved or enacted).***	There are no Development Applications over the subject site

Chairperson:	Tara Green – Planning Officer
Attendees (Council):	Lisa Heanue – Principal Planning Officer Stephen Matthews - Engineering Officer Raon Raja – Student Engineer
Attendees (Applicant):	Alexander Steffan – Town Planner Christian Zambelli – Architect Kazal Dewan – Owner/Prospective developer

DESCRIPTION OF PROPOSAL:

Proposed Health Care Service (200m2 of GFA)

KEY POINTS AND SUMMARY OF MINUTES

Council officers have critical concerns regarding the proposed development.

The proposed Health care service use is in direct conflict with the Rural residential zone code. As a peer review of the submitted economic needs report has not been undertaken, Council officers cannot determine if it would comply with the Strategic framework. Furthermore, Council officers have concerns with the economic needs assessment, particularly the exclusion of Jimboomba from the catchment area and the justification against planning need. On this basis, Council officers are unable to provide in-principle support.

The proposed development would also need to demonstrate compliance with technical requirements including car parking, acoustics, environment, and engineering. Refer to the reports and studies section for further details.

ADMINISTRATION:

Development Type:	Material change of use
Level of Assessment:	Impact assessable
Application Fees: **Please note** that the fees quoted are calculated using the *Register of Cost-Recovery Fees and Schedule of Commercial and Other Changes* and may be subject to increase at the start	Health care service (Impact) $15,283.00

of each new financial year.	
Fees for Infrastructure Agreement (where required) **Please note** that fees as per the Register of Cost-Recovery Fees and Schedule of Commercial and Other Changes, are payable for the preparation of Infrastructure Agreements, as well as for the amendment of existing Infrastructure Agreements. These fees are in addition to any legal fees that may be payable by the applicant for the drafting or amendment of Infrastructure Agreements as outlined in the terms of an Infrastructure Agreement.	$3,284.00 to prepare an Infrastructure Agreement (per Agreement) where required and not for vegetation clearing or stormwater quality. **Note:** • Fee is applicable for 2024/2025 financial year and will be adjusted each financial year. • Council does not currently charge for vegetation clearing or stormwater quality infrastructure agreements.
	$1,593.00 to amend an existing Infrastructure Agreement (per Agreement). Fee is applicable for 2024/2025 financial year and will be adjusted each financial year.
Eligibility for RiskSmart Assessment	No – Impact assessable

PLANNING:	
Zone:	Rural residential zone – Park living precinct
Overlays:	0201A (BIODIV) PRIMARY VEGETATION MANAGEMENT AREA 0201B (BIODIV) SECONDARY VEGETATION MANAGEMENT AREA 0202B (BIODIV) BIODIVERSITY CORRIDOR 0203F (BIODIV) LOCAL ENDANGERED REMNANT 0204B (BIODIV) MATTERS OF LOCAL ENVIRONMENTAL SIGNIFICANCE 0204C (BIODIV) MATTERS OF BOTH STATE AND LOCAL ENVIRONMENTAL SIGNIFICANCE 0301C (BH) MEDIUM BUSHFIRE HAZARD AREA 0301D (BH) IMPACT BUFFER BUSHFIRE HAZARD AREA 0501A (FLOOD TLPI 1-2023) HIGH RISK AREA 0501B (FLOOD TLPI 1-2023) MODERATE RISK AREA 0501C (FLOOD TLPI 1-2023) LOW RISK AREA 0801D (LH/SS) 15 PERCENT OR GREATER SLOPE HAZARD AREA 1000A RESIDENTIAL AREA0501D (FLOOD TLPI 1-2023) VERY LOW RISK AREA 1201B - LOCAL ROAD TRANSPORT NOISE CORRIDOR 1401C (WCW) MEDIUM WATERWAY AREA 1401D (WCW) MINOR WATERWAY AREA
Temporary Local Planning Instrument (TLPI)	Council's Temporary Local Planning Instrument TLPI No. 1/23 commenced on 30 October 2023.
Site Area:	15,000.00m2
Density / Lot size:	N/A
Car Parking Rate:	1 space per 10m² of GFA; plus 1 ambulance space
General Planning Layout:	N/A
Master Plan:	N/A
Referral Agencies:	SARA

INFRASTRUCTURE CHARGES:

Please note infrastructure charges may apply. Logan City Council has developed an online infrastructure estimator which allows customers to generate infrastructure charges estimates for proposed development. This calculator can be accessed on Council's website via the Planning & Development (PD) Online system.

By using the link below and following the steps you will be able to calculate the estimated infrastructure charges in accordance with Council's current charging instrument the Logan Charges Resolution.
Link: https://loganhub.com.au/infrastructure-charges-estimate

Please note:

- Infrastructure charges for developments in Logan are calculated in accordance with the Logan infrastructure charges resolution that applies at the date the development application is decided.
- Infrastructure charges are assessed during the development application's decision stage. The amount of the infrastructure charges would be calculated upon a proper assessment of the application.

If you have any specific infrastructure charging queries, please don't hesitate contact Council via the following address; ICUGeneral@logan.qld.gov.au

EXTRA PAYMENT CONDITIONS:

Please note development applications for development that is completely or partly outside of the Council's Priority Infrastructure Area may be subject to an extra payment condition.

Further information about extra payment conditions is contained in Council's Temporary Discount to an Extra Payment Condition Procedure (**Extra Payment Condition Procedure**) which is available on Council's website.

Whether or not an extra payment condition will be required will be determined during the assessment of a development application. The amount of an extra payment condition will be calculated upon a proper assessment of the application.

As set out in the Extra Payment Condition Procedure, where Council determines that an extra payment condition is required a discount to the infrastructure charges for the development may be available during a transitional period from 16 September 2024 to 15 September 2027. The method of calculating the discount and process for applying for the discount is set out in the Extra Payment Condition Procedure.

If you have any queries about extra payment conditions, please don't hesitate contact Council via the following address: ICUGeneral@logan.qld.gov.au

APPLICANT'S PRIORITY ITEMS FOR DISCUSSION		
ITEM (From Pre-Lodgement meeting request form)		**COUNCIL ADVICE (Provided with prior preparation)**
1	**Subject to impact assessment, could the proposed 200m2 Health Care Service be supported on the subject site? Note, all other infrastructure will be provided to the site where necessary (e.g. car parking, servicing, stormwater, noise attenuation**	**Proposal** The applicant is seeking to establish a Health care service within an existing dwelling at 39-45 Homestead Drive Flagstone. The subject site is located within the Park living precinct of the Rural Residential zone. **Level of Assessment** Under Tables of Assessment 5.5.13 (Rural residential zone) a Health care service is Impact Assessable under the Logan Planning Scheme 2015 v9.1 (LPS). Relevant assessment benchmarks include the following: • Part 3 Strategic framework • 6.2.13 Rural residential zone code • 9.3.3 Health care service code • 9.4.2 Filling and excavation code • 9.4.3 Infrastructure code • 9.4.4 Landscape code • 9.4.7 Servicing, access and parking code • Any applicable overlay codes **Assessment Benchmarks** **Rural residential zone code** *Land Use* Acceptable Outcome (AO) 1 / Performance Outcome (PO) 1 of the Rural residential zone code stipulates that proposed land uses are consistent with the Overall Outcomes of the zone. The Overall Outcomes for the Rural residential use zone (section 6.2.13.2(3)(d)(i)) does not include Health care service as an intended use within the Park living precinct. Therefore, the proposal does not comply with AO1/PO1 and is referred to the Overall Outcomes and Purpose. The purpose of the Rural residential zone code, stipulates the following: 1. *The purpose of the Rural residential zone is to provide for residential uses and activities on large lots, including lots for which the local government has not provided infrastructure and services.* 2. *The local government purpose of the Rural residential zone code is to:* a. ***predominantly provide for Dwelling houses on larger lots**;* b. *provide for development in a **semi-rural, landscaped or bushland setting**;* c. *protect **rural residential amenity**.* The purpose of the Rural residential zone code is achieved through compliance with the following overall outcomes: a. *the design of the built form:* i. *responds to site characteristics, including the shape, frontage, size, orientation and slope;* ii. ***produces a built form that is compatible with the semi-rural, landscaped or bushland setting**;* iii. *provides that the semi-rural,*

landscaped or bushland setting predominates over the built form;

iv. *incorporates appropriate boundary clearances to protect and provide privacy for residents;*

v. *ensures it is easily and safely accessed;*

b. ***development protects amenity consistent with its location in the Rural residential zone or precinct and the surrounding area****;*

c. *development ensures that positive social and health impacts are enhanced and negative impacts are mitigated or avoided;*

f. *in the Park living precinct:*

i. ***land uses comprise Caretaker's accommodation, Dual occupancy (auxiliary unit), Dwelling house, Emergency services, Home-based business or Sales office****;*

ii. *development has a landscaped or* ***bushland setting****;*

The proposed development of a Health care services is inconsistent with the land uses envisaged to occur within the Rural residential zone. The proposed development does not meet the purpose of the Rural residential zone code which is to provide for residential uses and activities on large lots. Further, Council officers have concerns with the development's compliance with the abovementioned Overall outcomes, in particular the development's potential impact on the rural residential character and amenity which is required to be protected.

Council officers acknowledge that the use is proposed within the existing Dwelling house on the premises; however, officers consider that the car parking area and associated extent of pavement would not be consistent with the intended bushland setting. Whilst landscaping may aid in addressing the required bushland setting, it cannot be exclusively relied upon to demonstrate compliance.

Furthermore, Council officers would not be supportive of façade works being undertaken to the existing dwelling house that would result in a commercial built form.

Amenity

Acceptable Outcome (AO) 7 / Performance Outcome (PO) 7 of the Rural residential zone code requires that the proposed development protects the intended amenity for the Park living precinct of the Rural residential zone. AO3 requires the development to comply with the emissions standards of the Planning scheme policy 3 - Environmental management. Refer to the Reports and Studies section of the minutes for more details. Council officers have concerns regarding the potential impacts the noise, light and odour emissions associated with the proposed land use would have on the amenity of rural residential development surrounding the site.

Health care service code

Scale

AO3 states that a Health care service:

- is not a Pharmacotherapy clinic;
- has a maximum gross floor area of 200m²; and
- is not within 800 metres of another Health care service.

The submitted information states that the proposal will have a maximum GFA of 200m²; however, it will be located within 800 metres of multiple Health care services within the Flagstone Shopping Centre.

As noted in the Strategic framework assessment below, an economic, community, and planning needs assessment will be required which supports the proposed development being undertaken on the subject site. Refer to the 'New and expanded centres' theme for further details.

Hours of Operation
AO4.1 states that hours of operation are limited to:

- 8:00am to 6:00pm Monday to Friday;
- 8.00am to 12:00pm Saturday;
- not occur on Sundays or public holidays.

The proposal seeks to operate from 7am to 7pm, Monday to Sundays and therefore does not comply with any of the above.

The corresponding PO4 states that "a Health care service results in noise emissions that are consistent with the residential amenity of the area".

An acoustic report will be required to address PO4, in addition to the amenity requirements of the zone code. Refer to the Reports and Studies section for further details.

Landscaping
AO5 states that development must provide:

- a minimum 2 metre wide landscape strip for trees, shrubs and groundcovers along the primary street frontage and where adjoining public open space;
- a minimum 1 metre wide landscape strip for buffer planting along side and rear boundaries where adjoining residential premises.

If an application is lodged, Council officers would expect a landscape strip along the frontage of the site in accordance with AO5. Consideration should also be had to the side and rear boundaries, particularly the eastern side boundary.

Service access and parking code
Car Parking
Acceptable outcome (AO)1 of the Servicing, access and parking code stipulates that development provides vehicle parking in accordance with Table 9.4.7.3.2 – Vehicle parking and servicing.

A rate of 1 space per 10m² plus 1 ambulance space is required. The indicative plans of development do not notate where the proposed car parking is to be located.

The design and layout of the proposed parking should address Amenity requirements discussed above to protect the amenity of the Park living precinct of the Rural residential zone.

Infrastructure code
On-site Servicing
Council's Plumbing and Drainage team have advised that on-site servicing may be supported. If an application is lodged, an on-site effluent disposal report would need to be included in the lodgement material.

In the event that the proposed development needs to connect to

Council's reticulated network, refer to the Reports and Studies section below.

Strategic Framework

The Strategic Framework in Part 3 of the Logan Planning Scheme 2015 outlines the direction of policies for the Planning Scheme and ensures appropriate development occurs. The Strategic Framework contains eleven themes that represent the policy intent and are as follows:

(i) settlement pattern;
(ii) residential;
(iii) **centres;**
(iv) employment;
(v) community;
(vi) rural;
(vii) natural environment;
(viii) natural hazards;
(ix) design, place making and amenity;
(x) transport;
(xi) infrastructure.

The proposed development will need to demonstrate compliance with the specific outcomes of the Strategic Framework. Specifically, the proposal is required to address sections relating to Centres and Design, place making and amenity.

New and expanded centres

Section 3.5.8.1 provides the Specific outcomes relating to New and expanded centre activities. A Health care service is identified as a Centre activity within all designations within the Centre hierarchy.

Section 3.5.8.1 stipulates the following:

Centre activities, other than an Accommodation activity, must be:

a. located in a centre unless:
i. ***there is community need and economic need for the use****;*
ii. the use is of a ***scale*** *compatible with its role and function in the centre hierarchy;*
iii. the ***use does not have unacceptable adverse effects on any existing or planned centre****;*
iv. the use:
A. ***cannot be located in a principal centre, major centre, district centre, local centre or neighbourhood centre****;*
B. is located in the Specialised centre zone, or in an employment area where it cannot be located in a specialised centre; or
C. ***has a specific locational need*** *requiring its location outside a centre and the use is located in accordance with the specific locational need;*
v. where in the Emerging community zone:
A. a new district centre is separated by a minimum of 1 kilometre to an existing, planned or approved neighbourhood centre or a minimum of 2 kilometres to an existing, planned or approved local centre, or a minimum of 5 kilometres to an existing, planned or approved district centre, major centre

or principal centre; or

B. a new local centre is separated by a minimum of 1 kilometre to an existing, planned or approved neighbourhood centre or a minimum of 2 kilometres to an existing, planned or approved local centre, district centre, major centre or principal centre; or

C. a new neighbourhood centre is separated by a minimum of 1 kilometre to an existing, planned or approved neighbourhood centre, local centre, district centre, major centre or principal centre;

b. consistent with the intent of the centre;

c. at a scale compatible with the role and function of the centre in the centre hierarchy being:

i. a principal centre, which is a dominant centre in Logan and services a main trade area over 100,000 people;

ii. a major centre, which is subordinate to a principal centre and services a main trade area of approximately 40,000 to 50,000 people;

iii. a district centre, which is subordinate to a principal centre and major centre and services a main trade area of approximately 15,000 to 20,000 people;

iv. a local centre, which is subordinate to a principal centre, major centre and district centre and services a main trade area of approximately 8,000 to 10,000 people;

v. *a neighbourhood centre, which is subordinate to a principal centre, major centre, district centre and local centre and services a main trade area of approximately 3,000 to 4,000 people*.

The subject site is not located within the centre zone. As such, the applicant will be required to demonstrate there is sufficient justification for the use to be located outside of a Centre. The applicant would be required to submit to a Council an economic, community and planning need and impact assessment demonstrating that an overriding need exists for the development in this location, and that it is responding to local community needs. This should include demonstrating a planning need for why the Health care services must be located on the subject site in lieu of on more suitably zoned land in immediate proximity of the site.

This assessment would be required in accordance with Schedule 6.2.2 Planning Scheme Policy 2 – Economic Need and Impact Assessment. Table 2.1.2.1 outlines the information and justification required. The purpose of the report is to:

- Demonstrate that there is community, economic and planning need for the development;
- Demonstrate that the development is of an appropriate size;
- Identify and address the economic impacts associated with the development and the effects on existing and designated centres as well as existing Health care services in the locality;
- Demonstrate that there are no other appropriately zoned sites available in the surrounding area that could

accommodate the proposed development.

PSP - 2 provides further details on the information required to address the above points. Please note, any report provided will be peer reviewed by Council as part of the DA.

Considering the existing and approved Health care services in the surrounding area, Council officers do not consider that a significant need exists to warrant the proposed establishment of the Health care services in this location. In this regard, Council officers do not consider that there is a locational need requiring the establishment of the Health care services outside of a designated centre zoned site and that sufficient opportunities exist to locate the use within a Centre.

Ultimately, Council officers do not consider that there is additional need for a Health care service at the subject site considering existing uses and current approvals in the surrounding area. Therefore, the proposal is not supported.

Council officers note that an economic needs assessment has been submitted part of pre-lodgement meeting material. A peer review of the submitted report has not been undertaken. If an application is lodged, a peer review of the report would occur as part of the application assessment process.

Notwithstanding the above, Council officers have undertaken a preliminary review of the report and have concerns, as outlined below:

- Main Service Area (MSA) – the nominated MSA is a 5km radius around the subject site. The existing Jimboomba centre is located just outside the MS, approximately 6km from the subject site. As shown in the report, there are several existing Health care services in Jimboomba, including but not limited to the following:
  - Vigor Physio and Health – 43-45 Johanna Street
  - Jimboomba Pharmacy Medical Centre – 109-111 Brisbane Street
  - Bloom Hearing Specialists – 109-111 Brisbane Street
  - Jimboomba Junction Family Practice and Skin Cancer Clinic – 32-671 Cusack Lane
  - Bite Right Orthodontics Jimboomba – 32 Mount Lindesay Highway
  - Jimboomba Medical Centre (Medicross) – 133 Brisbane Street
  - Jimboomba Medical Centre – 1-69 Cerina Circuit

  Jimboomba is approximately a ~10 minute drive from the subject site and broader Flagstone area. Looking at ABS Census Date (Flagstone (East) – Riverbend, SA2), 40.6% of dwellings have 2 motor vehicles and 40.2% have 3 or more vehicles. This is above the state average of 37.5% and 20%, respectively. As such, it is reasonable to expect that residents would travel ~10 minutes by vehicle to Jimboomba to access health care services.

  Furthermore, as noted in the report, there is a post-COVID trend of telehealth appointments which may impact how people access health care.

  The report states that there is an undersupply of 12 general practitioners in the MSA which may be influenced by Jimboomba being included in the MSA.

  Council officers are of the opinion that the existing and approved Health care services within Jimboomba should form part of any economic need and impact

assessment.

- Planning Need – Further to the above, Council officers note that there is suitably zoned Centre land in Jimboomba which could accommodate the proposed Health care service.
  As noted in the report, the existing Flagstone Shopping Centre opposite the site already accommodates other Health care services. Council officers could not see justification as to why the proposal could not be located in a tenancy in the Shopping Centre.
  The report states that the use could not be located in the PDA as 'ownership of this land is tightly held'. Council officers do not consider that this prejudices the PDA from being able to accommodate a Health care service to cater for demand in the area.

Relevant Matters

The proposal conflicts with the Planning Scheme as a whole and as such relevant matters, in accordance with the *Planning Act 2016* (PA16), would need to be demonstrated for the proposed development. The applicant needs to demonstrate any relevant matter excluding a person's personal circumstances, financial or otherwise, that Council should have regard to in its assessment of the proposed development. Examples of relevant matters, as provided by the PA16 include, but are not limited to:

- a planning need;
- the current relevance of the assessment benchmarks in the light of changed circumstances; and
- whether assessment benchmarks or other prescribed matters were based on material errors.

Council officers do not consider there to be any relevant matters that would warrant, after a balance assessment, support for the proposal. Council officers do not support the proposed development.

Public Notification

The applicant is advised that being Impact assessable, the application is to be publicly notified for a period of 15 business days. During this time, members of the public may make submissions in support/objection to the proposal. Furthermore, any properly made submission are entitled to third party appeal rights. The standard risks associated with this process should also be considered.

Summary

Council officers have critical concerns regarding the proposed development.

The proposed Health care service use is in direct conflict with the Rural residential zone code. As a peer review of the submitted economic needs report has not been undertaken, Council officers cannot determine if it would comply with the Strategic framework. Furthermore, Council officers have concerns with the economic needs assessment, particularly the exclusion of Jimboomba from the catchment area and the justification against planning need. On this basis, Council officers are unable to provide in-principle support.

The proposed development would also need to demonstrate compliance with technical requirements including car parking, acoustics, environment, and engineering. Refer to the reports and studies section for further details.

	Author Name and Date: Puru Varsani and Tara Green 25/02/2025	
2	**2. What additional supporting documentation will Council require as part of the development application?**	Refer to 'Reports and studies' section.
	Author Name and Date: Puru Varsani 25/02/2025	
3	**3. Will this development attract infrastructure charges above the adopted resolution amount?**	**Infrastructure Charges for Proposed Development** According to the current version of the Logan Charges Resolution (Logan Charges Resolution (No.11) 2023), the adopted charge for a Health care service use is: 1. $155.40 for each square metre of gross floor area 2. $11.10 for each square metre impervious to stormwater (Impervious Area) Note, Health care service and gross floor area are defined under the Planning Regulation, and Impervious Area is defined under schedule 1 of the Logan Charges Resolution. A discount will be applied for the existing lawful use (i.e. Dwelling - 3 or more bedrooms to the value of $31,080.00 for each lot). As the proposed gross floor area are to be confirmed at the assessment state, we are unable to provide an estimate at this stage. To work out the charge for the proposal, please use this equation: Adopted Charge – Discount = Payable However, the Infrastructure charge for 200 m^2 Health care service at 39-45 Homestead Drive FLAGSTONE is zero as the discount of Dwelling with 3 or more bedrooms would cancel out the charges. Noted that there would be no charges for Impervious area at this stage as the site is not within the stormwater catchment area.
	Author Name and Date: Mahshid Davaloukhongar 19/02/2025	
4	**4. Does Council have any other further comments relating to the proposed development or the supporting economic needs analysis?**	Refer to question 1 'New and expanded centres'
	Author Name and Date: Puru Varsani 25/02/2025	
ITEM (Raised during the meeting)		**COUNCIL ADVICE (Provided without prior preparation)**
1		
2		
3		

REPORTS AND STUDIES	**COUNCIL COMMENTS**

ENGINEERING:	
☒ Geotechnical Report	The site is subject to the Landslide Hazard and Steep Slope Area Overlay. A site-specific geotechnical report will be required which is prepared in accordance with section 2.2.6 of Planning Scheme Policy 5 – Infrastructure. The report must be signed by an RPEQ specialising in geotechnical engineering and must address the following: • Suitability of the proposed development based on the existing geotechnical conditions; • Identify all risk mitigation measures to ensure the development remains geologically stable in the long term.
Author Name and Date: SWM 14/2/2025	
☒ Concept Earthworks /Retaining Walls Plan	Conceptual earthworks plan will be required to demonstrate how the development will comply with section 3.3 of Planning Scheme Policy 5 – Infrastructure. The plans must show the location of any proposed cut/fill, proposed batter slopes (max. 1:4) and the location and height of any proposed retaining structures (max 3m including a 1m terrace for every 1.5m in height). Consideration is to be given to existing retaining walls on external boundaries to ensure they are not adversely impacted, and cross sections provided to demonstrate the total height.
Author Name and Date: SWM 14/2/2025	
☐ Capacity Analysis - Infrastructure (Water and Sewer):	*<u>Advice Note:</u> Council's Plumbing and Drainage team have advised that on-site servicing may be supported, subject to an on-site effluent disposal report being provided as part of any development application. The following advice has been provided in the event that the proposal is required to connect to Council's reticulated sewer network.* No Council sewer service is available to the lot. The applicant is to demonstrate sewerage servicing strategy making connection to Council's existing sewer system. There are no readily available means to connect. There is no sewerage service corridor within Homestead Road. A sewer within Homestead Road would not be supported.
Author Name and Date: Sarah He 24/02/2025	
☒ Stormwater Quantity Management Report	**Stormwater Management Plan** A concept site-based Stormwater Management Plan will be required to be submitted which demonstrates how the development will achieve the principal of 'no worsening' in accordance with section 3.6 of Planning Scheme Policy 5 – Infrastructure and demonstrates how stormwater can be conveyed to a lawful point of discharge. A conceptual layout plan will be required showing any proposed inter-allotment drainage, road drainage and details of how flows from upstream catchment will be conveyed through the site to the lawful point of discharge. Where flows pass through an adjoining property to reach the lawful point of discharge, downstream property owner's consent will be required along with an easement over the flow path. **Underground Tanks**

	Underground tanks are permitted for detention purposes **Detention Basins** Basins are to be designed generally in accordance with section 3.6 of Planning Scheme Policy 5 and are to provide the following: • Max. batter slope 1:4, • Access ramp max. slope 1:6 and straight alignment from road • Max. Q20 Depth 1.2m • Avoid the need for fencing • 3.0m wide embankment to access weir and outlet/s
Author Name and Date: SWM 14/2/2025	
☒ Stormwater Quality Management Plan	A Conceptual site based stormwater management plan or deemed to comply solution in accordance with *Planning Scheme Policy 5 – Infrastructure* will be required to demonstrate how the proposed development will achieve the stormwater quality design objective and the waterway stability design objective. Note the frequent flow management design objective is not required to be complied with. Also note that a monetary contribution for stormwater quality in lieu of on-site treatment is not applicable for this site as the waterway stability design objective applies (see 2.4.1.4 of PSP 5). As it will be a privately maintained system, a variety of WSUD measures such as rainwater tanks, stormwater harvesting for internal/external reuse and proprietary devices (those currently accepted by Council) etc. can be used as part of the treatment train to comply with the Stormwater Quality Design Objectives. Such measures will need to be included in the Stormwater Quality Management Plan and associated MUSIC model.
Author Name and Date: Anthony Wallis 21/02/2025	

TRAFFIC AND TRANSPORT:	
☒ Access & Manoeuvring:	**Driveway Crossover** The proposed driveway crossovers are to be a minimum of 6.0 metres wide and in accordance with IPWEA standard drawing IPWEA RSD-102, Industrial Crossing The access driveway and car parking area shall be constructed as a concrete pavement or a gravel pavement with asphalt concrete surfacing. **Parking** Car parking facilities are to be designed in accordance with AS2890.1: Parking facilities – Off street car parking and AS2890.2: Parking facilities – Off street commercial vehicle parking facilities. **Queuing** Queuing space is to be provided in accordance with Table 9.4.7.3.3 of the Servicing, Access and Parking Code. For the purpose of calculating queue length each car length is 6.0m and the queue distance is measured from the boundary of the premises to the first available parking space.

	Manoeuvring on site The design vehicle for the proposed use is a SRV in accordance with Table 9.4.7.3.5 of the Servicing Access and Parking Code. Provide swept path diagrams to demonstrate that the design vehicle can manoeuvre within the site including entering and exiting in a forward gear. Allocation for an ambulance area is required. **Refuse Collection** Planning Scheme Policy 9 – **Waste Management** The waste collection system is to achieve the following outcomes: a. the waste, recycling and optional green waste bin storage area is to be located in a position that is convenient for both users and waste collection staff; b. the layout of the waste and recycling storage area is to be designed to encourage easy recycling and separation of different waste types and reduce contamination; c. the location, design and operation of the bin storage and collection does not have unreasonable adverse acoustic, odour or visual impacts on the development, surrounding residential properties and the streetscape; d. the supply and servicing of wheeled bins, bulk bins or refuse compactors complies with the requirements of this planning scheme policy.
Author Name and Date: SWM 14/2/2025	
☐ Roadworks (Access Roads/Streets):	-
Author Name and Date: SWM 14/2/2025	
☒ Roadworks: (Collector/Arterial roads)	Homestead Drive is a classified as an Urban Arterial Dual Carriageway Road. At the time of writing there was no planning information for this road with respect to any proposed land resumption or frontage works requirements. The minimum reserve width required for an Urban Arterial Dual Carriageway Road is 34m. The existing road reserve width is approximately 30m. Land dedication may be required to achieve Council's ultimate standard. Given the road hierarchy and existing conditions along Homestead Drive, the access arrangement is to be restricted to left-in/left out only. Ensure the access arrangement is located with sufficient separation from the adjacent Homestead Drive/Bushman Drive roundabout. The separation requirements should be included within the Traffic Impact Assessment.
Author Name and Date: EG and AS 10/02/2025	
☒ Traffic Report	**Traffic Impact Statement** Provide a **Traffic Impact Statement** (TIS) which includes the following: • Analysis of the operation of the accesses to the development including a turn warrant assessment. • Provide details of the sight distance provided at the site entrance(s) in accordance with AS2890.1 – Off Street Parking and Austroads Guide to Road Design – Part 4A – Unsignalised and Signalised Intersections.

	• A conceptual geometric layout of the access arrangements. • Detail the parking requirements (according to the LPS 2015 requirements) within the development and include turning templates for the largest vehicle movements into, out of and within the site. • All vehicles shall enter and exit the site in the forward direction. Servicing includes waste removal and furniture and goods loading/unloading and the TIS needs to demonstrate how such servicing is undertaken. • Professional opinion on the expected traffic impact based on a site observation during the expected critical peak hour and the analysis conducted. ***Further Advice:*** • The traffic impact statement submitted to Council must be certified by a suitably qualified Registered Professional Engineer of Queensland (RPEQ) specialising in traffic engineering. • Refer to Austroads Guide to Traffic Management Part 12: Traffic Impacts of development (2016).
Author Name and Date: EG and AS 10/02/2025	
☒ Parking Report	**Car Parking Report** Provide sufficient car parking spaces for the Health Care Service in accordance with Part 9 Development Codes – 9.4.7 Servicing, access and parking code Table 9.4.7.3.2 – Vehicle parking and servicing. If the proposal cannot provide sufficient car parking in accordance with the Servicing, access and parking code, the applicant will be required to provide to Council a car parking assessment report in accordance with Part 2 of the Planning scheme policy 5 – infrastructure and include the following: a) the specific nature of the development to be undertaken and the method of operation and all facilities proposed to be provided, this includes any areas that may be used for storage purposes; b) the maximum number of employees and contractors likely to be engaged on the premises; c) the maximum number of persons, other than employees and contractors, anticipated to attend the premises at any time; d) the hours of operation; e) the existing on-road parking situation and operating conditions of the road in the vicinity of the site; f) the anticipated demand for on-site loading by trucks and other delivery vehicles; g) the anticipated demand for bus, coach and taxi set down and parking; h) the likely use of other modes of transport or pedestrian access, and the frequency and proximity of existing public transport services; i) the assignment of development-generated traffic to the road network, and prediction of operating conditions within and without the proposed development for the appropriate design years; and j) If the car park site is lower than the DFE or coastal hazard level, information on the

	maximum depth of inundation and flow velocity for the DFE and the coastal hazard.
Author Name and Date: EG and AS 10/02/2025	

FLOODING:	
☐ Flooding - General	**General TLPI Flooding Advice** Council's Temporary Local Planning Instrument TLPI No. 1/23 commenced on 30 October 2023. Council's ePlan and interactive mapping have been updated and should be reviewed prior to lodgement of a development application or further requests for prelodgement meetings. The TLPI introduces a new flood map which considers the whole floodplain for the City of Logan, the likelihood of certain sized floods occurring and the resulting level of danger from each flood event. This information is presented in areas of flood risk – very low, low, moderate and high flood risk as well as high flow areas and high and low islands. In addition to the mapping, revised assessment benchmarks and a revised Planning Scheme policy have been adopted. The TLPI seeks to ensure: • development does not locate buildings or structures in a High Flow Area; • vulnerable uses are located outside of a Low flood risk area, Moderate flood risk area, High flood risk area and High flood islands and only within the Very Low flood risk area where appropriate measures are taken to ensure the buildings have immunity and suitable evacuation routes are provided; • essential community infrastructure activities are not located in the floodplain unless there is an overriding need, the building location, design and operations reduce the potential impacts of flooding and operations and access are maintained during and after a flood event; and • development including accommodation or residential activities, provides safe vehicle access to a low flood hazard road and road network that supports safe and efficient self-evacuation to a suitable flood-free area that contains local goods and services to serve the daily needs of people. The proposed site is within a low flood risk area. There are no requirements from a flood assessment perspective if development is located in this area. ***TLPI No.1/2024*** TLPI No.1/2024 will commence on 6 March 2025. TLPI No. 1/2023 will be repealed on the commencement date for TLPI No. 1/2024. Refer to our Fact Sheet (PDF 390KB) for further details.
Author Name and Date: HM 12/02/2025	
☐ Hydraulic report/Flood study	-
Author Name and Date: HM 12/02/2025	
☐ Earthworks in a Floodway	-
Author Name and Date: HM 12/02/2025	

ACID SULPHATE:	
☐ Acid Sulfate Soils Site Investigation Report and Management Plan	-
Author Name and Date: Anthony Wallis 21/02/2025	

EMISSIONS AND AMENITY:	
☒ Emissions (Noise, Air, Light, Radiation and Vibration)	**Acoustics** The proposed non-residential use is located in and adjoins a property located within the Rural residential zone. Given that the Rural residential zone code is an assessment benchmark for this development application, compliance with PO7/AO7 must be addressed regarding acoustic amenity. In order to achieve PO7/AO7, an acoustic report is required and must be submitted in support of the application. The acoustic assessment must be prepared to address *Table 3.2.1.1—Noise emission standards for the protection of residential amenity* in this instance. This report must be prepared by a suitability qualified individual and provide the following details; • Background noise monitoring; • Proposed hours of operation; • Modelling of any proposed noise emitting activities associated with the use; • Modelling of vehicular noise emissions on-site including access to and from the site and car parking areas; • Any areas of congregation or outdoor activities; • Inclusion of any mitigation measures required *Note: Any recommended acoustic mitigation measures that involve barriers must allow for movement of overland flow and flood waters without diminishing acoustic performance.* *Note:* *AO4.1 of the Health care service code does not allow for Sunday or public holiday operations or afternoon use on Saturday. As this is being proposed, the acoustic report has to clearly demonstrate that the use will be able to comply with the noise criteria outlined in Table 3.2.1.1—Noise emission standards for the protection of residential amenity.* An acoustic assessment must be prepared in accordance *with Planning Scheme Policy 3 – Environment*, the *Environmental Protection (Noise) Policy 2019* and the Department of Environment, Tourism, Science and Innovation's *Noise Measurement Manual (2020)*. **Lighting** With respect to lighting emissions, compliance with AO7 will be conditioned to ensure certification is provided prior to commencement of the use.
Author Name and Date: Anthony Wallis 21/02/2025	
☐ Reverse Amenity	-
Author Name and Date: Anthony Wallis 21/02/2025	

ENVIRONMENT:	
☒ Koala provisions – Schedule 10, Part 10, s16A of the *Planning Regulation 2017*	**IMPORTANT NOTICE – STATE GOVERNMENT KOALA PROTECTION AMENDMENTS** *On 7 February 2020 the Queensland Government made a major legislative change, the Nature Conservation and Other*

Legislation (Koala Protection) Amendment Regulation 2020. This reform applies to all development and development applications not properly made before 7 February 2020.

Advisory note: Advice provided is current at the date provided. It should be noted that the State may release mapping amendments at any time which could affect the advice provided below.

The subject site is affected by Koala Habitat Areas (KHA) as defined under the *Planning Regulation 2017*. For this reason, Schedule 10, Part 10 of the *Planning Regulation 2017* is relevant to this development application.

The current plan suggests that the proposal may constitute development interfering with koala habitat in Koala Habitat Areas outside Koala Priority Areas. An application is subject to assessment against Schedule 10, Part 10, Division 3 s16B and in accordance with Subdivision 3 Referral agency's assessment, Table 1 – Assessable development under s 16B, the application may require referral to the State Assessment Referral Agency (SARA).

The Applicant is urged to contact the State government on the below details and request further information:

- State Assessment and Referral Agency: South East Queensland (South) Gold Coast
- 07 5644 3210
- SEQSouthPlanning@dsdilgp.qld.gov.au

Any advice obtained from the State Assessment and Referral Agency must be provided to Council with lodgement of a development application.

The application material should clearly show the location of, and itemise from the definition of exempted development, any applicable clearing exemptions for Koala habitat areas under Schedule 24 of the *Planning Regulation 2017.* This itemised list should also include the area allocated to each applicable clearing exemption. It is noted that any proposed clearing for the purposes of 'essential management' for bushfire purposes as defined under Schedule 24 of the *Planning Regulation 2017* must be demonstrated to be <u>necessary</u> by a Bushfire Hazard Assessment and Management Plan.

Additionally, conceptual earthworks and civil plans must be included with lodgement material that demonstrates that no additional clearing will be required other than clearing that is identified as 'Exempted development', or 'Essential management'.

a. **Please note**: Council will not accept the dedication of any land which is subject to an environmental covenant for the purpose of protecting koala habitat areas and/or a land-based koala habitat offset. Should this be proposed by SARA the applicant is strongly recommended to request a meeting with SARA and Council prior to any referral

	agency response (decision) being issued. It should be noted that regardless of the presence of State mapping for Koala habitat areas, and any environmental offset obligation associated with these values, in accordance with Council's PSP3 - Environmental management, to be able to achieve a 'net gain' for AO2/PO2;AO3/PO3 of the Biodiversity areas overlay code an environmental offset is required to be provided for all matters of local significance which are identified on Biodiversity areas overlay map OM-02.01 and proposed to be cleared, regardless of any referral agency response.
Author Name and Date: David O'Connell 26/02/2025	
☒ Vegetation Clearing – Detailed Ecological Assessment Report and/or Environmental Offset Report	The subject site is mapped by, and development is proposed within, Council's Biodiversity areas overlay OM-2.01 as containing Primary and Secondary vegetation management areas. For this reason, the Biodiversity areas overlay code is an assessment benchmark for this application. Based on the proposed layout of the development, it is unlikely the retention of native vegetation will occur. A detailed ecological report is required where the Applicant seeks to achieve PO2 (a) (i) and an environmental offset report is required for to achieve a net gain under PO2 (a) (ii). Reporting must be prepared in accordance with Part 2 of *Planning Scheme Policy 3 – Environmental management*. Should a financial settlement offset be sought to reconcile the code, GIS data highlighting the area of proposed clearing must be provided to Council. A GIS shapefile must consider any exemptions that apply under Part 5 of the Logan Planning Scheme 2015 noting that these only apply to areas solely mapped by the Biodiversity areas overlay and does not apply to those areas which are also mapped by the Waterway corridors and wetlands overlay. An offset for areas mapped within the Primary vegetation management area must be calculated on a m^2 basis. Offsets for areas mapped as Secondary vegetation management area can be calculated on a per tree basis where native trees/native habitat trees exceed a density of 1 tree per $10m^2$. It should be noted that provision of an environmental offset will not reconcile other environmental matters including intrusion within mapped biodiversity corridors, disturbance of waterway and wetland buffers and intrusion within buffers to locally significant species and may not be supported.
Author Name and Date: David O'Connell 26/02/2025	
☒ Biodiversity Corridors/Koala Corridors/ Locally Significant Vegetation Area – Detailed Ecological Impact Assessment	The subject site is affected by, and development is proposed within, Council's OM-02.02 Biodiversity areas overlay mapping which identifies the biodiversity corridor network. For this reason, the Biodiversity areas overlay code is an assessment benchmark for this application. Should development encroach into the mapped extent of the corridor, a detailed ecological report is required to achieve PO1 of the Biodiversity areas overlay code. The report must

	demonstrate how development within a corridor is designed and located to: *a. provide for habitat links;* *b. facilitate safe wildlife movement;* *c. facilitate wildlife refuge;* *d. enhance habitat values;* *e. rehabilitate degraded areas with native vegetation.* The Applicant's detailed ecological assessment must also address AO/PO6 of the Biodiversity areas overlay code with regard to wildlife movement. Should a performance outcome against PO6 be sought, the detailed ecological assessment must provide measures to ensure safe fauna movement by: *b. generating minimal additional night time traffic;* *c. minimising the risk of injury or death to wildlife by vehicular traffic;* *d. incorporating practices or measures to minimise disruption, injury or death during construction;* *e. providing that a road or accessway has a low design speed;* *f. providing fauna-friendly fencing.*
Author Name and Date: David O'Connell 26/02/2025	
☒ Waterway Corridor and Wetlands – Detailed Ecological Assessment Report	Council notes the presence the Waterways corridor and wetlands overlay on the subject site. The proposed plans indicate that works will remain outside the mapped overlay. In accordance with s8.1.6 of the Logan Planning Scheme 2015, where development is proposed on premises partly affected by an overlay, the assessment benchmarks for assessable development and requirements for accepted development for the overlay only relate to the part of the premises affected by the overlay. Development located outside the mapped Waterways corridor and wetlands overlay will comply with AO1 of the Waterways corridor and wetlands overlay code. Should any future plans show development encroachment within the mapped waterway corridor and wetlands overlay a detailed ecological report which demonstrates compliance with the Waterways corridor and wetlands overlay code will be required.
Author Name and Date: David O'Connell 26/02/2025	
☒ Bushfire Hazard Areas – Bushfire Hazard Assessment and Bushfire Management Report	The subject site is affected by, and development is proposed within, Council's Bushfire hazard overlay map OM-03.00 and therefore the Bushfire hazard overlay code is an assessment benchmark for this application. Submit a bushfire hazard assessment prepared in accordance with *Planning Scheme Policy 6 – Management of Bushfire Hazard*. Should the bushfire hazard assessment identify a hazard rating above 'Low', a Bushfire Management Plan is required to be submitted. These assessments can be submitted as combined documents to demonstrate compliance with the overlay code. If a Bushfire Management Plan is required, it must provide the following details in accordance with S2.2.1 of PSP6: a. confirm bushfire hazard exposure;

	b. direct where on a site development should be located to minimise exposure for people, property and buildings to bushfire hazard; c. determine measures to be utilised to reduce bushfire hazard; d. determine measures to be utilised to mitigate any remaining bushfire hazard. Development protects people and premises from bushfire risk: • through allotment design and siting of development envelope areas and asset protection zones; • by providing vehicular access, fire maintenance trails and evacuation routes that are safe and facilitate easy way finding; • by providing an accessible water supply for firefighting purposes; • by ensuring the function of community infrastructure is not adversely impacted by bushfire; • by protecting personal health and safety and the environment from hazardous materials. o The applicant is advised that Asset Protection Zones (APZ) must be delivered on the subject site. Management, maintenance, and tenure arrangements for such APZs must be included within any Bushfire Management Plan. o Designs should avoid cul-de-sacs and gated communities. o Where the use is defined as community infrastructure it must not be located in a bushfire hazard area, or otherwise it must be able to function effectively during and immediately after a bushfire event. o Hazardous materials storage must be in compliance with AS1940 - The storage and handling of flammable and combustible liquids. o Hazardous materials manufacturing must not occur in a Bushfire hazard area on Bushfire hazard overlay map OM-03.00 unless an adequate Performance Outcome is proposed. A Bushfire hazard assessment should consider and be consistent with proposed rehabilitation of open space areas on site and should not be dependent on maintenance being undertaken by Council in any areas to be dedicated.
Author Name and Date: David O'Connell 26/02/2025	

PARKS/LANDSCAPING:	
☐ Park Provision	
Author Name and Date:	
☒ Concept Landscape Plan	To achieve compliance with the Landscape Code, a Landscape Concept Plan is required to be prepared by a Registered Landscape Architect recognised by the Australian Institute of Landscape Architects. The Landscape Concept Plan must be prepared in accordance with of PSP 5 – Infrastructure. The Concept Plan must address items (a)-(n) S2.2.4. of the *Policy* where applicable. Concept plans will indicate the location, size and function of the proposed landscape works. The following landscaping treatments/considerations may be

	required: • Shade trees to car parking – 1 tree per 2.5 car parks; • Street Tree planting located 2m from existing or proposed underground services; • Fencing locations and types; • Planting palettes including species lists and quantities; • Landscaping to road frontage setbacks and car parking setbacks to achieve the intent of landscape screening/improved amenity; • Existing vegetation / revegetation; • Stormwater basins design, landscape, safety, PSP 1 - CPTED, and maintenance access; • Location of required pathways and connections; • Landscape areas, that are subject to extended shade (less than six (6) hours direct sunlight), to have appropriate landscape treatment/s; • Address CPTED principles in accordance with PSP 1;
Author Name and Date: David O'Connell 26/02/2024	
☒ Landscape Site Analysis	-
Author Name and Date: David O'Connell 26/02/2024	

OTHER:	
☐ Does the proposed development incorporate inclusive opportunities for a variety of disabilities?	Logan City Council values and supports inclusive opportunities for persons with disabilities and encourages owners and developers to consider and exceed the National Construction Code's nominal access and facility requirements.

ACTION ITEMS: OUTSTANDING QUESTIONS/FOLLOW UP ITEMS			
ITEM		**RESPONSIBLE OFFICER:**	**ACTION BY DATE:**
1			
2			

Disclaimer:
A pre-lodgement meeting is a free service offered by Logan City Council where informal discussions take place between an applicant and Council's technical officers in regards to a proposed development based on plans, documents and technical information provided by the applicant at the time and date of the pre-lodgement meeting.

In lodging this request for a pre-lodgement meeting, the applicant accepts that:

- A pre-lodgement meeting does not constitute a detailed assessment and may not indicate the likely outcome of the subsequent assessment process.
- A pre-lodgement meeting may not identify all areas of concern or requirements which are raised during the subsequent assessment process.
- Advice will not prejudice any input relevant to public notification of the proposal or inputs from the referral agency.

Appendix B

Logan City Council Zoning and Precinct Maps

CITY OF LOGAN

Logan Planning Scheme 2015

Logan Planning Scheme 2015
Version 9.1
Zone map

City of Brisbane

City of Redland

City of Ipswich

City of Gold Coast

Scenic Rim Region

Zones

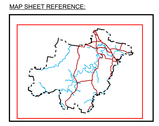
- Centre
- Community facilities
- Emerging community
- Environmental management and conservation
- Low density residential
- Low impact industry
- Low-medium density residential
- Medium density residential
- Medium impact industry
- Mixed use
- Priority development area
- Recreation and open space
- Rural
- Rural residential
- Special purpose
- Specialised centre
- Local plan boundary

Logan LGA boundary

1,500 Metres 0 1,500
Scale: 1:55,000 at A0 size

Map Projection : Universal Transverse Mercator
Horizontal Datum : Geocentric Datum of Australia 2020
Grid : Map Grid of Australia, Zone 56

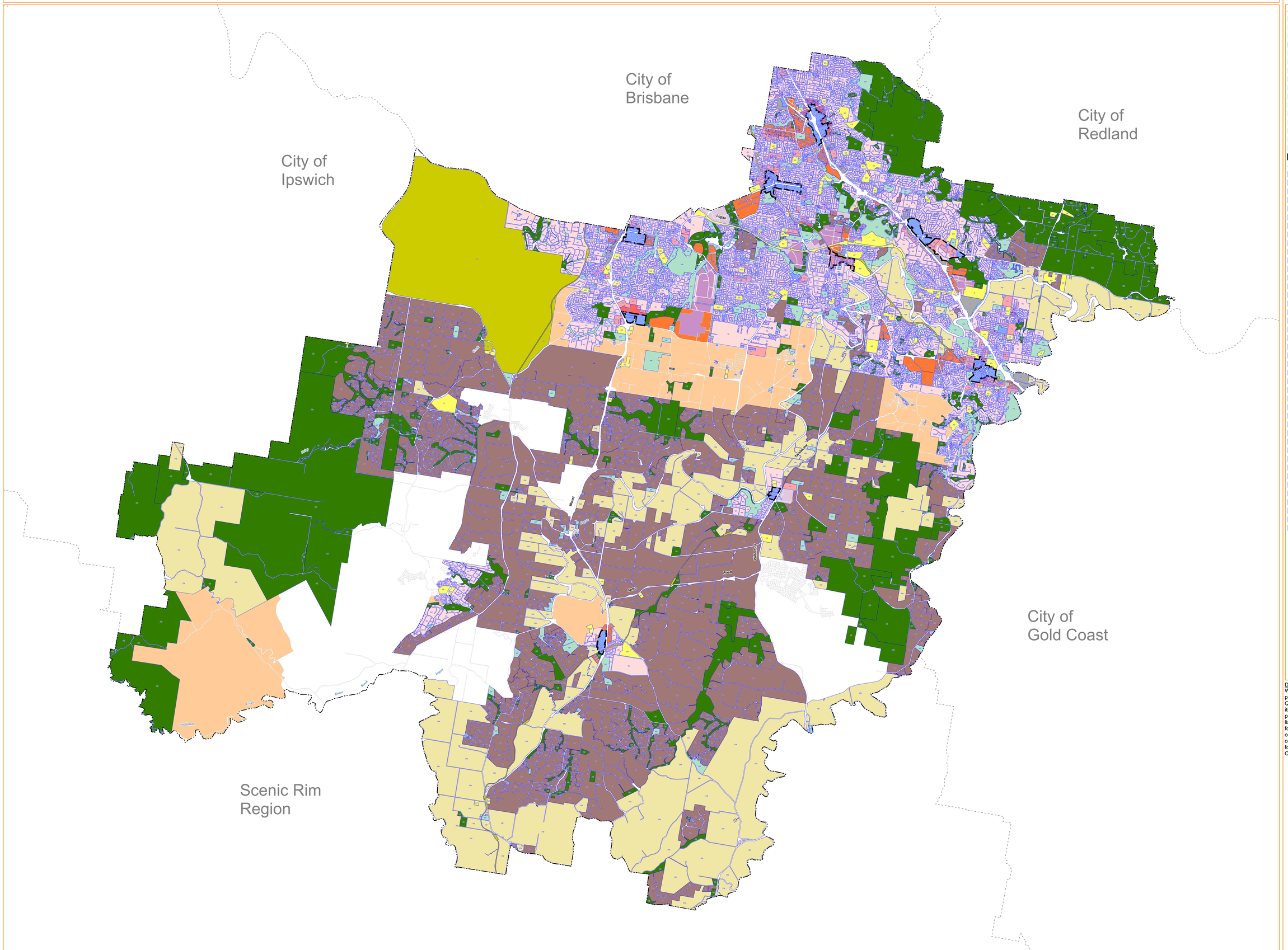
MAP SHEET REFERENCE:



Zone map
ZM-01.00

Logan Planning Scheme 2015

Logan Planning Scheme 2015
Version 9.1
Zoning and precincts map



Zones

- Centre
- Community facilities
- Emerging community
- Environmental management and conservation
- Low density residential
- Low impact industry
- Low-medium density residential
- Medium density residential
- Medium impact industry
- Mixed use
- Priority development area
- Recreation and open space
- Rural
- Rural residential
- Special purpose
- Specialised centre
- Local plan boundary

Zone Precincts

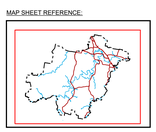
- AB - Abattoir
- AC - Acreage
- AP - Apartment
- AR - Albert River
- CB - Carbrook
- CO - Constrained Open Space
- CP - Community Purpose
- CR - Cottage Rural
- CS - Conservation
- DC - District Centre
- DL - Defence
- ED - Education
- EM - Environmental Management
- EP - Enterprise
- FM - Farming
- HB - Highway Business
- HR - High Rise
- IF - Infrastructure
- IN - Industry
- LC - Local Centre
- LI - Low Impact Office
- LP - (No precinct due to local plan)
- LR - Loganholme Tourism
- LS - Large Suburban
- MP - Major Parks
- MR - Medium Rise
- NC - Neighbourhood Centre
- OC - Old Chatswood Road
- PL - Park Living
- PR - Park Residential
- PS - Private Sport and Recreation
- RC - Retail and Commerce
- RE - Rural Environmental Management
- RL - Rail
- RP - Recreation Parks
- RT - Rural Tourism
- SA - Small Acreage
- SL - Small Lot
- SU - Suburban
- TH - Townhouse
- UB - Underwood Business
- VL - Village

Logan LGA boundary

Metres
1,000 0 1,500
Scale: 1:55,000 at A0 size

Map Projection : Universal Transverse Mercator
Horizontal Datum : Geocentric Datum of Australia 2020
Grid : Map Grid of Australia, Zone 56

MAP SHEET REFERENCE:



Zoning and precincts map
ZM-02.00

Appendix C

Logan Planning Scheme Property Report

CITY OF LOGAN

PROPERTY REPORT

PRINT

Property Details

Address:	39-45 Homestead Drive FLAGSTONE QLD 4280
Lot/Plan:	Lot 160 RP 848031
Property Key:	284183
Property Size:	15,000 m^2 (survey plan area)
Covenants and Easements:	Please view the survey plan to check if a covenant (CV) or easement (EA) applies to this property. Covenants and easements are rights or interests that may restrict usage of the land.
Division:	11 Mayor and Councillors

Planning Scheme Details

Planning Scheme:	Logan Planning Scheme 2015 V9.2 with TLPI 1/2024
Zone and Precinct:	Rural Residential - Park Living

CITY OF LOGAN

Local Plan: N/A

Local Plan Precinct: N/A

LEGEND

- Centre
- Community facilities
- Emerging community
- Environmental management and conservation
- Low density residential
- Low impact industry
- Low-medium density residential
- Medium density residential
- Medium impact industry
- Mixed use
- Priority development area
- Recreation and open space
- Rural
- Rural residential
- Special purpose
- Specialised centre

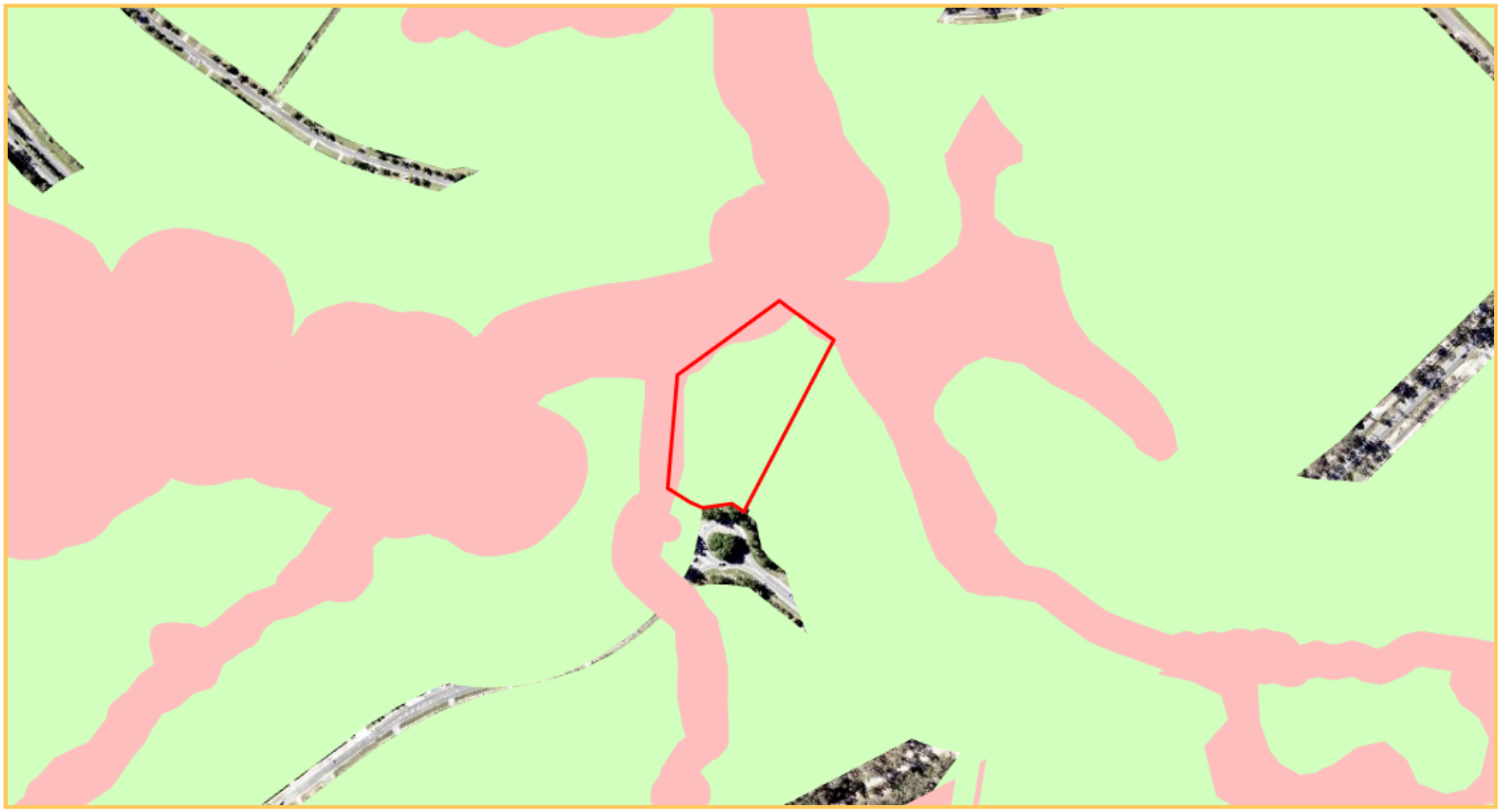
Overlays

Overlays mark areas where extra rules apply for land use and development due to natural hazards, like bushfire or flooding, or where we need to protect values like our biodiversity, heritage and waterways. They also help us manage health, safety and assets in areas near infrastructure like powerlines, transport corridors and water pipelines. To learn more please see Part 5 and Part 8 of Logan's Planning Scheme.

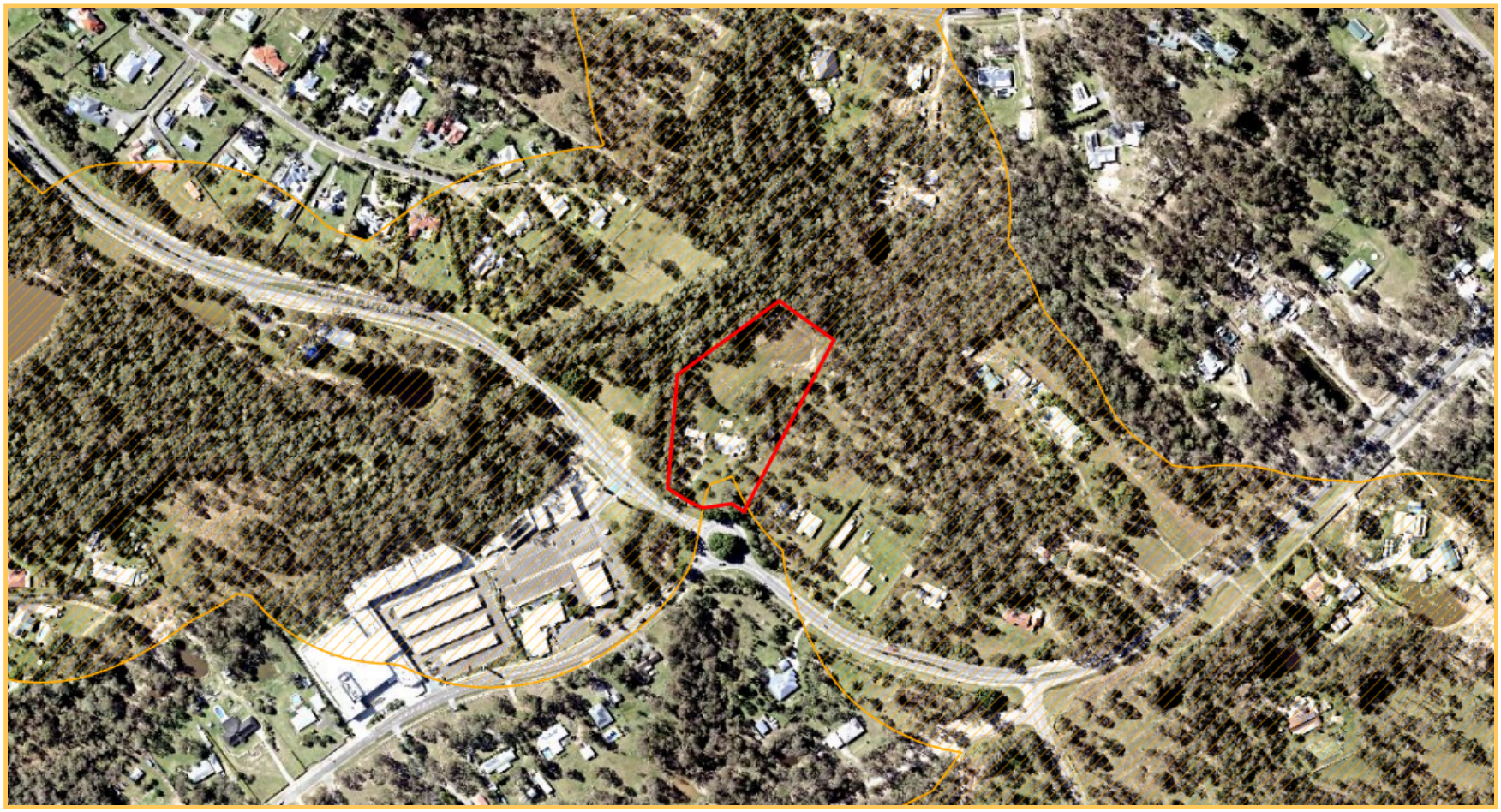
Refer to the map legend to understand the symbology on the overlay maps.

OM - 02.01 - Primary vegetation management area

OM - 02.01 - Secondary vegetation management area

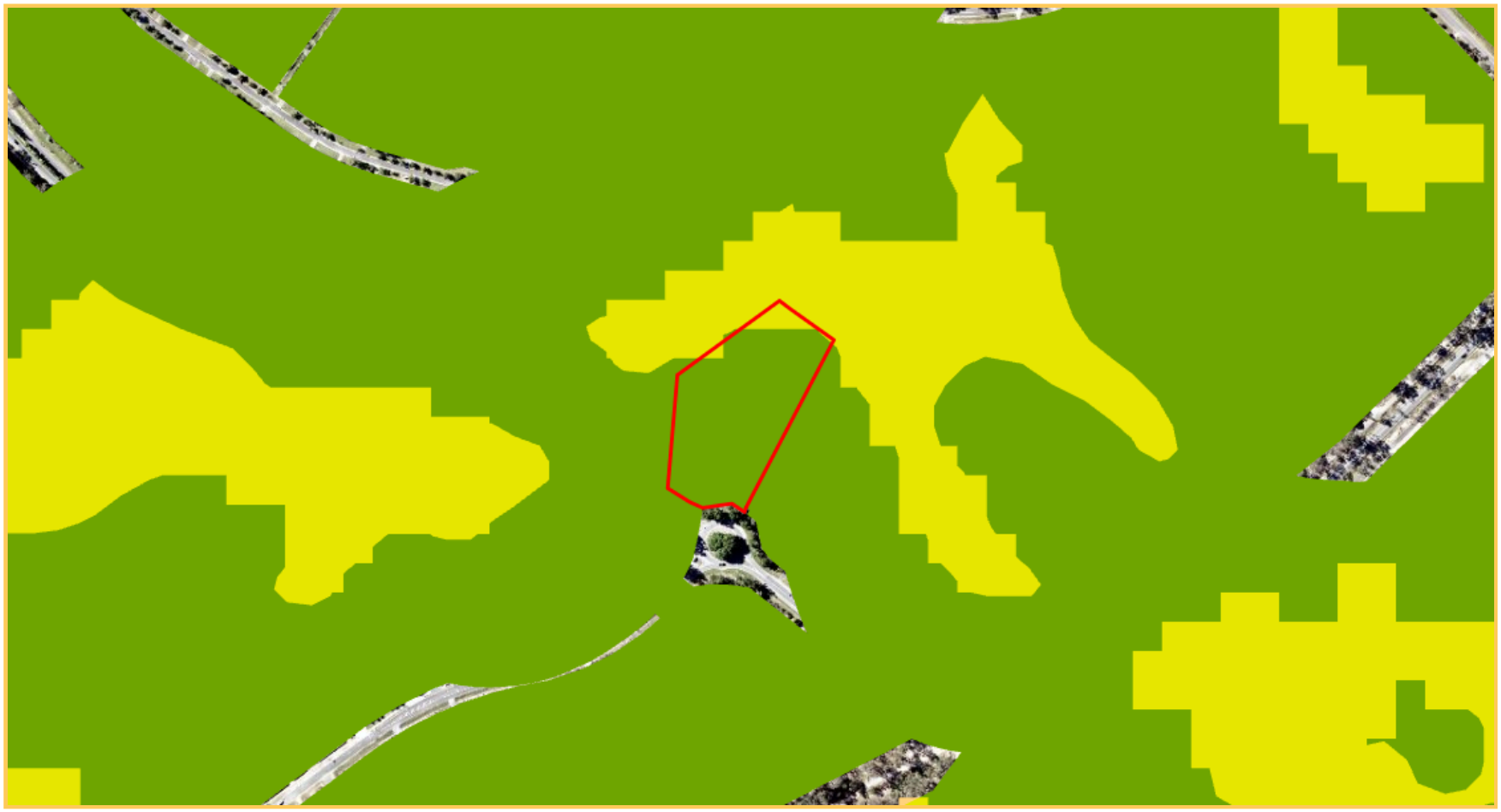


OM - 02.02 - Biodiversity corridor



OM - 02.03 - Locally significant remnant vegetation area

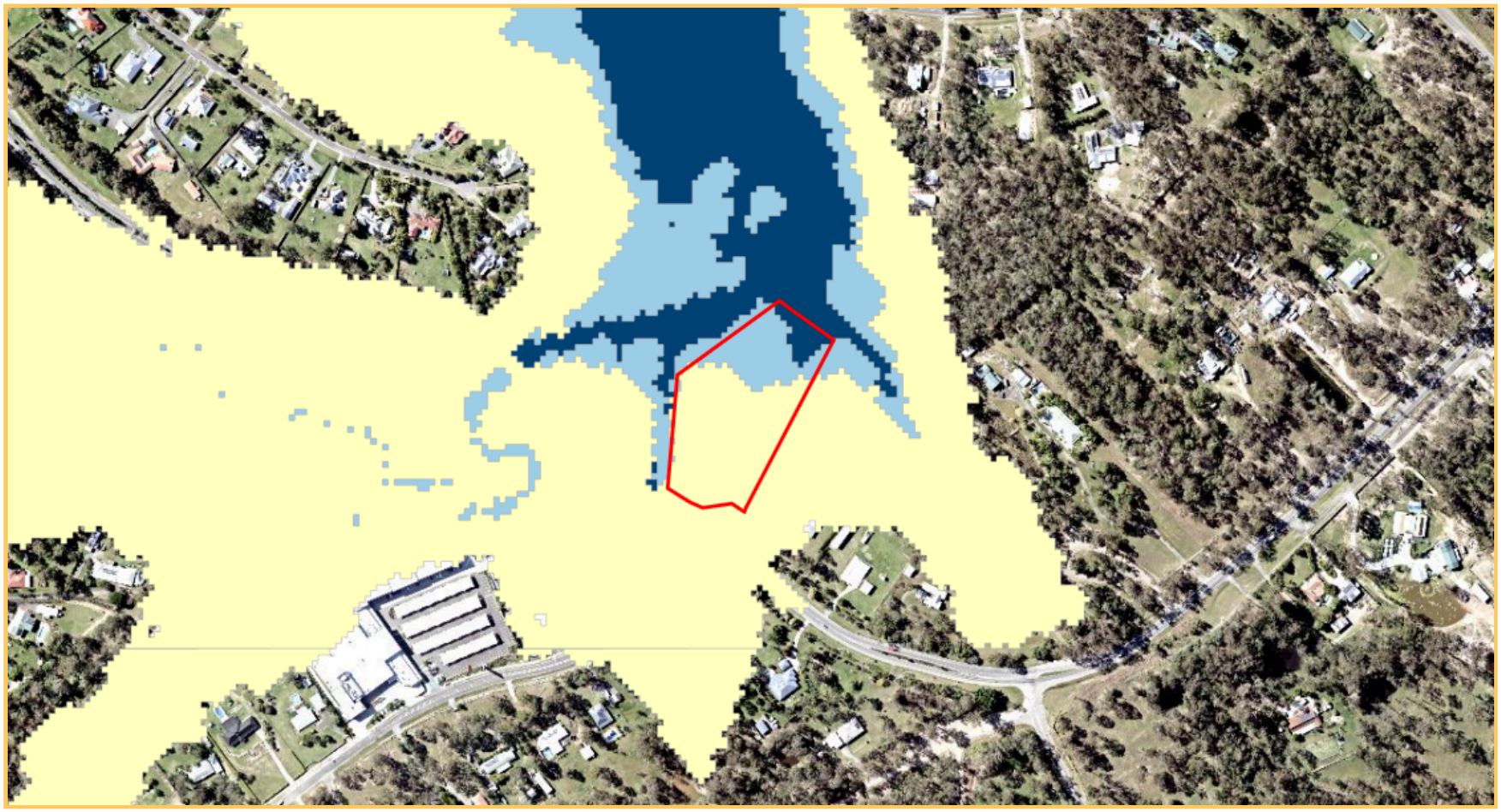
OM - 02.04 - Local and state environmental significance - Polygons



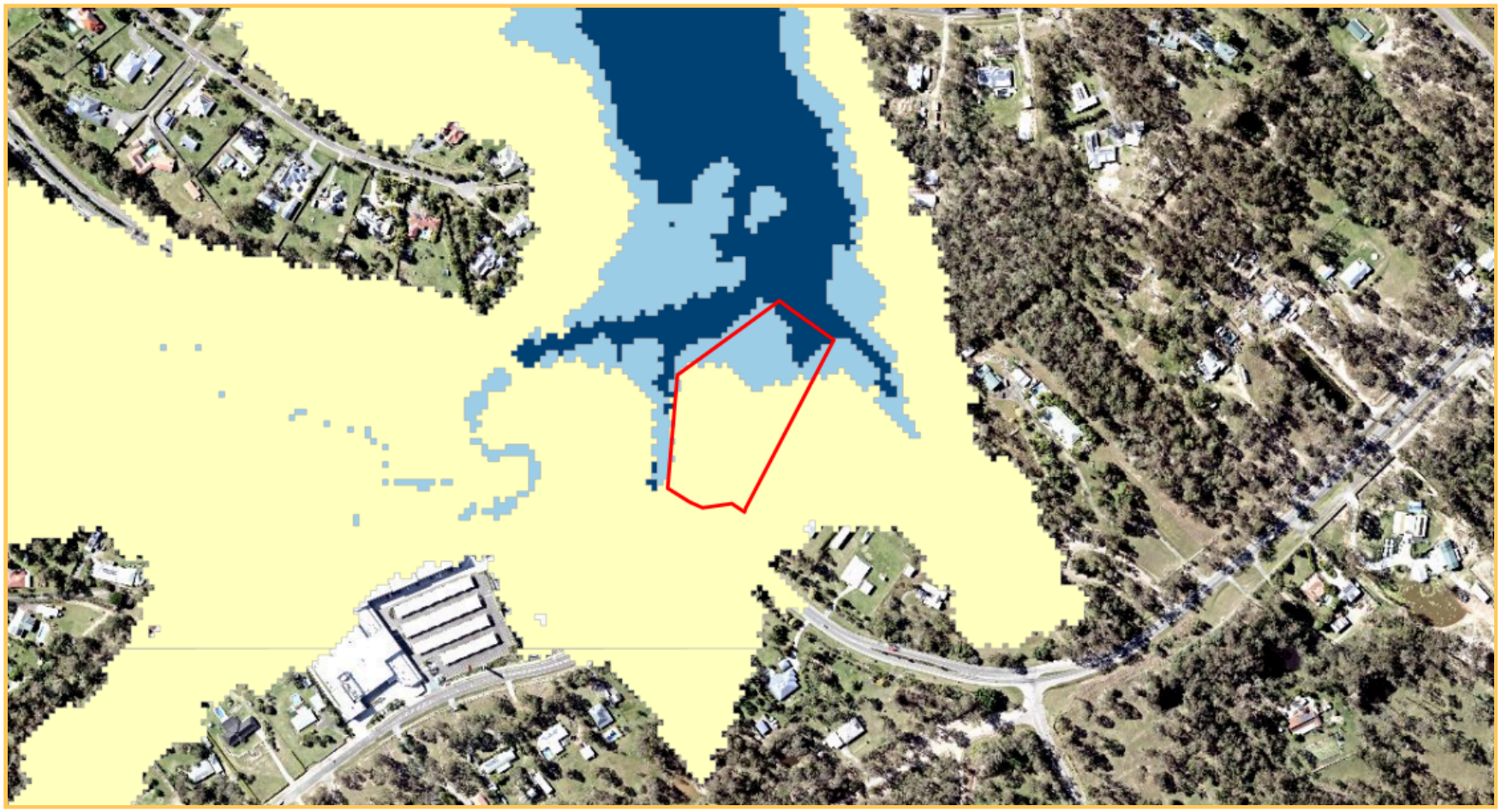
OM - 03.01 - Bushfire hazard - Medium potential

OM - 03.01 - Bushfire hazard - Potential impact buffer area

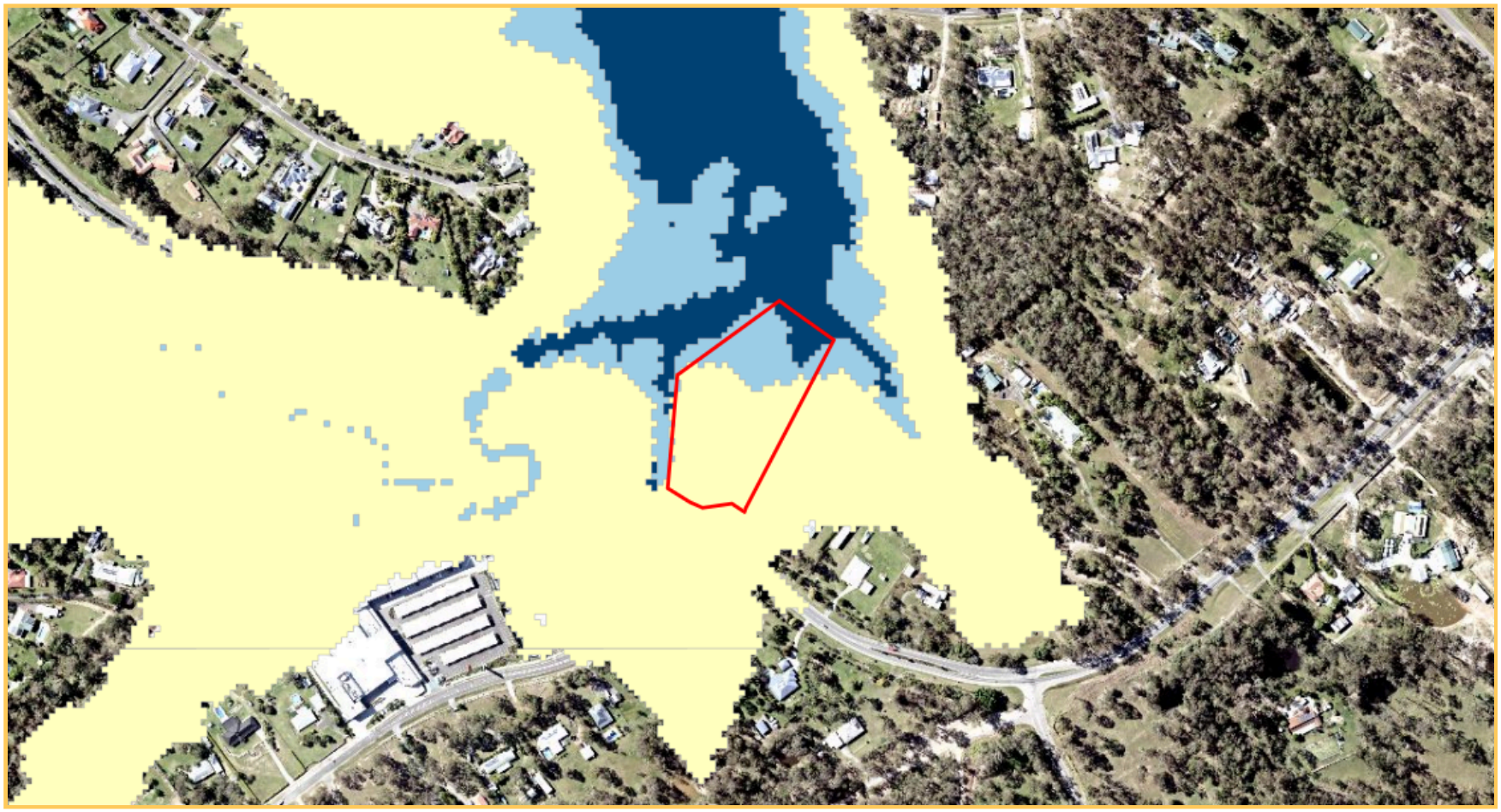
OM - 05.04 - High flood risk area



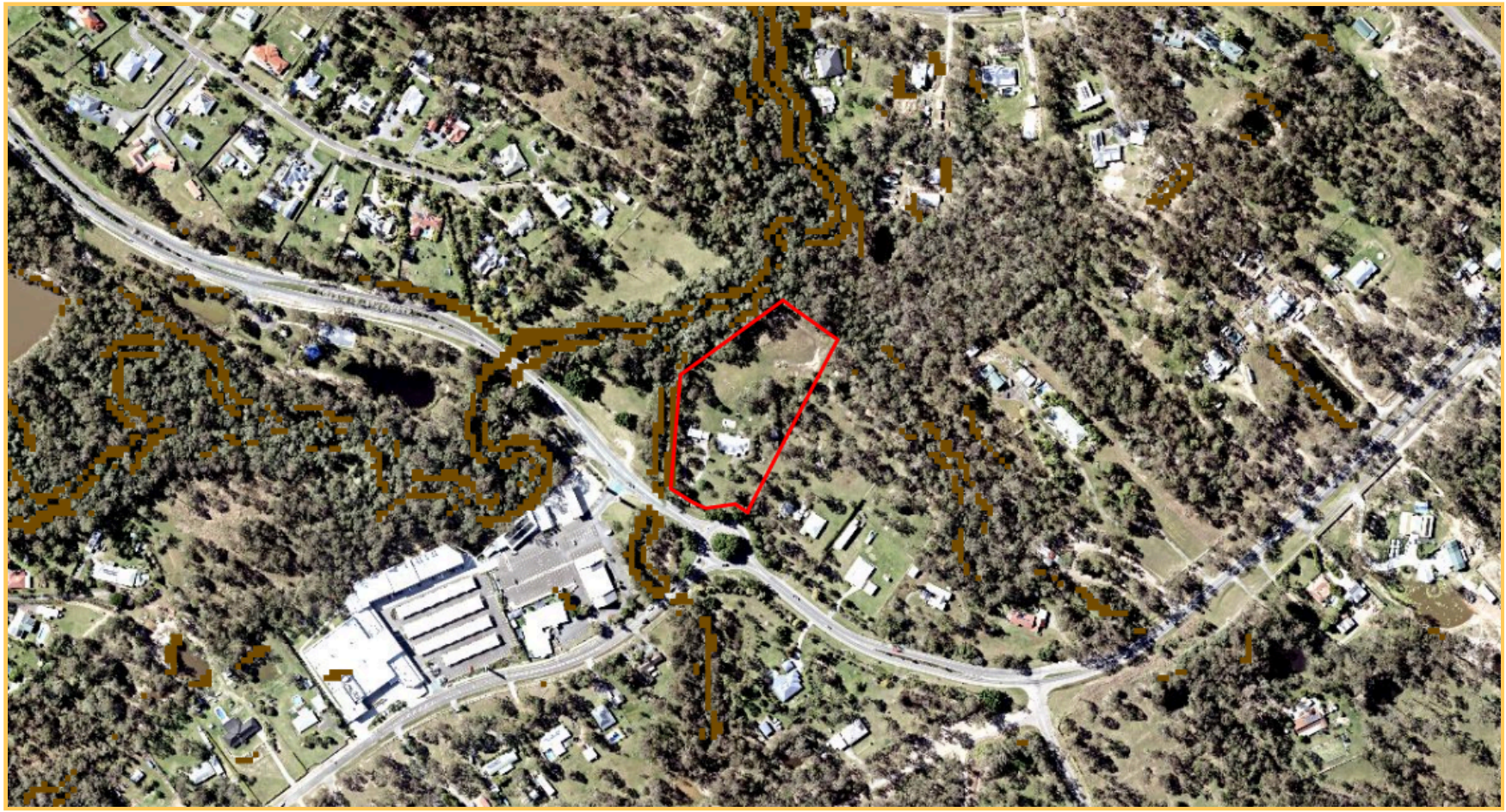
OM - 05.04 - Moderate flood risk area



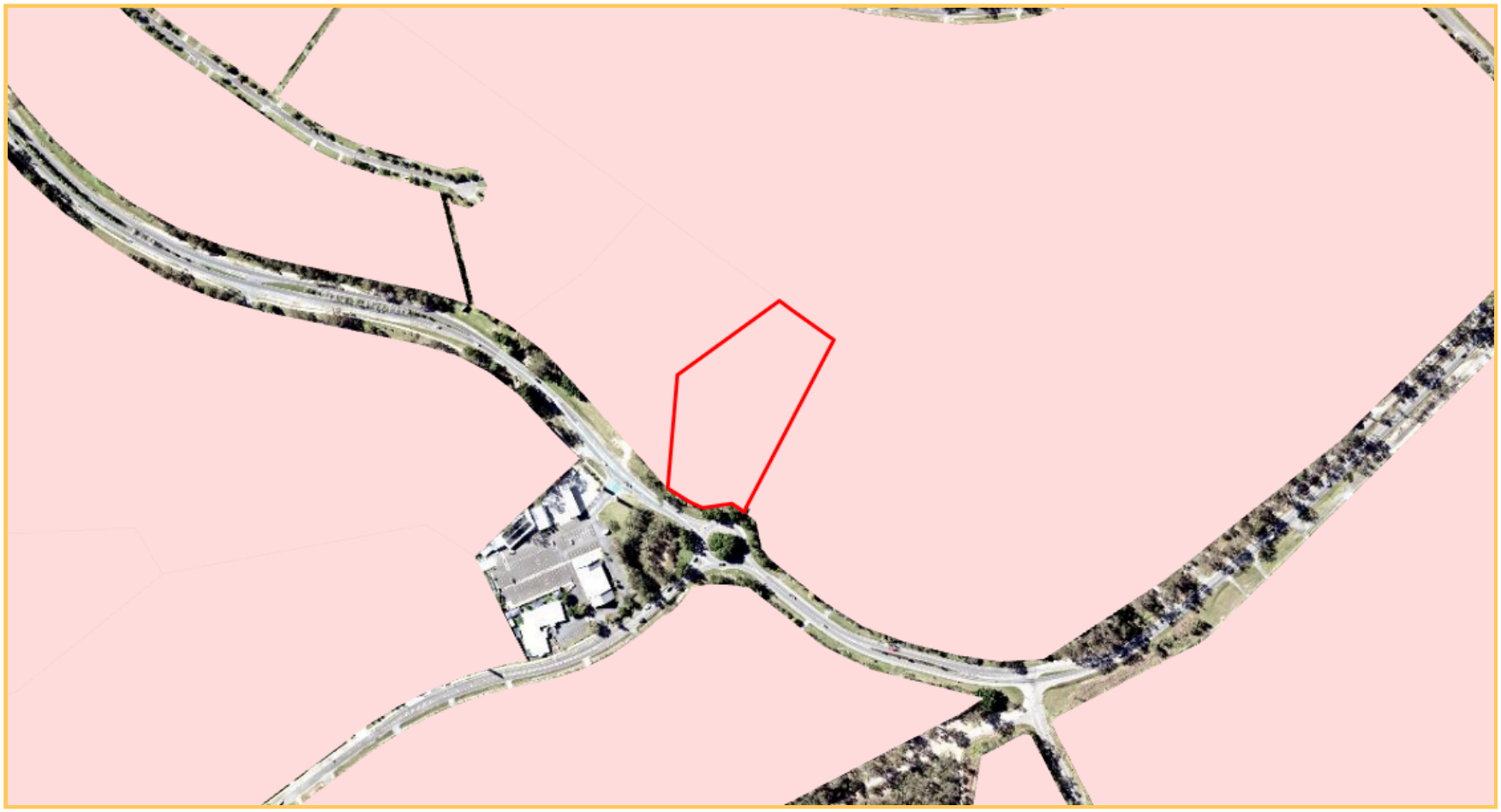
OM - 05.04 - Low flood risk area



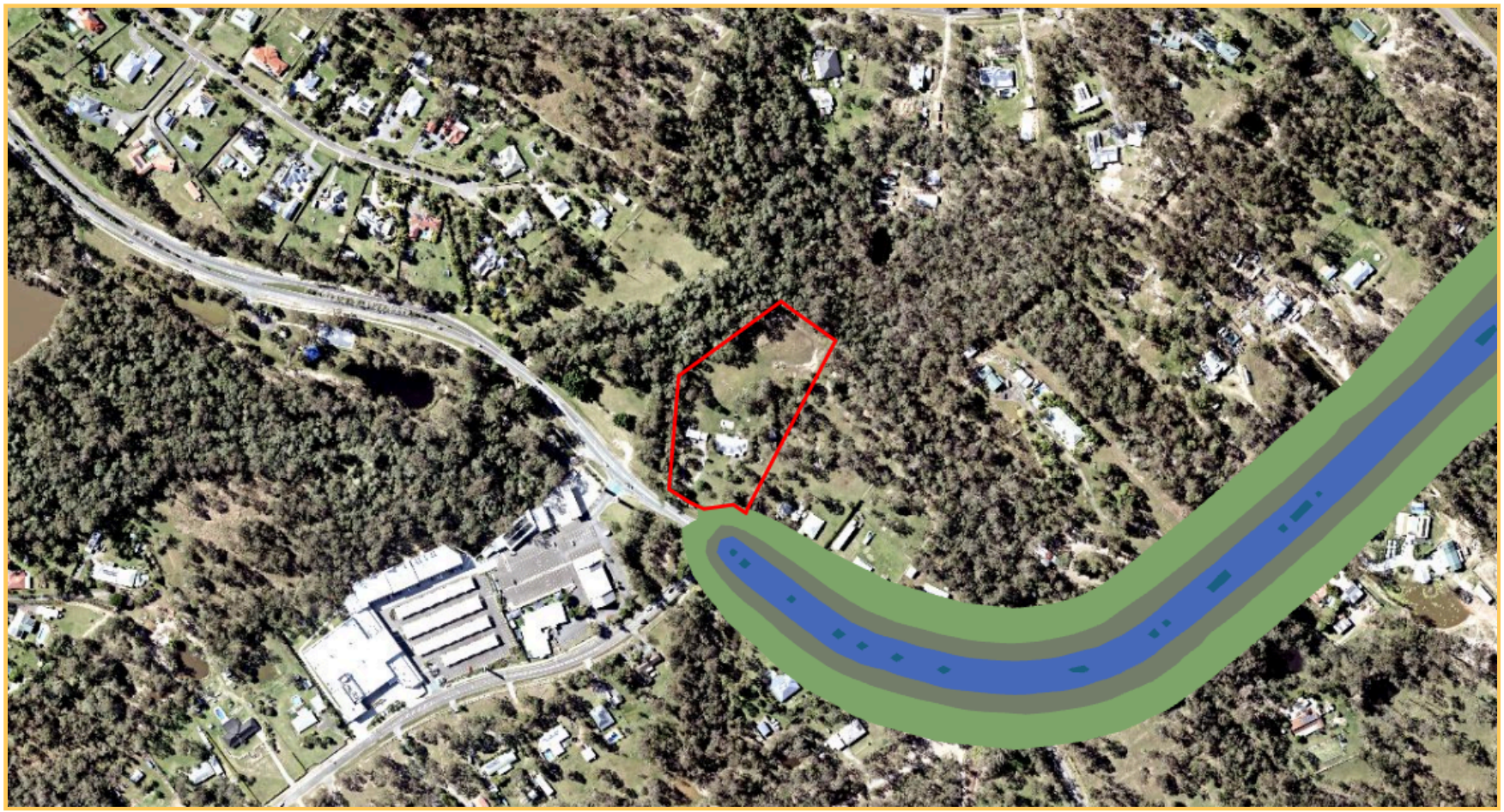
OM - 08.01 - Landslide >= 15% slope



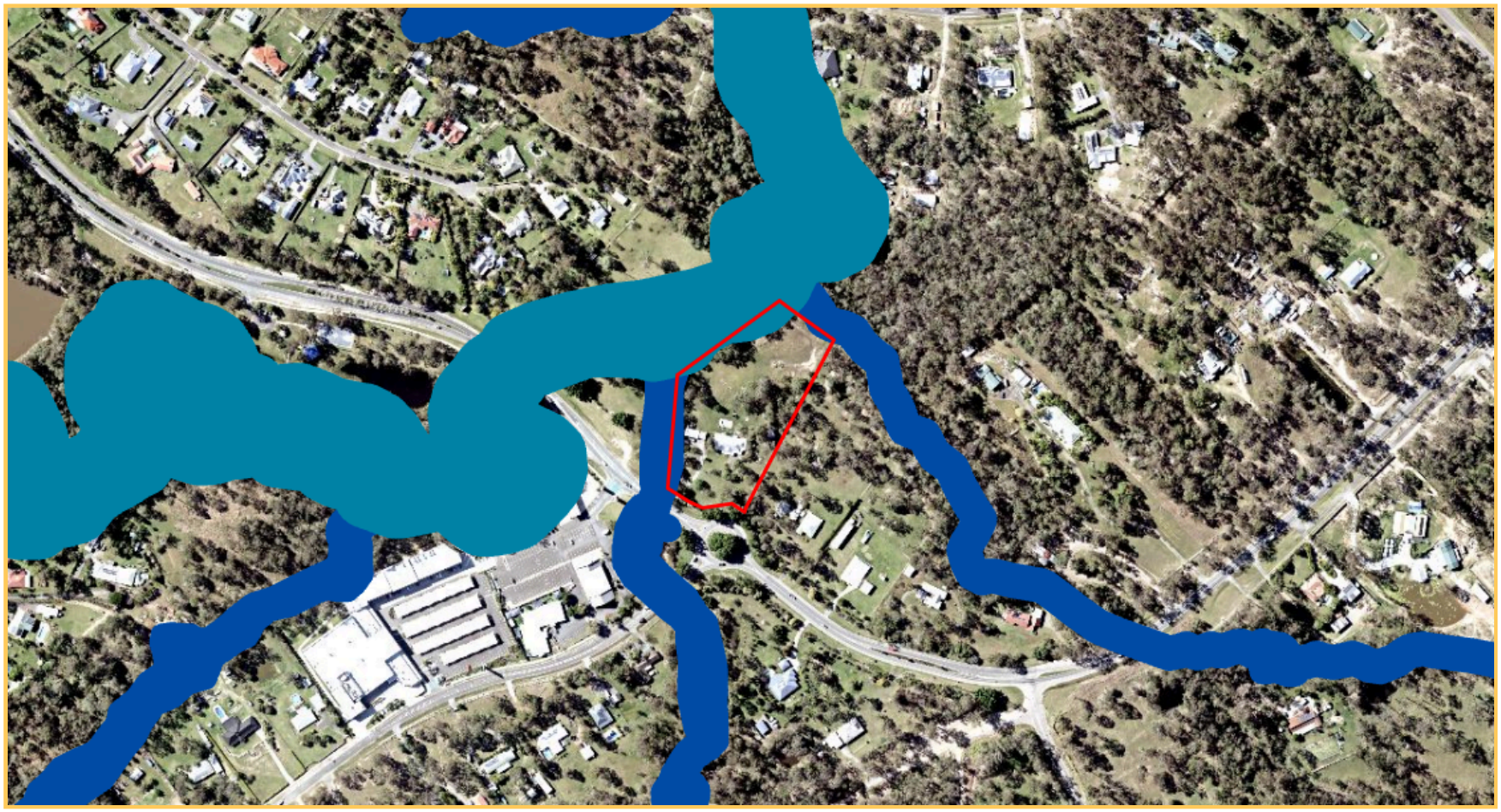
OM - 10.00 - Residential overlay



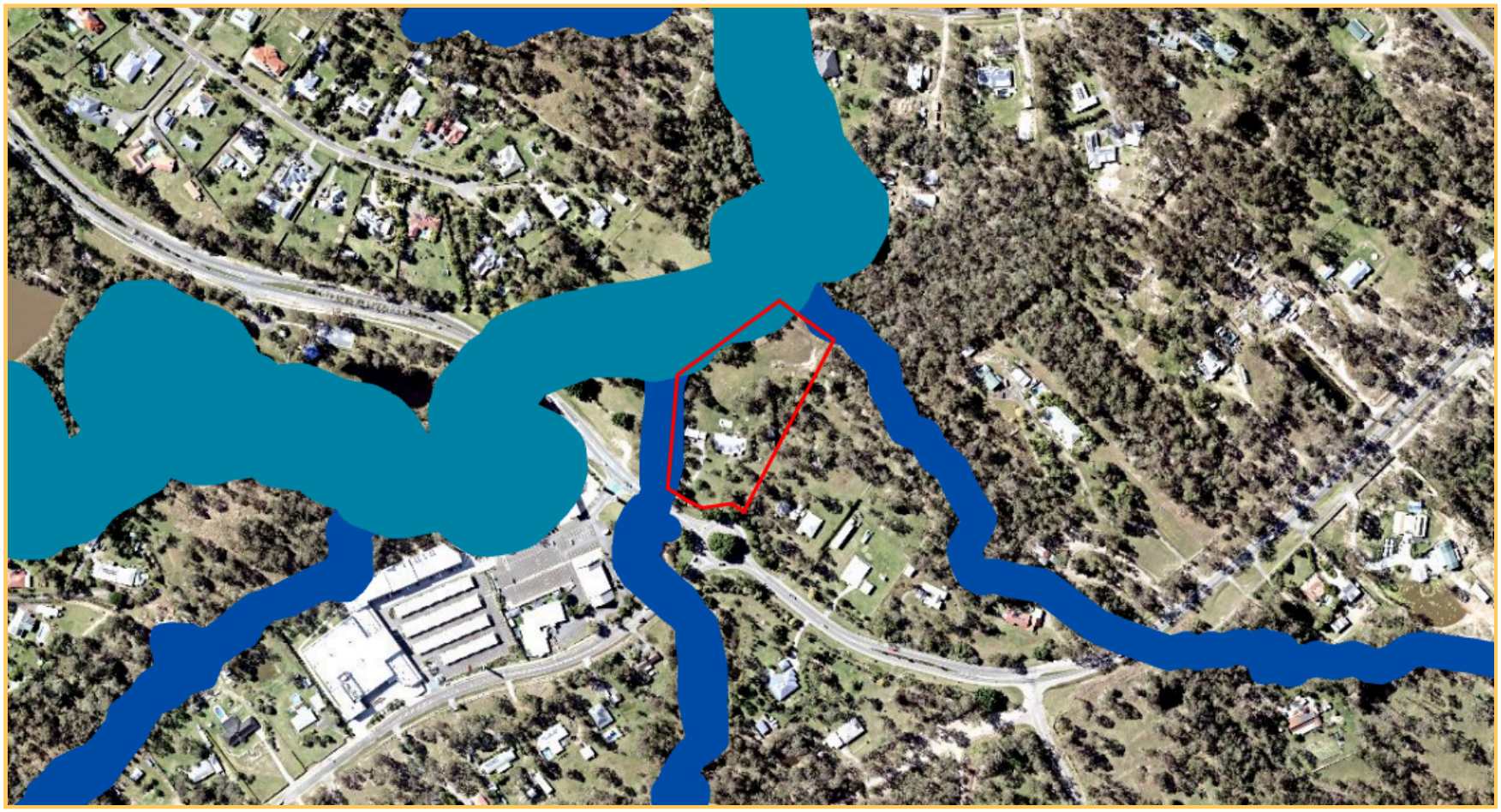
OM - 12.00 - Transport noise corridor - Local government road



OM - 14.01 - Medium waterway



OM - 14.01 - Minor waterway



Please note: the extent of the property impacted by overlays may be impacted by cadastral changes (for property, road and watercourse boundaries). These changes occur more frequently than planning scheme mapping amendments needed to re-align the overlays. For further advice please contact Council.

Flood risk: whether or not flood risk is identified in the overlays list above, please refer to the Flood Report to check the latest available information from recently completed flood studies about the flood risk on this property.

Please note: the Transport Noise Corridors overlay is provided for information purposes only and does not regulate development under the planning scheme. The Transport Noise Corridors are State-controlled roads, railways or major local government roads that have been designated under the Building Act 1975 and referred to in Queensland Development Code

MP4.4 - Buildings in transport noise corridors. To determine if a transport noise corridor applies, visit https://www.planning.qld.gov.au/planning-framework/mapping.

Can I Subdivide?

Property size:	15,000 m^2 Survey plan area
Minimum size for new lots:	1,000,000 m^2 In Rural Residential - Park Living
Subdivision potential:	**Probably not**

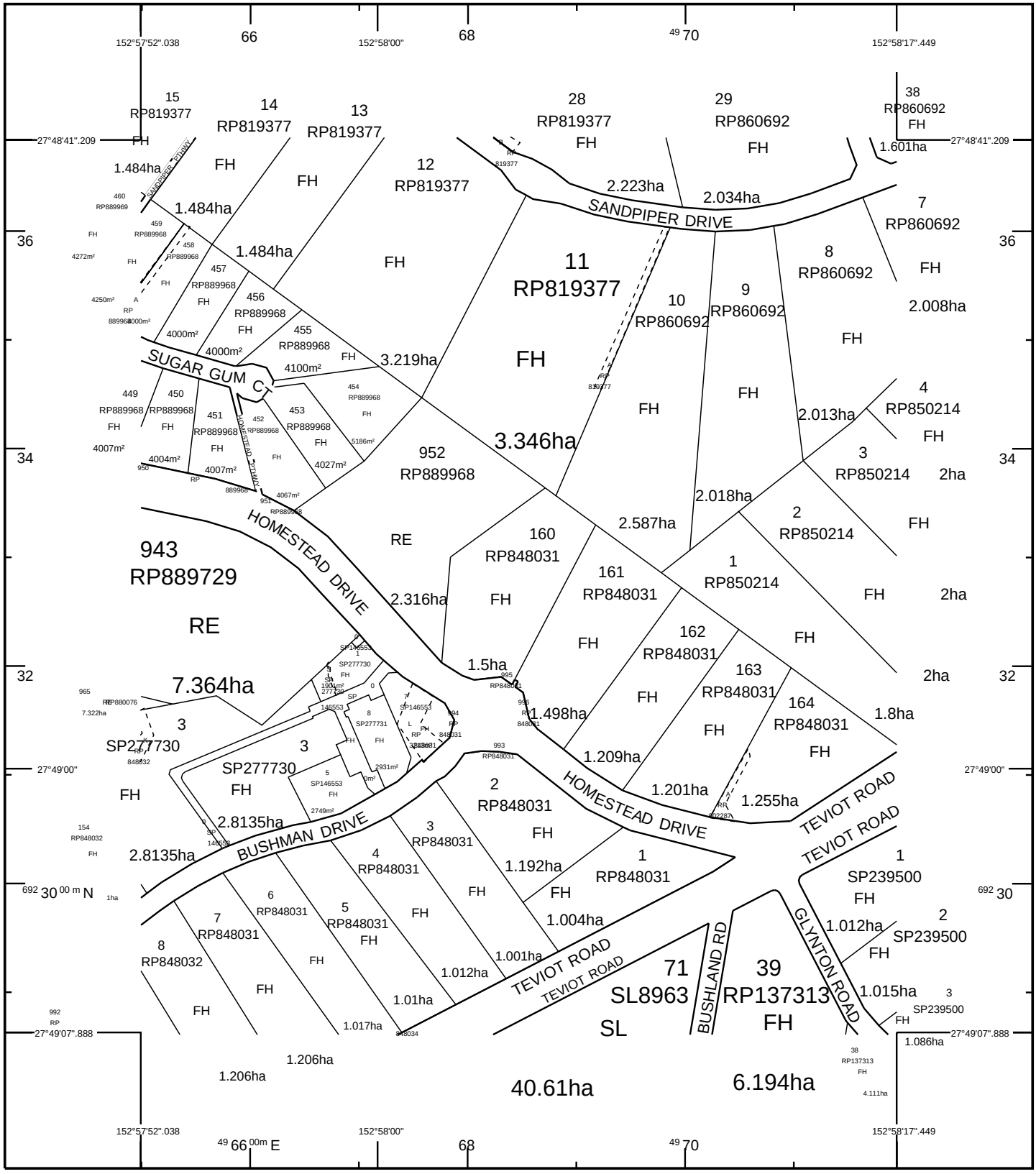
Local Government Infrastructure Plan (LGIP)

Please note: The LGIP represents Council's intentions for the provision of trunk infrastructure, based on assumptions about changing population, employment and development (i.e. the increasing type, scale and location of demand for this infrastructure). This information is subject to change and should not be relied upon to indicate the exact location and nature of future (proposed) infrastructure. For further information please refer to Part 4 of Logan's planning scheme or contact Council.

LGIP - 06.00 - Existing trunk road

Appendix D

Subdivision and Survey Layouts



STANDARD MAP NUMBER
9442-21241

0 100 200 300 400 500 m

HORIZONTAL DATUM:GDA94 ZONE:56 SCALE 1 : 5000

SmartMap

An External Product of
SmartMap Information Services

Based upon an extraction from the
Digital Cadastral Data Base

MAP WINDOW POSITION &
NEAREST LOCATION

152°58'04".743
27°48'54".548
SOUTH MACLEAN
3.71 KM

SUBJECT PARCEL DESCRIPTION

DCDB

Lot/Plan	160/RP848031
Area/Volume	1.5ha
Tenure	FREEHOLD
Local Government	LOGAN CITY
Locality	FLAGSTONE
Segment/Parcel	32191/43

CLIENT SERVICE STANDARDS

PRINTED 16/09/2025

DCDB 15/09/2025

Users of the information recorded in this document (the Information) accept all responsibility and risk associated with the use of the Information and should seek independent professional advice in relation to dealings with property.

Despite Department of Resources best efforts, RESOURCES makes no representations or warranties in relation to the Information, and, to the extent permitted by law, exclude or limit all warranties relating to correctness, accuracy, reliability, completeness or currency and all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way (including but not limited to that arising from negligence) in connection with any use of or reliance on the Information

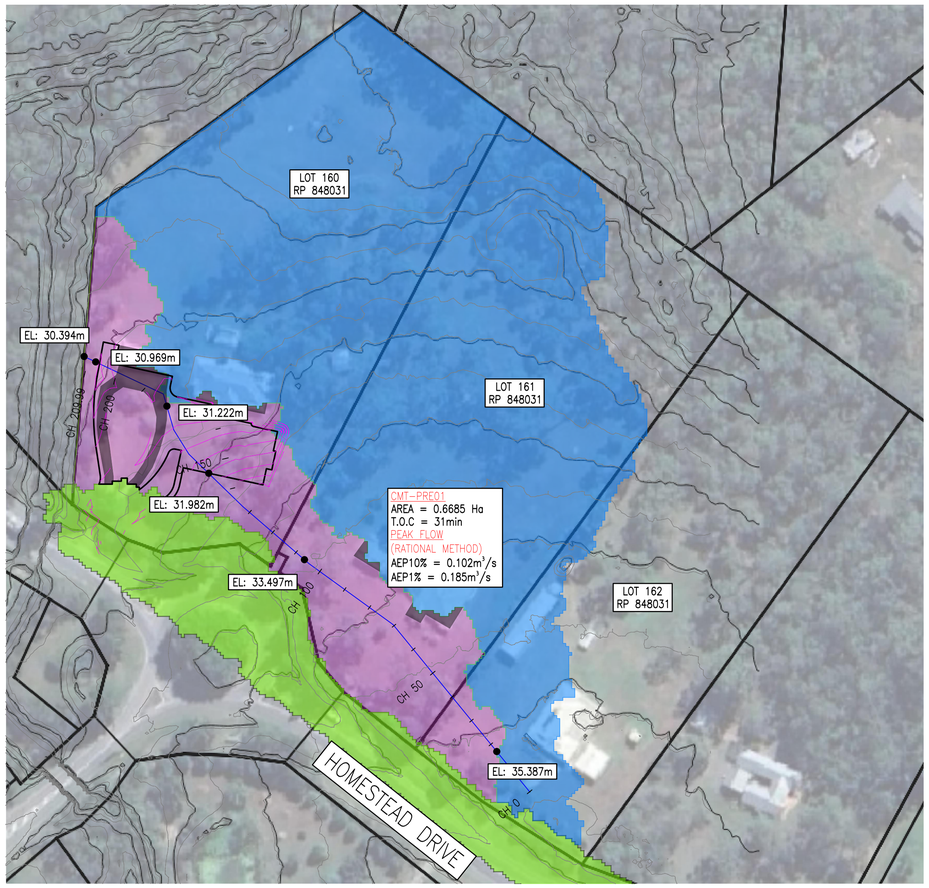
For further information on SmartMap products visit
https://www.qld.gov.au/housing/buying-owning-home/property-land-valuations/smartmaps

GDA

Queensland Government

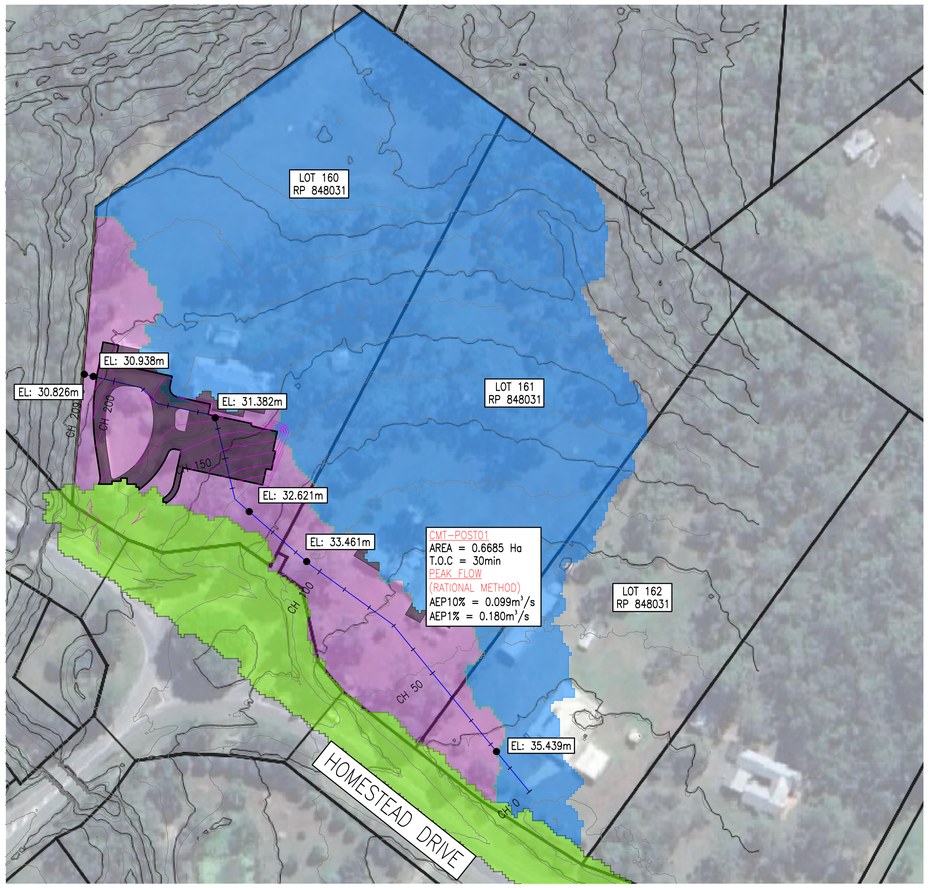
Appendix E

Catchment Layouts



PRE DEVELOPMENT CATCHMENT						
CATCHMENT ID	TOTAL AREA		PERVIOUS		IMPERVIOUS	
	(m^2 | ha)		(m^2 | %)		(m^2 | %)	
CMPT-PRE01	6685	0.669	6166	92	519	8
CMPT-PRE02	PRE AND POST REMAIN THE SAME					
CMPT-PRE03	PRE AND POST REMAIN THE SAME					

PRE-DEVELOPMENT CATCHMENT LAYOUT
SCALE 1:1000



PRE DEVELOPMENT CATCHMENT						
CATCHMENT ID	TOTAL AREA		PERVIOUS		IMPERVIOUS	
	(m^2 | ha)		(m^2 | %)		(m^2 | %)	
CMPT-POST01	6685	0.669	5317	80	1368	20
CMPT-POST02	PRE AND POST REMAIN THE SAME					
CMPT-POST03	PRE AND POST REMAIN THE SAME					

POST-DEVELOPMENT CATCHMENT LAYOUT
SCALE 1:1000

SCALE 1:1000 0 10 20 30 40 50 60 80 100m
5.0 15 25 35 45 70 90

DRAFTING AND RPEQ CERTIFICATION

BRAVO CONSULT
www.bravoconsult.com.au | 07 3062 9319

RPEQ CERTIFICATION

DATE _____ SIGNED _____

NAME OF SIGNATORY _____

RPEQ No. _____

REV No.	DATE	DESCRIPTION	DRAWN	RPEQ	RPEQ No.
A	06/10/25	ISSUED FOR INFORMATION	V.N.	–	–

	INITIALS	DATE
DRAWN	V.N	06/10/25
CHECKED		
APPROVED		
SIZE A1	SCALE AS SHOWN	

PROJECT: SITE BASED STORMWATER MANAGEMENT PLAN
39-45 HOMESTEAD DRIVE, FLAGSTONE, QLD, 4280

CLIENT: KAZAL DEWAN

DRAWING: STORMWATER CATCHMENT LAYOUTS

DRAWING STATUS: TENDER | INFORMATION | APPROVAL | CONSTRUCTION | AS-CONSTRUCTED

DRAWING No. 3509-01-CMT001

REVISION A

SHEET 01 OF 01

Appendix F

Logan City Council Property Flood Report and Map

CITY OF LOGAN

PROPERTY FLOOD REPORT

PRINT

Property Details

Address: 39-45 Homestead Drive FLAGSTONE QLD 4280

Lot/Plan: Lot 160 RP 848031

Size/Area: 14,987 m^2

Property Key: 284183

Catchment(s): Logan River, Sandy Gully

View Logan's catchments and waterways map (PDF)

Summary Flood Assessment

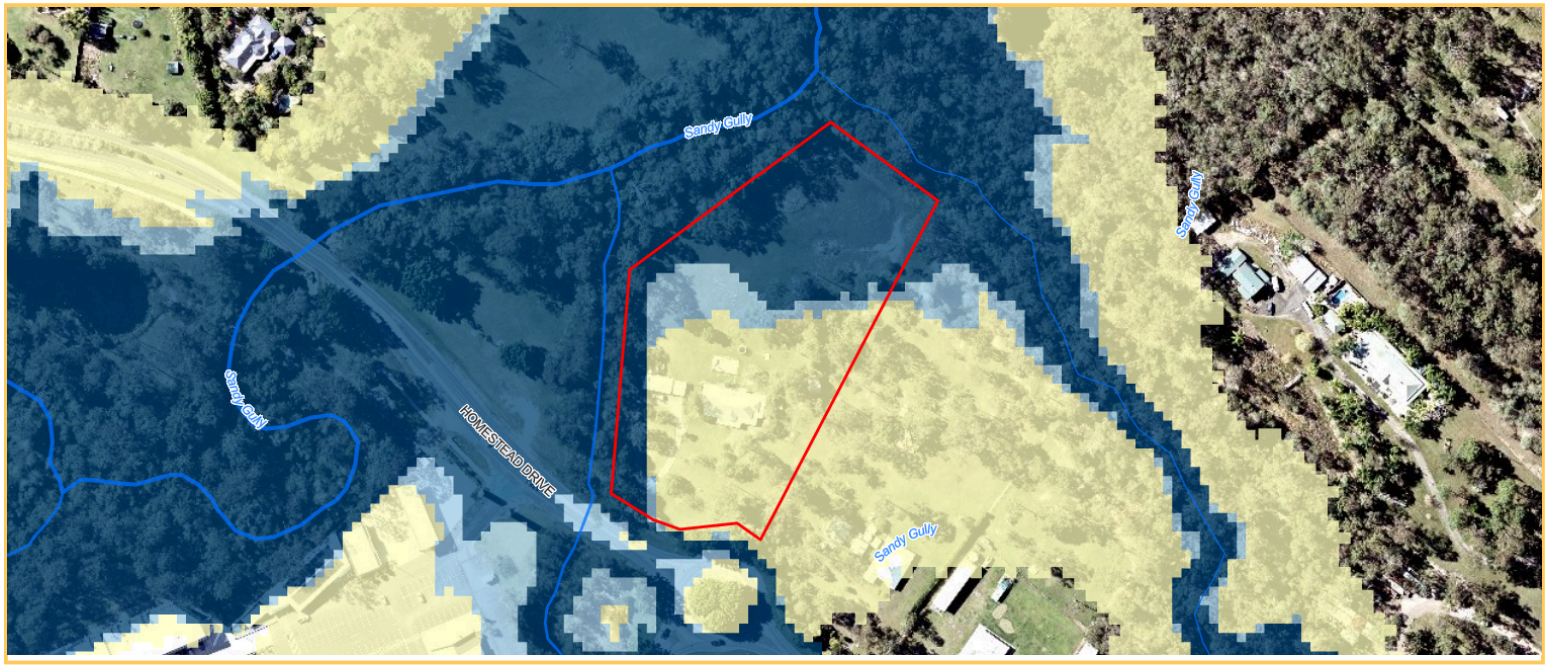
The table below presents the flood risks applicable to the selected property. There may be multiple studies and flood scenarios affecting the property, particularly for larger sites.

Assessment	Details
Risk area(s)	High, Moderate, Low
Investigation area	Not applicable
Isolation risk	Not applicable
River flooding	2% chance of a flood this size or larger happening in any given year
Creek flooding	20% chance of a flood this size or larger happening in any given year
Overland flow	Applies. It is possible that flooding from a local waterway which has not yet been studied may also impact the property. Please contact Council for further advice. Overland flow is water (stormwater run-off) that travels over land during heavy rainfall events. It generally occurs quickly and for short durations.

CITY OF LOGAN

Latest Flood Risk

The extract below comes from the flood risk map based on the latest (most recent) flood studies accepted by Council applicable for this property.



LEGEND

High	Floodwaters may be deep or fast flowing, or have a relatively high chance of occurrence (e.g. 80% chance in 30 years). Conditions may pose a risk to life and cause damage to buildings, possibly severe. Limited development may be considered if not increasing the flood risk exposure for people or property. These areas are generally better suited to environmental, recreational and some agricultural uses.
Moderate	Less frequently affected by flooding or if more frequent, with shallow or slower moving floodwater. Conditions may pose an unacceptable risk to people or property if not mitigated. Development may be tolerable if measures are taken to address flood impacts, protect people and limit damage.
Low	Extremely unlikely chance of flooding (1% chance or less over a 30 year period) and/or relatively shallow or benign flooding conditions. Development is generally acceptable except for essential community infrastructure (e.g. emergency services). Vulnerable uses (e.g. childcare, aged care) may be ok subject to building, site access and safe shelter mitigation measures. Shows the full floodplain under the largest flood that could conceivably occur.
Investigation area	Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Development should avoid these areas until further investigation (updated flood study or localised risk assessment) is completed.

The flood studies this map is based on consider the impacts of climate change, as required by Queensland's planning legislation and policies. The map considers the whole floodplain for Logan and reflects a risk-based approach that takes into account:

- How likely a flood of a given size is in any given year, and
- What the impact or level of danger of that flood is.

Flood Levels

The table below displays flood levels from the most recently accepted flood studies affecting this property. To view the flood study documents please see the Flood page on Council's website.

The levels are measured in Australian Height Datum (AHD), where sea level is approximately zero (0) metres. The level displayed in the table below is the maximum flood level on the property for that event (likelihood). For some properties, particularly large properties or those on a significant slope, flood levels can vary significantly.

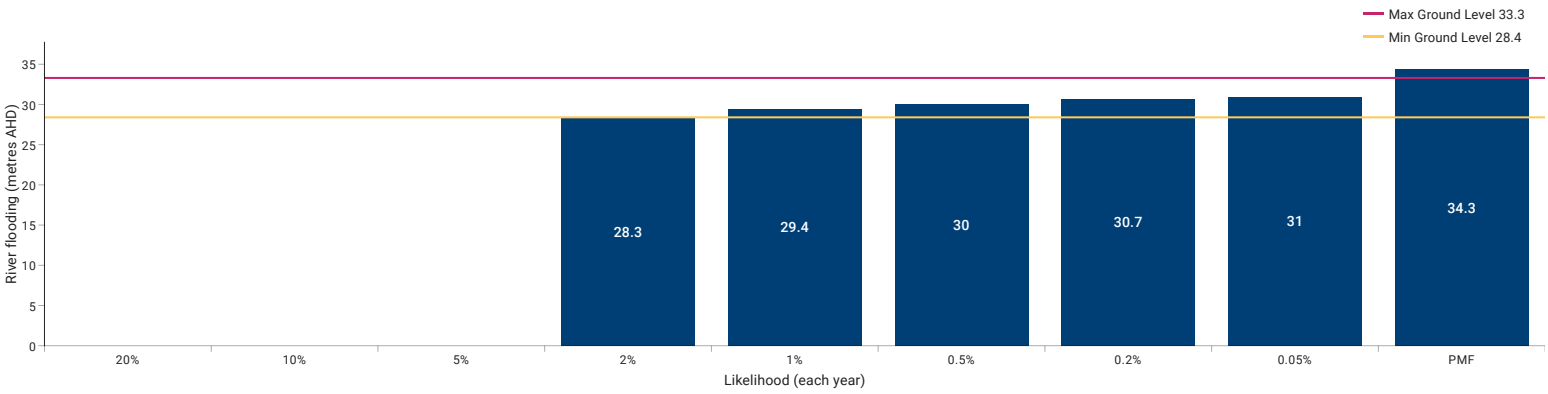
The most likely flood scenarios is shown at the top of the table, with the Probable Maximum Flood (PMF) at the bottom, being the least likely but most serious flood scenario.

Some properties may be impacted by only river flooding or only creek flooding, and some may be impacted by both. There may also be other sources of inundation that may impact the property and affect flood levels, based on overland flow or local creeks where studies have not yet been completed.

Study: Logan and Albert Rivers Flood Study 2023

Likelihood (each year)	River flooding
20% chance	Not applicable
10% chance	Not applicable
5% chance	Not applicable
2% chance	28.3 metres AHD
1% chance	29.4 metres AHD
0.5% chance	30.0 metres AHD
0.2% chance	30.7 metres AHD
0.05% chance	31.0 metres AHD
PMF	34.3 metres AHD

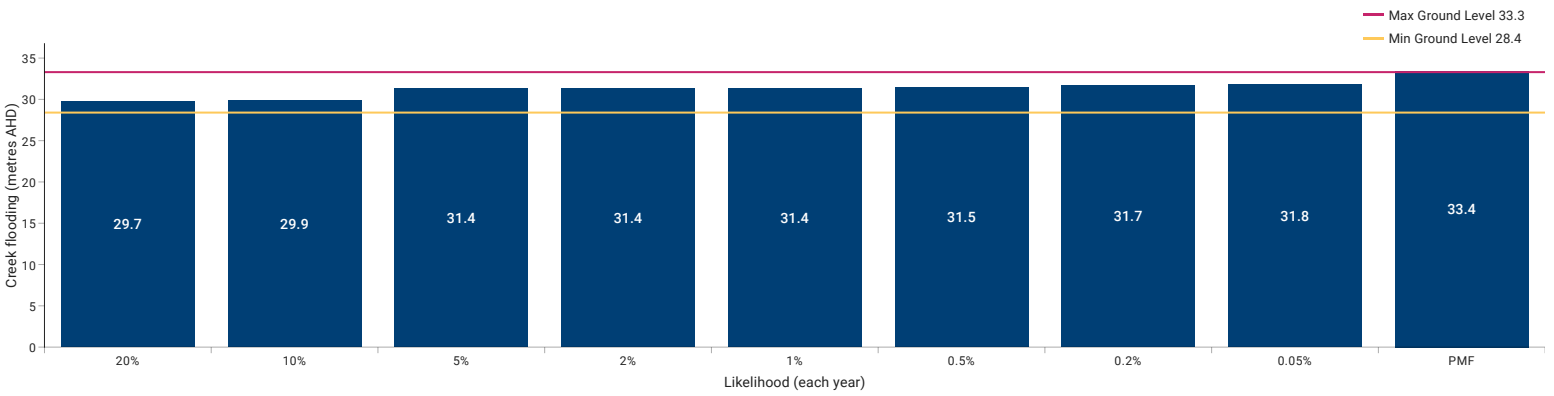
Flood and Ground Levels in metres AHD



Study: Flagstone & Sandy Creeks Flood Study 2025

Likelihood (each year)	Creek flooding
20% chance	29.7 metres AHD
10% chance	29.9 metres AHD
5% chance	31.4 metres AHD
2% chance	31.4 metres AHD
1% chance	31.4 metres AHD
0.5% chance	31.5 metres AHD
0.2% chance	31.7 metres AHD
0.05% chance	31.8 metres AHD
PMF	33.4 metres AHD

Flood and Ground Levels in metres AHD



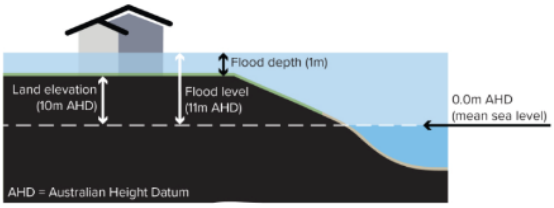
Ground Levels

Ground levels are based on an aerial LiDAR (Light Detection and Ranging) survey, which uses millions of laser point measurements to build a model of the ground surface. The source of the data is displayed in the table below so that you know when the survey was conducted.

Ground level	Details
Minimum ground level	28.4 metres AHD
Maximum ground level	33.3 metres AHD

Source: 2021 Digital elevation model (1 metre grid)

The projected flood depth (how deep the water may be above ground, in metres) is the difference between the flood levels in the section above and the ground levels in this table. The diagram below provides an example (land elevation is ground level).



Overland Flow

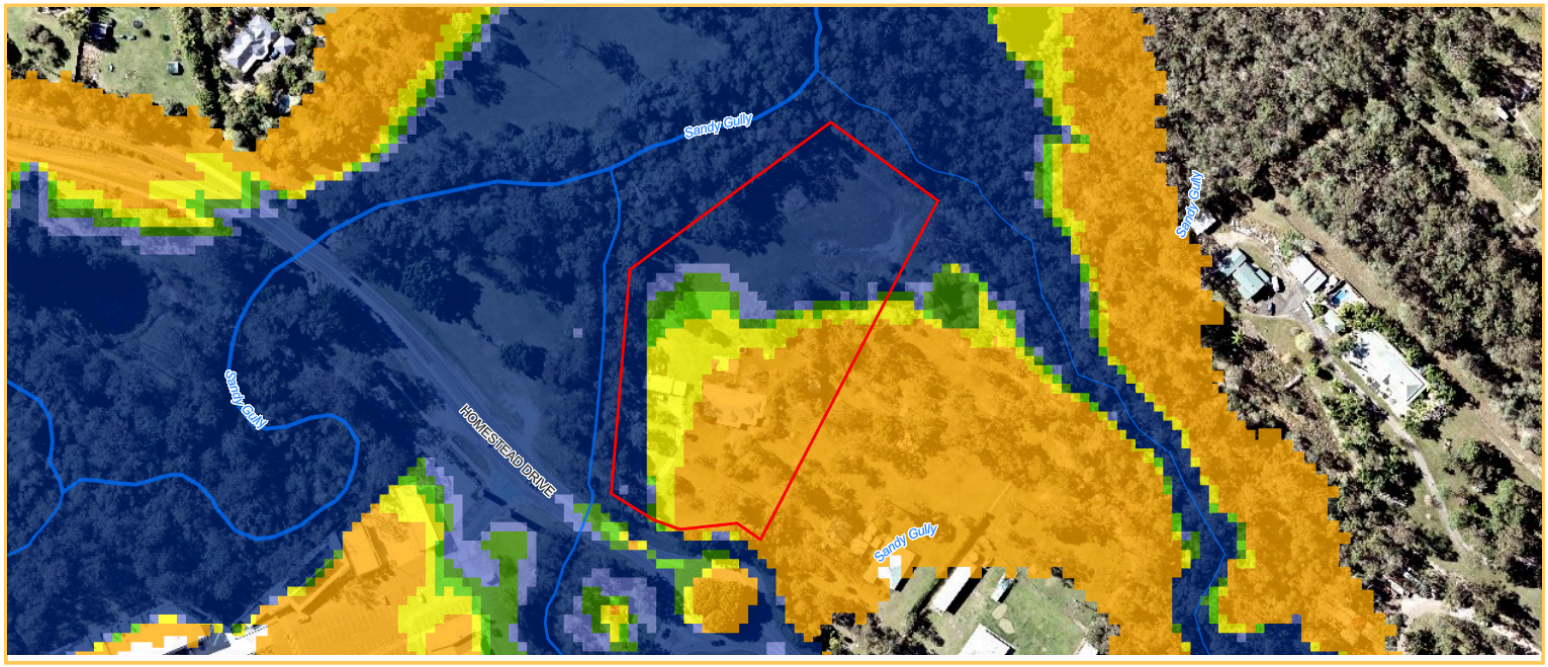
Overland flow is water (stormwater/rainfall run-off) that exceeds the capacity of drains, pipes and channels during heavy rainfall events and travels over land towards waterways. It generally occurs quickly and for shorter periods of time. The impact of overland flow is dependent on local conditions, so the mapping is a guide only. It is possible that flooding from a local waterway which has not yet been studied may also impact the property. Please contact Council for further advice.

LEGEND

Overland flow extent (areas possibly impacted)

Future Climate Scenarios

This extract comes from the map showing the projected extent of flooding (affected areas) for multiple flood scenarios for all relevant flood studies, **including the projected impacts of climate change**. This map corresponds with the flood levels provided in the table above for the 5%, 2%, 1%, 0.5%, 0.05% and Probable Maximum Flood (PMF) scenarios.



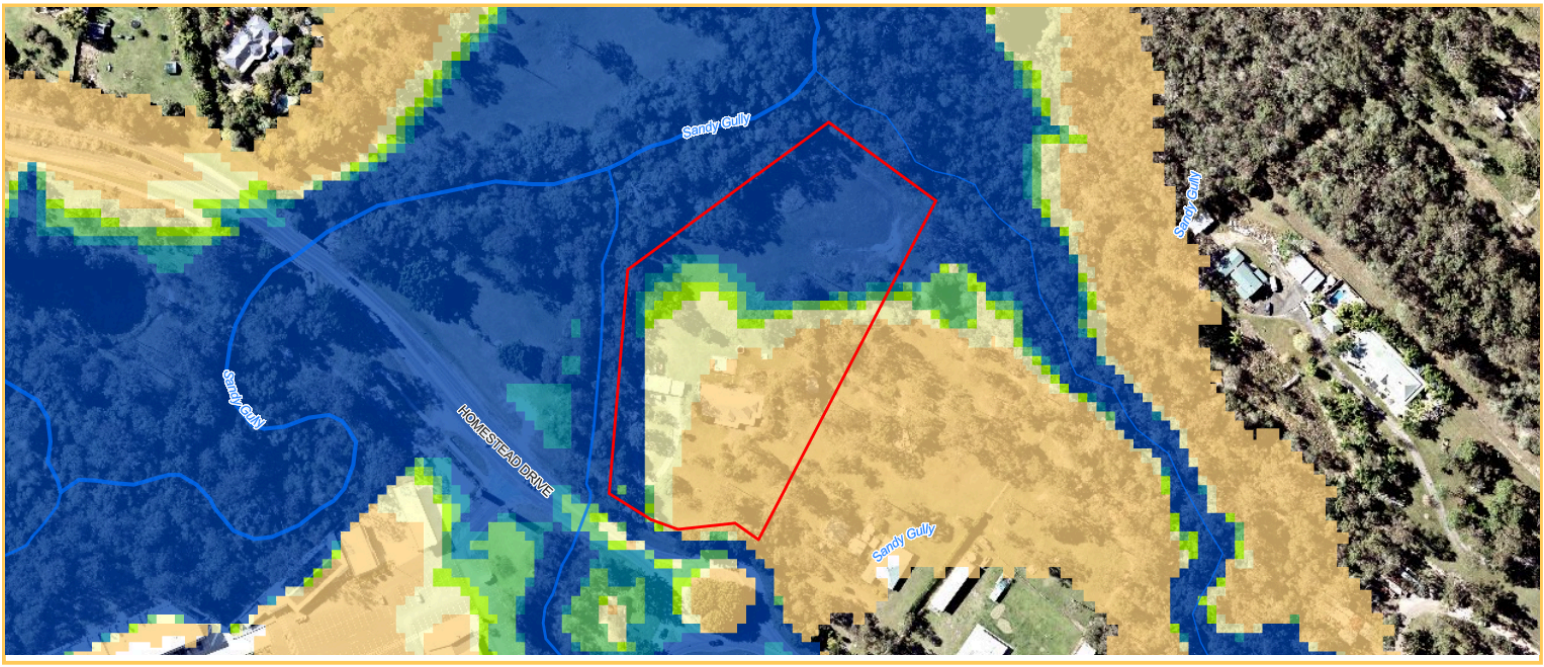
LEGEND

5% chance	The areas modelled to be impacted by a flood that has a 5% (or 1 in 20) chance of happening in any given year, or 80% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.
2% chance	The areas modelled to be impacted by a flood that has a 2% (or 1 in 50) chance of happening in any given year, or 45% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.
1% chance	The areas modelled to be impacted by a flood that has a 1% (or 1 in 100) chance of happening in any given year, or 25% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.
0.5% chance	The areas modelled to be impacted by a flood that has a 0.5% (or 1 in 200) chance of happening in any given year, or 15% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.
0.05% chance	The areas modelled to be impacted by a flood that has a 0.05% (or 1 in 2000) chance of happening in any given year. This is an extremely unlikely flood event with a 1% chance of happening over a 30 year period, not including the impacts of climate change.
PMF	The PMF or probable maximum flood scenario represents the full extent of the floodplain, or the most serious flood that could be expected to occur. This is usually estimated based on the probable maximum rainfall, not including the impacts of climate change.
Investigation area	Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Further investigation is needed.

CITY OF LOGAN

Current Climate Scenarios

This extract comes from the map showing flood affected areas **without** considering the impacts of climate change. This map represents modelled flooding under current conditions, and can be used for insurance purposes.



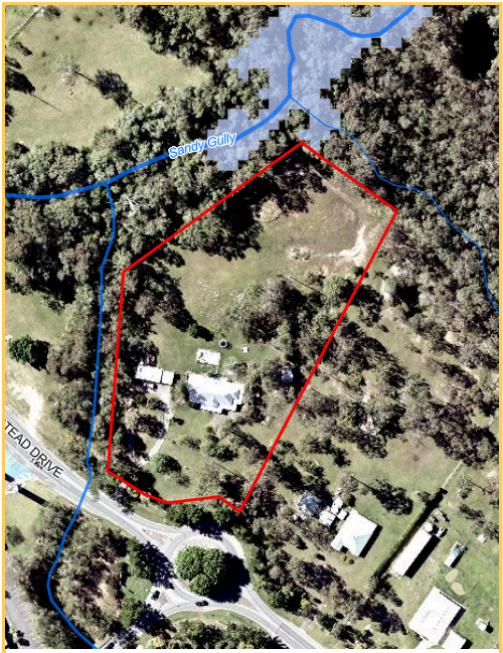
LEGEND

5% chance	The areas modelled to be impacted by a flood that has a 5% (or 1 in 20) chance of happening in any given year, or 80% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.
2% chance	The areas modelled to be impacted by a flood that has a 2% (or 1 in 50) chance of happening in any given year, or 45% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.
1% chance	The areas modelled to be impacted by a flood that has a 1% (or 1 in 100) chance of happening in any given year, or 25% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.
0.5% chance	The areas modelled to be impacted by a flood that has a 0.5% (or 1 in 200) chance of happening in any given year, or 15% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.
0.05% chance	The areas modelled to be impacted by a flood that has a 0.05% (or 1 in 2000) chance of happening in any given year. This is an extremely unlikely flood event with a 1% chance of happening over a 30 year period, not including the impacts of climate change.
PMF	The PMF or probable maximum flood scenario represents the full extent of the floodplain, or the most serious flood that could be expected to occur. This is usually estimated based on the probable maximum rainfall, not including the impacts of climate change
Investigation area	Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Further investigation is needed.

Historic Flood Events

Based on the best information available to Council, the table below indicates whether or not the selected property may have been impacted by significant historic flood events. It is possible that other creek flooding or overland flow, which is not included in Council's mapping of these events, may have impacted the property.

Flood event	Property impacted
1974	Yes
2017 (after ex Tropical Cyclone Debbie)	No
2022 (late February / early March)	No



1974

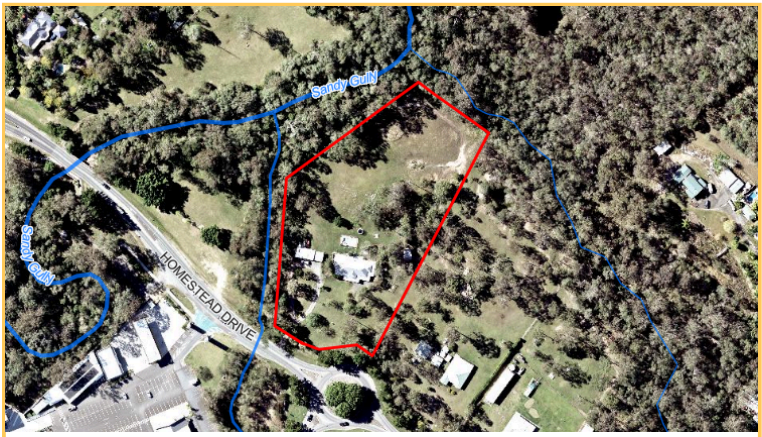
2017

2022

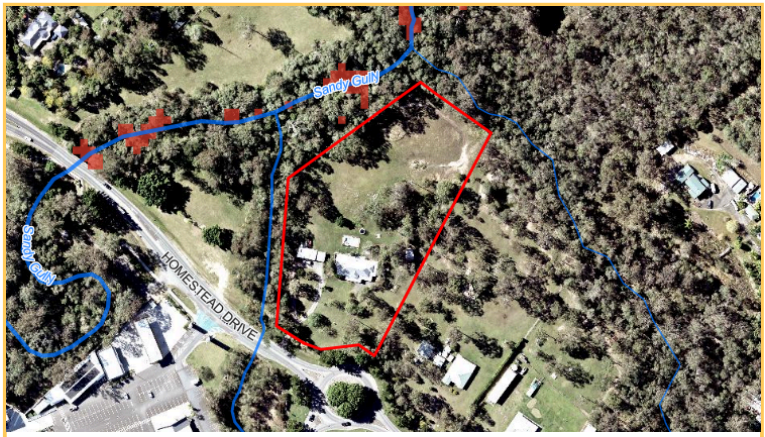
Planning Scheme Maps

The selected property is shown below on an extract of the Flood Overlay Maps from the Logan Planning Scheme 2015 V9.2 with TLPI No. 1/2024. Various provisions of the planning scheme which refer to properties affected by the Flood Overlay Maps will apply to the flood affected areas for the purposes of planning and development. This may include, for example, raised building floor levels and achieving safe vehicle access to the road network.

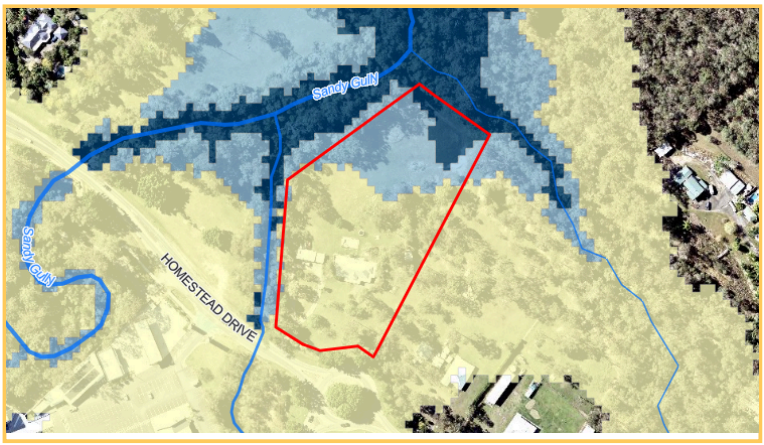
OM-05.01 Isolated islands



OM-05.02 High flow area



OM-05.04 Flood risk areas



MAP LEGEND

High	Floodwaters may be deep or fast flowing, or have a relatively high chance of occurrence (e.g. 80% chance in 30 years). Conditions may pose a risk to life and cause damage to buildings, possibly severe. Limited development may be considered if not increasing the flood risk exposure for people or property. These areas are generally better suited to environmental, recreational and some agricultural uses.
Moderate	Less frequently affected by flooding or if more frequent, with shallow or slower moving floodwater. Conditions may pose an unacceptable risk to people or property if not mitigated. Development may be tolerable if measures are taken to address flood impacts, protect people and limit damage.
Low	Extremely unlikely chance of flooding (1% chance or less over a 30 year period) and/or relatively shallow or benign flooding conditions. Development is generally acceptable except for essential community infrastructure (e.g. emergency services). Vulnerable uses (e.g. childcare, aged care) may be ok subject to building, site access and safe shelter mitigation measures. Shows the full floodplain under the largest flood that could conceivably occur.
Investigation area	Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Development should avoid these areas until further investigation (updated flood study or localised risk assessment) is completed.

MAP LEGEND

High flow area	High hazard areas of flooding where significant (deeper, faster) flow of water occurs and in which a building is vulnerable to structural damage or failure from floodwater. Classified as H5 or H6 in the Australian Institute of Disaster Resilience (AIDR) Guideline 7-3 'Flood Hazard'.
High flood island	Areas which are isolated from flood-free land (surrounded by floodwater) but retain a portion of the area as flood free in a probable maximum flood (PMF).
Low flood island	Areas which are surrounded by floodwater and at first isolated from flood-free land, then completely inundated by floodwater (submerged) as the flood continues to rise.
Meadowbrook flood assessment area	Area where the function of important community infrastructure needs to be maintained. Flood mitigation measures and comprehensive emergency management planning is required to adequately manage the risk for flood events.

If more recent flood studies have been completed and accepted by Council, the Latest Flood Risk Map shown at the top of this report may be different from the planning scheme map. The latest flood information should be used to inform development decisions and will be incorporated into the planning scheme in a future amendment.

Further Information

1. Floods are highly unpredictable and variable, and properties may be affected by other sources of potential flooding. Each flood and its impact is different. Areas that were not flooded previously may be affected by future events. Areas that have been previously flooded may be impacted in different ways. This online report cannot take all of this into account.
2. The flood mapping and levels in this report are based on data from flood studies undertaken at a particular time and are subject to change. For example, if the method for calculating flood levels is updated, industry guidelines are updated or more recent information becomes available, this may result in changes to the information in this report. In areas where development is ongoing, the flood mapping and levels may not reflect developed conditions.
3. Flood studies do not create risk. They help us to understand the risk, based on relevant legislation and Queensland Government policies and guidelines. Flood studies also consider a range of other factors such as rainfall and river level information from recent events, climate change and trends, the impacts of development, changes to catchment conditions, new technologies and industry best practice (which help to improve accuracy).
4. Flood studies and models are developed from the best information available at the time. They do not tell you how the flood waters might behave, how quickly they may rise, or how dangerous the flooding will be. The models also cannot represent changes that have occurred since they were developed which may impact flood behaviour, such as earthworks, new developments or road infrastructure.
5. This report is not a substitute for independent professional advice. You should engage the services of a Registered Professional Engineer of Queensland (RPEQ) to get site specific information regarding the flood risk to your property, and how that might affect any proposed building or development work.
6. While Logan City Council takes reasonable care in producing this report, it does not guarantee that the information is accurate, complete or current. Logan City Council does not accept any responsibility for any loss or damage (however it was caused) in connection with the use of or reliance on the information in this report.

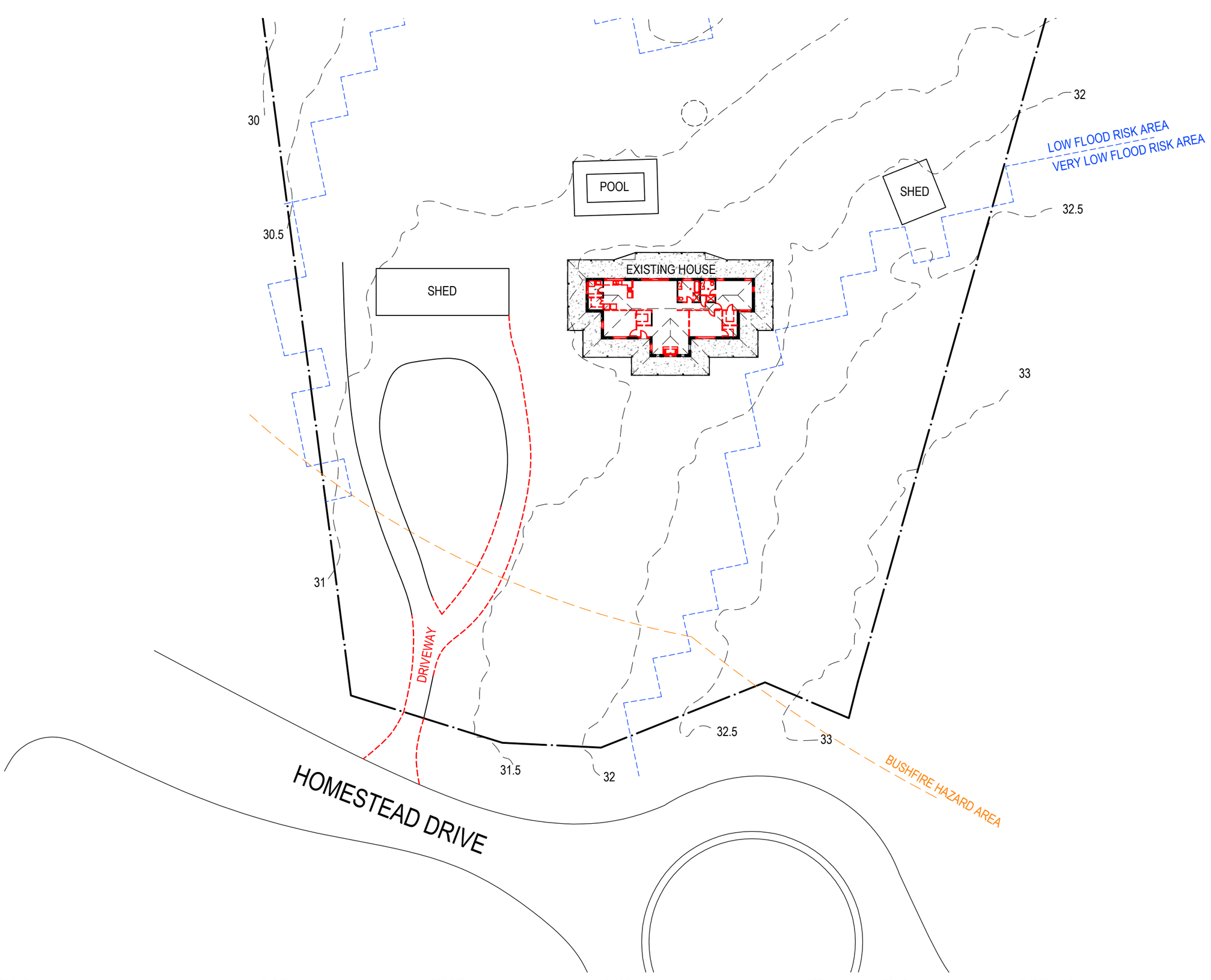
Contact Information

Where to go for further information depends on the type of information you need. Please refer to the Flood Risk Fact Sheet or contact Council using the details below.

Topic	Contact Details
Flood studies and modelling information, and the flood risk on your property	Contact Council on 07 3412 3412 or email council@logan.qld.gov.au. Further information about flooding and flood studies is available on the Flood page on Council's website.
Planning and development enquiries or proposals	Contact Council on 07 3412 3412 or email development@logan.qld.gov.au. Before lodging a development application, pre-lodgement advice is recommended.
Building information	Contact Council on 07 3412 3412 or email council@logan.qld.gov.au. You can also contact a private building certifier.
Properties in Priority Development Areas	Contact Economic Development Queensland. Council is not the planning authority for these properties.
Independent advice about flooding on your property	Contact a registered engineer through the Board of Professional Engineers of Queensland: Phone: 07 3210 3100 Email: admin@bpeq.qld.gov.au Web: Home - Board of Professional Engineers Queensland (bpeq.qld.gov.au)

Appendix G

Development Approval Drawings



LEGEND

DEMO - LINE OF DEMOLITION

DEVELOPMENT SUMMARY

PROPOSAL:	MEDICAL CENTRE
R.P.D:	LOT 160 on RP848031 39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280
LOCAL AUTHORITY:	LOGAN CITY COUNCIL
SITE AREA :	15,000m²
GFA:	180m²
CAR PARKING:	18 BAYS (INC. PWD) 1 AMBULANCE BAY
WASTE COLLECTION:	ON SITE
OPERATING HOURS:	MONDAY - FRIDAY 8:00am to 6:00pm

DESIGN BY:
CHRISTIAN ZAMBELLI
architect@christianzambelli.com
P 0408 266 135 B.Arch BOAQ 4518

CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

NORTH:

SCALE:
1:500@A3

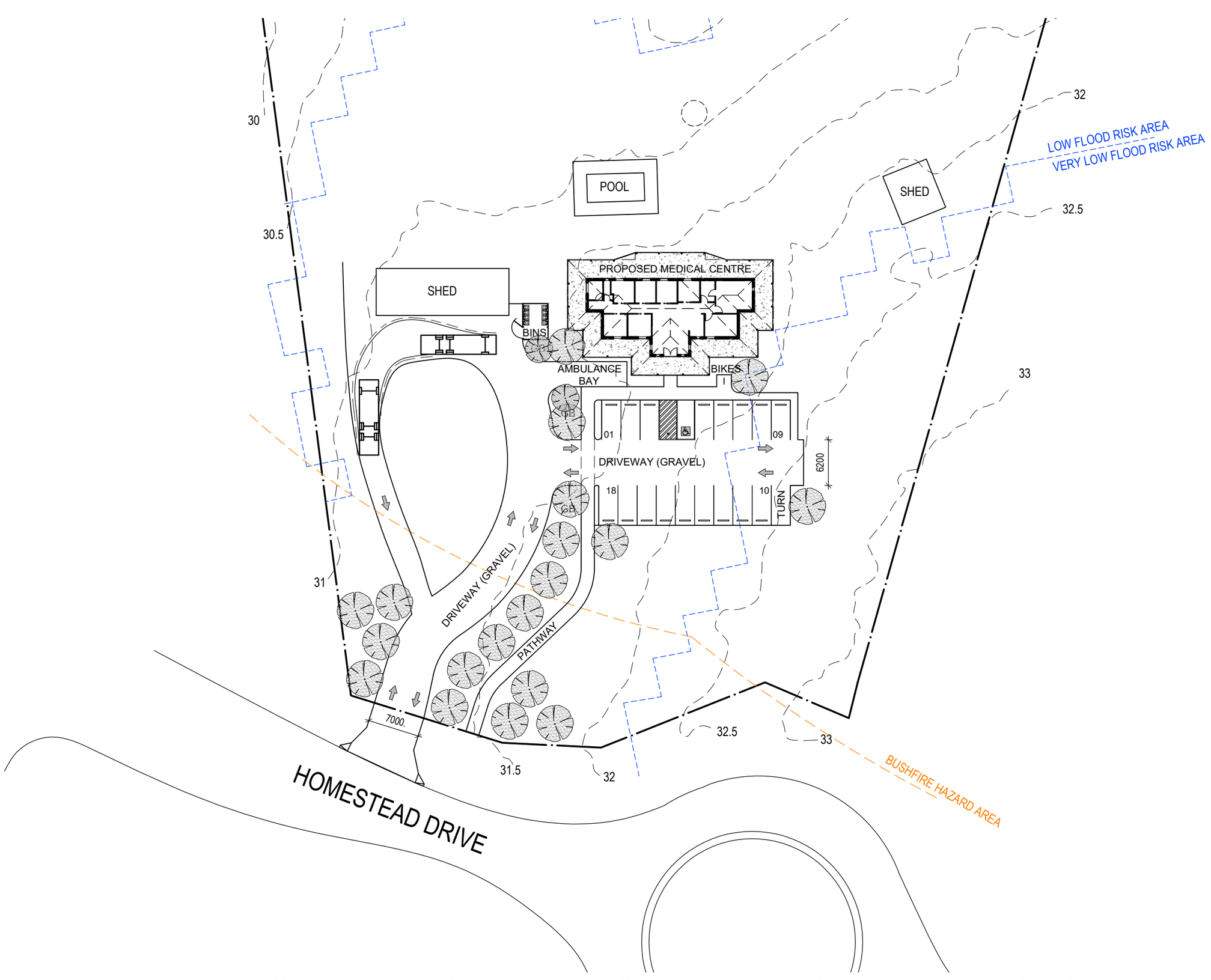
DATE:
24th MAR 2025

THIS DRAWING:
SITE PLAN EXISTING WITH DEMOLITION

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

DRAWING (ISSUE):
A-101 (1)



LEGEND

LANDSCAPE - TREE

DEVELOPMENT SUMMARY

PROPOSAL:	MEDICAL CENTRE
R.P.D:	LOT 160 on RP848031 39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280
LOCAL AUTHORITY:	LOGAN CITY COUNCIL
SITE AREA :	15,000m²
GFA:	180m²
CAR PARKING:	18 BAYS (INC. PWD) 1 AMBULANCE BAY
WASTE COLLECTION:	ON SITE
OPERATING HOURS:	MONDAY - FRIDAY 8:00am to 6:00pm

DESIGN BY:
CHRISTIAN ZAMBELLI
architect@christianzambelli.com
P 0408 266 135 B.Arch BOAQ 4518

CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

NORTH:

SCALE:
1:500@A3

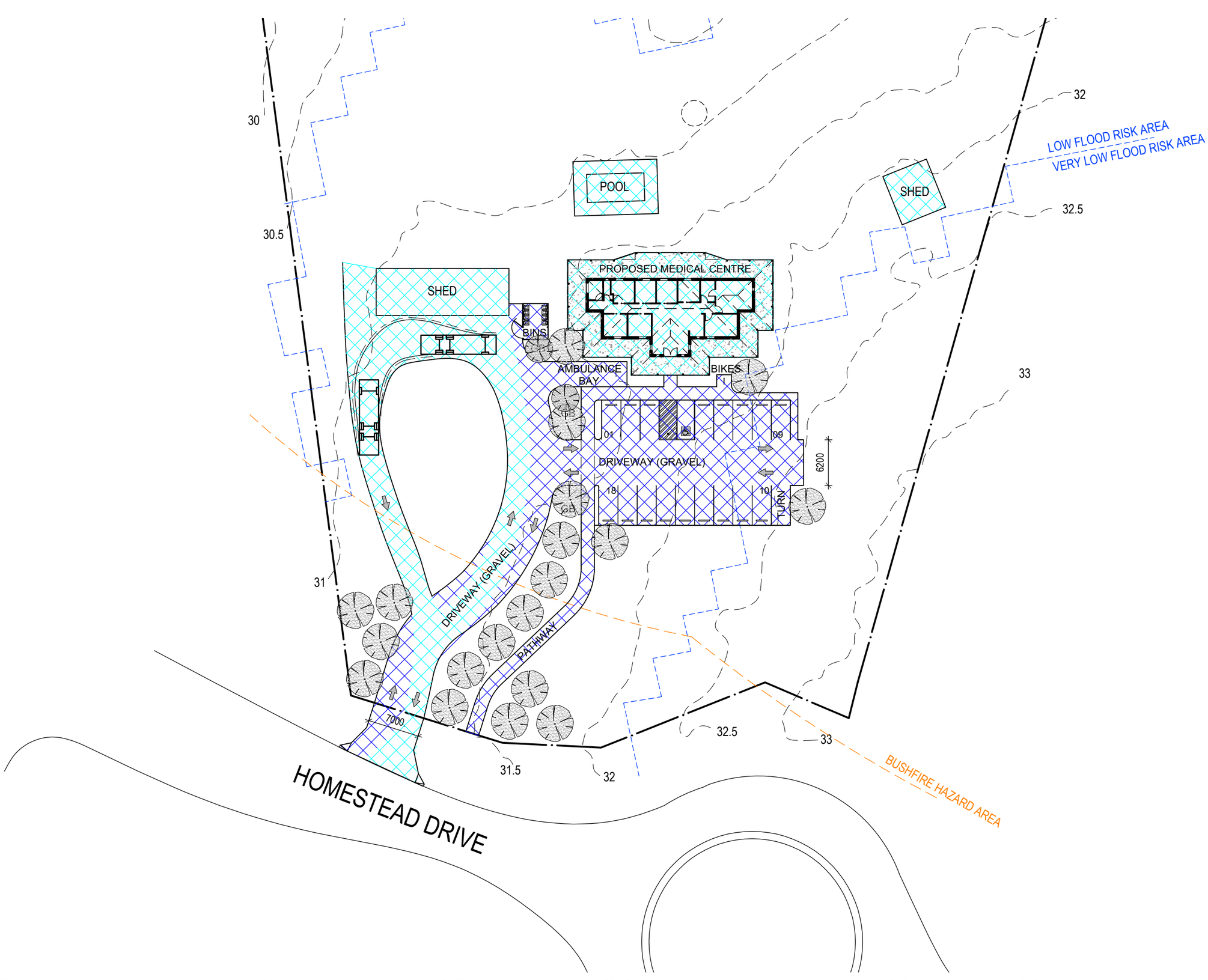
DATE:
24th MAR 2025

THIS DRAWING:
SITE PLAN PROPOSED

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

DRAWING (ISSUE):
A-111(1)



DESIGN BY:
CHRISTIAN ZAMBELLI
architect@christianzambelli.com
P 0408 266 135 B.Arch BOAQ 4518

CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

NORTH:

SCALE:
1:500@A3

DATE:
24th MAR 2025

THIS DRAWING:
IMPERVIOUS AREA

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

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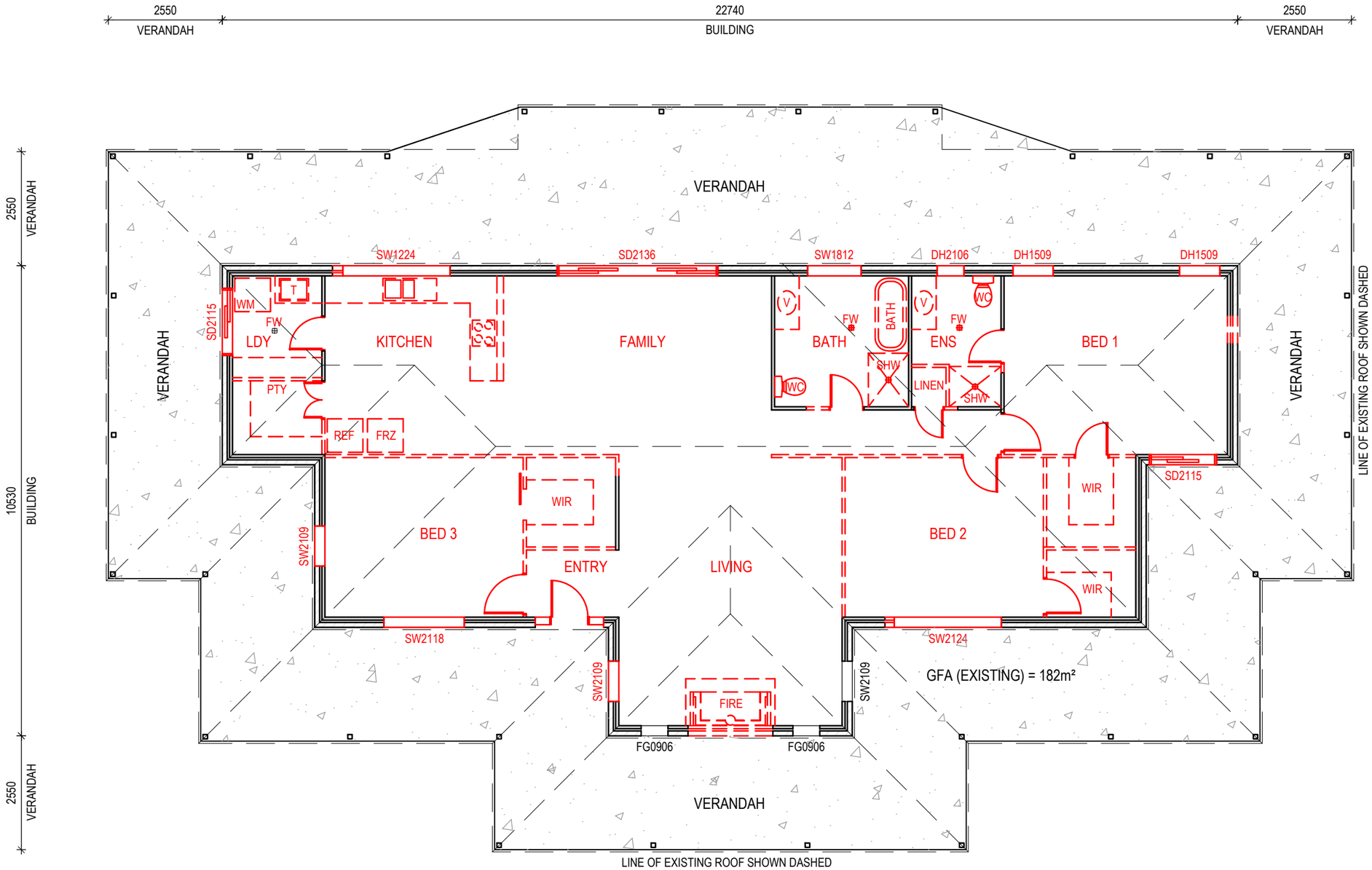
A-121 (1)



LEGEND

- DEMO - LINE OF DEMOLITION
- SURFACES - CONCRETE
- WALL - BRICK_EXISTING
- WALL - STUD_TIMBER_EXISTING

DESIGN BY:
CHRISTIAN ZAMBELLI
architect@christianzambelli.com
P 0408 266 135 B.Arch BOAQ 4518

CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

NORTH:

SCALE:
1:100@A3

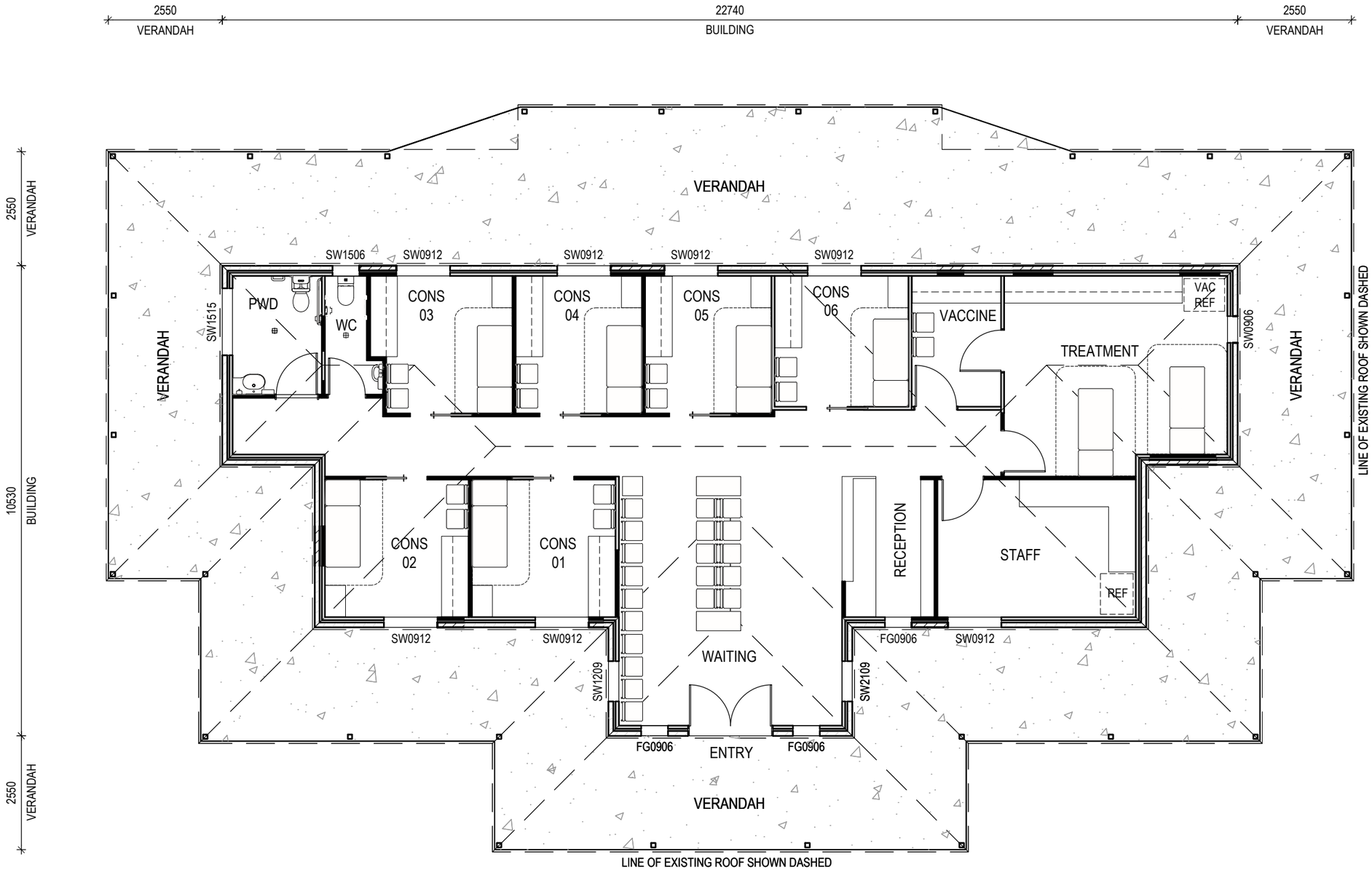
DATE:
24th MAR 2025

THIS DRAWING:
GROUND PLAN EXISTING WITH DEMOLITION

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

DRAWING (ISSUE):
A-201 (1)



LEGEND

- SURFACES - CONCRETE
- WALL - BRICK
- WALL - BRICK_EXISTING
- WALL - STUD_TIMBER
- WALL - STUD_TIMBER_EXISTING

DESIGN BY:
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CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

NORTH:

SCALE:
1:100@A3

DATE:
24th MAR 2025

THIS DRAWING:
GROUND PLAN PROPOSED

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

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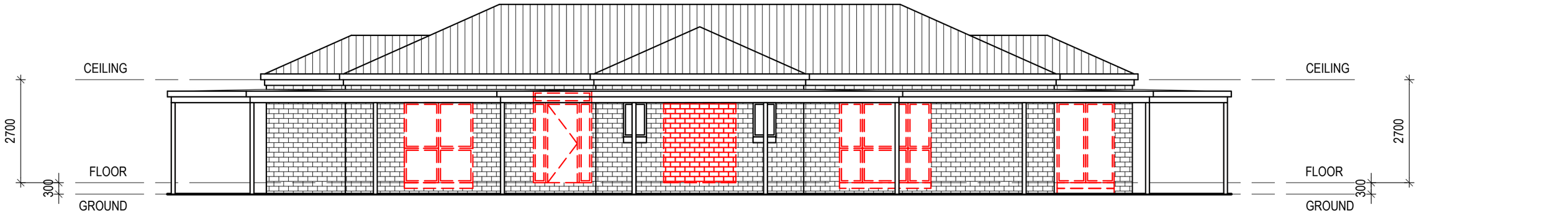
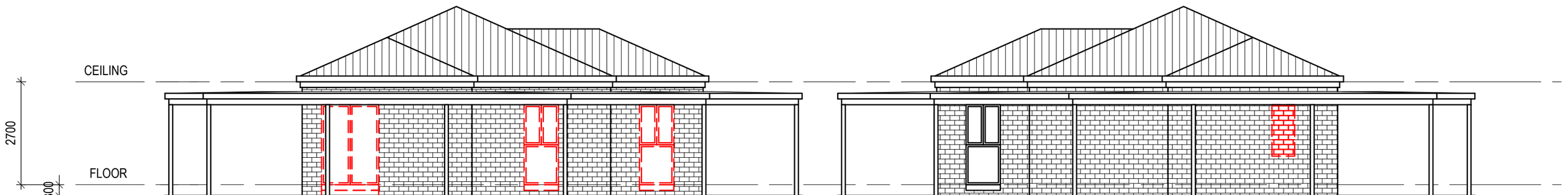


1 SOUTHERN ELEVATION

SCALE 1:100

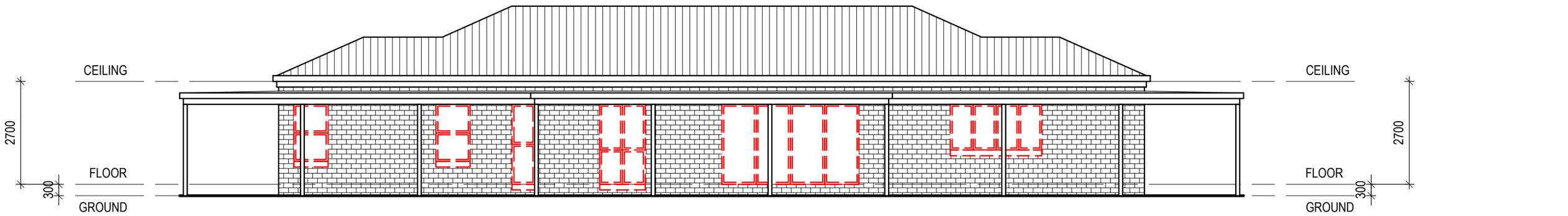


2 WESTERN ELEVATION

SCALE 1:100

3 EASTERN ELEVATION

SCALE 1:100



4 NORTHERN ELEVATION

SCALE 1:100

DESIGN BY:
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architect@christianzambelli.com
P 0408 266 135 B.Arch BOAQ 4518

CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

SCALE:
1:100@A3

DATE:
24th MAR 2025

THIS DRAWING:
ELEVATIONS EXISTING

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

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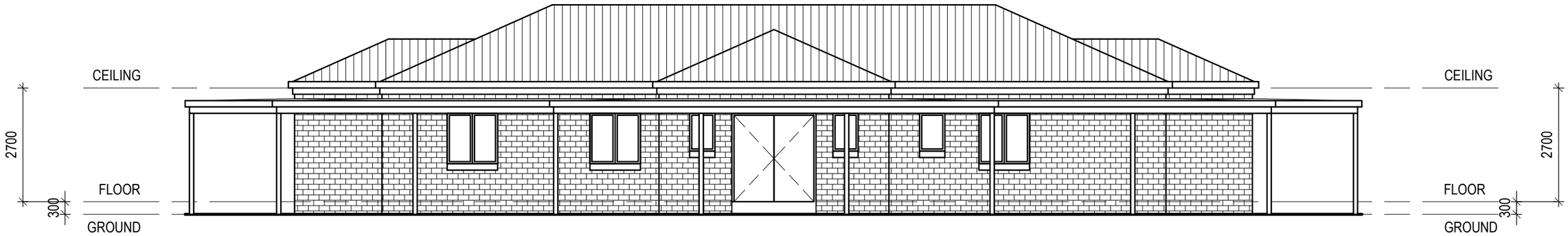
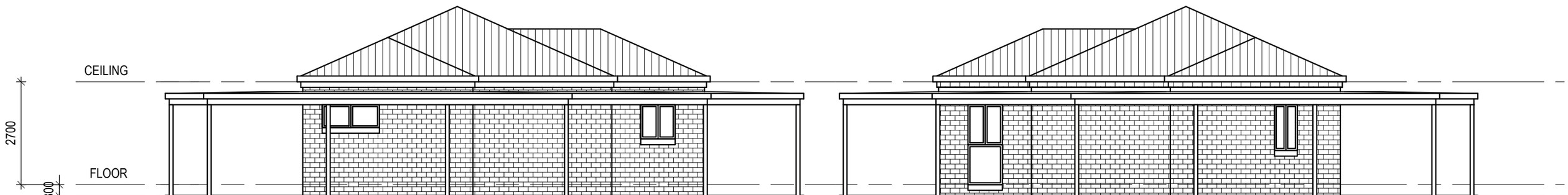
A-301 (1)



1 SOUTHERN ELEVATION
SCALE 1:100



2 WESTERN ELEVATION
SCALE 1:100

3 EASTERN ELEVATION
SCALE 1:100

4 NORTHERN ELEVATION
SCALE 1:100

DESIGN BY:
CHRISTIAN ZAMBELLI
architect@christianzambelli.com
P 0408 266 135 B.Arch BOAQ 4518

CLIENT:
DEWAN FAMILY PRACTICE PTY LTD

PROJECT:
MEDICAL CENTRE

LOCATION:
39-45 HOMESTEAD DRIVE, FLAGSTONE QLD 4280

SCALE:
1:100@A3

DATE:
24th MAR 2025

THIS DRAWING:
ELEVATIONS PROPOSED

PURPOSE:
DEVELOPMENT ASSESSMENT

PROJECT NUMBER:
P119

DRAWING (ISSUE):
A-302(1)

Appendix H

Rational Method Calculations

Catchment Characteristics						
Catchment ID	Total Area (*ha* | m^2)		Pervious (m^2)	Pervious (%)	Impervious (m^2)	Impervious (%)
CMT-POST01	0.6685	6685.00	5317.00	80	1368.00	20

Coefficient of Discharge (C_{10})						
Catchment ID	IFD Rainfall Intensity ($1I_{10}$) (*mm/hr*)	Intensity range ($1I_{10}$) (*mm/hr*)	Soil Permeability	Land Description	Fraction Impervious	C_{10} value
CMT-POST01	56.3	55-59	-	-	0.20	0.600

Coefficient of Runoff (Cy)						
CMT-POST01						
63.20%	39.35%	18.13%	10%	5%	2%	1%
0.480	0.510	0.570	0.600	0.630	0.690	0.720

Overland Sheet Flow Travel Time (*min*)						
CMT-POST01						
Type	Description	Travel Length (*m*)	Flow Path Slope (%)	Retardance Coefficient (*n*)	Flow Path Internsity (*mm/h*)	t (*min*)
kin-wave	overland	105.329	1.88	0.250	139.6	22.6
		24.846	3.38	0.250		2.6
		33.536	3.69	0.250		3.1
		43.277	1.03	0.030		1.5
		3.000	3.73	0.250		0.2
Time of Concentration (ToC) = 30.00*min* ~ (30.0*min*)						30.0

Peak Flow Rates (m^3/s)						
CMT-POST01						
63.20%	39.35%	18.13%	10%	5%	2%	1%
0.042	0.051	0.079	0.099	0.120	0.155	0.180

Catchment Characteristics						
Catchment ID	Total Area (*ha* | *m²*)		Pervious (*m²*)	Pervious (%)	Impervious (*m²*)	Impervious (%)
CMT-PRE01	0.6685	6685.00	6166.00	92	519.00	8

Coefficient of Discharge (C_{10})						
Catchment ID	IFD Rainfall Intensity ($1I_{10}$) (*mm/hr*)	Intensity range ($1I_{10}$) (*mm/hr*)	Soil Permeability	Land Description	Fraction Impervious	C_{10} value
CMT-PRE01	56.300	55-59	-	-	0.08	0.630

Coefficient of Runoff (Cy)						
CMT-PRE01						
63.20%	39.35%	18.13%	10%	5%	2%	1%
0.504	0.536	0.599	0.630	0.662	0.725	0.756

Overland Sheet Flow Travel Time (*min*)						
CMT-PRE01						
Type	Description	Travel Length (*m*)	Flow Path Slope (%)	Retardance Coefficient (*n*)	Flow Path Internsity (*mm/h*)	t (*min*)
kin-wave	overland	106.34	1.78	0.250	136.7	23.3
		42.12	3.60	0.250		4.2
		26.39	2.88	0.250		2.5
		28.58	0.89	0.030		1.0
		4.18	13.76	0.250		0.2
Time of Concentration (ToC) = 31.2*min* ~31*min*						31.2

Peak Flow Rates (m^3/s)						
CMT-PRE01						
63.20%	39.35%	18.13%	10%	5%	2%	1%
0.043	0.053	0.082	0.102	0.124	0.160	0.185

Appendix I

BYDA Asset Register

Job ID 51015668

3509 - DBYD

Review responses online

Received 6 of 6 responses

All responses received

39-45 Homestead Dr, Flagstone QLD 4280

Job dates
01/09/2025 → 10/10/2025

These plans expire on
23 Sep 2025

Lodged by
Vaughn Naude

Authority	Status	Page
BYDA Confirmation		2
APA Group Gas Networks (90073)	Received	4
Energex QLD	Received	56
Logan City Council	Received	97
National Fire Ant Eradication Program	Received	102
NBN Co Qld	Received	105
Telstra QLD FA	Received	121

Job No 51015668

BEFORE YOU DIG byda.com.au | Look up and Live

Zero damage - Zero harm - Zero disruption

byda.com.au

Contact Details

Contact	Contact number	Company	Enquirer ID
Vaughn Naude	0480 001 074	Bravo Consult	3450964

Email
vaughn@bravoconsult.com.au

Address
Unit 2 1 Wyuna Court
Hemmant QLD 4174

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
26/08/2025	01/09/2025	10/10/2025	Private	Excavation	Private	Manual Excavation

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
3509 - DBYD	39-45 Homestead Dr Flagstone QLD 4280	-

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
260161692	APA Group Gas Networks (90073)	1800 085 628	NOTIFIED
260161690	Energex QLD	13 12 53	NOTIFIED
260161689	Logan City Council	(07) 3412 3412	NOTIFIED
260161691	National Fire Ant Eradication Program	-	NOTIFIED
260161688	NBN Co Qld	1800 687 626	NOTIFIED
260161693	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.

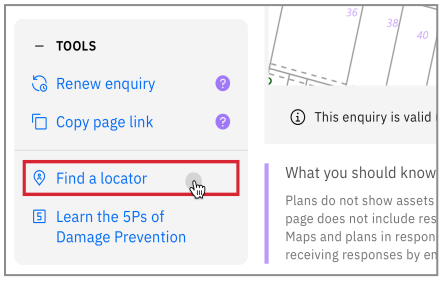
Protect

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

GET QUOTE

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

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

Book a FREE BYDA Session

BOOK NOW

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

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

APA Group Gas Networks (90073)

Referral
260161692

Member Phone
1800 085 628

Responses from this member

Response received Tue 26 Aug 2025 12.41pm

File name	Page
Response Body	5
400-STD-AM-0001_2 Guidelines for Works Near Existing Gas Assets.pdf	6
260161692.pdf	47

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	affected
Sequence Number	260161692
Enquirer Id	3450964
Activity	Manual Excavation
Job Number	51015668
User Reference	3509 - DBYD
Message	

Site Details:

Address	39-45 Homestead Dr Flagstone QLD 4280

Enquirers Details:

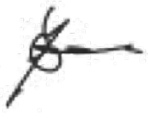
Contact	Vaughn Naude
Company	Bravo Consult
Email	vaughn@bravoconsult.com.au
Phone	+61480001074
Address	Unit 2 1 Wyuna Court Hemmant QLD 4174

APA Group

Guidelines for Works Near Existing Gas Assets

400-STD-AM-0001

Revision 2

OWNER NAME:	Alan Creffield
OWNER TITLE:	Manager of Integrity
APPROVER NAME:	Anastasia Coutie
APPROVER TITLE:	Team Lead – 3rd Party Engagement
APPROVAL SIGNATURE:	
APPROVAL DATE:	18/08/2023

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DOCUMENT CONTROL & APPROVAL INFORMATION

Summary of Changes

Below is a brief summary of the changes made to the document since the previous issued version.

Revision	Description	Date	Author
0.0	Issue for Use	29.06.2018	Matthew Read
1.0	Issued for Use – document periodic update / major overhaul	01.03.2022	Kahil Parsons
2.0	Removal of incorrect table 2 references to 1. proximity of HV cables 2. Updating separation distances to AS2885.3 BYDA reference update Table 4 Note	16.08.2023	Dale Russell

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Table of Contents

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The purpose of this document is to provide guidelines for third parties planning to install new infrastructure or conduct works near existing APA Networks (**APA**) operated assets.

It is intended that this document will be provided to third parties proposing works around existing gas assets for their use during the design and planning phase following initial planning BYDA enquiries. This document does not provide authorisation to undertake the works but provides APA requirements to ensure that any review and acceptance of proposed works is completed as quickly as possible.

1 INTRODUCTION

1.1 Scope of this Document

This document addresses APA's requirements for considering how a third party's proposed works and APA managed works may impact APA Networks operated assets under the following parts:

Part 1 – APA Notification and Authorisation Requirements

Part 2 – Design and Asset Protection Requirements

Part 3 – Construction and Land Use Requirements

Part 4 – Alteration of Existing Gas Assets

APA Networks acts as the asset operator on behalf of entities Australian Gas Networks (**AGN**), Allgas, APA, Origin and Queensland Nitrates (**QNP**) and operates in New South Wales, Northern Territory, Queensland, South Australia and Victoria. The criteria provided in this document only applies to the assets managed by APA Networks on behalf of these companies.

APA also owns and operates natural gas transmission infrastructure on all mainland states and territories of Australia. These assets are operated by a separate APA entity and are out of scope for this document.

A glossary of all terms and abbreviations used in this document is contained in **Section 7**.

A list of all relevant external standards and APA reference documents is contained in **Section 8**.

1.2 Asset Types

APA Networks' operated gas assets include buried pipe, above and below ground stations (e.g. pressure regulation, valves, meters), electrical cables, cathodic protection systems (e.g. test points, anode beds), pits and electrical cabinets. Depending on the gas type and the operating pressure, gas assets are classified as natural gas transmission, natural gas distribution and Liquefied Petroleum Gas (**LPG**) distribution as shown in **Figure 1**.

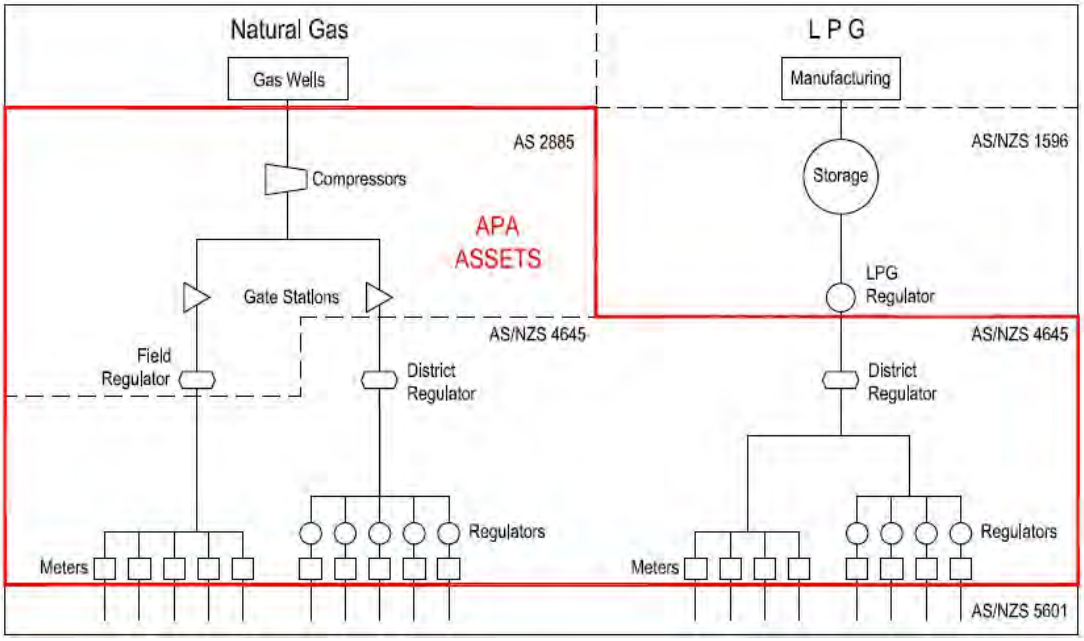


Figure 1 Asset Types and Standards Operated by APA Networks

1.2.1 Natural Gas Transmission

Natural gas transmission pressure assets operate at pressures above 1,050 kPag, and are generally used for transporting large quantities of gas across country. Design, construction and operation of these assets is governed by the AS 2885 suite of Australian Standards (**AS**).

Due to the higher pressure and energy density, there are severe safety, supply and environmental consequences which can result from third party interference. Hence, more stringent requirements and controls are applied to third party works in the vicinity of these assets.

Buried transmission pipelines are constructed from coated steel pipe where the appearance can vary depending on the year of construction, but will generally appear as yellow, black or grey when physically exposed.

1.2.2 Natural Gas Distribution

Natural gas distribution pressure assets operate at pressures below or equal to 1,050 kPag from offtakes of transmission pressure assets, and are generally used to supply consumers such as businesses and homes. Design, construction and operation of these assets is governed by the AS/NZS 4645 suite of Australian Standards.

Due to the lower energy density compared to transmission assets, less stringent requirements and controls are applied to distribution assets. Some distribution assets are deemed critical by APA Networks due to the safety and supply implications that may arise due to a third party strike. These critical distribution assets will be defined on BYDA responses, and some of the controls which are applied to transmission pressure assets (e.g. permit and site watch) will be required.

Buried distribution pressure pipes may be constructed from the following materials and physical appearances when exposed:

- Cast Iron (black);
- Polyethylene (**PE**) (yellow or black with yellow stripes);
- Steel coated or uncoated (generally yellow, black or grey); and
- Other plastic such as Polyvinyl Chloride (**PVC**) or nylon (yellow).

Some legacy materials such as cast iron and nylon may require additional protection during construction works due to the unpredictable nature of the materials.

1.2.3 LPG Distribution

LPG distribution pressure assets operate at pressures below 140 kPag from storage compounds and are generally used to supply consumers such as businesses and homes in parts of Queensland, South Australia and Northern Territory. Design, construction and operation of these assets is governed by the AS/NZS 4645 suite of Australian Standards.

Additional safety considerations are required in addition to the requirements for natural gas, as LPG is heavier than air and will pool at the leak point and can accumulate in a trench or excavation.

The same materials used for buried distribution pressure pipes (**Section 1.2.2**) may be used on LPG distribution networks.

1.3 Damage and Emergencies

If you smell gas or damage has occurred, or is suspected, on any gas asset call APA emergency number **1800 GAS LEAK (1800 427 532) or 1800 808 526 for LPG assets**.

Any unreported damage has the potential to escalate and endanger public safety.

Where damage has resulted in a release of gas, you are advised to take the following immediate action:

- Clear the area of all people. Do not under any circumstance re-enter the damage area;
- Where safe to do so, shut off or remove all ignition sources and devices in the area e.g. naked flames, vehicle engines, power tools, mobile phones;
- Do not attempt to stop the flow or repair the damage:
- Allow the gas to vent to air; and
- Once clear of the area, contact the emergency number **1800 427 532** or **1800 808 526 for LPG assets**.

The conditions in this document or as provided by APA Networks are intended to protect the gas assets as well as keep safe any construction crews or general public in the vicinity. Depending on the circumstances, some variation to the conditions in this document may be required or may be provided by an approved APA Networks site watch representative. It is legislated in all jurisdictions that the direction provided by APA is followed.

1.4 General Duty of Care and Responsibility to Obtain Information

Anybody working near a gas asset, or responsible for such work, has a duty of care to exercise caution, to maintain a safe working environment and to meet requirements of all relevant laws and Occupational Health and Safety legislation.

For general enquiries about results from BYDA please contact:

- DBYDNetworksAPA@apa.com.au for Northern Territory, South Australia, Southern New South Wales and Victoria, and;
- PermitsQLD@apa.com.au for Queensland and Northern NSW (incl. Tamworth).

The third party shall make contact with APA through the BYDA process if any clarification is required to determine the approval processes for any proposed land use changes (within the Measurement Length), design works and construction activities within 3 m of a gas asset or within a pipeline easement.

Any works proposed by the third party will only be authorised if APA is satisfied that the works will not affect the integrity of the APA Networks operated assets.

Any person undertaking work near an APA Networks operated asset, or responsible for such work, must ensure that they familiarise themselves with APA requirements.

Working around any gas asset, especially transmission pressure pipelines, without appropriate planning and controls as specified by APA Networks can be extremely dangerous. Damage to a gas asset could result in:

- Possible explosion and fire with the risk of loss of equipment, property, personal injury, and death;
- Loss of gas supply to thousands of customers;
- Substantial repair and gas restoration liability costs to the authority or principal responsible; and,
- Prosecution under the relevant laws governing pipeline and gas safety.

Prior to the commencement of any works within the Protected Zone of transmission pressure or critical gas assets, the Contractor performing the work must receive an Authority to Work Permit (ATWP).

Any works within the Protected Zone of critical assets must comply with any conditions attached to an ATWP and depending upon the nature of the asset and works supported by an approved construction methodology.

Written authorisation in the form of the ATWP must be kept on site at all times, and the holder of the authorisation must comply with all the conditions of the ATWP. The performance of any works near critical APA Networks operated assets without a valid ATWP and full compliance with its conditions will constitute a safety incident and may also result in an infringement notice and associated penalties issued by the regulator of the APA Networks asset.

1.4.1 Additional Transmission Pressure Pipeline Requirements

Where the works proposed by the third party may result in a change in land use within the Measurement Length for a transmission pressure pipeline (as defined in AS/NZS 2885.6 for Pipelines – Gas and Liquid Petroleum), such works may also be subject to formal approval requirements through APA Networks and applicable local and state government planning processes. This may also require a Safety Management Study (**SMS**) Report to be completed and approved by APA Networks. The SMS Report is generated from an SMS workshop involving an SMS facilitator, the third party and APA Networks. APA Networks is the owner of the SMS Report and any resulting recommendations/ actions must be implemented to the satisfaction of APA prior to the commencement of any physical works.

Certain categories of development/ land use change are not appropriate to be located within the Measurement Length of transmission pressure pipelines. In certain circumstances, the otherwise unacceptable risks associated with such developments may be alleviated with the aid of installing protective slabbing over the asset or undertaking other protection and mitigation measures.

2 PROTECTION PROCESS

APA is committed to working cooperatively with third parties to ensure that existing gas assets will be appropriately protected from any proposed works.

The process to be followed for any proposed works is outlined in **Table 1**. This table cross references the relevant section of this document which provides any specific requirements for each gas asset classification. The steps in this table are to be followed in conjunction with the process outlined by BYDA[1], a flow chart is also provided in **APPENDIX A**.

Table 1 Protection Process Summary

Section	Step	Purpose
3	**Notification and Authorisation**	**Identify and locate existing gas assets in the vicinity of any proposed works.** Submit BYDA requests to obtain indicative plans of gas assets. Notify APA Networks and obtain approval to verify the exact position by physically proving the position of gas assets at the cost of the third party.
4	**Design and Protection Requirements**	**Review APA Networks design and protection requirements for any proposed infrastructure near gas assets.** If acceptable clearance is available in accordance with this section review impact of construction methodology on existing gas assets. If acceptable clearance is not available in accordance with this section and the proposed infrastructure cannot be modified, alteration or protection of the existing gas assets will be required at the cost of the third party.
5	**Construction and Land Use Requirements**	**Review construction methodology for adverse impact to existing gas assets.** Some additional protection measures may be required depending on the existing gas assets, the construction methodology and whether land use changes are required. If works meet the requirements of this document, submit work package to APA Networks for review and approval. If approval is given, then undertake works in accordance with APA Networks conditions/ permits. If approval is not given modify work package accordingly. If works do not meet the requirements of this document or APA Networks approval cannot be reached, alteration or protection of the existing gas assets will be required.
6	**Alteration**	**Request alteration of existing gas infrastructure if there is insufficient clearance or construction methods will adversely impact existing gas assets.** Alteration of existing gas assets are fully recoverable and may result in delays if not identified early.

2.1 Assessment Information

Throughout the protection process, APA Networks assessment may be required to determine if the proposed works/ installation has sufficient separation or if work can be undertaken with a suitable construction methodology. If APA Networks assessment is required, the following information must be provided to enable an efficient and comprehensive review.

- Due dates or a work program;
- The location / address and extent of proposed works;

[1] BYDA process is available at https://www.1100.com.au/safety-information/digging-safely/

- Scope / description of the work impacting APA assets;
- A work package containing detailed design or construction issue drawings with the location of APA assets and the extent of works marked and / or georeferenced. Sufficient details must be provided on the plans to verify locations against APA information, which is typically measured from property boundaries. Plan and cross sectional drawings are typically required, including any proving locations;
- The proposed construction methodology (if available); and
- For critical assets only, a completed permit request form. This form is automatically provided in response to a BYDA enquiry when it is required, with direction for this form included in the BYDA response (refer to **Section 5.2**).

If the information provided is incomplete, or irrelevant information is provided, it may result in a delay of the assessment process and provision of a response. Due to the varying nature of potential works, it is not possible to develop a comprehensive listing of information that will be required for each work type, but the above is provided as a general guideline for what will normally be required.

3 PART 1 - APA NOTIFICATION AND AUTHORISATION REQUIREMENTS

3.1 BYDA Request

The fastest method for obtaining APA Network gas asset locations is to lodge a BYDA request. A response can be expected from APA within two business days, and may include one of three responses as outlined in **APPENDIX A**, depending on the location of the works in relation to existing APA operated gas assets in the vicinity.

For some BYDA requests, APA Networks may provide different responses to different assets affected by the proposed works. In all instances it is the responsibility of the third party to review and follow the direction of all BYDA responses.

The information provided by APA Networks in response to a BYDA request, along with any other plans or subsequent information provided by APA, show only the indicative location of the asset at the time and are a guide only. In most instances it will be necessary to prove the location of all buried assets within the proposed work area.

The following items must be considered when using asset information provided by APA Networks:

- Gas service lines from buried distribution pressure supply mains to consumers may not be shown on plans. Service lines are usually laid at right angles from main to a meter position, except where road conduits are provided; and
- Plans become rapidly outdated and so should be used within 30 days and then destroyed. It is the responsibility of the third party to contact APA Networks to seek the updated or renewal of any information after this time.

APA shall not be liable or responsible for the accuracy of any information supplied.

3.2 Provings and Site Identification

Electronic location (e.g. ground penetrating radar, pipe locators) of gas assets is required to verify the onsite locations and any plans that have been provided.

Physical proving of existing gas assets is required at key locations to verify that the separation and protection criteria provided in this document have been achieved. The location and quantity of provings will depend on the scope of proposed work, but provings will at least be required at infrastructure crossing points or where changes to surface level condition are planned.

Additional verifications are required for works parallel and in close vicinity to existing gas assets. Physical provings at maximum 10 m intervals along straight sections of pipe, along with all bends, branch lines and customer service offtakes to verify asset locations.

Note: Live service offtakes which no longer supply consumers may protrude from the gas asset and are not traceable or identifiable from records.

Note: The maximum physical proving intervals for straight sections of pipe may be adjusted based upon the discretion of APA personnel for extenuating circumstances.

The following items must be considered when proving the location of an existing gas asset:

- Provings must be conducted safely and in accordance with the requirements of **Section 5.5.2.** If damage to a gas asset does occur it should be reported immediately to APA as described in **Section 1.3**.
- Permit and site watch by an APA Networks representative may be required for some proving activities in accordance with **Section 5.2**.

3.3 APA Notification and Authorisation Process

Prior to the third party undertaking any works/ activities or as part of the planning and design phase, the third party shall ensure a BYDA request is submitted. The automated response received from the BYDA system will be tailored based on the criticality of the assets.

For assets operated at distribution pressures and not considered critical mains, a Duty of Care Notice is provided with the BYDA response for the third party to consider. Site watch may be necessary under a duty of care notice where additional protection or other integrity concerns require it.

In the event that works are conducted within the Protected Zone of a transmission pipeline and/ or critical distribution main, these works will require a review approval received from APA prior to commencement of works. Works subject to this requirement are deemed to include, but not limited to, the following activities that fall under **Table 3**;

- Non Destructive Digging (**NDD**);
- Mechanical excavation including trenchless excavation i.e. drilling (boring, horizontal direction drilling (**HDD**), pipeline bursting and tunnelling) for installing infrastructure such as the following; o Roadways, driveways, railways, pavements;
    - o Electrical equipment (cables, overhead transmission lines, telecommunication cable or power poles);
    - o Installation of culverts/ pipes (water, drainage, sewer or reticulation); o Landscaping.

APA will not approve certain activities and structures in the transmission pipeline easement (if applicable), including the following;

- Permanent storage;
- Installation of billboard structures;
- Use and storage for explosives, flammables or corrosives;
- Blasting;
- Structures forming part of any house, house extensions, carports or entertainment areas;
- Dams and other manmade water features. Locations of dams off the pipeline easement/ protected zone must not create run off or drainage towards the pipeline easement;
- Chemically treated effluent coming in contact with the pipeline easement/ protected zone;
- Garbage, sand fill, refuse disposal;
- Airstrips.

The Third Party must submit an enquiry to APA at the earliest possible stage to allow sufficient time for assessment. Submissions should include the following information;

- Land description and map identifying location of the proposed works;
- Types of works to be carried out;
- Intended future use of the land (where relating to change in land use)
- Type and weight of machinery that will be used;
- Any plans or diagrams of the works;
- Timeframe for the works.

The sequence of obtaining APA approval is as follows;

a) Submit enquiry for Initial Review – The Third Party submits the request prior to works commencing and APA Networks will complete an ‘Initial Review’. The third party must not progress any works on site until they receive a response from APA Networks. The two possible outcomes of this stage are a ‘No Impact’ response or;

b) Enquiry Escalated for Standard Assessment – The request will be forwarded to APA Networks Field or System Operations personnel for a more detailed appraisal, which may involve contacting the third party, site visits, locating of assets of site, and/or request for additional information. The third party must not progress any work on site until they receive a response from APA Networks. The two possible outcomes of this stage are a ‘No Objection under standard conditions’ response or;

c) Enquiry Escalated for Engineering Assessment – The request has been forwarded to the Integrity Third Party Engagement team for additional appraisal and determination of specific conditions. The third party must not progress any works on site until they receive a response from APA Networks. The two possible outcomes of this stage are a ‘No Objection under special conditions response’ or;

d) Enquiry Escalated for Alteration – The Integrity Third Party Engagement team triggers the alteration process for this enquiry. The third party will be contacted for additional information and must not progress any work on site until they receive a response from APA Networks.

e) No Impact – The third party receives a 'No Impact' response and can proceed with the works under appropriate APA Networks requirements e.g. Duty of Care, Authority to Work Permit and/or Site Watch.

f) No Objection Under Conditions – The third party will receive a No Objection under standard or special conditions response and can progress with the planning of the works under the conditions specified in the response and appropriate APA Networks requirements e.g. Duty of Care, Authority to Work Permit and/or Site Watch.

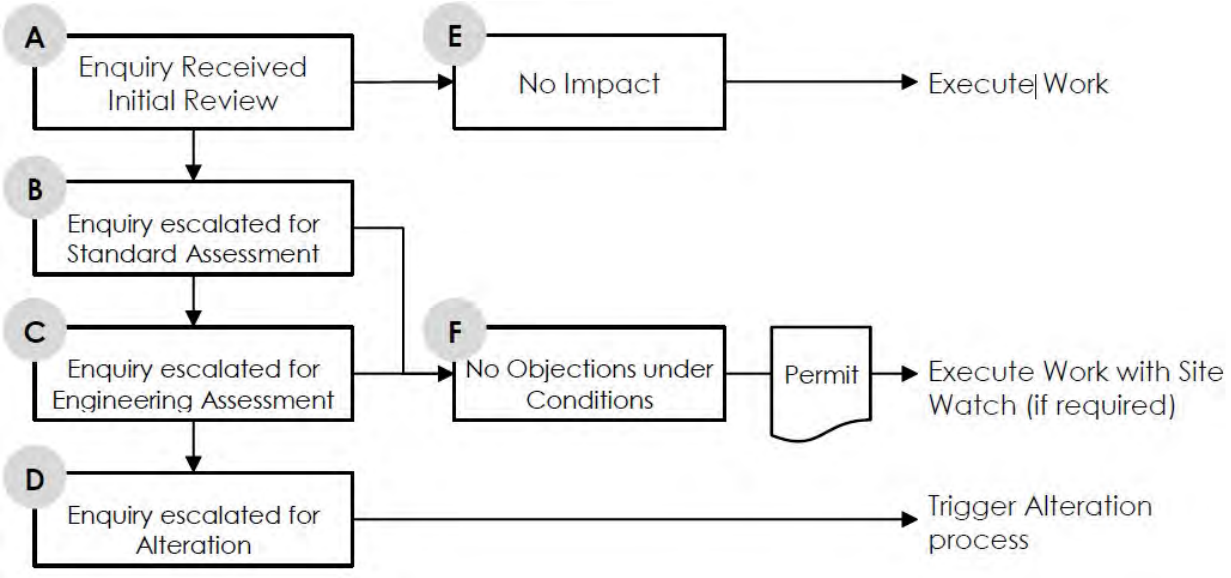


Figure 2 Stages for Third Party Works Authorisation Request

For works around APA Networks transmission pipelines or critical mains the documents take precedence in the following order;

- APA Authority to Work Permit (**ATWP**)
- APA accepted Third Party Construction Drawings
- APA accepted Third Party Construction Methodology
- APA Networks Guidelines for Works Near Existing Gas Assets (this document)
- APA accepted Third Party Safe Work Method Statement (**SWMS**) (if applicable)

3.4 Commercial Agreement and Service Delivery

APA will undertake a review of Third Party Works, as required. At APA's discretion cost recovery for these works may be required. Where APA Networks requires cost recovery a commercial service agreement in the form of a Works Agreement will be required.

Note: Any third party works requiring blasting, seismic and/or tunnelling work near APA Networks operated assets will not be considered "low risk" and cost recovery for detailed review maybe required.

3.5 Decommissioned Gas Assets

Decommissioned gas assets that remain in the ground are not always shown on BYDA plans.

Where unknown assets are identified or suspected on site but are not on APA plans, they must be treated as being live. In this instance, the third party must contact all utility owners and operators in the area of the BYDA and notify them of the findings.

Following review, if APA accepts that it is a decommissioned gas asset, the asset must be treated as per the requirements of this document. APA will take no further action where it is not considered to be a decommissioned gas asset.

In some cases, decommissioned gas assets are required for future use by APA (sometimes noted as “Idle” on APA plans). These assets must be treated as live using the same criteria outlined in this document, and must not be removed or altered without APA’s express written approval.

Where APA confirms there is no future use of a decommissioned gas asset (sometimes noted as “Abandoned” on APA plans), removal of the asset can be undertaken by the third party under the following conditions:

- For assets considered by APA to be decommissioned gas assets, APA must be engaged to verify that the asset is gas free;
- End caps must be permanently sealed, using an APA approved methodology, on any decommissioned sections that are to be left in place to prevent future water ingress into the remaining sections of the decommissioned gas asset;
- An as-built drawing must be submitted by the third party for any section(s) of a decommissioned gas asset removed by the third party or its sub-contractors to ensure BYDA can be updated accordingly; and
- Payment for costs associated with any verification or alteration activities must be provided prior to APA undertaking works.

4 PART 2 - DESIGN AND ASSET PROTECTION REQUIREMENTS

4.1 Standard Clearances

Minimum clearance dimensions outlined in this section must be met to allow for safe future maintainability and protection of existing gas assets. If separation clearances cannot be achieved, APA will review the proposed infrastructure on a case-by-case basis to determine whether a resolution can be achieved before alteration of any existing gas assets is considered. Authorisation of works by APA is still required, regardless of being able to achieve the required separation distances.

Clearances specified in **Table 2** are measured from the closest edges of the existing gas asset to the proposed infrastructure. Depending on the exact nature of proposed infrastructure, additional clearance may be required.

Note: Clearances specified herein are from gas assets, third party utilities may have their own standard separations that exceed APA's minimums specified in **Table 2.**

The future access zone required around a gas asset depends upon a number of factors such as size, operating pressure, depth and soil conditions, but typically this access zone is at least 1000 mm either side and 700 mm below the gas asset. As an aid for design and / or installation, the minimum clearances presented in **Table 2** are provided to allow for safe future access to gas assets. These minimum clearances assume that the asset have been proven and the location verified. There may be circumstances where additional clearances are required.

Table 2 Minimum Clearances

Clearance Type (Note 2, 9)	Minimum Transmission Pressure Asset Clearance	Minimum Distribution Pressure Asset Clearance
Any installation up to 0.6 metres wide which is crossing the gas asset	500 mm Vertical **(Note 2)**	300 mm Vertical **(Note 2)**
Any installation over 0.6 metres wide which is crossing the gas asset	500 mm Vertical	300 mm Vertical **(Note 2)**
Any installation laid by trenchless excavation e.g. HDD, boring, etc.	3000 mm Vertical	600 mm Vertical
	Refer to **Section 5.6** for minimum horizontal separation distances	
Any installation laid parallel to a steel gas asset	600 mm Horizontal **(Note 2, 3)**	
Any installation laid parallel to any gas asset other than steel	N/A	300 mm Horizontal **(Note 2, 3)**
Trenching separation from edge of gas asset to edge of trench **(Note 4)**	500 mm Horizontal	300 mm Horizontal
Underground electrical cables laid parallel to any gas asset other than steel	N/A	300 mm Horizontal
Electrical conduits and cables (<11 kV) laid parallel to a steel gas asset	Engineering assessment required **(Note 2, 3)**	
Electrical conduits and cables (≥ 11kV) laid parallel to a steel gas asset	**(Note 2, 3)** Engineering assessment required **(Note 7)**	

Electrical earthing systems near a steel gas asset	High Voltage: Engineering Assessment Required Low Voltage: 300 mm Horizontal **(Note 7)**	
Electrical earthing system near any gas asset other than steel	N/A	300 mm Horizontal
Clearance Type (Note 2, 9)	**Minimum Transmission Pressure Asset Clearance**	**Minimum Distribution Pressure Asset Clearance**
Undisturbed cover from the top of the gas asset to the underside of trenching or road pavement boxing	500 mm Vertical	300 mm Vertical **(Note 1)**
Distance from predominant building line	3000 mm Horizontal Where applicable outside pipeline easement	Refer to **Section 4.2**
Distance from Sensitive Use Locations (Refer **Section 7** for Glossary of Terms and Abbreviations)	APA Engineering Assessment Required **(Note 8)**	N/A
Canopies longer than 15 m parallel to the edge of the gas asset	3000 mm Horizontal **(Note 10)**	Refer to **Table 4** **(Note 10)**
Any installation that could add excessive loads to the gas asset or restrict access to the gas asset	3000 mm Horizontal **(Note 2)**	
Any installations that may need require underpinning were APA to expose the gas asset	3000 mm Horizontal	
Any temporary stake, e.g. star picket	300 mm Horizontal	
Electrical poles including street lighting and traffic signals	3000 mm Horizontal Where applicable outside pipeline easement	1000 mm **(Note 3, 5, 6, 7)**
Fence post, including road safety barriers	3000 mm Horizontal when installed per APA requirements	500 mm Horizontal when installed per APA requirements
Pile or pier	3000 mm Horizontal when installed per APA requirements	500 mm Horizontal when installed per APA requirements
Permanent Heavy Vehicle Loads (Greater than 4.5T)	Refer to **Section 4.7** Temporary and Permanent Vehicle Loads	
Tree Root Barrier	3000 mm Horizontal	1000 mm Horizontal Refer to **Section 4.3** Landscaping Plans
Separation distances for vegetation	Refer to **Section 4.3** Landscaping Plans	

Note 1: For distribution main crossings, where the vertical separation distance is less than 300 mm physical protective slabbing, e.g. HDPE or concrete, shall be installed where the other utility is crossing beneath the APA pipeline/distribution main.

HDPE or concrete, shall be installed where the other utility is crossing above the APA pipeline/distribution main.

No protective slabbing is required for utility crossings greater than 500 mm separation.

Note 2: Structures and large utilities crossing APA Networks operated assets need to be self-supporting so that future repairs or maintenance of the asset can occur as per **Section 4.2 Third Party Assets and Structures**.

Note 3: Horizontal separation includes utility surface access pits, thrust blocks and/ or footings.

Note 4: Additional horizontal separation may be required depending on the extent of the planned works, local soil conditions and trench stability of the existing gas asset. This is particularly relevant where works occur within the angle of repose of the existing gas asset (e.g. parallel trenching that is deeper than the existing gas asset) and may result in undermining.

Note 5: In accordance with 'AS/NZS 4853 – Electrical hazards on metallic pipelines' without further information and APA engineering assessment, no electrical power poles for 66kV or above are permitted within the following separation distances of steel gas assets;

- If the power line has an Overhead Earth Wire (**OHEW**) – 15 m;
- If power line does not have an OHEW – 100 m;

Note 6: Where electrical poles (including street lighting and traffic signals) are proposed which place the gas asset within the no dig zone specified by the electrical authority either of the following shall occur;

a) The poles shall be designed with deeper foundations to be self-supporting if the gas asset needs to be excavated. Or;

b) For non-metallic assets relocated into a conduit that extends past the no dig zone.

Note 7: Clearance for electrical cables and earthing systems from steel gas assets must be reviewed in accordance with **Section 4.6 Earthing and Electrical Effects**. Electrical cables, substations and/or earthing systems installed in the vicinity of steel gas assets require an Earth Potential Risk (**EPR**) and Low Frequency Induction (**LFI**) assessment to AS/NZS 4853.

Note 8: Requires a setback distance to stay away from the Measurement Length (refer to **Table 14 Glossary of Terms and Abbreviations**). Alternatively, the setback distance may be reduced if protection slabbing is installed along the Sensitive Use Location where interaction with the Measurement Length occurs. This may also be limited to the development area subject to APA engineering assessment.

Note 9: Pipeline protection needs to be assessed and shown on the design plans with design clearances. This includes recoating, bridge slab or asset strike protection slab.

Note 10: Clearance may be dependent on demonstrating that there is sufficient continuous ventilation.

For construction and land use activities around gas assets the minimum horizontal clearances referenced in **Table 3** must be followed.

Table 3 Minimum Clearances for Construction Works and Land Use Activities

Construction and Land Use Activities	Minimum Horizontal Clearance	
	Transmission Pressure & Critical Distribution Mains	Non-Critical Distribution Pressure Mains
Excavation without APA representative present **(Note 1)**	3000 mm	N/A
Trenchless Excavation **(Note 1)**	3000 mm Refer to **Section 5.6**	1000 mm Refer to **Section 5.6**
Temporary Heavy Vehicle Traffic (greater than 4.5T)	If the load has not been assessed, maintain a Horizontal separation of 3000 mm. APA engineering assessment must be completed if crossing asset. Refer to **Section 4.7** Temporary and Permanent Vehicle Crossings	Refer to **Section 4.7** Temporary and Permanent Vehicle Crossings
Installation of Piles, Piers or Poles	Refer to **Table 2** and **Section 5.7**	
Hot Works from Construction Activities	Any hot works within 5000 mm of an open trench containing gas asset or where cover is less than 300 mm. Refer to **Section 5.8**. **(Note 2)**	
Compaction	**Section 5.10** for Compaction Limits Maximum Compaction Limits	
Vibration Limits	No vibration within 3000 mm of the pipeline and greater distance to comply with **Section 5.9**	
Blasting, Seismic Survey or the use of Explosives	Approval required for works within 100m. Refer to **Section 5.11**.	
Lifting over exposed gas asset	Not permitted over the gas asset. Refer to **Section 5.12** for Suspended Materials above Gas Assets and No Go Zones for Cranes.	
Clearance of crane outriggers to gas assets	Not permitted within 3000 mm of gas asset. Refer to **Section 5.12** for Suspended Materials above Gas Assets and No Go Zones for Cranes.	
Clearance of temporary material from pipeline	Not permitted within 3000 mm of gas assets. Refer to **Section 5.13** for Temporary Materials.	

Note 1: Excavation covers NDD, mechanical excavation and trenchless excavation (boring, HDD, pipeline bursting and tunnelling).

Note 2: Horizontal separation distance also applies to any pits or valve covers.

4.2 Third Party Assets and Structures

Structures, including but not limited to buildings, walls, canopies, footings, pile caps or retaining walls, must not transfer any load to or be installed over any gas asset.

The design of any third party asset or structure must take into account future safe access of any gas assets in the vicinity. The proposed third party asset or structure must be installed in a way that prevents the angle of repose from encroaching into the future access zone as specified in **Section 4.1** around the existing gas asset.

Any third party asset or structure installed within proximity to a transmission pipeline or critical distribution pressure main must be designed to be self-supporting and allow for a minimum excavation window 1m on either side of the asset and 700 mm below the edge of the asset, for maintenance of the asset. This self-supporting design information is required to be shown on the construction drawings supported by geotechnical data and calculations. Construction of structures on pipeline easements are not permitted without explicit consent from APA.

Distribution pressure gas mains must be offset from the expected predominant building line at a distance in accordance with **Table 4**. Transmission pressure gas assets shall be per **Table 2**.

Table 4 Minimum Building Offset Distances for Distribution Pressure Gas Mains

Diameter (DN)	MAOP (kPag)			
	≤210	>210 ≤ 420	>420 ≤ 600	>600
≤110	0.5 m	0.5 m	1.0m	3 m
>110 ≤ 160	0.5 m	0.5 m	3 m	5 m
>160	0.5 m	3 m	3 m	8 m

Gas assets may be located underneath curbing or strip footings for road safety barriers for short sections up to 10 m to allow for tapers. The integrity of the gas asset to be located underneath the curbing or strip footing may require inspection, repair, recoating and / or slabbing depending on the existing condition and extent of proposed works.

Posts or poles which are located in road reserve, or otherwise exposed to vehicle impact, must be designed such that there will be no damage to the gas asset in the event of a vehicle impact.

For works in Victoria, consent from the relevant State Minister is required under Section 120 of the *Pipelines Act 2005* (VIC) for the erection of structures or buildings within 3,000 mm of a transmission pressure asset. Ministerial consent must be arranged through Energy Safe Victoria (**ESV**) following review and acceptance of the proposed designs by APA Networks.

4.3 Landscaping Plans

Vegetation may limit line of site, access and passage along an existing gas asset alignment, while the associated roots may damage existing buried pipe, coating or other ancillary equipment (e.g. cables). Above ground gas infrastructure may also be exposed to hazards from falling vegetation and increased fire risk. Additionally, trees and tree roots may limit access to the gas asset in an emergency, during normal operations and when make new connections or modifications.

Landscaping plans which include vegetation should select tree species which do not have vigorous root activity and do not exceed above 5m in height when fully mature when planted within 3m of gas assets. The pre-selection of trees considered suitable for planting within road reserves and near gas assets should also consider interference with, or damage to, other underground and overhead services.

For all landscaping works within 3 m of transmission pressure or critical distribution pressure gas assets the following details must submitted to APA for review and approval prior to planting.

- Tree species – botanical and common name
- Mature tree buttress and canopy diameter
- Mature tree height

- Maximum root ball diameter
- Offset from gas asset
- Method of protection to gas asset

Trees to be planted within 3 m of transmission pressure or critical distribution pressure gas assets, should also adhere to **Table 5** below.

Note: Horizontal separation is measured from pipe edge to edge of mature trunk or mature drip line, whichever is the greater.

Strata cells are not considered an appropriate protection from tree roots. If strata cells are to be installed in the vicinity of existing buried gas assets, the controls identified in **Table 5** must be used for protection.

Table 5 Protection of Distribution Gas Assets from Vegetation

Vegetation Types	Requirements	Horizontal Separation from Pipe Edge to Vegetation			
		Greater than 3 m	1.5 to 3m	1.5 to 0.5 m	<0.5 m
Trees or Large Shrubs	Min. separation of 3 m is required between trees and pipe if no protection methods are utilised.				
Medium and Small Shrubs	Within 1.5 m – 0.5 m protection methods must be utilised.				
Ground cover and grasses	No protection methods required.				

Gas Protection Methods	
	No protection methods required, provided separation limits are followed.
	Within 3 m, tree species which have mature buttress diameters less than 0.15 m and do not have invasive or deep roots may be accommodated without protection methods after consultation with APA Networks **(Note 1)**. For trees with mature buttress diameters greater than 0.15 m one of the following gas protection methods must be implemented; 1. Lowering or relocation of the gas asset to a minimum of 1.2 m cover. 2. Installation of new gas conduit beyond the structural root zone (**SRZ**) of the mature tree species for future use. **(Note 2)** 3. Installation of a root barrier system. System to be 1 m deep or extend 250mm below the gas asset, whichever is the greater.
	Within 1.5 m installation of a root barriers system is mandatory and gas protection methods are as follows; 1. Installation of a robust root barrier system. System to be 1 m deep or extend 250 mm below the gas asset, whichever is the greater. **AND** 2. Lowering or relocation of the gas asset to a minimum of 1.2 m cover. **OR** 3. Installation of new gas conduit beyond the SRZ of the mature tree species for future use. **(Note 2)**
	Planting directly over gas assets is not permitted in any location, as it prevents emergency and maintenance access. Tree roots can damage gas asset resulting in gas leaks.

Note 1: Refers to the minimum 1.5 m structural root zone for a mature buttress diameter less than 0.15 m mandated under AS 4970 – Protection of trees on development sites.

Note 2: Suitable protection method for PE mains only. Conduits to be recorded in Geographic Information System (**GIS**) for future referencing.

Note 3: On transmission pressure assets vegetation must not limit line of site along the buried gas assets alignment, all signage must remain each in sight of the other.

4.4 Surface Levels and Conditions

Decreases or increases to surface levels must consider depth of cover requirements for gas assets specified in **Table 6**. This is in addition to maintaining a minimum working cover from the top of the gas asset to the underside of trenching or road box out works during construction as specified in **Table 2**. Vehicles must not cross gas assets at covers less than those specified in **Table 6** unless in accordance with **Section 5.10** for Compaction Limits or **Section 4.7** for Temporary and Permanent Vehicle Crossings.

Where existing surfaces are to be modified, finished cover levels are not to be reduced to less than existing levels, unless meeting the minimum requirements of **Table 6**. The requirement for, and the extent of, protective slabbing over any APA Networks operated asset will be determined by APA at its sole discretion with adherence to minimum depth of cover without physical protection as the preference. Depending on the location, local councils and relevant road/ rail authorities may have minimum depth of cover requirements that APA are required to meet which are more stringent than those listed in **Table 6**. Depth of cover requirements for individual consumer offtakes (service connections) are also provided in **Table 7**.

Details of any additional fill proposed to be placed on or within 3 metres of a gas asset, or within any applicable easement, must be clearly shown on plans and must be approved by APA Networks in writing. A maximum depth of cover of 2,500 mm for transmission pressure assets and 2000 mm for distribution assets apply in all locations; however, it is preferred not to exceed 1500 mm for both types of assets.

Table 6 Minimum Depth of Cover Requirements for Pipelines and Mains

Asset Location	Minimum Depth of Cover (Note 3)	
	Transmission Pressure Asset	Distribution Pressure Asset
Under Minor Road Pavement **(Note 1)**	• 1,200 mm • 1,200 mm to 1,000 mm with physical protection slabbing and APA engineering load assessment	• 750 mm • 750 mm to 600 mm with physical protection slabbing and APA engineering load assessment
Under Major Road Pavement **(Note 2)**	• 1,200 mm • 1200 mm to 1,000 mm with bridging slabs **(Note 4)**	• 1,200 mm • 1200 mm to 750 mm with bridging slabs **(Note 4)**
In Road Reserve but not Under Road Pavement	• 900 mm • 900 mm to 750 mm with protective slabbing contingent upon pipeline location class	• 750 mm • 750 mm to 600 mm with protective slabbing
Not in Road Reserve	• 900 mm • 750 mm with protective slabbing contingent upon pipeline location class	• 750 mm for > 210 kPa • 600 mm for ≤ 210 kPa
Railway Reserve	2000 mm **(Note 5)**	
Large Open Drain or Major Water Crossing	2000 mm **(Note 6)**	

Note 1: Minor road pavements typically are owned by local councils.

Note 2: All roads owned by state and federal authorities are major roads. Roads owned by council may be major or minor roads. Covers less than 1200 mm may require dispensation from the relevant road authority.

Note 3: Protective slabbing must be installed where minimum depth of cover requirements cannot be met or are required to meet specific safety requirements. Bridging slabbing for transmission pressure assets may be replaced with protection slabbing following APA engineering assessment.

Note 4: The requirement for bridging slabs can be downgrade to physical protection slabbing where APA engineering assessment is completed and approved.

Note 5: Installation within railway reserve shall be in accordance with both AS 4799 and the respective operating standard for the gas assets i.e. AS 2885 and AS 4645.

Note 6: The minimum depth of cover of 2,000 mm shall consider future scour of the drain or waterway crossing. For man-made drains the depth of cover can be reduced to 1200 mm if sealed (i.e. concreted) and appropriately designed. For transmission pressure assets, waterway crossings shall be designed in accordance with AS 2885.1 – 2018 Clause 5.8.6.2. For all assets, as a minimum the following shall be considered;

a) A hydrological investigation to determine the stream power under peak stream, watercourse or waterway flows. The investigation shall determine the 1 in 100 year flood and the probable maximum flood and intermediate (optional) flood conditions.

b) A geotechnical investigation to determine the physical parameters of the crossings, and using the information from the hydrological investigation, the erosion potential. This assessment should also consider the meander potential of the watercourse so that the limits of special construction can be defined.

Table 7 Minimum Depth of Cover Requirements for Customer Offtakes (Services)

Asset Location	Customer Offtake size	
	≤ DN50	> DN50 and ≤ DN110 (Note 1)
Roadway	450 mm	600 mm
Private Property	300 mm	450 mm

Note 1: Customer offtakes (services) with diameters greater than DN110 shall have depth of cover in accordance with **Table 6**.

Changes to surface conditions (e.g. changing from nature strip to road pavement) or which place the gas asset in an inaccessible position (e.g. with excessive cover) may require slabbing, recoating and / or relocation. Changes to surrounding surface levels or conditions must also consider drainage and the potential to result in erosion of cover for gas assets. Additionally, gas fittings such as valves, stopple fittings or flanges must not be located underneath road pavement. An APA Engineering assessment will be required if this is not feasible, refer to **Section 6**.

Where a new hardstand surface is installed on non-metallic distribution pressure mains (e.g. a painted concrete driveway), consideration should be given to including a casing or enveloper pipe to APA requirements for insertion of future gas assets. This will ensure that the new hardstand surface is not modified as part of the future gas installation. Where a casing or enveloper pipe is installed for future insertion works surveyed as-constructed records are to be provided to APA Networks for incorporation into the GIS records.

For transmission pressure gas assets, any landscaping material should be level within the easement or a minimum of 3 m (but preferably 6 m) to each side of the pipeline, to permit excavating equipment to operate without having to destroy the adjacent landscaping.

4.5 Casings Vent Stacks

Casings provide mechanical protection and protection to gas assets from external loadings. Some cased crossings are sealed and fitted with a casing vent stack, which gas leaks are identified via.

The following APA requirements are to be applied for works near casing vent stacks:

- Casing vent stacks cannot be removed unless an alternative arrangement has been approved by APA Networks or they have been assessed as being redundant;
- Unfettered access is to be maintained to casing vent stacks; and
- Minimum distance from casing vent stack discharge point to any electrical installation or overhead structure must be 1000 mm.

4.6 Earthing and Electrical Effects

Steel gas assets are susceptible to adverse effects from electrical sources such as above and below ground cables, substations, transformers, earth rods, cathodic protection systems or electrified tram / train lines.

Without any further information or engineering assessment, earthing systems for distribution (≥11kV) and transmission (≥66kV) power lines must satisfy the Earth Potential Rise (**EPR**) Level 1 (Conservative) compliance of AS/NZS 4853 – 2012 Table 4.3 & 4.5 which specifies separation distances from pipe appurtenances (e.g. valves, regulators, isolation joints), access points or earth points (including cathodic protection test points). For the potential hazards to be accepted as low risk on the basis of a Level 1 assessment the separation between a conductive structure or substation and pipeline subject to EPR shall be greater than the values given in **Table 8** below.

Table 8 Separation Distances for Pipeline Subject to EPR from Power Lines (Level 1 Assessment)

Fault Current or Actual Current (A) (Note 2, 3)	Separation Required (m) - Note 1			
	Distribution Power Line (≥11kV)		Transmission Power Line (≥66kV)	
	100 Ω.m	500 Ω.m	100 Ω.m	500 Ω.m
150	40	190	N/A	N/A
300	80	390	N/A	N/A
500	130	660	N/A	N/A
750	200	1,000	N/A	N/A
1,000	270	1,300	60	310
3,000	N/A	N/A	190	940
6,000	N/A	N/A	380	1,900
10,000	N/A	N/A	635	>3,500

Note 1: Earth resistivity of 500 Ω.m shall be used for dry sand or rock and 100 Ω.m for all other cases.

Note 2: If the fault current is unknown for a distribution power line (≥11kV), a fault current of 1000 A shall be used for the first pass assessment.

Note 3: If the transmission power line (≥66 kV) uses an OHEW, uses values up to 3,000 A (this assumes a current split of 30% of 10 kA). For lines without an OHEW, use values up to 10,000 A for current going down the structure.

Without any further information or engineering assessment, distribution (≥11 kV) and transmission (≥66 kV) power lines parallel to steel gas assets must satisfy the Low Frequency Induction (**LFI**) Level 1 (Conservative) compliance of AS/NZS 4853 – 2012 Table 4.2 & 4.4 which specifies maximum acceptable power line to pipeline exposure length.

Per AS/NZS 4853 – 2012 the pipeline expose length (average separation for the parallel section) under LFI conditions shall be less than the values given in **Table 9** below.

Table 9 Exposure Length for Pipeline Subject to LFI from Power Lines (Level 1 Assessment)

Power line to pipeline separation (m)	Exposure Length (m) – Note 1	
	Distribution Power Line (≥11kV) – 100 Ω.m	Transmission Power Line (≥66kV) – 100 Ω.m
5	180	95
10	210	110
20	240	127
50	310	165
100	400	210
200	550	290
500	950	500

Note 1: Without soil resistivity data, assessments are to be completed assuming 100 Ω.m. If soil resistivity data is available refer to AS/NZS 4853 – 2012.

Where AS/NZS 4853 Level 1 EPR or LFI requirements cannot be achieved a Level 2 and/or 3 assessment will be required.

The third party must provide to APA detailed plans of any source(s) of earthing and/ or electrical effects proposed to be located in the vicinity of steel gas assets, with an assessment report compliant with AS/NZS 4853 Electrical Hazards on Metallic Pipelines. This assessment report is to determine any effects to existing cathodic protection or induced voltage mitigation systems from these types of installations. The third party must address any relevant requirements and any recommendations and/or actions must be implemented to the satisfaction of APA Networks. All cost association with the study, and implementing its recommendations and/ or actions are to be borne by the third party. The third party must also complete validation testing upon completion of construction and provide all findings/ reports to APA Networks.

Hazards which may arise due to electrical systems located in the vicinity of steel gas assets include the following:

- Accidental contact between gas assets and electrical systems;
- Capacitive coupling;
- Conductive coupling;
- Electromagnetic induction;
- Low Frequency Induction (LFI);
- Earth Potential Rise (EPR), including due to fault current or lightning discharge; and,
- Adverse cathodic protection interference in excess of those allowed under AS 2832.1 or relevant state regulations

4.7 Temporary and Permanent Vehicle Crossings

Vehicle crossings over existing gas assets are limited to light vehicles (Gross Vehicle Mass not greater than 4.5 tonnes unless advised otherwise by APA Networks in writing) on unsealed surfaces or Heavy Vehicles (compliant General Access Vehicles) on established road pavements.

Any proposed new crossings must be assessed and authorised in writing by APA Networks.

A maximum surface pressure of 400 kPa is allowable directly above buried gas assets. However, any surface pressure exceeding this limit or where cover over the gas asset has been reduced from **Table 6** will require an APA Engineering Assessment and approval.

Where soil conditions exhibit poor compaction and load bearing characteristics, such as wet soil conditions, equipment is not permitted to cross the gas asset irrespective of weight without establishing a stable sealed surface or road plates.

Crane footings or bog mats must not be placed where the angle of repose can influence an existing gas asset without express written approval by APA. Where the existing gas asset is within the angle of response, the maximum surface pressure due to the crane must be provided.

5 PART 3 - CONSTRUCTION AND LAND USE REQUIREMENTS

Extreme care should be exercised at all times when working around existing gas assets, as repair works will be fully chargeable and may result in delays to any works. Refer to the duty of care outlined in **Section 1.4** and the requirements of this section when selecting construction methods.

5.1 Land Use Change

Where works proposed by a third party may result in a change in land use within the Measurement Length (as defined in AS/NZS 2885.6 for Pipelines – Gas and Liquid Petroleum) of transmission assets, such works may also be subject to formal approval requirements through APA Networks and applicable local and state government planning processes.

This may also require a Safety Management Study (SMS) report be completed and approved by APA Networks. This SMS report is generated from an SMS workshop involving an independent SMS facilitator, third party and APA Networks. APA Networks is the owner of the SMS report and any resulting recommendation/ actions must be implemented to the satisfaction of APA Networks prior to the commencement of any physical works.

Certain categories of development, such as Sensitive Use Locations (refer to **Table 14 Glossary of Terms and Abbreviations**), are not appropriate to be located with the Measurement Length. In certain circumstances, the otherwise unacceptable risks associated with such developments may be alleviated with the aid of installing protective slabbing over the transmission pipeline or undertaking other protection and mitigation measures.

Sensitive Use Locations near transmission pipelines are designated under AS/NZS 2885.6 and identify land where the consequences of a Failure Event may be increased because it is developed for use by sectors of the community who may be unable to protect themselves from the consequences of a pipeline Failure Event.

Sensitive uses are defined as follows;

- Schools, which includes colleges
- Hospitals and aged care facilities such as nursing homes, elderly people's homes
- Prisons and jails
- Sheltered housing
- Buildings with five or more stories
- Large community and leisure facilities, large open air gatherings
- Day care facilities
- Other potentially difficult to evacuate facilities
- Other structures as defined by relevant local councils.

For further information regarding the SMS process, refer to APA Networks Encroachment and Land Use Change SMS Trigger Procedure, **400-PR-L-0003**.

5.2 Permits and Site Watch

Transmission pressure assets and critical distribution pressure assets, must have a permit issued prior to proposed works in the vicinity of the existing assets, including any proving activities. Following the issue of a permit, a site watch inspector may be required to verify that the activities are carried out appropriately.

Other distribution pressure assets not considered critical will only require site watch as determined by APA Networks.

Where a permit is required, the response provided to the BYDA enquiry will include the relevant forms and process to be followed for submitting a permit request.

While BYDA recommends completing the request two business days prior to undertaking works, this is to ensure that the location information is obtained. This may not allow sufficient time for APA Networks to supply site watch. Further delays may be experienced if the proposed works are significantly complicated, do not meet the requirements of this document or if insufficient information is provided.

It is an offence in all jurisdictions to undertake activities in the vicinity of transmission pipelines without prior authorisation by the operator.

5.3 Coating Surveys and Leakage Surveys

Where proposed works have potential to indirectly damage pipe coating (i.e. due to compaction) or result in a leak of the gas asset (e.g. vibration of cast iron pipes), additional monitoring activities such as Direct Current Voltage Gradient (**DCVG**) or leakage surveys may be required.

If required, chargeable DCVG surveys will be conducted prior to works to establish any existing coating faults which exist on the gas asset. A subsequent DCVG survey will be conducted at the conclusion of works, and where new faults have developed on the gas asset, repairs shall be made with costs charged to the works owner. Surveys can be conducted prior to finalising road surfaces to avoid costly repairs.

A similar chargeable survey program can be applied where leakage surveys are required. However, additional surveys may be necessary throughout works to ensure work crews do not operate in a gaseous environment once leaks are caused.

5.4 Pipeline Repairs, Recoating and Slabbing

Buried steel assets operated by APA Networks are coated to provide protection from corrosion.

Where the surface conditions above a buried steel pipe are changed which may limit future access to the existing gas asset an assessment of the coating condition will likely be triggered.

The requirement for pipeline recoating is assessed by APA Networks on a case by case basis, based on the proposed works, but will generally be dependent on the following:

- The asset class;
- The existing coating type, age and condition;
- Increase in loading that can bring forward any pipeline anomalies; and,
- Changes limiting access to the existing asset(s), such as the installation of slabbing, road pavement, culverts, embankment ramps or any other feature.

A chargeable coating survey carried out in accordance with **Section 5.3** may be required to assess the condition of the existing gas asset coating.

Recoating and/ or associated slabbing works over any gas asset will be determined by APA Networks Engineering Assessments and any applicable risk assessments (Safety Management Study or Formal Safety Assessment).

Pipeline repairs, recoating and slabbing that form part of any third party commercial agreement will be charged to the third party.

The requirement for, and the extent of, slabbing over any APA Networks operated asset will be determined by APA at its sole discretion and may depend on factors other than only changes in depth of cover discussed in **Section 4.4**. Slabbing may be required for the following reasons:

- Removable protective slab to provide protection from third party mechanical excavation;
- Bridging slab to provide protection from external loadings e.g. insufficient depth of cover combined with vehicle traffic.

Slabbing must be installed with adequate separation from the pipe, which may impact the undisturbed cover requirement, and cannot be installed directly underneath road pavement or at surface level.

Any bridging slab designs prepared by a third party must be accompanied by certification from the registered practising structural engineer (Registered Professional Engineer Queensland (**RPEQ**) required for works in Queensland, and so on as required for other States and Territories) confirming that the design is adequate to prevent pipeline loading.

5.5 Exposure of Buried Gas Assets

5.5.1 General

Excavation works covers Non-Destructive Digging (**NDD**) and mechanical excavation. All such excavations must be completed in accordance with APA's direction.

The Third Party or its Contractor can perform exposure works on APA Networks operated assets via NDD using vacuum excavation and subsequent mechanical excavation works under the following conditions:

- **A current BYDA request is available for the works.**
- An approved Authority to Work Permit (**ATWP**) is issued for works near transmission pipelines or critical mains.
- APA Site Watch Officer is present for works near transmission pipelines or critical mains as outlined on the ATWP.
- The Third Party (or its Contractor) shall ensure they have their own SWMS, Risk Assessment, Environmental Management Plan, Tool Box Talk, Traffic Management and Pre-Start in line with their own corporate policy in place prior to works commencing.
- All underground assets have been identified by surface marking where within or close to the excavation area prior to proceeding with planned proving works (i.e. hand or NDD (e.g. Hydro-Vacuum Excavation). Any non-recorded assets should be identified prior to breaking ground (e.g. excavation or cutting).
- A check for gas leaks has been conducted prior to the commencement of work.
- If the mechanical excavation operator cannot see the spotter (where applicable, APA Site Watch Officer), he or she must stop moving immediately and not resume movement until contact has been established. Spotters must be aware of their surroundings and should never walk into the path of a vehicle, moving equipment or a swinging load. They need to scan the ground to become aware of any trip or fall hazards.
- If excavations are greater than 1.5 m or ground conditions are considered unstable benching/ battering/ shoring must be utilised. Additionally, appropriate ladders/ ramps or steps must be utilised to ensure safe access and egress.
- **Under no circumstances is mechanical equipment to be used within 300 mm of any gas asset.**

5.5.2 Physically Proving Gas Assets

Prior to mechanical excavation of the gas assets, the asset shall be physically proven by NDD or through the use of hand excavation. The method used will vary based on the criticality of the asset. The requirements in **Section 5.5.1** shall be implemented prior to physically proving the gas asset.

Technique 1 – Vacuum Excavation (Critical and Non-Critical Gas Assets)

A vacuum truck can be used to prove and expose the gas asset. Please ensure the requirements detailed in **Section 5.5.3** are adhered to.

Technique 2 – Hand Excavation (Critical and Non-Critical Gas Assets)

If the anticipated depth of cover of the gas asset is less than 1m (measured from the top of pipe) then hand excavation shall be used to expose the gas asset. The use of round edge shovels should be used to avoid damage to the pipe or coating. In the event that the anticipated depth of cover of the gas asset is greater than 1m then mechanical excavation can be undertaken in accordance with the requirements of **Section 5.5.4** but must stop when within 1m of the gas asset (i.e. 1.3m anticipated depth means that 300 mm of cover can be removed by mechanical excavation and the

remainder by hand excavation as described above. The anticipated depth shall be based on the shallowest result from BYDA or pipe locator.

Technique 3 – Hand + Excavation (Non-Critical Gas Assets ONLY)

If the gas asset is deemed non-critical then a combination of hand digging and excavation can be used. This technique requires the third party to hand excavate 300 mm then mechanically excavate the first 150 mm. In this technique the hand excavation shall always lead the mechanical excavation by 150 mm. Once within 300 mm of the gas asset then only hand excavation is allowed.

5.5.3 Hydro-Vacuum Excavation

Where hydro-vacuum excavation is used in the vicinity or to expose existing gas assets, the following conditions must be applied:

- Ensure the general requirements in **Section 5.5.1** are adhered to prior to the works commencing.
- Root cutting heads shall not be used at any time.
- When locating pipelines and mains, a maximum water pressure of 2500 PSI (17200 kPa) may be used to a depth no greater than 450 mm. Below this depth, the maximum water pressure shall be set in accordance with **Table 10** for the asset type in the vicinity.
- When locating customer offtakes (services), a maximum water pressure of 2500 PSI (17200 kPa) may be used to a depth no greater than 300 mm. Below this depth, the maximum water pressure shall be set in accordance with **Table 10** for the asset type in the vicinity.
- Where air is used in place of water the air pressure shall not exceed 175 PSI (1200 kPa).
- A minimum distance of 200 mm shall be maintained between the nozzle tip and subsoil and vertical movements avoided (i.e. nozzle shall not touch or be inserted into soil).
- The wand shall never remain motionless during excavation. Aiming directly at the gas asset shall be avoided at all times.
- NDD vacuum equipment must not come into contact (impact) with the pipe or coating.
- Once a gas asset has been exposed via hydro-vacuum methods, a visual check must be undertaken to ensure no damage has occurred to the pipe or its coating. Damage caused to the pipe coating by the third party will be chargeable.
- A dead man trigger or similar, shall be installed and used on the wand.
- If conduits are to be installed for identification of the gas assets location the conduit shall be offset to one side and recorded or a flexible conduit installed over the gas asset. The placement of PVC pipes directly on the gas asset may cause damage to the pipe coating and require repair at the contractor's expense.
- Vacuum excavated holes shall be cleaned of any rocks and debris and backfilled with a minimum 300 mm of sand.

Personnel operating NDD equipment shall monitor ground conditions to determine and adjust for the lowest water pressure setting and vacuum used to adequately expose the gas asset. The objective shall be to use the lowest possible pressure and vacuum required to adequately excavate in order to minimise risk of coating and/or pipe damage. **Table 10** provides the maximum water pressure to be used for various pipe and coating types.

Table 10 Maximum Water Pressure for Hydro-Vacuum Excavation

Pipe / Coating Type		Max. Water Pressure (PSI)	Pipe / Coating Type	Max. Water Pressure (PSI)
Steel	Coal Tar Enamel Coated	1,000	**Steel – Mummified fittings** (e.g. valves, flanges)	Not Permitted
	Polyethylene Tape Coated	1,000	**Cast Iron**	1,000
	Polyethylene Coated	2,000	**Polyethylene**	2,000
	Trilaminate Coated	2,000	**Nylon or PVC**	1,500
	FBE or HBE Coated	2,000	**Unknown Material or Steel Pipe Coating**	1,000
	Uncoated	2,500		

5.5.4 Mechanical Excavation

Prior to commencing any excavation works the general requirements in **Section 5.5.1** must be adhered to.

Where works are to be carried out within 3 m of the gas alignment and to 1 m of the known gas main depth, the contractor is required to pothole and expose the gas asset as outlined in **Section 5.5.5**.

Prior to the mechanical excavation commencing ensure the excavator is in working order and all pre-start equipment checks are completed.

Excavators with general purpose buckets (e.g. mud bucket, general purpose teeth) up to 30 tonnes are permitted to conduct mechanical excavations in the vicinity of existing APA gas assets in accordance with APA requirements. Any variation of excavator size or bucket type will require assessment and approval by APA Networks. Buckets with any type of tiger or penetration teeth are not permitted unless explicitly approved by APA Networks.

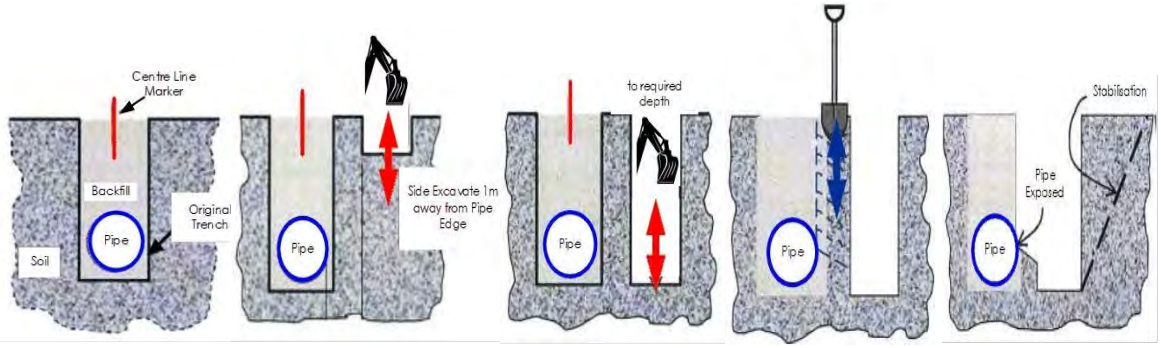
Critical Gas Assets

No mechanical equipment shall be used within 1 m of the potholed depth of the critical gas asset, except under explicit on site direction from an APA representative (i.e. APA Site Watch).

Under no circumstances is mechanical equipment to be used within 300 mm of any gas asset.

Once the gas asset has been positively proven, as outlined in **Section 5.5.2**, mechanical excavations can commence at a minimum of 300 mm offset from the outer edge of the pipe. The third party shall not mechanical excavate directly over a critical gas asset, with hand excavation only directly over the alignment or to expose the asset.

Figure 3 Gas Asset Side Excavation Method



Non-Critical Gas Assets

Mechanical excavation is permitted directly over the top of non-critical gas assets however **under no circumstances is mechanical excavation equipment to be used within 300 mm of any gas asset.** If the third party is in doubt with regards to the criticality of the gas asset, then the excavation method outlined for critical gas assets shall be used.

Prior to the mechanical excavation commencing, the asset shall be physically proved as outlined in **Section 5.5.2**. Once the depth has been physically proven the third party can proceed with excavating around the gas asset until within 300 mm. From this point hand excavation or NDD is required.

5.5.6 Protection During Exposure

Additional protection measures are required where an exposed gas asset may be subject to impact from construction activities, sagging of exposed pipe and trench instability. Any works requiring exposure and protection of the gas asset should have an accompanying methodology and approval by APA Networks.

Physical protection (e.g. structural steel protection, sandbags, wrapped with split PVC pipe) should be installed around the exposed gas asset when exposed, particularly when new infrastructure is planned to be installed crossing below the gas asset. If the gas asset is to be exposed for longer than one day or otherwise left unattended, suitable barricades, security fencing and/ or steel plates will be required to provide protection from vehicles, dropped objects (such as construction materials) or vandalism.

Unsupported exposed pipe lengths require protection from sagging by using suitable supports such as sandbags or slings. Where slings or other support types come into contact with the gas asset, protection methods must be employed (e.g. wrapped with split PVC pipe) to prevent damage to the existing pipe or coating. Exposed unsupported joints must also be identified and supported during works. The maximum allowable length of exposed pipe without support is provided in **Table 11**.

Table 11 Maximum Unsupported Lengths of Exposed Pipe

<table>
<tr><th>Gas Asset Diameter (mm)</th><th>Steel Maximum Unsupported Length (mm)</th><th>Polyethylene Maximum Unsupported Length (mm)</th><th>Other Material Maximum Unsupported Length (mm)</th></tr>
<tr><td>≤20</td><td>2,000</td><td>1,500</td><td rowspan="6">1,500
(Note 1)</td></tr>
<tr><td>>20 & ≤63</td><td>2,800</td><td>2,000</td></tr>
<tr><td>>63 & ≤100</td><td>3,600</td><td rowspan="4">3,000</td></tr>
<tr><td>>100 & ≤150</td><td>4,200</td></tr>
<tr><td>>150 & ≤250</td><td>5,000</td></tr>
<tr><td>>250</td><td>5,700</td></tr>
</table>

Note 1: Particular care should be taken for other materials include cast iron, PVC or nylon due to the unpredictable nature of the joints.

Additional protection and support during trench or bell-hole excavation works to minimise ground instability may also be necessary to protect the integrity of existing gas assets during exposure works. Trenches are to be inspected prior to commencing works each day and monitored by the onsite party responsible for the excavation. APA shall be notified of any condition likely to affect the stability of trench.

Any deep excavations, within 3 m of a gas asset, shall be designed and constructed such that the effects of subsidence, collapse or extreme weather will not affect the gas asset. Any such excavations prepared by a third party must be accompanied by certification from a registered practising engineer (RPEQ required for works in Queensland, and so on as required for other States and Territories) confirming that the design is adequate to protect the gas asset.

5.5.7 Backfill and Reinstatement

Prior to backfilling, a minimum of 150 mm of bedding sand must be placed around all gas assets. Bedding sand shall be in accordance with APA specification **400-SP-L-0002**, which can be provided to third parties upon request. The bedding must be compacted in accordance with **Section 5.10**, including suitable compaction and backfill of the underside of the gas asset to prevent any further vertical movement during subsequent layers above the asset. APA may require geo-fabric installation between different trench reinstatement products to prevent sand migration in which nonwoven fabric is required and needs to extend 1000 mm past either side of the utility crossing.

The bedding material shall be clean, free from all sharp objects, sandbags, clay material, vegetable matter, building debris and disused road paving material to the specification provided by APA. Recycled bedding material and stabilised sand must not be used unless explicitly approved by APA.

The remainder of the excavation shall be backfilled and compacted in accordance with **Section 5.10**, at maximum increments of 300 mm to a density which is similar to the surrounding sub-grade material. Only clean fill material shall be used, preferably the same as the natural soil in the area, and free from ash, weeds and pest plants, salt or any chemicals which could harm the gas assets. Where required, concrete slabbing shall be installed in accordance with **Section 5.4**.

In all circumstances gas warning tape / marker board shall be installed in accordance with the following requirements:

- Gas warning tape installed at 300 mm below finished surface level.
- Gas marker board installed 300 mm above the top of the pipe.

Note, where gas warning tape cannot be installed 300 mm below the finished surface level due to road pavement box out, marker board is to be installed 50 mm below the box out work zone.

In situations where a physical protection slab or bridging slab has been utilised an additional layer of gas marker board must be installed 50 mm above the slabbing.

The excavated area is to be reinstated to the original condition or as approved by APA and the relevant local council, road authority or landowner as applicable. Any marker signs removed during excavation works must also be reinstated in original positions. Additional marker signs may be required at new infrastructure crossings as directed by APA.

5.6 Trenchless Excavation

Trenchless excavation covers horizontal directional drilling (**HDD**), boring, pipe bursting and tunnelling. These activities are considered high risk that require additional controls to prevent damage to existing gas assets. This includes proving the existing gas asset location and depth for all horizontal bores, as well as providing a witness trench to verify that the bore will pass the asset with sufficient separation.

A witness trench must be used in addition to live electronic tracking of the bore head. The witness trench must be prepared to the specification provided in **Table 12**. The progressive measurement of the length of the bore must also be made and plotted along its proposed direction to ensure the bore head has not missed the witness trench. The bore head must be exposed in the witness trench, when the crossing is above the existing gas asset.

For all assets installed via trenchless excavation a vertical separation aligning with the maximum borehole diameter (e.g. reamed diameter) shall be demonstrated. For transmission pressure and distribution pressure assets this vertical separation distance is 1000 mm and 600 mm, respectively.

If the works run parallel to a transmission pressure or critical gas assets a minimum separation distance of 3 m must be maintained. For non-critical gas assets, the minimum separation distance of 1 m must be maintained. For works running parallel to gas assets, proving of the actual location of the gas asset must occur every 4 m.

Note: It is expected that HDD operators working near gas assets hold the national competency RIICCM202 – Identify, location and protect underground service.

Table 12 Minimum Witness Trench Dimensions

Crossing Type	Witness Trench Depth	Witness Trench Dimensions
Crossing Above Existing Gas Asset	To bottom (invert) of gas asset	Witness trench shall be 1000 mm to 2000 mm in front of the gas asset on the approach side. Witness trench shall be min. 1500 mm long and 300 mm wide centred on bore centre line.
Crossing Below Existing Gas Asset	To bottom (invert) of gas asset plus 500 mm	

Dispensation may be considered where detailed long sections are provided for assessment by APA and where depths of existing gas assets or separation to the bore are greater than 2500 mm.

Pipe bursting is not permitted within 1000 mm of an existing gas asset.

5.7 Piles, Piers or Poles

No piling such as pile-driving, sheet-piling or hammer-piling is permitted within 15 m of an existing gas asset unless explicit consent has been provided by APA. In all instances, vertical bored (augured) piles, piers or poles are preferred.

Where installation of piles, piers or poles are proposed between 500 mm and 1000 mm clearance from a gas asset (distribution and transmission pressures, respectively), the area directly below the proposed pile, pier or post location must be excavated to a level equivalent to the bottom (invert) of the existing gas asset, and works started from that depth.

Note: Proving of the gas asset must be completed in accordance with the requirements set out in **Section 5.5.2** prior to the commencement of any works.

Temporary steel plates may also be installed between the gas asset and the proposed pile, pier or post used for vertical bore methods within this clearance to provide extra protection.

Note: Direct vibration monitoring on the gas main may be required depending upon the installation method utilised. Refer to **Section 5.9** for APA Networks vibration limits.

5.8 Hot Works for Construction Activities

Typical hot works include grinding, welding, thermal or oxygen cutting or heating, and other related heat producing or spark-producing operations. Heat sources or hot works must not impact gas assets, taking into consideration that the ground or adjacent structures may also be capable of transmitting heat.

In order to safely undertake hot works, response procedures in the event of fire or flammable gas detection must be prepared and monitoring for flammable gases must be undertaken during works.

APA must approve any hot works where there is less than 300 mm ground cover to buried gas assets, or within 5,000 mm of any exposed gas assets (including any pits or valve covers). A heat shield or barrier may be required to provide protection if it cannot be demonstrated that works can be undertaken without impacting the gas asset.

5.9 Vibration Limits

Significant vibration may arise from activities such as blasting, piling, tunnelling and HDD/boring.

To avoid damage to existing APA Networks operated pipes and coatings, the following vibration limits must not be exceeded at any point on the pipe:

a) For cast iron mains: 5 mm/s maximum Peak Particle Velocity (**PPV**) measured on the pipe.

b) For steel pipe with a coal tar enamel (**CTE**) coating or with poor coating health: 10 mm/s maximum PPV measured on the pipe.

c) For non-coal tar enamel pipe coatings and other pipe materials (i.e. steel, PE, PVC or Nylon): 20 mm/s maximum PPV measured on the pipe.

d) For blasting, the above vibration limits can be increased if supported by calculations in accordance with Design Guidelines for Buried Steel Pipeline – American Lifelines Alliance American Society of Civil Engineers (**ASCE**) and approved in writing by an APA Networks Integrity Engineer.

Note: Cast iron mains are particularly susceptible to damage by vibration. The PPV limit may not prevent leaks from cast iron and may require additional gas leakage survey activities during works in accordance with **Section 5.3**.

For vibration monitoring adopt an alarm at 80% of the acceptable PPV value and when the alarm is activated, the work must stop and be re-assessed. Short incursions up to 100% are acceptable, for sustained periods of vibration longer than 5 minutes, works must be stopped.

The zone of influence for vibration assessment undertaken by the third party is shown below;

- For compaction, refer to **Table 13**.
- For trenchless excavation (HDD/ boring), refer to **Section 5.6**.
- For piling refer to **Section 5.7**.
- For blasting refer to **Section 5.11**.

5.10 Compaction Limits

Compaction activities such as establishing a base course for a road pavement may result in damage to the pipes and coatings of existing gas assets. Compaction limits in the vicinity of existing gas assets are summarised in **Table 13**.

Table 13 Maximum Compaction Limits

Horizontal Separation (m)	Minimum Cover to Top of Gas Asset (mm)	Compaction Limits
≤3 **(Note 1)**	300	Small handheld compactor only
	500	Large handheld compactor Maximum 4 tonne tandem drum static roller
	750	Maximum 8 tonne tandem drum static roller
	1200	Maximum 10 tonne tandem drum static roller subject to APA approval
>3 & ≤10	All	Maximum 8 tonne tandem drum vibrating roller
>10 & ≤15	All	Maximum 10 tonne tandem drum vibrating roller
>15	All	Any compaction method

Note 1: Compaction within 3 m of gas assets is limited to static rollers. If vibration compaction is necessary a robust vibration assessment and construction methodology signed off by an RPEQ for works in Queensland, and so on as required for other States and Territories, will need to be produced by the third party for review and approval by an APA Networks Integrity Engineer.

5.11 Blasting / Seismic Survey / Explosives

Blasting, seismic survey or the use of explosives is not permitted within 100 m of a gas asset unless explicit approval is provided by APA Networks. The size and quantity of the explosives to be used will determine how close to the pipeline blasting will be permitted. In all cases, blasting methods must be arranged to limit ground vibrations so that the peak particle velocity does not exceed acceptable limits. At no stages will blasting be permitted within 3 m of the pipeline.

5.12 Suspended Materials above Gas Assets and No Go Zones for Cranes

Where gas assets are exposed, no cranes, excavators or backhoes are permitted to carry or suspend materials directly over or across a gas asset without an APA Networks approved lifting plan and SWMS.

Outriggers must be set up outside a 3 m radius from gas assets unless otherwise approved by APA Networks in writing.

5.13 Temporary Materials

In all instances it is preferred that temporary materials (e.g. soil, shipping containers) are not stored on top of transmission pressure and critical gas assets. Temporary material must not restrict access and should be placed at least 1,500 mm from the alignment of these assets unless otherwise approved by APA Networks.

6 PART 4 - ALTERATION OF EXISTING GAS ASSETS

Where the proposed third party works do not comply with the requirements of this document, and adequate additional controls or a specialised engineering solutions cannot be developed, alteration of the existing gas assets will be required.

Gas asset alterations will only be undertaken under a Recoverable Works Agreement (**RWA**) appropriate to the scope and extent of the works required.

An Early Works Agreement (**EWA**) may also be required where works are proposed which require proving, engineering design activities or purchase of long lead items. This will allow for completion of these items prior to execution of a RWA and avoid delaying works.

If either or both these agreements are required, then APA Networks will enter negotiations with the relevant third party and any costs will be payable by that third party.

7 GLOSSARY OF TERMS AND ABBREVIATIONS

Table 14 Glossary of Terms and Abbreviations

Term/ Abbreviation	Meaning
AGN	Australian Gas Networks
APA	Each entity that forms part of the APA Group
APA Engineering Assessment	Covers technical assessments which may involve field integrity assessments that may or may not include the use of specialist Consultants managed by APA.
APA Networks Operated Assets	APA Networks acts as the asset operator on behalf of entities Australian Gas Networks (AGN), Allgas, APA, Origin and Queensland Nitrates (QNP) and operates in New South Wales, Northern Territory, Queensland, South Australia and Victoria.
APA Permit Issuing Officer	The APA Permit Issuing Officer is responsible for opening the Permit To Work, validating APA Networks assets have been located and being the Site Watch for works within the gas Easement or Protected Zone.
AS	Australian Standard
ASCE	American Society of Civil Engineers
ATWP	Authority to Work Permit
CTE	Coal Tar Enamel
Damage	Physical damage to and interference with APA's assets. Damage includes reducing design life, coating damage, dents, scratches, rupture, cutting of cathodic protection cables. Damage can also include potential impacts that APA pipelines can have on third party assets.
BYDA	Before You Dig Australia (previously known as Dial Before You Dig (DBYD))
DCVG	Direct Current Voltage Gradient
Depth of Cover	Vertical distance from the existing natural ground surface to the top of the buried gas asset
EPR	Earth Potential Rise
ESV	Energy Safe Victoria
EWA	Early Works Agreement

Excavation	Excavation refers to manual digging or mechanised digging operation with plant or equipment which involves trenching and trenchless excavation. Trenchless excavation covers boring, Horizontal Directional Drilling (HDD), pipe bursting and tunnelling.
FBE	Fusion Bonded Epoxy
GIS	Geographic Information System
HBE	High Build Epoxy
HDD	Horizontal Directional Drilling
Hot Works	Hot works are defined as grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations. Heat sources or hot works must not impact pipelines, taking into consideration that the ground or adjacent structures may also be capable of transmitting heat.
LFI	Low Frequency Induction
LPG	Liquefied Petroleum Gas
MAOP	Maximum Allowable Operating Pressure
Measurement Length	The maximum length of pipeline route which presents an extended source of hazard on the basis that an event of failure could affect any part of the development or specific location relevant to the development. The maximum length corresponds to the heat radiation hazard associated with a 4.7 kW/m^2 heat radiation contour for an ignited full bore rupture calculated in accordance with AS/NZS 2885.6. If the pipeline is designed as a no rupture pipe, then the measurement length corresponds to a credible leak size.
NDD	Non-Destructive Digging (NDD) refers to either hand digging or Non-Destructive Pot Holing using a vacuum pipe connected to a vacuum truck with either a water lance or air lance. Hydro-Vacuum Excavation consists of a water lance and vacuum truck and is used to physically prove existing assets.
OHEW	Overhead Earth Wire
PE	Polyethylene
Pipe Bursting	Pipe bursting refers to a pipe being inserted to a larger pipe that results in the larger pipe being damaged. For an example of pipe bursting, refer to the following You-Tube video: https://www.youtube.com/watch?v=HX5beh0ubGY
Pipeline Easement	The pipeline area shown on a survey plan and referenced on the property title.
Predominate Building Line	The expected predominate building line relates to the façade of the building, not necessarily the property boundary.
Protected Zone	A Protected Zone is an area extending both horizontally and longitudinally along a gas asset. It is the area where loads and/or any hot works may potentially cause damage to the gas asset.

	The Protected Zone refers to works near APA Networks gas assets or works within the vicinity of the gas assets that may cause an unacceptable risk to the asset in accordance with Table 2 Minimum Clearances or Table 3 Minimum Clearances for Construction Works and Land Use Activities
PTW	Permit to Work
PPV	Peak Particle Velocity
PVC	Polyvinyl Chloride
QNP	Queensland Nitrates Plant
RPEQ	Registered Profession Engineer Queensland
RWA	Recoverable Works Agreement
Sensitive Use Locations	This is designated as Class “S” as per AS/NZS 2885.6 Pipelines - Gas and liquid petroleum - Pipeline safety management and refers to the sub location class. Sensitive Use Location Class (S) identifies land where the consequences of a FAILURE EVENT may be increased because it is developed for use by sectors of the community who may be unable to protect themselves from the consequences of a pipeline FAILURE EVENT. Sensitive uses are defined as follows: • Schools which includes colleges • Hospitals • Aged care facilities such as nursing homes, elderly people’s homes • Prisons and jails • Convalescent homes • Sheltered housing • Buildings with five or more stories • Large community and leisure facilities, large open air gatherings • Day care facilities • Other potentially difficult to evacuate facilities • Other structures as defined by relevant local councils. The Sensitive Use Location Class “S” must be assigned to any section of a gas transmission pipeline where there is a sensitive development within the applicable Measurement Length.

Site Watch	An APA Site Watch representative can be the Permit Issuing Officer for excavation work within a gas Easement or Protected Zone and is referred to as the primary spotter for excavation works. The secondary spotter is provided by the Contractor. The primary spotter has the ultimate decision regarding works within the gas Easement or Protected Zone which includes the method of excavation, starting and stopping excavation work. The APA Site Watch representative is the nominated competent person responsible for the following; • Making themselves highly visible and everyone on the job site should be aware of the Site Watch's role; • Communication to personnel operating mobile plant and equipment ensuring minimum clearance to above and below ground assets is maintained and the construction methodology is adhered to and complies with APA Networks requirements. Ensuring personnel do not encroach within the swing radius of the operating machinery.
SMS	Safety Management Study
SMWS	Safe Work Method Statement used by APA or Contractors to execute field work. The risks and associated control measures risk assessments should be transferred to SWMS.
SRZ	Structural Root Zone
Structures	Structures refer to third party structures which includes, but is not limited to; temporary or permanent buildings, walls, canopies, footings, pile caps or retaining walls
Third Party	The person or entity and their agents or Contractors that propose to undertake work near APA assets.
Third Party Assets	Third Party Assets include roads, utilities and structures.
Third Party Excavation	Third Party Excavation which is **not** associated with APA (e.g. road works, utility installation, private development, fencing).
Third Party Works Classification	The Third Party Work Classification as shown in **Section 3.3** covers the following three work classifications: 1. No Impact to gas assets 2. No Objection Under Conditions 3. Enquiry Escalated for Alteration
Transmission Pipeline	Gas transmission pipeline which includes all associated equipment such as cathodic protection, earthing grid, instrumentation and electrical cables.
Utilities	Includes water, wastewater, drainage, telecommunications cables, power poles and cables owned by individuals or organisations other than APA Networks.
Voltage	Difference of potential normally between conductors or between conductors and earth as follows: a) Extra-low voltage – Not exceeding 50V a.c. or 120 V ripple-free d.c. b) Low voltage – Exceeding extra-low voltage, but not exceeding 1000 V a.c. or 1500 V d.c.

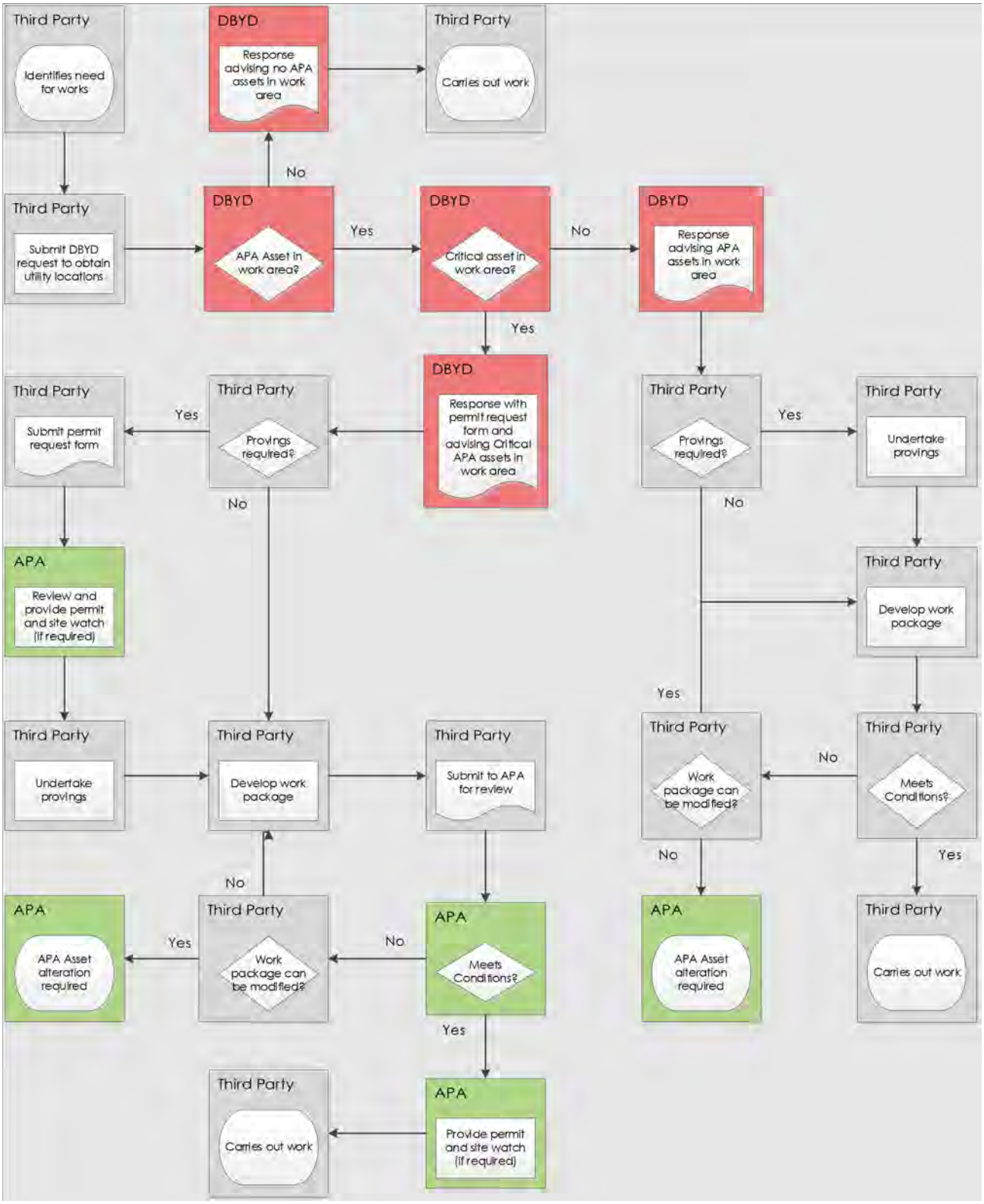
	c) High voltage – Exceeding low voltage.
Works	The development of any type of buildings, structures and other obstructions (including residential buildings, pools, sheds, carports, major developments, transport infrastructure, services, stockpiles, trees), and any work that causes changes to the ground (including movement of heavy vehicles, blasting, tunnelling, pile driving, ground compaction, earthworks, open and trenchless excavations)

8 DOCUMENT REFERENCES

Table 15 Document References

External Standards	
API RP 1102	Steel Pipeline Crossing Railroads and Highways
AS 2832.1	Cathodic protection of metals: Pipes and cables
AS 2885.0	Pipelines – Gas and liquid petroleum: General requirements
AS/NZS 2885.1	Pipelines – Gas and liquid petroleum: Design and Construction
AS/NZS 2885.2	Pipelines – Gas and liquid petroleum: Welding
AS 2885.3	Pipelines – Gas and liquid petroleum: Operations and Maintenance
AS 2885.5	Pipelines – Gas and liquid petroleum: Field Pressure Testing
AS/NZS 2885.6	Pipelines – Gas and liquid petroleum: Pipeline safety management
AS/NZS 4645.1	Gas Distribution Networks - Network Management
AS/NZS 4645.2	Gas Distribution Networks - Steel Pipe Systems
AS/NZS 4645.3	Gas Distribution Networks - Plastics Pipe Systems
AS 4799	Installation of Underground Utility Services and Pipelines Within Railway Boundaries
AS 4827.1	Coating defect surveys for buried pipelines Part 1: Direct current voltage gradient (DCVG)
AS/NZS 4853	Electrical Hazards on Metallic Pipelines
AS 4970	Protection of trees on development sites
Standard Policies, Procedures, Specifications, Guidelines, Forms and Templates	
400-SP-L-0002	Networks Bedding Material Specification
400-PR-L-0003	Encroachment and Land Use Change SMS Trigger Procedure

APPENDIX A GENERAL DBYD RESPONSE PROCESS



APA
Australia's energy infrastructure partner

BEFORE YOU DIG
www.byda.com.au

Before You Dig Australia

Classification: Networks

Enquiry date	26/08/2025
Sequence number	260161692
Work site address	39-45 Homestead Dr Flagstone QLD 4280

For your immediate information

THERE IS A GAS PIPELINE OR INFRASTRUCTURE ASSETS (GAS ASSETS)

located in close vicinity to your works.

Enquiry Date:	26/08/2025
Enquirer:	Vaughn Naude
Sequence Number:	260161692
Work Site Address:	39-45 Homestead Dr Flagstone QLD 4280

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

We confirm there are 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 all the relevant information contained in this response to your BYDA enquiry including reviewing the **APA Guidelines for Works Near Existing Gas Assets** and clearly understand and comply with all requirements relating to your scope of work.

If you have any queries relating to this information, or you are unable to comply with requirements of the APA Guidelines for Works Near Existing Gas Assets contact the APA Before You Dig Officer

- **Phone 1800 085 628**
- **Email BYDA_APA@apa.com.au**

for clarification before proceeding with any work.

Before You Dig Checklist

1. Plan

- Review maps provided with this BYDA response and confirm the location of your work site is correct.
- Review the **APA Guidelines for Works Near Existing Gas Assets** and clearly understand requirements relating to my scope of work.

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

- Physically confirm ('prove') the location of gas assets by potholing by hand excavation or non- destructive vacuum excavation methods in accordance with **APA Guidelines for Works Near Existing Gas Assets**.
- Road authorities, councils, utilities and their authorised contractors and agents are responsible to pothole or use other suitable methods to verify the location and depth of all gas assets, including gas (inlet) services, prior to commencing any works.

4. Protect

- Protect gas assets by maintaining clearances whilst excavating and following conditions provided by APA.
- Where required by APA, only conducting work in proximity to gas assets while Site Watch is on site.
- Where applicable, APA Authority To Work permit conditions are clearly understood and complied with.
- Strap and support exposed mains and inlet services. Cover exposed mains to prevent damage until the excavation can be permanently restored.

5. Proceed

- Only proceed with your work once you have completed all the planning, preparation, potholing and protection requirements.
- 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

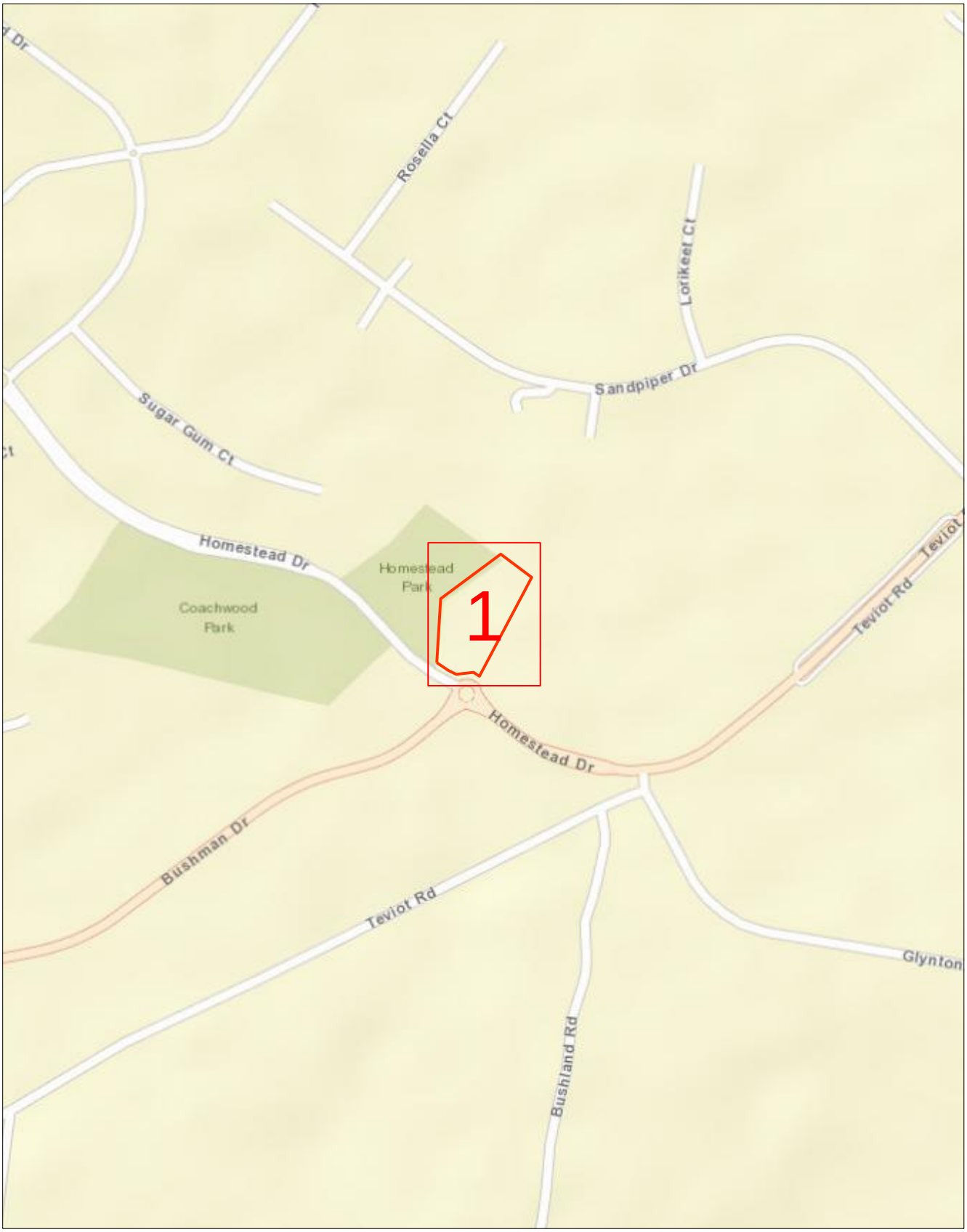
Site Watch is where an APA field officer attends your work site to monitor and ensure controls are in place to protect critical gas assets from damage during work.

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.

Site Address:	39-45 Homestead Dr Flagstone QLD 4280	**Sequence Number:**	260161692



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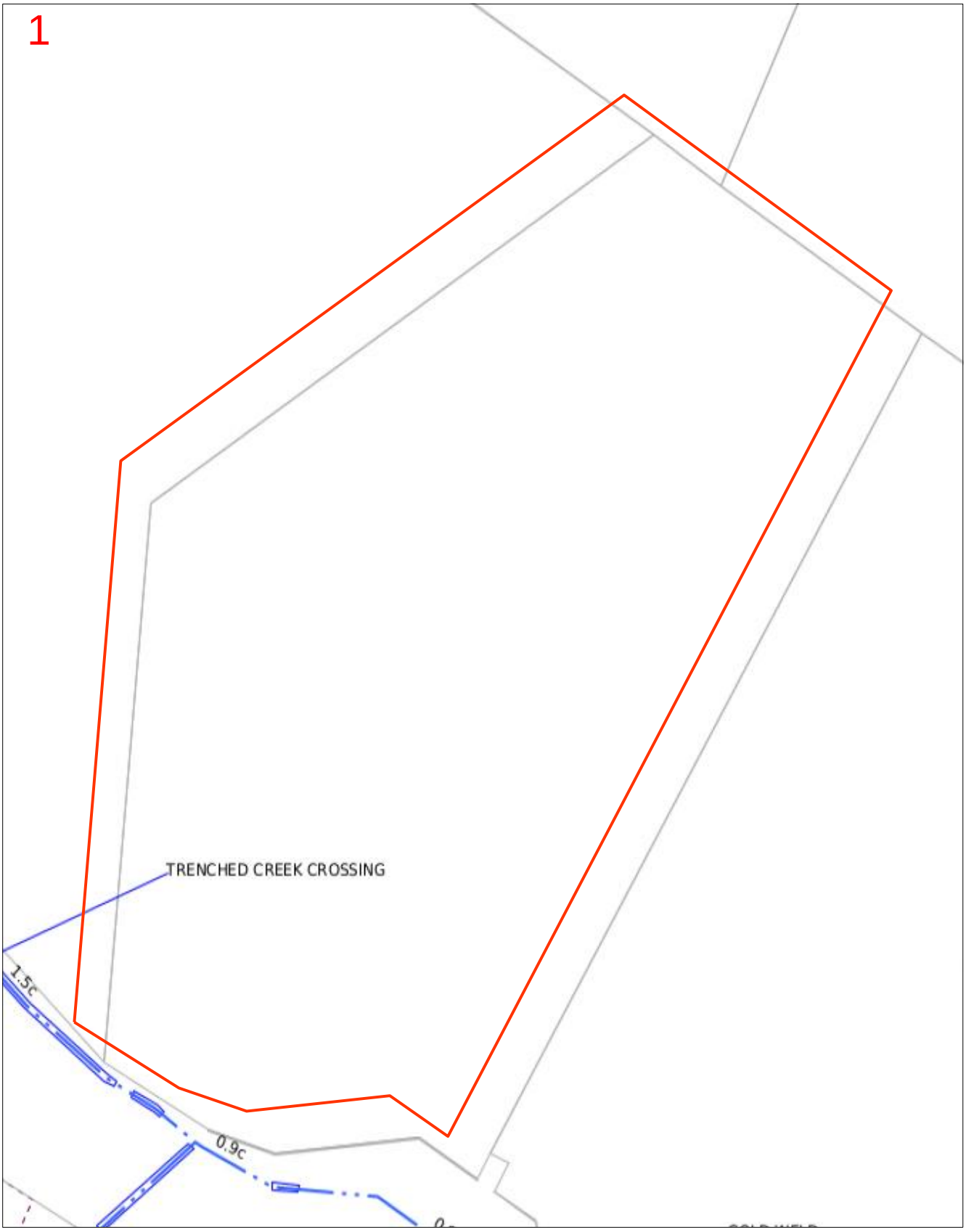
Map Sources: Esri, Garmin, HERE, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Enquiry Area

Map Key Area

Site Address:	39-45 Homestead Dr Flagstone QLD 4280	**Sequence Number:**	260161692



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

Enquiry Area

Map Key Area

Legend

Pipe

- Low pressure
- Medium pressure
- High pressure
- Transmission pressure
- Critical main (behind pipe)
- Proposed (pressure by colour)
- LPG (pressure by colour)
- Hydrogen blended (pressure by colour)
- Abandoned
- Idle/inactive
- Sleeve
- Casing (behind pipe)

Area

- BYDA area of interest

Pipe code and material

C* (for example, C2)	Cast iron
CU	Copper
N2	Nylon
P*	Polyethylene (PE)
P3	Polyvinyl chloride (PVC)
P6, P7, P9–P12	Medium density PE
P2, P4, P8	High density PE
S*	Steel
W2	Wrought galv iron
W3	PE coat wrought galv iron

Object

- Valve
- Buried valve
- Regulator
- Gas supplied = yes
- CP rectifier terminal
- CP test station
- CP anode
- CP bond wire
- Syphon
- Trace wire point

Abbreviation

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

Example

Pipe

40P6 in 80C2 — 40 mm high pressure medium density poly in an 80 mm cast iron casing

63S8 — 63 mm medium pressure steel

Pipe code

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

Energex QLD

Referral
260161690

Member Phone
13 12 53

Responses from this member

Response received Tue 26 Aug 2025 12.43pm

File name	Page
Response Body	57
260161690 - Energex Plan.pdf	60
Energex BYDA Terms and Conditions.pdf	64
Working Near Overhead and Underground Electric Lines.pdf	69

Assets and Planned 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.

Our search has revealed there is existing and planned Energex Assets within the defined search area.

They are shown on the attached plan.

There is a possibility the planned Assets may have been installed prior to your enquiry.

You:	**BYDA Enquiry No:**
Vaughn Naude	260161690
Company:	**Date of Response:**
Bravo Consult	26 Aug 2025
Search Location:	**Period of Plan Validity:**
39-45 Homestead Dr Flagstone, QLD 4280	4 Weeks

External Comments (if any):

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 underground electrical equipment by use of an electronic cable locator followed by careful, non-mechanical excavation (ie, 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 Assets caused by works pursuant to or in any way connected with this BYDA Request.
8. In addition to Assets marked on attached plan, there could be underground earth conductors, underground substation earth conductors, Multiple Earthed Network (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. Independent underground cable locators can be found via the Certified Locator website with LV Cable (up to 1kV), HV Cable (1kV-<33kV) & HV cable (33kV and over) displayed.
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 must 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 any 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)
16. **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**

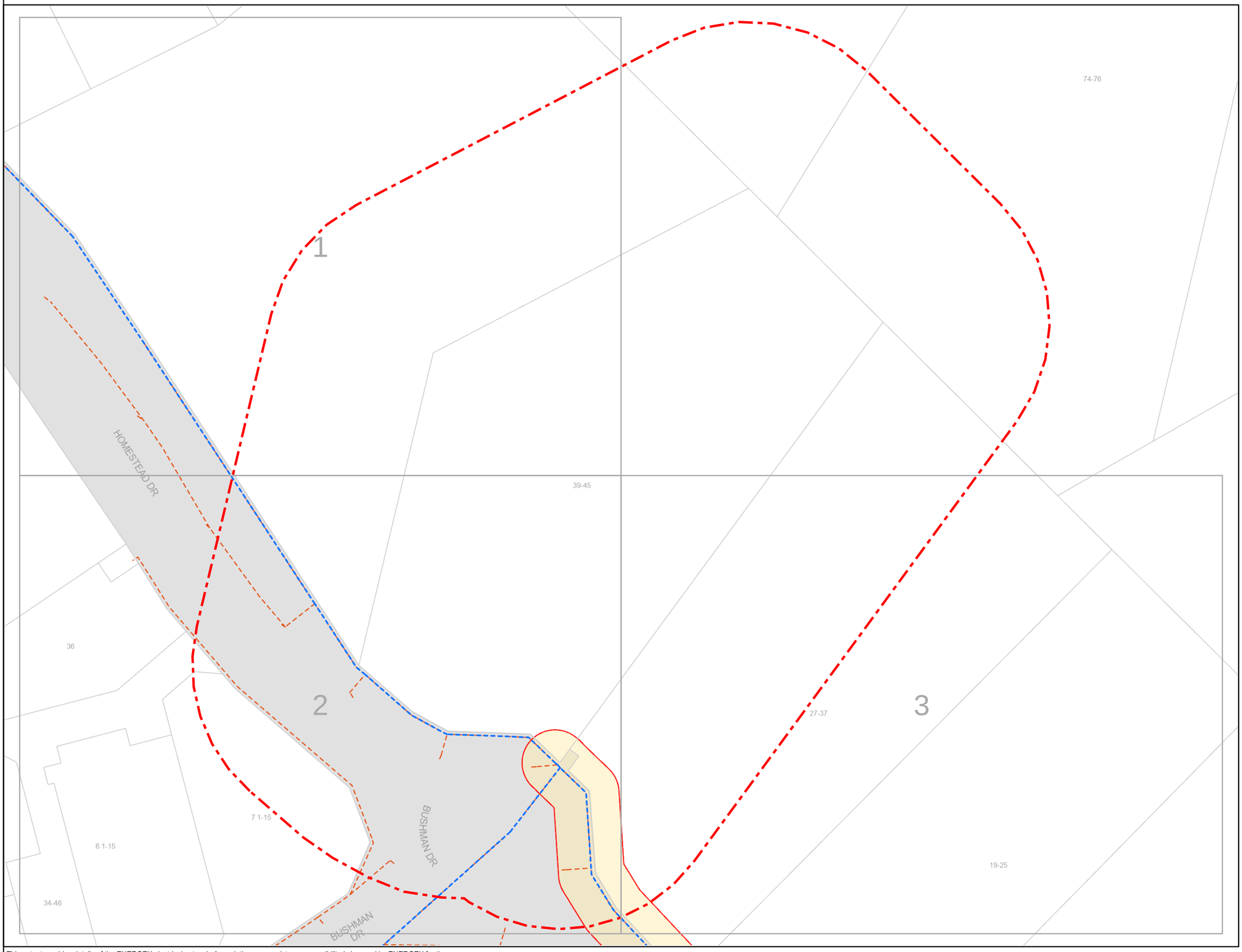
To re-submit or change the nominated search area please visit **BYDA.com.au**

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

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

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: 260161690
Date: 26/08/2025

Scale: 1:1025
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

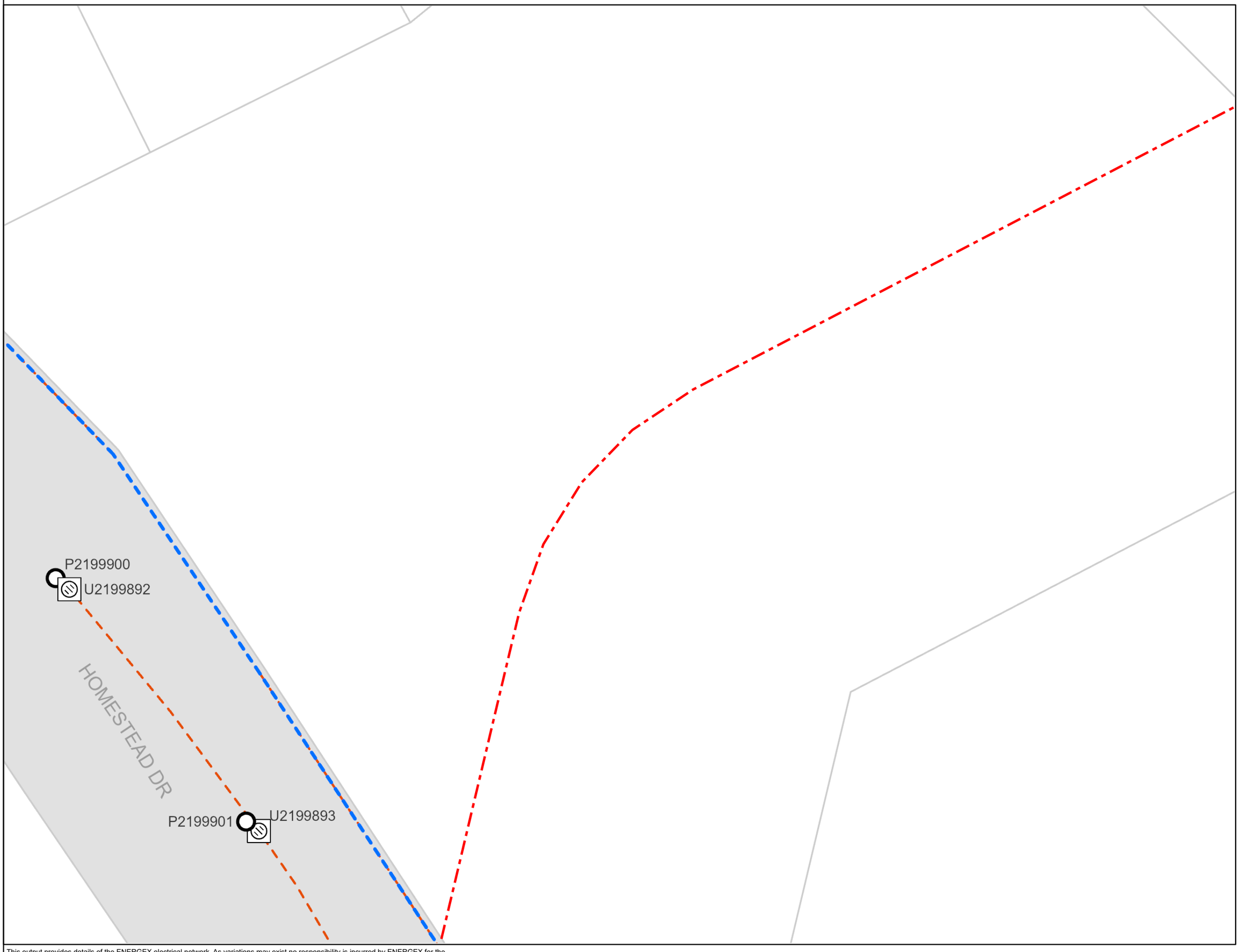
N
W E
S

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Energex nor Pelican Corp 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.

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: 260161690
Date: 26/08/2025

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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DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Energex nor Pelican Corp 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.

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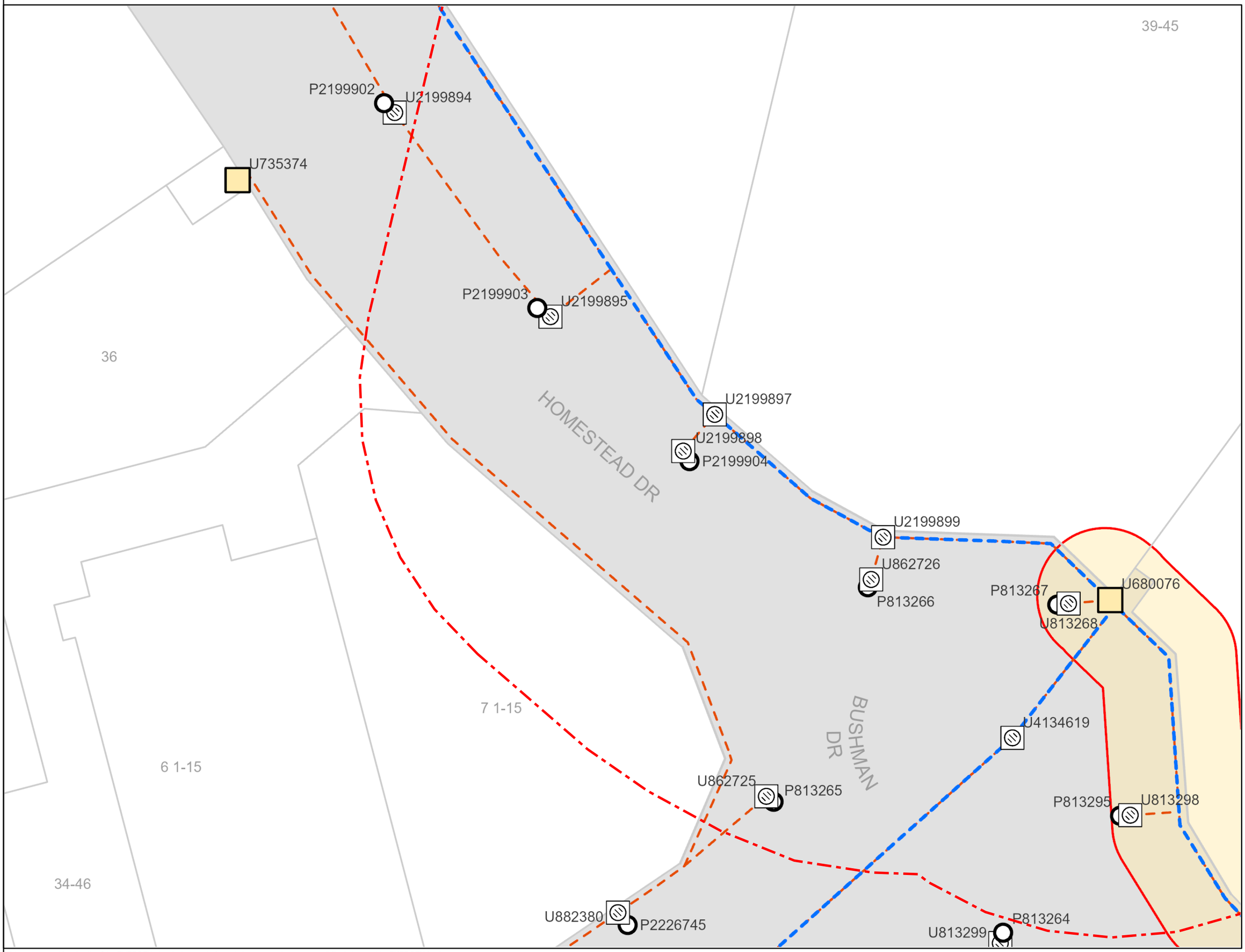
Please Call 13 19 62



BYDA

Sequence: 260161690
Date: 26/08/2025

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

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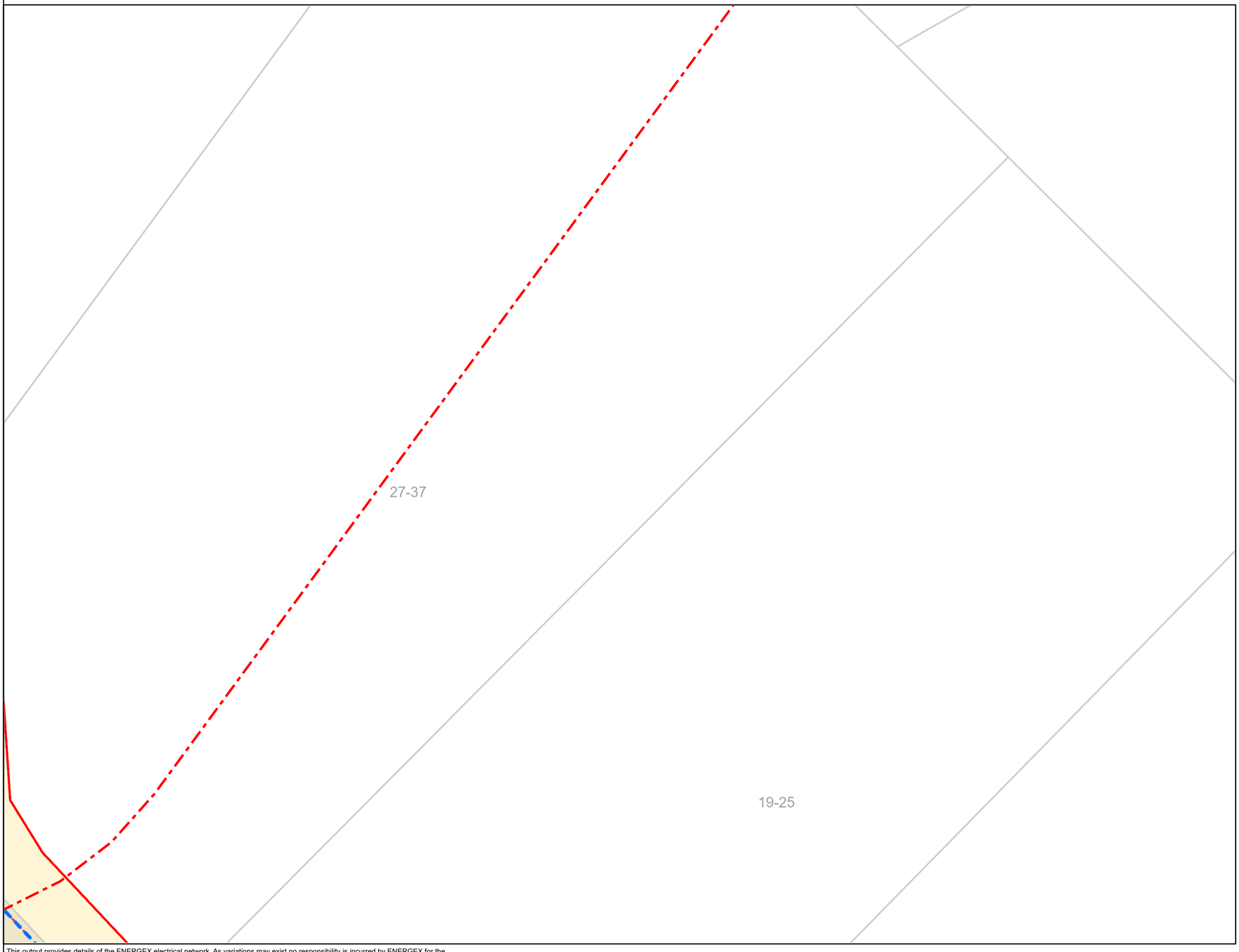
All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ENERGEX BYDA map, then ENERGEX shall be contacted immediately.

For Emergency Situations
Please Call 13 19 62



energex

BYDA

Sequence: 260161690
Date: 26/08/2025

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

N
W E
S

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Energex nor Pelican Corp 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.

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

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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E: custserve@energex.com.au
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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Life threatening emergencies only triple zero (000) or 13 19 62

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

Scan to provide feedback

ELECTRICITY ENTITY REQUIREMENTS - WORKING NEAR OVERHEAD AND UNDERGROUND ELECTRIC LINES

Part of Energy Queensland

Purpose: This instruction describes Electricity Entity requirements for working or operating plant near any Electricity Entity Overhead or Underground electric lines. **Scope:** This instruction applies to anyone who may be contemplating working or operating plant near any Electricity Entity Overhead or Underground electric lines.	
Person responsible for ensuring compliance with this Work Practice:	All EQL employees have responsibility to comply with listed controls.
Measures in place to ensure compliance with the Work Practice:	Team Leaders must provide appropriate supervision and / or assurance in addition to formal assurance activities performed by EQL.
Person(s) responsible for reviewing the Work Practice:	Prior to any task listed on this Work Practice being performed, the contents must be understood by all workers exposed to the hazard on site. (i.e. using HazChat).
Work Practice control and guidance to be reviewed:	All controls for this task must be verified, monitored, and maintained by crews for the duration of works.
Key tools and equipment: N/A	
Note: Prior to works commencing the contents of supporting Work Practices must be understood. If at any time the control or procedural guidance in this Work Practice cannot be applied or are not suitable, work must cease, and advice must be sought from your leader or a Technical SME before proceeding. Work Practices may be provided as a means of sharing hazard and control information to EQL contractors. But it is the responsibility of the contractor to provide their own safe system of work (including, consultation, training, instruction, and supervision to reduce risk SFAIRP)	

Table of Contents

1. 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.

1.1. 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 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.

1.2. 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.

1.2.1 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 1.3 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.

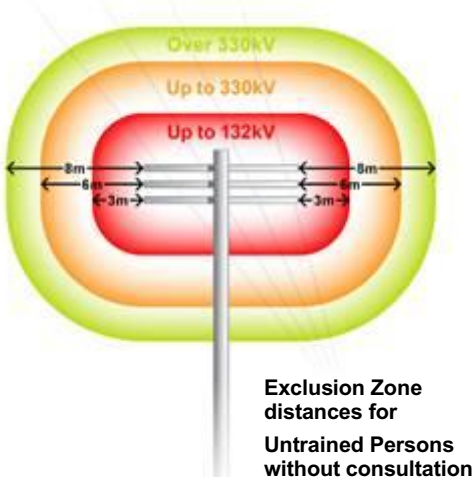
1.2.2 Exclusion Zones

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 distances for

Untrained Persons without consultation

Exclusion Zone – Untrained Person (distances in mm)

<table>
<tr><th rowspan="2">Nominal phase to phase
voltage of electric line</th><th colspan="3">Untrained Person</th></tr>
<tr><th>Person</th><th>Operating Plant</th><th>Operating Vehicles</th></tr>
<tr><td>Insulated LV: Consultation with and verified by AP (Electrical)</td><td>No exclusion zone prescribed</td><td>1000</td><td>300</td></tr>
<tr><td>LV with NO consultation with Electricity Entity</td><td>3000</td><td rowspan="5">3000</td><td rowspan="2">600</td></tr>
<tr><td>LV With consultation with Electricity Entity</td><td>1000</td></tr>
<tr><td>>LV up to 33 kV with NO consultation with Electricity Entity</td><td>3000</td><td rowspan="2">900</td></tr>
<tr><td>LV up to 33 kV with consultation with Electricity Entity</td><td>2000</td></tr>
<tr><td>>33 kV up to 132 kV</td><td>3000</td><td>2100</td></tr>
<tr><td>>132 kV up to 220 kV</td><td>4500</td><td rowspan="2">6000</td><td rowspan="2">2900</td></tr>
<tr><td>>220 kV up to 275 kV</td><td>5000</td></tr>
</table>

Information extracted from Electrical Safety Regulation 2013 Schedule 2

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

<table>
<tr><th rowspan="2">Nominal phase to phase
Voltage of electric line</th><th colspan="3">Instructed Person (IP) & Authorised Person (AP)</th></tr>
<tr><th>AP and IP</th><th>Operating Plant with Safety Observer or another Safe System of work</th><th>Operating of Vehicles</th></tr>
<tr><td>Insulated LV: Consultation with and verified by AP (Electrical)</td><td>No exclusion zone prescribed</td><td>No exclusion zone prescribed</td><td>No exclusion zone prescribed</td></tr>
<tr><td>LV</td><td>No exclusion zone prescribed</td><td>1000</td><td>600</td></tr>
<tr><td>>LV up to 33 kV</td><td>700</td><td>1200</td><td>700</td></tr>
<tr><td>>33 kV up to 50 kV</td><td>750</td><td>1300</td><td>750</td></tr>
<tr><td>>50 kV up to 66 kV</td><td rowspan="2">1000</td><td>1400</td><td rowspan="2">1000</td></tr>
<tr><td>>66 kV up to 110 kV</td><td rowspan="2">1800</td></tr>
<tr><td>>110 up to 132</td><td>1200</td><td>1200</td></tr>
</table>

Information extracted from Electrical Safety Regulation 2013 Schedule 2

1.2.3 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.

There is no exclusion zone applicable for underground electrical assets – conduits, cables (unless cable is damaged, or conductors or terminations have been exposed) therefore there is **no requirement for a written Safety Advice** to be requested by a person, worker or PCBU, or issued by an electricity entity for work at a site that only involves identified or unidentified underground electrical assets (e.g. does not involved overhead electric lines or other exposed live parts within the work location).

1.3. Obtaining Safety Advice

To obtain written Safety Advice where identified as being required in Section 1.2.1 above, complete and return (by fax or email) the applicable Safety Advice Request Form which is accessible via the electricity entity website link on page 9:

- Energex Form - Application for Safety Advice – Working near Energex exposed live parts
- 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. Written Safety Advice and/or other 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.

1.4. 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.

NOTE: **It is not permissible to replace a blown LV service fuse(s) after loss of supply to consumer’s installation or to alter Electricity Entity LV aerial services.**

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

By phone

- call Electricity Entity on General Enquiries phone number (refer page 3).

By email

- **Energex**: custserve@energex.com.au or authorisedperson@energex.com.au
- **Ergon Energy**: safetyadvice@ergon.com.au

Website

- **Energex:** https://www.energex.com.au/home/safety/working-near-powerlines
- **Ergon Energy:** https://www.ergon.com.au/network/safety/business-safety/the-outdoor-workplace/working-near-powerlines

2. 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	**Nil cost to customer**
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.	**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.
		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.

Category of work		Description	Costing arrangement
	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	**6.** 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	**7.** Installation of aerial marker flags or balls (for visual indication only)	Customer requested temporary or permanent installation of appropriate aerial marker devices on LV or HV mains.	**Cost to customer**.
Switching	**8.** 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**.

2.1. 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.**

2.2. 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 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.

2.3. 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.

<u>The scaffolding can be either:</u>

- 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:

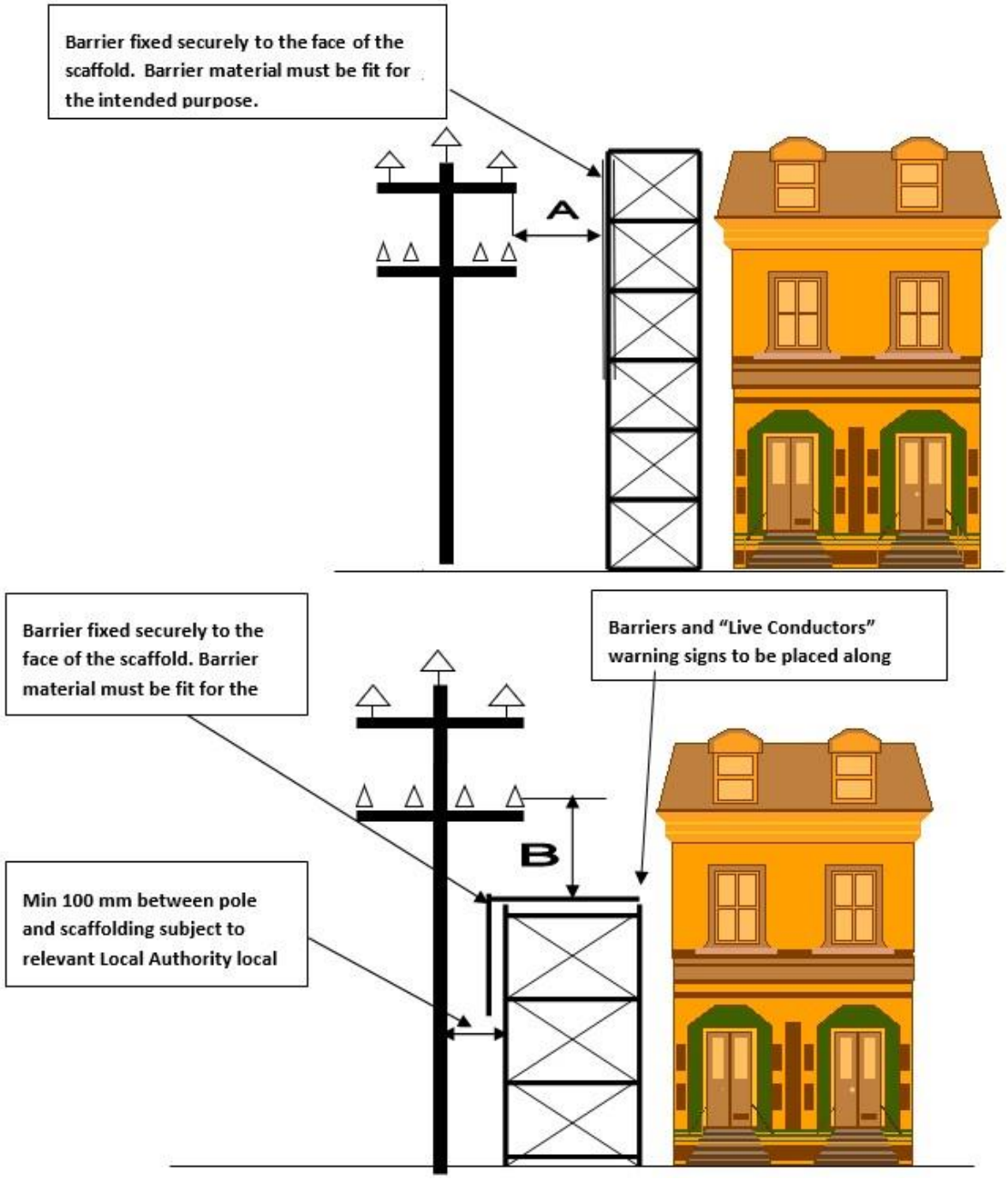
- It shall be fitted with fully enclosed non-conductive solid barriers to prevent encroachment within exclusion zones or contact with the energised mains fully enclosed.
- The person required to erect and/or disassemble scaffolding as well as the required solid barrier affixed to the scaffolding should 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: **Dimension's "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.**


Barrier fixed securely to the face of the scaffold. Barrier material must be fit for the intended purpose.
A
Barrier fixed securely to the face of the scaffold. Barrier material must be fit for the
Barriers and "Live Conductors" warning signs to be placed along
B
Min 100 mm between pole and scaffolding subject to relevant Local Authority local

2.4. 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 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:

Energex:

- **Email:** custserve@energex.com.au
- **Website:** www.energex.com.au
- **Phone:** Energex Contact Centre on 13 12 53 (8am to 5:30pm, Monday to Friday)

Ergon Energy:

- **Email:** Highload2@ergon.com.au
- **Website:** www.ergon.com.au
- **Phone:** (07) 4932 7566 (8am to 4:30pm, Monday to Friday)

2.5. 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: https://www.energex.com.au/home/safety/working-near-powerlines

Ergon Energy: https://www.ergon.com.au/network/safety/business-safety/the-outdoor-workplace/working-near-powerlines

3. UNDERGROUND ELECTRICAL ASSETS

3.1. 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.

3.2. 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.

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

3.3.1 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.

3.3.2 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 1) 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.

3.3.3 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.

3.3.4 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.

3.3.5 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.

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 does 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.

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 site.

Energex: https://www.energex.com.au/home/safety/working-near-powerlines

Ergon Energy: https://www.ergon.com.au/network/safety/business-safety/the-outdoor-workplace/working-near-powerlines

4. EXCAVATION

4.1. 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, telecomm owns) and installation, maintenance, and removal of associated pole support.

Pole support equipment (where required in accordance with certified engineering assessment) shall be:

- only attached and removed by 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 zone to pole support equipment, arrangements may be required for de-energising the electric line.

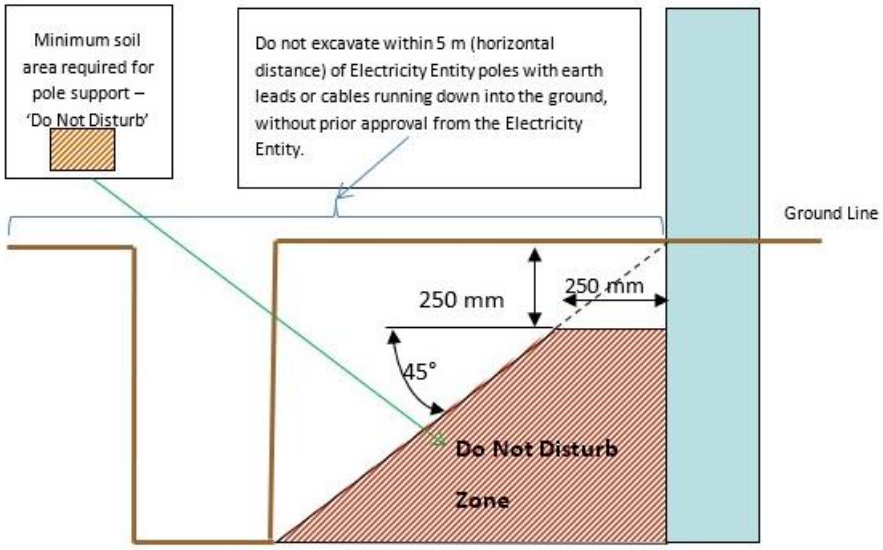


Figure 1 - Do Not Disturb Zone requirements when excavating near poles

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

4.1.1 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.

4.2. Excavating Near Underground Electrical Assets

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

4.2.1 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.**

4.2.2 Excavating Across Underground Electrical Assets

Refer Minimum Separation Requirements table in Section 3.3.5 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.

4.2.3 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.

4.2.4 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.

4.2.5 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).

4.3. 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.

5. 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).

6. INFRASTRUCTURE NEAR ELECTRIC LINES

6.1. 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.

6.1.1 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.

6.1.2 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.

6.1.3 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.

6.1.4 Who owns the land the easement is on?

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

6.1.5 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.

6.1.6 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.

6.1.7 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.

6.1.8 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.

6.2. 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.

Where it is necessary for an Electricity Entity to relocate electric lines due to statutory clearance breach caused by construction work performed nearby, the Electricity Entity is 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**

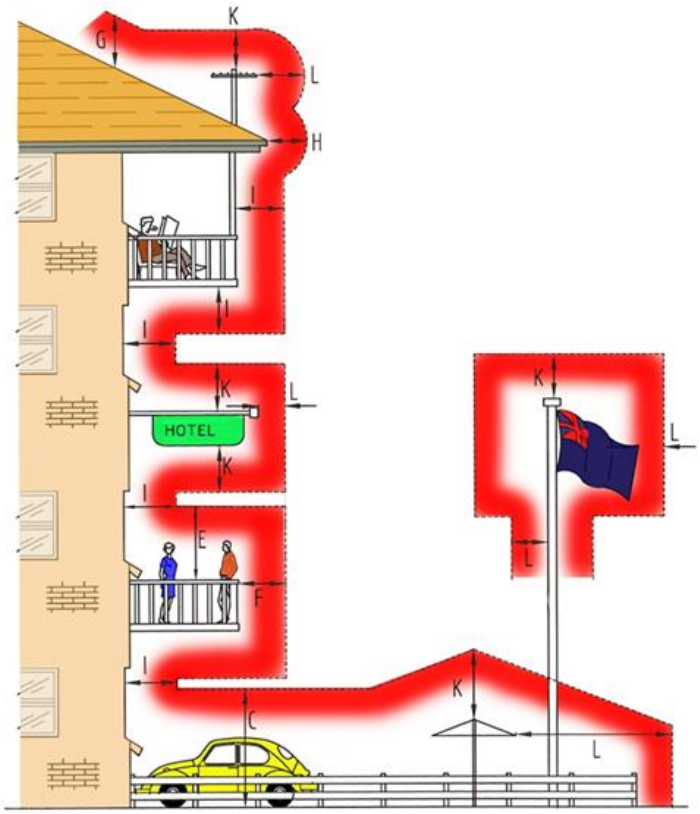
6.3. What clearances must be maintained once construction work is completed?

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.



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 verandahs, 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.

6.4. 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

DEFINITIONS	
Term	Definition
Applicant	A person contacting or applying to the Electricity Entity for a 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 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.
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.

TRAINING
Staff must be current in all Statutory Training relevant for the task.

SAFETY / ENVIRONMENTAL CONTROLS

Follow the Safety Policy, procedures and practices set out for Energy Queensland and subsidiary companies.

Personnel are responsible for understanding all the risks and ensuring their individual actions do not endanger the health and safety of themselves or others.

FATAL HAZARDS CRITICAL CONTROLS FOR THE TASK

REFERENCES

Supporting Documents

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 documents:

- Application for Safety Advice – Working near Energex exposed live parts
- Important Notice – Working near Energex Power Lines Including Overhead Services
- Safety Advice on working near Energex exposed live parts

Ergon Energy documents:

- Safety Advice Request Form
- Safety Advice on Working around Electrical Parts Form
- Important Notice Regarding Safety Advice QRG

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/

REFERENCES

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.

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Logan City Council

Referral
260161689

Member Phone
(07) 3412 3412

Responses from this member

Response received Tue 26 Aug 2025 12.41pm

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260161689.pdf	99

Request: 260161689 Enquirer: Bravo Consult - 3450964 Contact: Vaughn Naude Email: vaughn@bravoconsult.com.au Phone: +61480001074 Address: Unit 2 1 Wyuna Court Hemmant QLD 4174 Site Address: 39-45 Homestead Dr Flagstone QLD 4280 Activity: Manual Excavation Job Number: 51015668

Before You Dig Australia (BYDA)

Asset Location Response

PO Box 3226 Logan City DC QLD 4114 • 150 Wembley Road, Logan Central
p (07) 3412 3412 • **e** council@logan.qld.gov.au • www.logan.qld.qov.au • ABN 21-627-796 435

Bravo Consult - Vaughn Naude
Unit 2 1 Wyuna Court
Hemmant QLD 4174
vaughn@bravoconsult.com.au

Logan City Council has been advised that you have placed an enquiry through the Before You Dig Australia service. Our records indicate the enquiry with the following details are affecting Logan City Council asset(s).

Enquiry Details	
Sequence Number	260161689
Enquiry Date	26/08/2025 20:41
Response	**AFFECTED**
Address	39-45 Homestead Dr Flagstone
Location in Road	
Activity	Manual Excavation

Please review plans attached and contact Logan City Council prior to commencing works:

Logan City Council now provides a limited amount of As-Constructed and Drainage Plans on-line, click on the *Logan City As-Constructed Plans* link and type in the property address you are seeking. Unfortunately, not all properties will have plan records accessible on-line. The following options are available to customers should a record not be available:

- For **As Constructed Private Sewer/Roofwater *(Inside Properties)***
  Contact *Development Assessment, Building & Plumbing*
  p: (07) 3412 5269
  Alternatively visit our Website Link to the relevant PS1 or PS2 forms:
  Logan City As-Constructed Plans

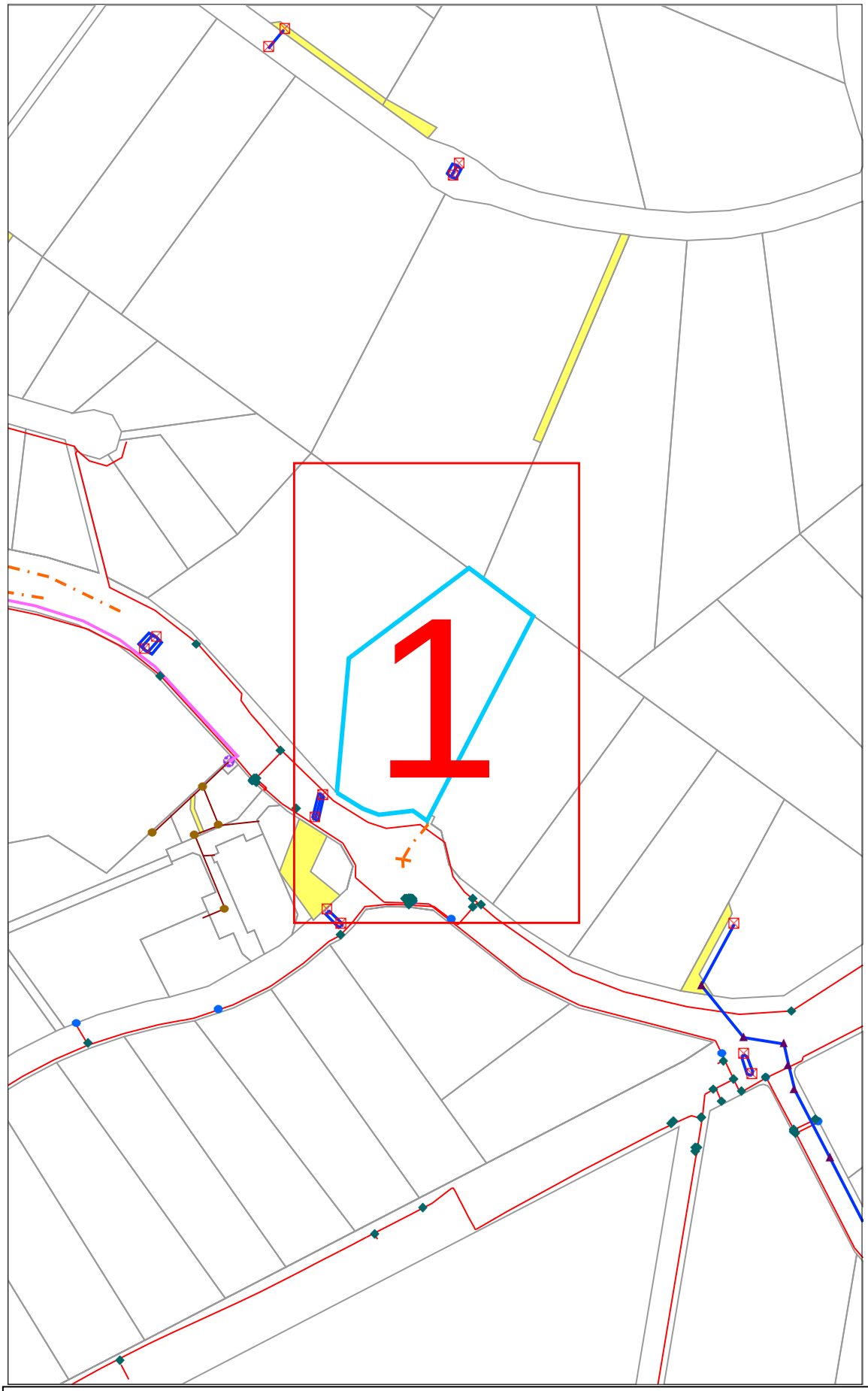
- For **As Constructed Private Sewer/Water/Stormwater *(Outside Properties)***
  Contact *Road Infrastructure Planning*
  p: (07) 3412 5282
  Alternatively visit our Website Link for PS3 forms:
  Logan City As-Constructed Plans

If you need more assistance please call us on 07 3412 3412 or email us at council@logan.qld.gov.au.

Overview Map

Sequence No: 260161689

39-45 Homestead Dr Flagstone



LEGEND:

- Affected BYDA Work Area
- 1 Detail Map

Sewer Assets

- Sewerage Pump Station – Existing
- Sewerage Pump Station - Retired
- Sewerage Manhole - Existing
- Sewerage Manhole - Retired
- Sewerage Pipe - Existing
- Sewerage Pipe - Retired
- Sewerage Trunk Main - Existing
- Sewerage Trunk Main - Retired
- Sewerage Rising Main - Existing
- Sewerage Rising Main - Retired

Water Assets

- Hydrant - Existing
- Hydrant - Retired
- Valve - Existing
- Valve - Retired
- Water Supply Line - Existing
- Water Supply Line - Retired

Stormwater Assets

- Manholes, Gullies and Drainways
- Telemetry Gauge Station
- Stormwater Headwall
- Telemetry Air Line
- Stormwater Pipes and Culverts

Electrical Assets

- Lights
- Pits
- Switchboards
- Electrical Conduits

Parcel Types

- Easement
- Base Lot (Type L)
- Water Body (Type W)

N

1:3000

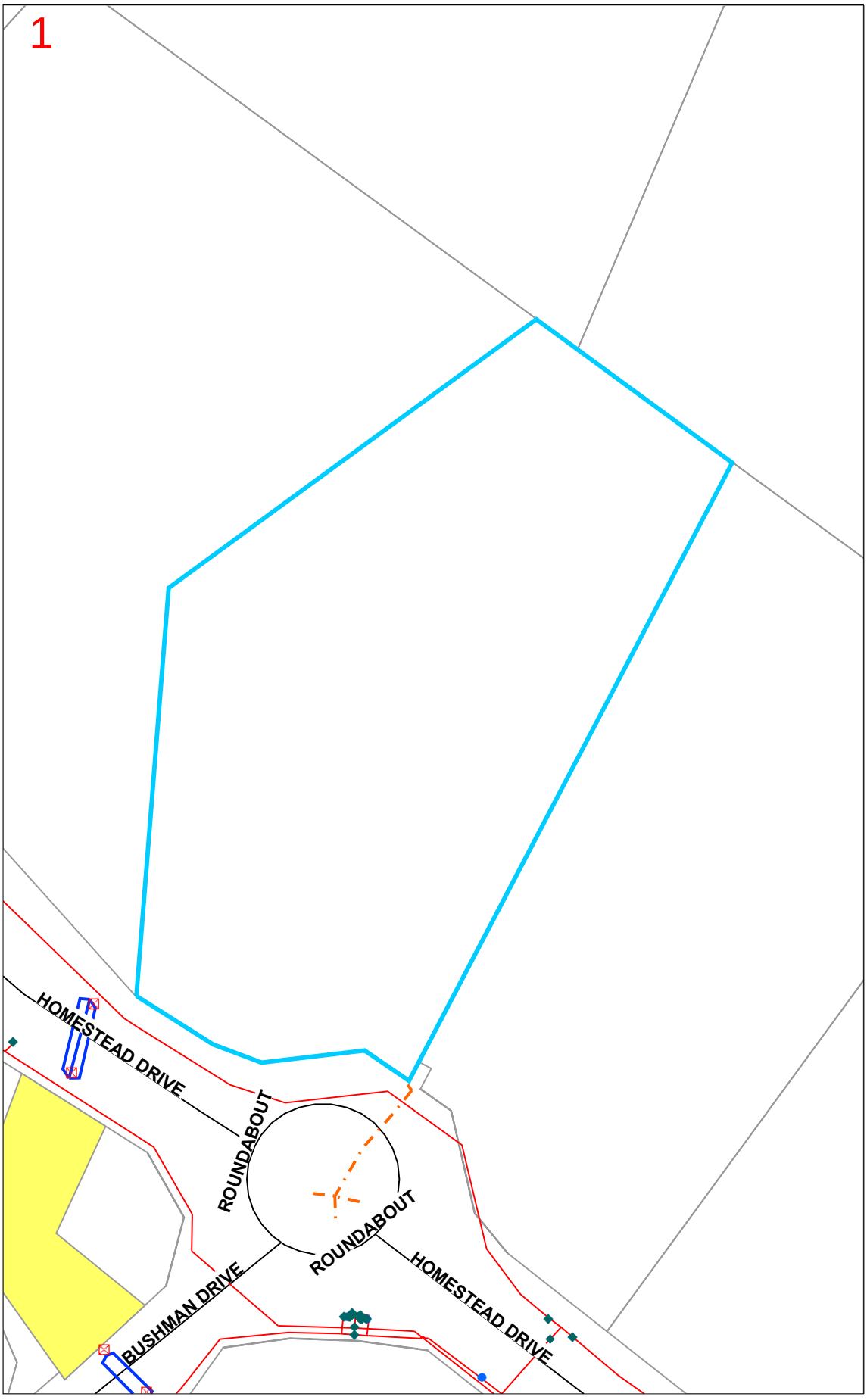
0 0.03km

LOGAN CITY COUNCIL

Map 1

Sequence No: 260161689

39-45 Homestead Dr Flagstone



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- Sewerage Trunk Main - Retired
- Sewerage Rising Main - Existing
- Sewerage Rising Main - Retired

Water Assets

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- Hydrant - Retired
- Valve - Existing
- Valve - Retired
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- Water Supply Line - Retired

Stormwater Assets

- Manholes, Gullies and Drainways
- Telemetry Gauge Station
- Stormwater Headwall
- Telemetry Air Line
- Stormwater Pipes and Culverts

Electrical Assets

- Lights
- Pits
- Switchboards
- Electrical Conduits

Parcel Types

- Easement
- Base Lot (Type L)
- Water Body (Type W)

N

1:1000

National Fire Ant Eradication Program

Referral
260161691

Member Phone
-

Responses from this member

Response received Tue 26 Aug 2025 12.41pm

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BYDA members

Your property and/or business is located in the fire ant suppression treatment area. You're legally required to follow your biosecurity requirements and understand how you can help prevent the spread of fire ants.

Fire ants are a super pest, threatening Australia's health, environment, economy, and outdoor way of life. Eradicating them is a national priority, with all states, territories, and the Australian Government committed to the National Fire Ant Eradication Program (NFAEP) – the world's largest ant eradication effort.

Fire ant biosecurity zones are essential for containing and controlling fire ants in the suppression treatment area until the NFAEP eradication treatment reaches the area. Suppression efforts focus on reducing nest numbers, limiting spread, and preparing for eradication treatment. This includes self-treatment, containment, and prevention to minimise the impact of these pests.

Strict rules for managing soil, including fill, clay, and scrapings within the zones, are outlined in the Biosecurity Regulation 2016 and Soil movement guidelines under the *Biosecurity Act 2014* (Qld).

Materials that can carry fire ants

Here's what you need to know, whether you're a resident or a business, and how to manage materials that can carry fire ants like soil, baled materials, mulch, manure, quarry products, turf, and potted plants.

For residents:

- look for and report any suspect fire ants or nests within 24 hours
- ensure any materials you buy within the fire ant biosecurity zones are handled using fire ant-safe practices
- use the NFAEP's Material movement advice tool
- apply Australian Pesticides and Veterinary Medicines Authority approved fire ant treatment products to areas before starting any excavation work
- keep records for up to 2 years of your fire ant management actions.

For businesses:

If your business handles materials, you must follow these requirements:

- **Look for and report**: inspect your site regularly, especially high-risk areas. Sightings of suspect fire ants and nests must be reported within 24 hours to the NFAEP, either online or by calling **132 ANT** (13 22 68). Fire ant training is recommended.
- **Fire ant-safe practices**: ensure materials are processed, stored, treated, and transported in compliance with the Biosecurity Regulation 2016. Use the NFAEP's Fire ant compliance tool.
    - **Handling soil**: fire ant nests are often found within the top metre of soil. After excavation, replace or keep this top layer separate from other soil being moved. It should stay on-site or be taken to a waste facility within the fire ant biosecurity zones (restrictions apply). Avoid this method in areas with loamy or sandy soil, as nests may extend deeper.
    - **Disturbance and storing:** before moving untreated soil off-site, disturb it using machinery – turning, crushing, washing, or screening. Disturb stockpiles every 21 days and 24 hours before movement.
    - **Treatment:** look for and report any suspect nests immediately. Mark them so workers on-site know their locations. Treat or engage a licensed pest manager to carry out broadscale fire ant treatment and/or nest treatment before excavation continues. No live fire ants must leave the site.
    - **Recordkeeping:** keep a written record of all activities, including chemical treatments and disturbance actions, for at least 2 years.

Soil movement

Soil can be transported between or outside fire ant biosecurity zones if you follow these measures:

- Movements within the same zone or between zone 1 to zone 2 must follow the Soil movement guidelines.
- A biosecurity instrument permit (BIP) is required to:
    - move soil from any zone to outside the zone
    - move soil from zone 2 to zone 1
    - move soil when none of the approved options allow to your situation.

Other biosecurity measures

In addition to managing soil movement, there are further biosecurity measures you, your business, and employees can take to support the eradication of fire ants:

- Fire ant training – the NFAEP offers free online training and tools for residents, primary producers, worksites, and pest managers. These resources help you identify, treat, and prevent fire ant spread. Proactive training is a cost-effective risk mitigation strategy and can help you avoid penalties for breaching your general biosecurity obligation.
- Health and safety – fire ants can have devastating impacts, including inflicting painful, fiery stings, which can trigger a severe allergic reaction in humans. If you're digging or starting work, please wear personal protective equipment, including a long-sleeve shirt, long pants, boots, and gloves.

Eradicating fire ants is a shared responsibility. We all play a role in eradicating fire ants from Queensland, and ultimately Australia, by 2032.

Visit fireants.org.au or call 13 22 68 for more information.

Referral
260161688

Member Phone
1800 687 626

Responses from this member

Response received Tue 26 Aug 2025 12.44pm

Hi Vaughn Naude,

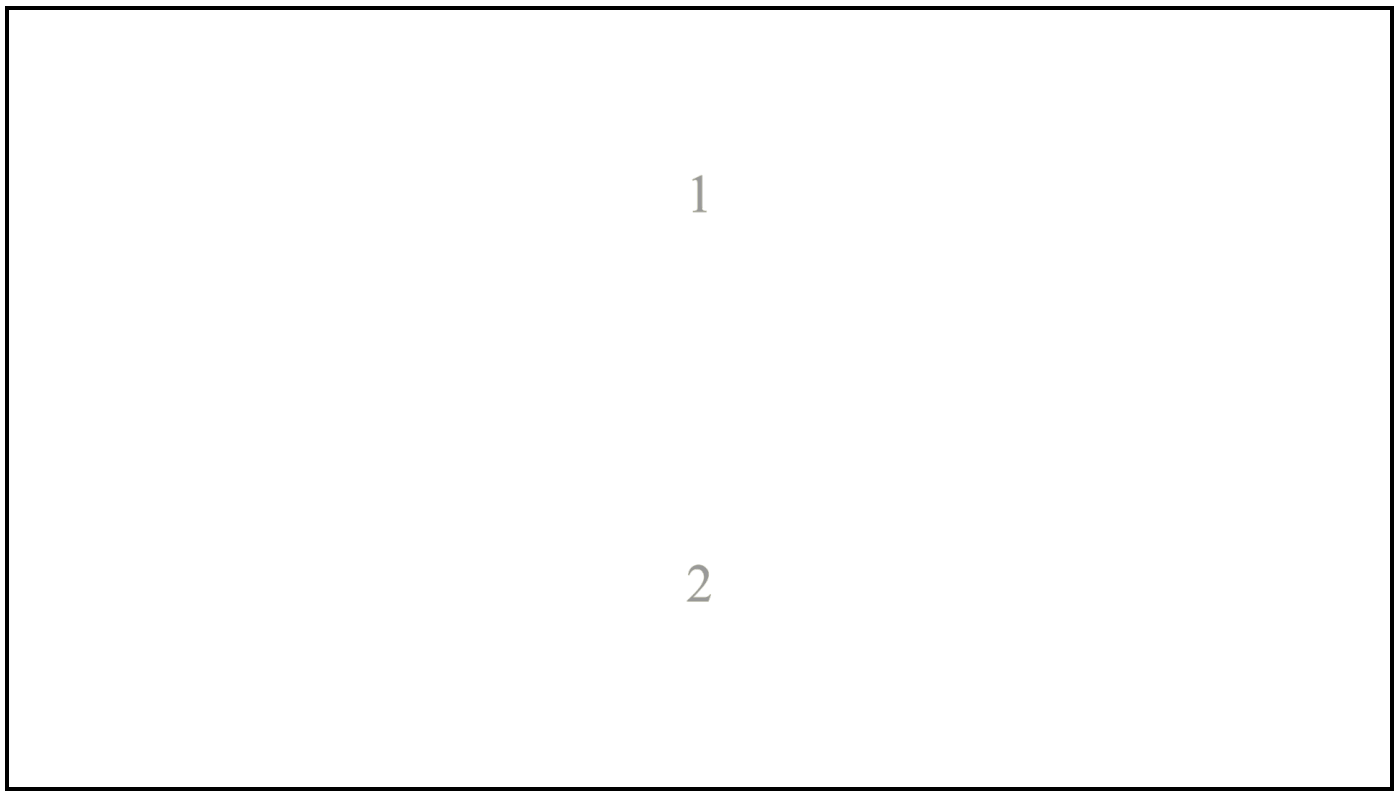
Please find attached the response to your DBYD referral for the address mentioned in the subject line.
The location shown in our DBYD response is assumed based off the information you have provided. If the location shown is different to the location of the excavation then this response will consequently 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

To:	Vaughn Naude
Phone:	Not Supplied
Fax:	Not Supplied
Email:	vaughn@bravoconsult.com.au

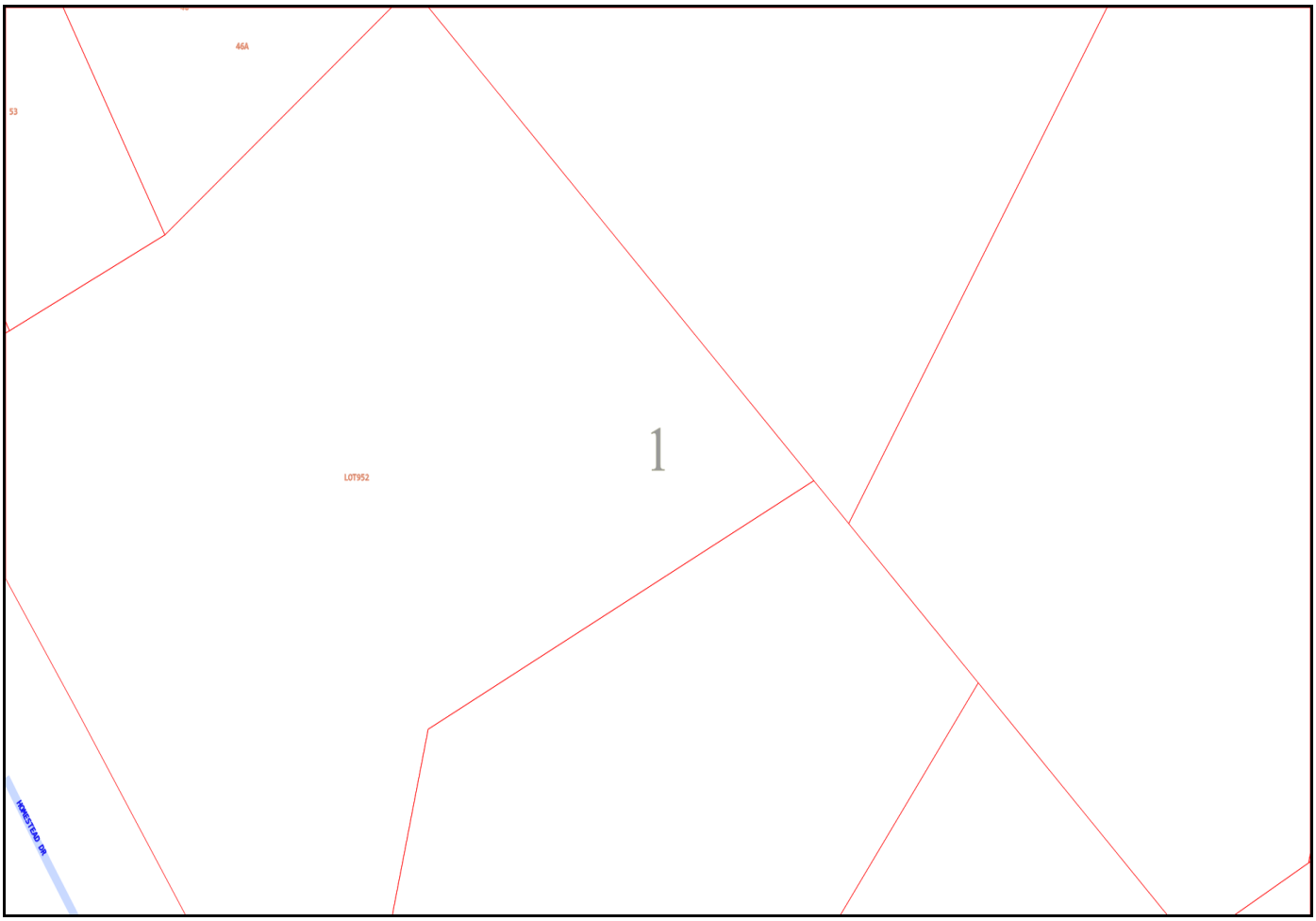
Dial before you dig Job #:	51015668	BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm
Sequence #	260161688	
Issue Date:	26/08/2025	
Location:	39-45 Homestead Dr , Flagstone , QLD , 4280	

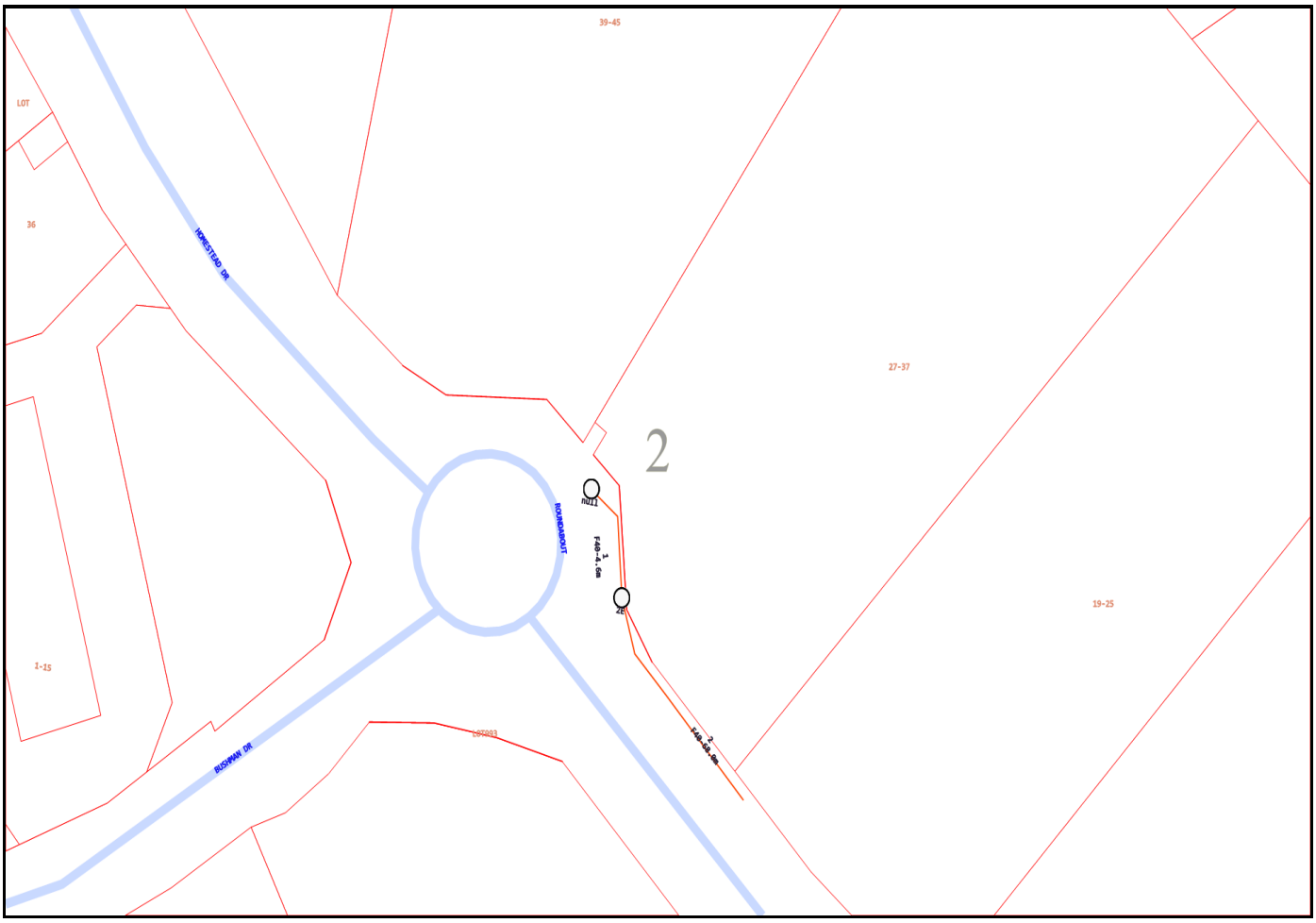
Indicative Plans are tiled below to demonstrate how to layout and read nbn asset plans



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


46A
53
1
LOT952
HOMESTEAD DR



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.

To:	Vaughn Naude
Phone:	Not Supplied
Fax:	Not Supplied
Email:	vaughn@bravoconsult.com.au

Dial before you dig Job #:	51015668	BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm
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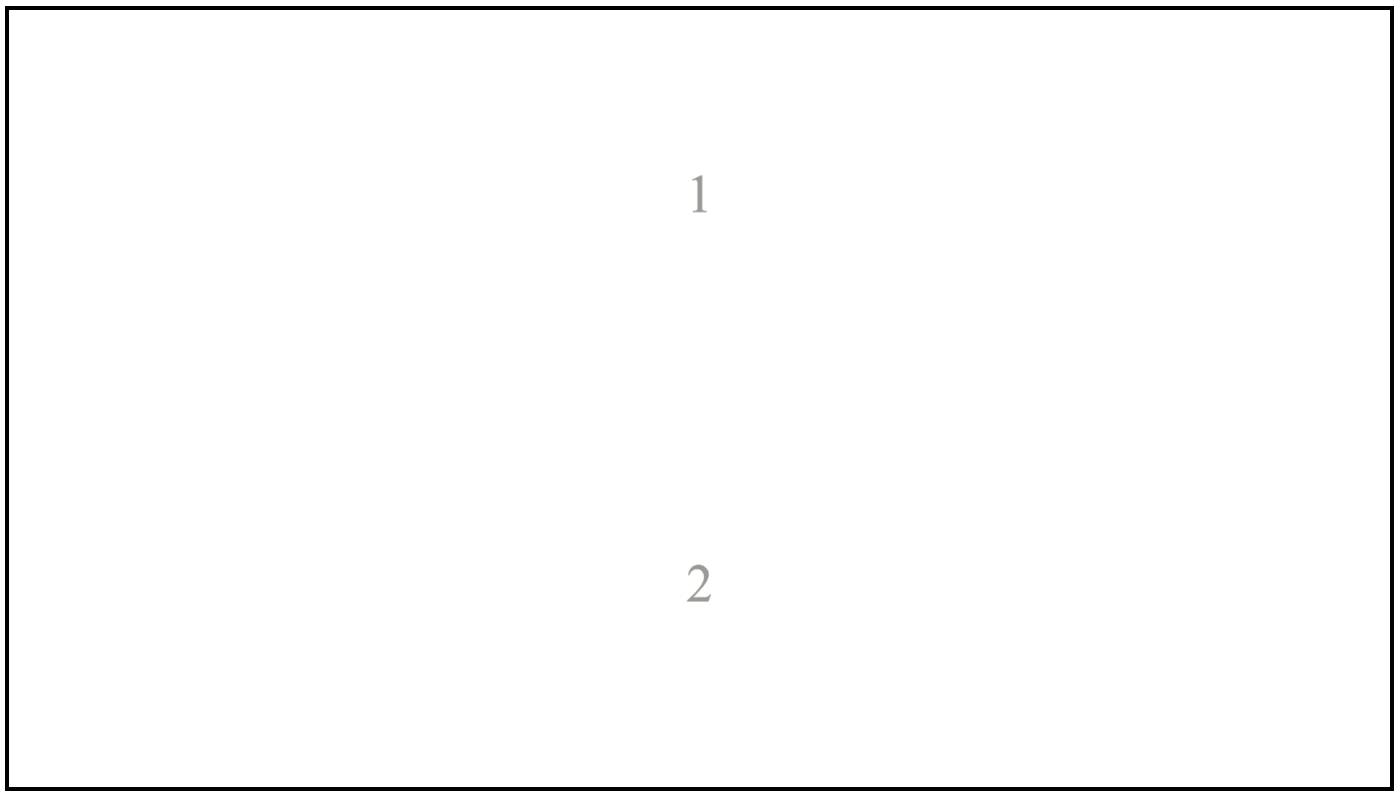
Indicative Plans are tiled below to demonstrate how to layout and read nbn asset plans



LEGEND

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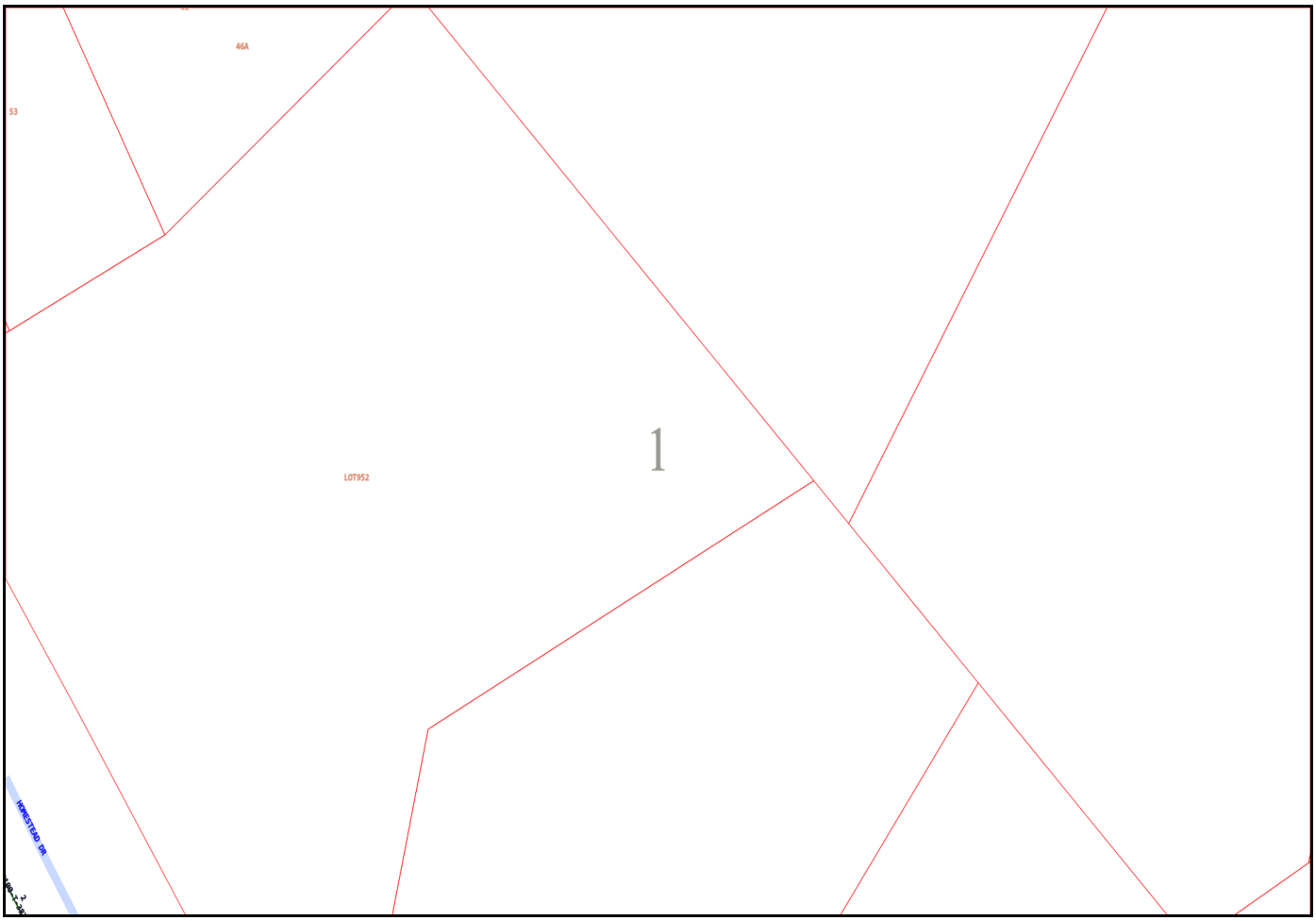
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (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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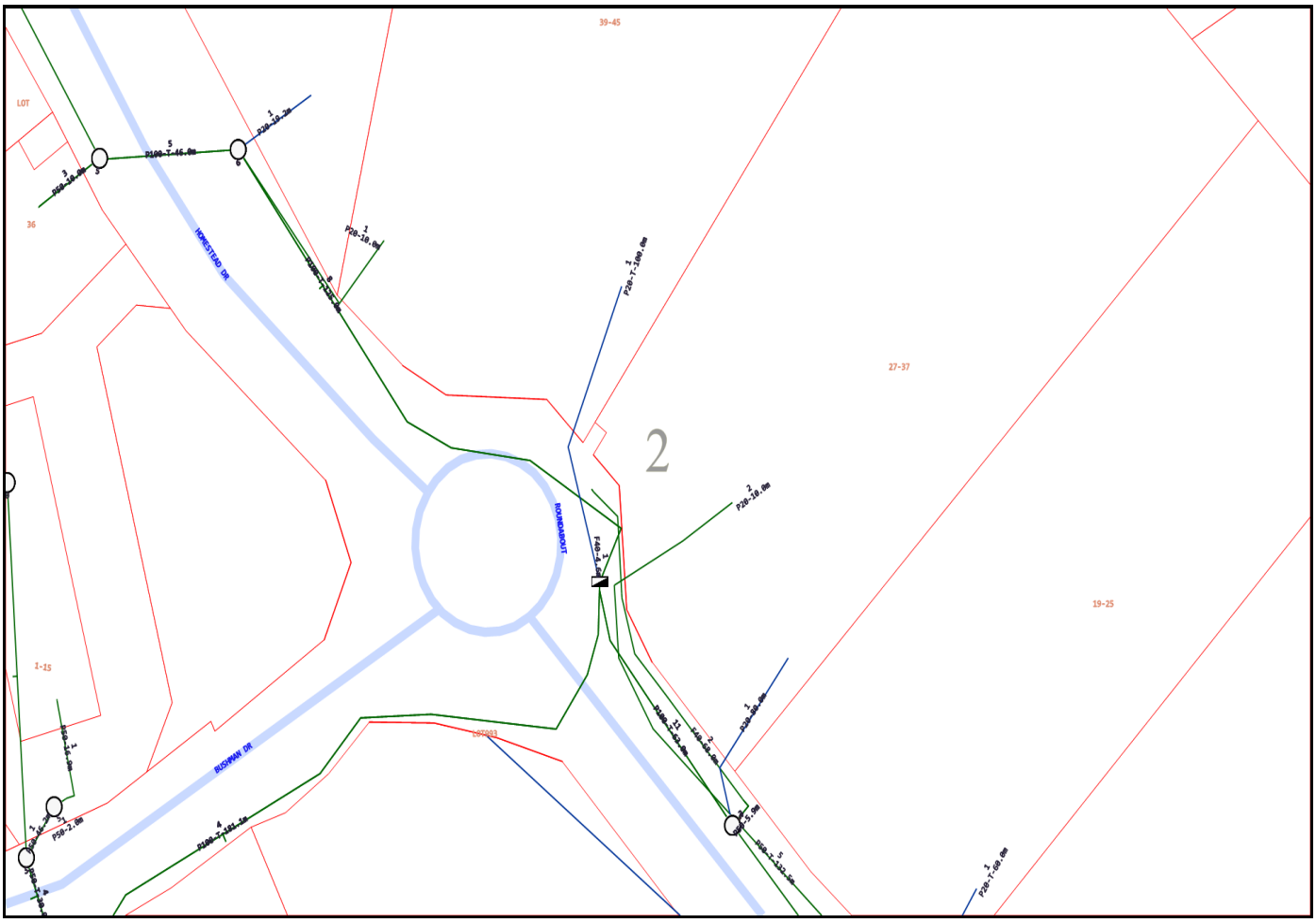
HOMESTEAD DR



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.

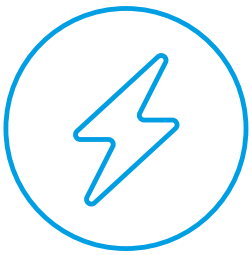
Prepare: Prepare for your job by engaging a DBYD Certified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.

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.

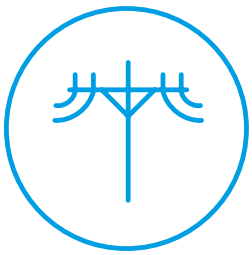
Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with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

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

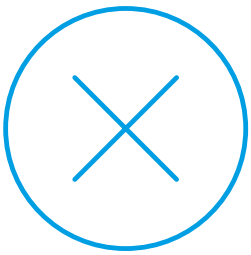
Working near **nbn**™ cables



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.

DIAL BEFORE YOU DIG
www.1100.com.au

To:	Vaughn Naude
Phone:	Not Supplied
Fax:	Not Supplied
Email:	vaughn@bravoconsult.com.au

Before You Dig Australia Job #:	51015668
Sequence #	260161688
Issue Date:	26/08/2025
Location:	39-45 Homestead Dr , Flagstone , QLD , 4280

Information

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

nbn™ Assets	Search Results
Communications	Asset identified
Electricity	Asset identified

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: 26/08/2025

Referral
260161693

Member Phone
1800 653 935

Responses from this member

Response received Tue 26 Aug 2025 12.46pm

File name	Page
Response Body	122
Telstra Map Legend 4.0b.pdf	124
Telstra Duty of Care v32.0c.pdf	125
260161693.pdf	127
AccreditedPlantLocators 2025-01-08a.pdf	129

Attention: Vaughn Naude

Site Location: 39-45 Homestead Dr, Flagstone, QLD 4280

Your Job Reference: 3509 - DBYD

Please do not reply to this email, this is an automated message -

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.

Thank you for requesting Telstra information via Before You Dig Australia (BYDA).

This response contains Telstra information relating to your recent BYDA request.

Please refer to all enclosed attachments for more information.
Information for opening Telstra Asset Plans as well as some other useful contact information is noted in the attached documents.

Report Damage to Telstra Equipment: Report damages to Telstra equipment - Telstra

Please note:
When working in the vicinity of telecommunications plant you have a 'Duty of Care' that must be observed.
Ensure you read all documents (attached) - they contain important information.
Please also refer to 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/, The essential steps that must be undertaken prior to commencing construction activities

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 v32.0c.pdf)

(See attached file: Telstra Map Legend 4.0b.pdf)

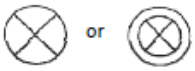
(See attached file: AccreditedPlantLocators 2025-01-08a.pdf)

(See attached file: 260161693.pdf)

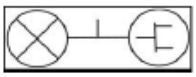
LEGEND

Exchange
(Major Cable Present)

Footway Access Chamber
(can vary from 1-lid to 12-lid)



Pillar / Cabinet
(above ground / free standing)



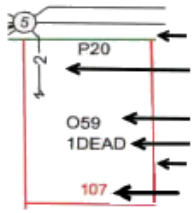
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V Electricity

OC — Other Carrier Telecommunications Cable/Asset

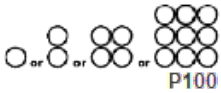
Dist — Distribution cables in Main Cable ducts

MC — Main Cable ducts on a Distribution plan

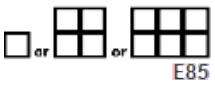
▲ — Blocked or damaged duct.



Roadside / Front Boundary
2 pair lead-in to property from pit in street 1
pair working (pair ID 059)
1 pair dead (i.e. spare, not connected)
Side / Rear Property Boundary
Property Number

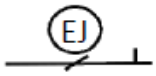


Single to multiple round conduit
Configurations 1,2,4,9 respectively
(attached text denotes conduit type and size)

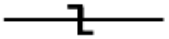


Multiple square conduit
Configurations 2, 4, 6 respectively
(attached text denotes conduit type and size)

Cable Jointing Pit
(number / Letter indicating Pit Type)



Elevated Joint
(above ground joint on buried cable)

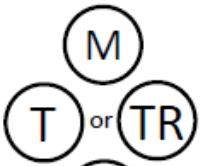


Telstra Plant in shared Utility trench

Aerial Cable

Aerial Cable
(attached to joint Use Pole eg. Power)

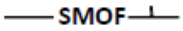
Direct Buried Cable



Marker Post Installed

Buried Transponder

Marker Post, Transponder

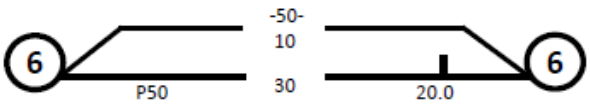


Optical Fibre cable direct buried

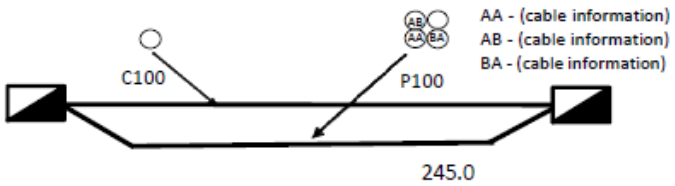
Some examples of conduit type and size:

A - Asbestos cement, P - PVC / Plastic, C - Concrete,
GI - Galanised 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



AA - (cable information)
AB - (cable information)
BA - (cable information)

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

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)

For more info contact a CERTLOC Certified Locating Organisation (CLO) or Telstra Location Intelligence Team 1800 653 935

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.

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 undertaking the works to protect Telstra's 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.

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.

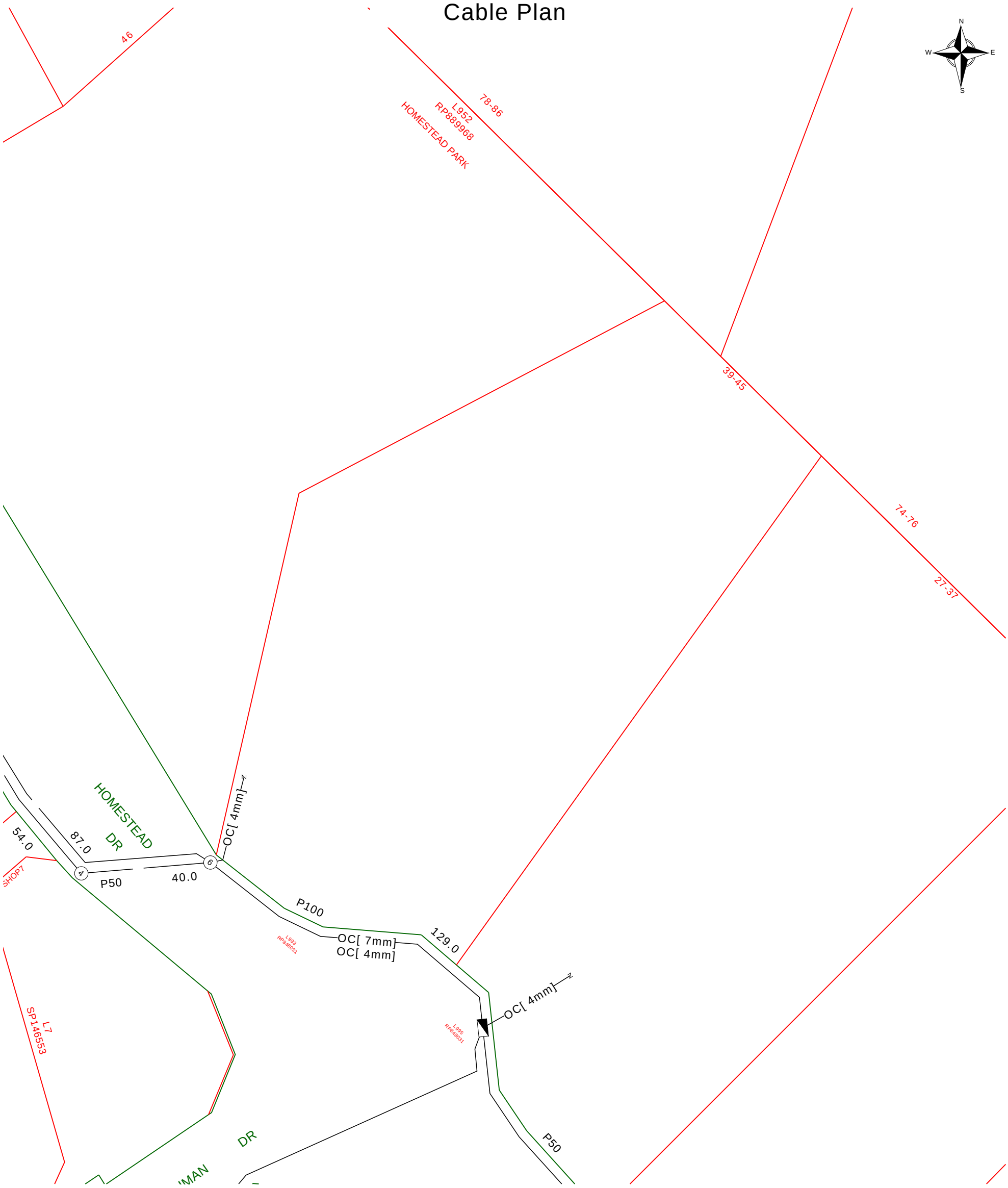
Workers and equipment must maintain safety exclusion zones around power lines

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).

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

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Sequence Number: 260161693

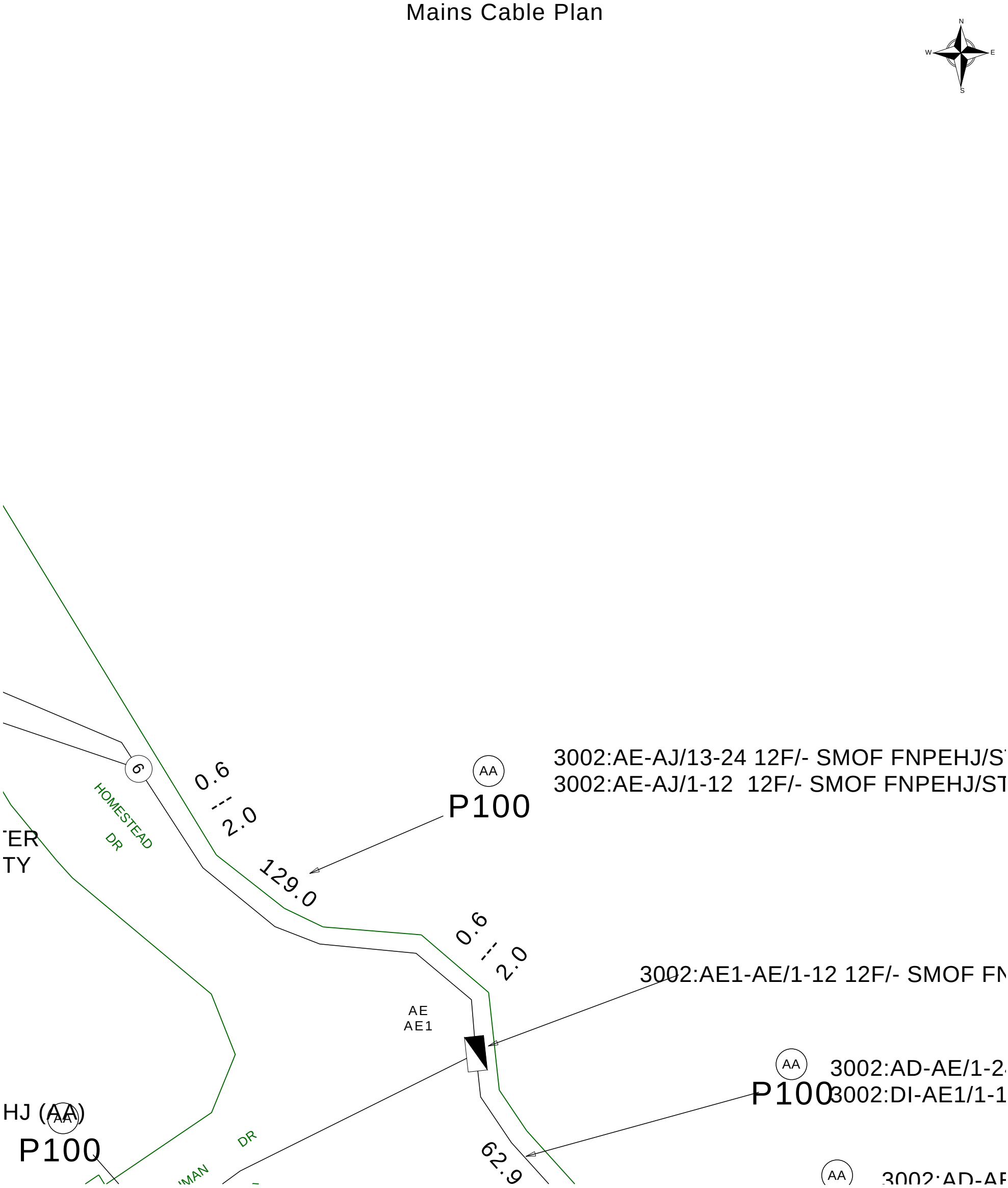
CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

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.
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

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Sequence Number: 260161693

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

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

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

General Information

Before you Dig Australia – BEST PRACTISE GUIDES

The five Ps of safe excavation
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/

Telstra BYDA map related enquiries email Telstra.Plans@team.telstra.com
1800 653 935 (AEST Business Hours only)

REPORT ANY DAMAGE TO THE TELSTRA NETWORK IMMEDIATELY
Report online - https://www.telstra.com.au/forms/report-damage-to-telstra-equipment
Ph: 13 22 03
If you receive a message asking for a phone or account number say:
"I don't have one" then say "Report Damage" then press 1 to speak to an operator.

Telstra New Connections / Disconnections
13 22 00

Telstra asset relocation enquiries: 1800 810 443 (AEST business hours only).
NetworkIntegrity@team.telstra.com
https://www.telstra.com.au/consumer-advice/digging-construction

Telstra Aerial Assets Group (overhead network)
1800 047 909

CERTLOC Certified Locating Organisation (CLO)
certloc.com.au/locators/
Only Telstra authorised personnel and CERTLOC Locators can access Telstra's Pit and Pipe Network.

End of document

This document may exclude some files (eg. DWF or ZIP files)

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