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1159 Gympie Road, Aspley 4034

**CIVIL ENGINEERING REPORT**  
(Stormwater Management, Infrastructure & Civil Services)

CLIENT:	Munro Davison
SITE ADDRESS:	1159 Gympie Road, Aspley
MCE No:	26040
DATE:	June 2026



## DOCUMENT CONTROL

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### DOCUMENT TITLE:

#### Civil Engineering Report (CER)

#### Incorporating:

- Engineering Services Report (ESR) &
- Site Based Stormwater Management Plan (SBSMP)

### MELIORA JOB No:

26040

### CLIENT:

Munro Davison

### AUTHOR:

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### AUTHORISED:

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## GLOSSARY

### GENERAL

- BCC – Brisbane City Council
- CER – Civil Engineering Report
- BYDA – Before You Dig Australia
- ESR – Engineering Services Report
- NCC - National Construction Code
- AS/NZS - Australian Standards/New Zealand Standards
- QUDM - Queensland Urban Drainage Manual
- WSAA - Water Services Association of Australia
- SBSMP – Site Based Stormwater Management Plan
- SPP - The State Planning Policy (Queensland)
- CMP – Construction Management Plan
- ha - Hectare (10,000m<sup>2</sup>)
- kL - kilolitre (1,000L) or (1m<sup>3</sup>)

### EARTHWORKS & ESC

- ASS – Acid Sulfate Soil
- ASSIR – Acid Sulfate Soil Investigation Report
- GWI - Ground Water Inflow
- E&SC – Erosion and Sediment Control

### DRAINAGE

- AEP - Annual Exceedance Probability
- ARI - Average Recurrence Interval
- Hydrology – The movement (and impact) of water run-off in relation to the site and surrounds
- OSD – On-Site Detention (Detention Storage System)
- Bioretention system - A system that collects and infiltrates urban stormwater through a prescribed filter media covered with vegetation to improve discharge quality
- GPT - Gross Pollutant Trap – Collects gross pollutants from a catchment to improve stormwater quality
- $t_c$  – ‘Time of Concentration’ for a drainage catchment
- MUSIC - Water quality modelling software; Acronym stands for ‘Model for Urban Stormwater Improvement Conceptualisation’
- Nitrogen - An important nutrient found in high concentrations in recycled waters, originating from human and domestic wastes. A useful plant nutrient that can also cause off-site problems of eutrophication in lakes, rivers and estuaries.
- Phosphorus - An important nutrient found in high concentrations in recycled waters, originating principally from detergents but also from other domestic wastes.
- WSUD – Acronym stands for ‘Water Sensitive Urban Design’. WSUD Provides a strategy for the conservation and management of water resources through better management of stormwater.

### SEWER & WATER

- DF - Design Flow
- EP - Equivalent Persons
- IIF - Inflow & Infiltration Flow
- PDWF - Peak Dry Weather Flow
- PWWF - Peak Wet Weather Flow
- ADFW - Average Dry Weather Flow
- SF - Sanitary Flow



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## 1 EXECUTIVE SUMMARY

Meliora Engineering has been engaged by Munro Davison to prepare a Civil Engineering Report suitable for submission to Brisbane City Council in support of a Development Application for a site located at 1159 Gympie Road, Aspley. The Application proposes a MCU (Proposed Additions to Existing Motor Inn).

The purpose of this Engineering Report is to provide advice on the development proposal as detailed in the Munro Davison architectural drawing which is shown within Appendix A – Architectural Drawings. Commentary and relevant calculations cover works required to service the proposed development including earthworks, roadworks, stormwater drainage management (quantity and quality), sewerage and water reticulation, electricity, communications & gas.

The assessment has been carried out in accordance with Brisbane City Council Planning Scheme Policies and the proposed works described herein will be subject to the Conditions attached to the Development Approval to be provided by Council and any nominated referral agencies.

Meliora Engineering civil schematic sketches addressing Stormwater, Infrastructure & Services are shown within Appendix B – Schematic Civil Drawings.

A summary of civil engineering advice is as follows:

- The site is not affected by sources of flooding (including river, creek nor overland flow). Minimum habitable levels can be achieved and no further analysis is considered necessary.
- The application does not propose any earthworks nor retaining works. The site falls to the north-west direction.
- The existing vehicle crossover will be utilised for the development.
- The development will require new drainage outlet to the kerb line on Gympie Road from existing internal pits, which is proposed as the sites lawful point of discharge.
- The development proposes to discharge to the kerb line on Gympie Road via 2xRHS which will further flow into the existing gully pit. Furthermore, because the development does not alter the fraction impervious, there is no significant increase in runoff. Consequently, stormwater detention is neither required nor proposed.
- The proposal, featuring a MCU on a site marginally over 2500m<sup>2</sup>, does trigger the SPP's Post-Development Stormwater Management (Water Quality) Design Objectives. However, given the proposal does not feature additional footprint of buildings and does not increase fraction impervious, tertiary treatment is not proposed and instead, best-practice stormwater quality management will be implemented, with trash baskets be fitted to all inlet pits in the driveway area.
- The site appears to be adequately serviced by reticulated water, sewerage, gas, telecommunications, and electricity. These services will need to be connected via the associated authority works process during the development.

Information discussed in this report is inferred from several sources including authority databases, BYDA records, site survey and design documents received from the client.

All relevant standards and guidelines are addressed in this report including criteria from:

- [BCC Planning Scheme Policy](#)
- [Australian Rainfall and Runoff Guideline \(ARR\)](#)
- [Queensland Urban Drainage Manual \(QUDM\) 2013](#)
- [Plumbing and Drainage Code AS3500.3](#)



- [State Planning Policy \(SPP\)](#)
- [International Erosion Control Association of Australasia \(IECA\)](#)

This report has demonstrated that the proposed development does not present any civil related engineering issues which would prevent the development from proceeding as proposed.



## 2 INTRODUCTION & BACKGROUND

Meliora Engineering has been engaged by Munro Davison to prepare a Civil Engineering Report suitable for submission to Brisbane City Council in support of a Development Application for a site located at 1159 Gympie Road, Aspley. The proposed development is for a MCU (Proposed Additions to Existing Motor Inn).

The purpose of this Engineering Report is to provide advice on the development proposal as detailed in the Munro Davison architectural drawings which is shown within Appendix A – Architectural Drawings. Commentary and relevant calculations cover works required to service the proposed development including earthworks, roadworks, stormwater drainage management (quantity and quality), sewerage and water reticulation, electricity, communications & gas.

The assessment has been carried out in accordance with Brisbane City Council Planning Scheme Policies and the proposed works described herein will be subject to the Conditions attached to the Development Approval to be provided by Council and any nominated referral agencies.

### 2.1 BACKGROUND

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Meliora is a civil engineering consultancy which specialises in minor residential and commercial projects within South East Queensland. We understand the commercial drivers behind projects whilst also having significant experience in compliance and construction of same.

This project presents an opportunity for urban densification in line with the current Council planning scheme, creating more dwellings to service the influx of residents and satisfy the growth of Brisbane.

This Civil Engineering Report has been supervised by a Registered Engineering of Queensland (RPEQ) and address the key civil engineering aspects in relation to the planning requirements relevant to the proposal. Section 4.4 & 4.5 of this Report forms a Site Based Stormwater Management Plan (an SBSMP), which outlines potential on and off-site impacts associated with stormwater for the proposed development. It also identifies a range of conceptual stormwater management strategies and actions for water quality, water quantity and environmental issues.

### 3 SITE CHARACTERISTICS

#### 3.1 LOCATION & TITLES/EASEMENTS

Refer to below figures and tables for locality plan and specific title information for the property to be developed.



Figure 1 - Site Location (as accessed from Google Maps 8/06/2026)

Table 1 - Property Details

<b>Lot Information</b>	Lot 1 on RP 131812
<b>Street Address</b>	1159 Gympie Road, Aspley
<b>Site Area</b>	2501m <sup>2</sup>
<b>Existing Easements</b>	No

#### 3.2 EXISTING FEATURES & TOPOGRAPHY

##### 3.2.1 CONTEXT

The subject site comprises of hotel rooms & driveway. The site is bounded by a Council Road reserve to the south-west, with the remaining boundaries adjoining residential lots. Refer to Town Planning Report by The Planning Place for further planning related context.



### 3.2.2 GRADING & CONTRIBUTING CATCHMENTS

The site grades towards north-west direction at an approximate slope of 7%. The adjacent land to the south-east boundaries also grades similarly to the subject site. But, there is no contributing catchments which discharge into the site.

This report describes the upstream catchment in more details within section 4.4.2.

### 3.2.3 EXISTING FEATURES

The existing property boundaries, surface levels, site features and the location of the existing infrastructure & structures are identified on the survey plan drawing shown within Appendix C – Survey Plan within this report.

Appendix D – BYDA Results includes information as sourced from BYDA and Council Mapping.

It should be noted that site survey includes underground services ‘plotted from records’ ie from DBYD records. As per commentary within AS5488, DBYD and authority records are often Quality Level ‘D’. BYDA plans only give an approximate indication of the underground conduits that exist and cannot not be relied upon. It is strongly suggested that prior to the start of the detailed/developed design phase, and to avoid damaging buried assets when excavating the subsurface, information relating to the location of existing services must be located to minimum quality Level ‘B’ with the position of any underground cables or services thoroughly checked and marked by a trained service locator.

## 3.3 GEOTECHNICAL FEATURES

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At the time of authoring this report, a Geotechnical Report with associated soil testing had not been received by Meliora Engineering. It is strongly recommended that appropriate geotechnical investigation and testing be completed for the site to inform detailed engineering for the proposed development.

### 3.3.1 POTENTIAL OR ACTUAL ACID SULFATE SOILS

The Brisbane City Council Mapping show the site is not impacted by Council's 'potential and actual acid sulfate soils' overlay, nor any acid sulfate soils are not expected to be encountered during the earthworks

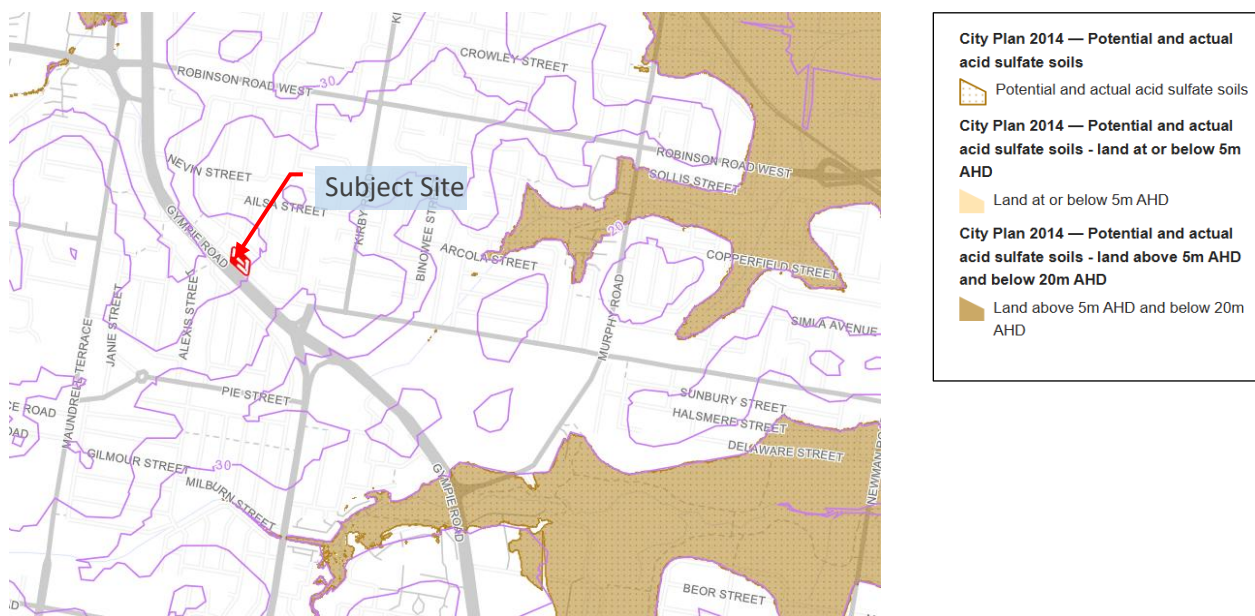


Figure 2 - Acid Sulfate Soil Overlay

### 3.4 FLOODING IMPACT

An authority Flooding Report has been generated and can be seen within Appendix E – Floodwise Report.

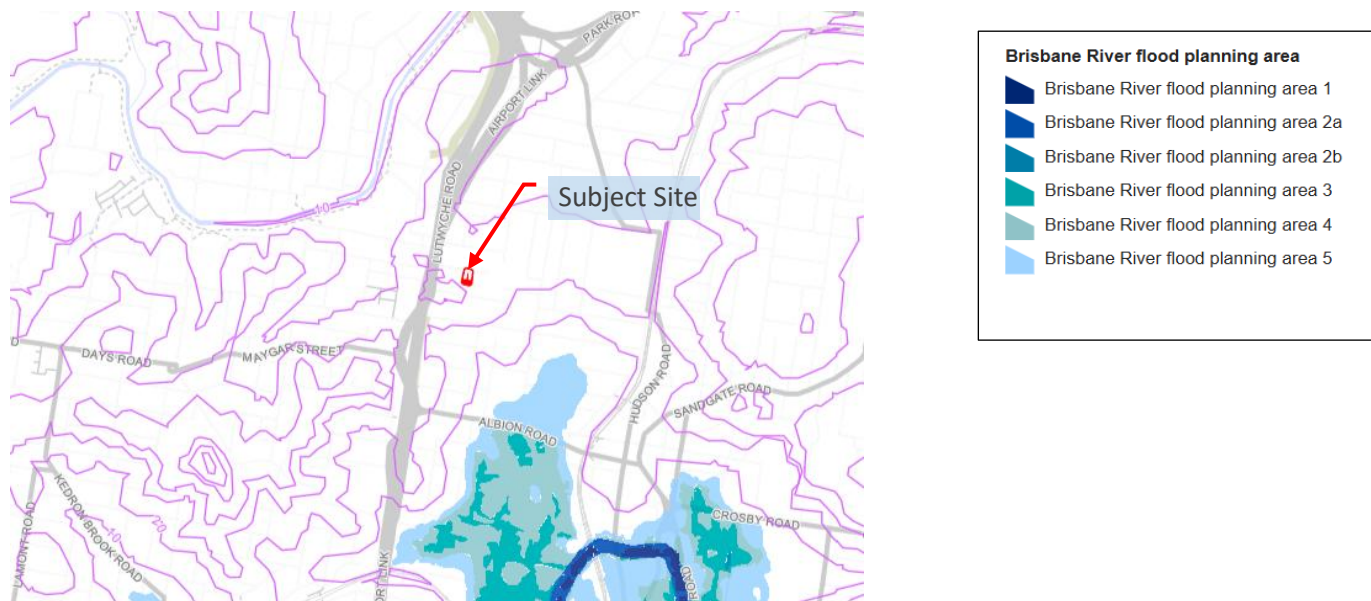


Figure 3 - Flooding Overlays (creek/waterway) from Council Mapping

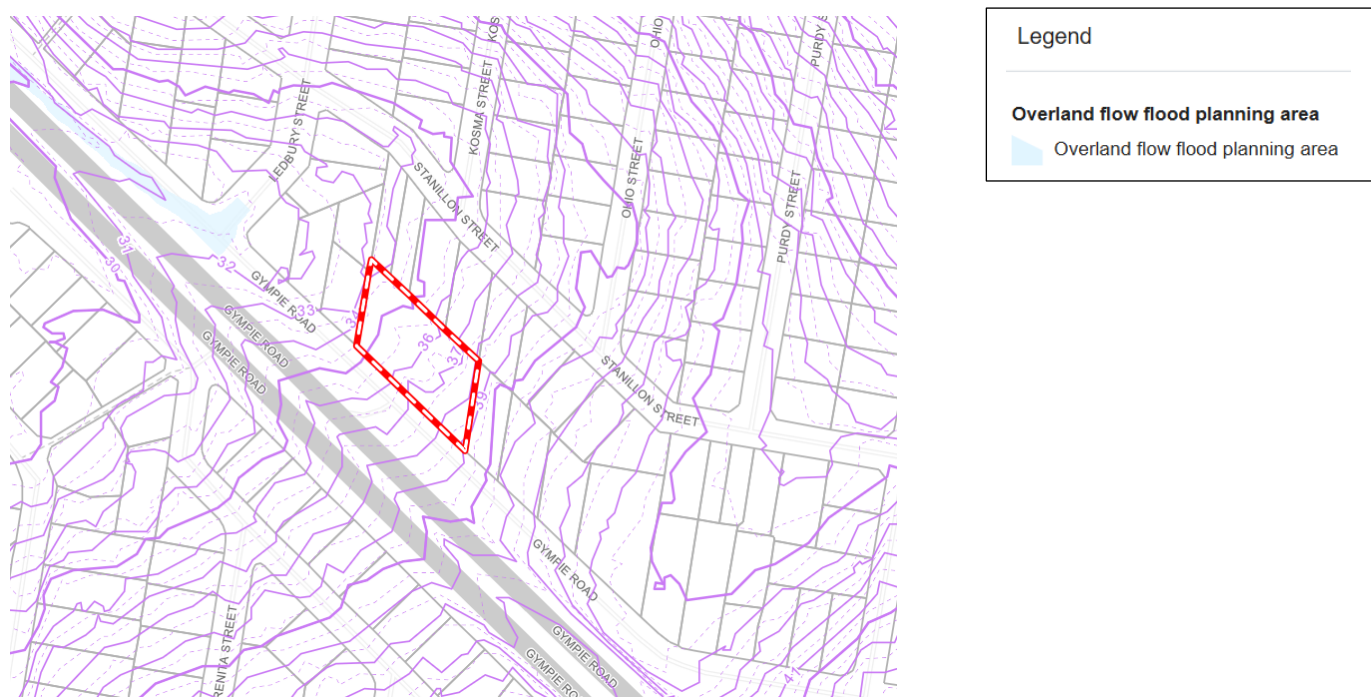


Figure 4 - Flooding Overlays (overland flow flood) from Council Mapping

The proposed development site has no flood levels or flags for building or development purposes and is expected to be low risk for flooding. Minimum habitable levels can be achieved and no further analysis is considered necessary.



### 3.5 LOCAL GOVERNMENT INFRASTRUCTURE PLAN (LGIP)

Review of the Council Priority Infrastructure Plan Maps indicates that no priority infrastructure upgrades are planned within close proximity to the subject site.

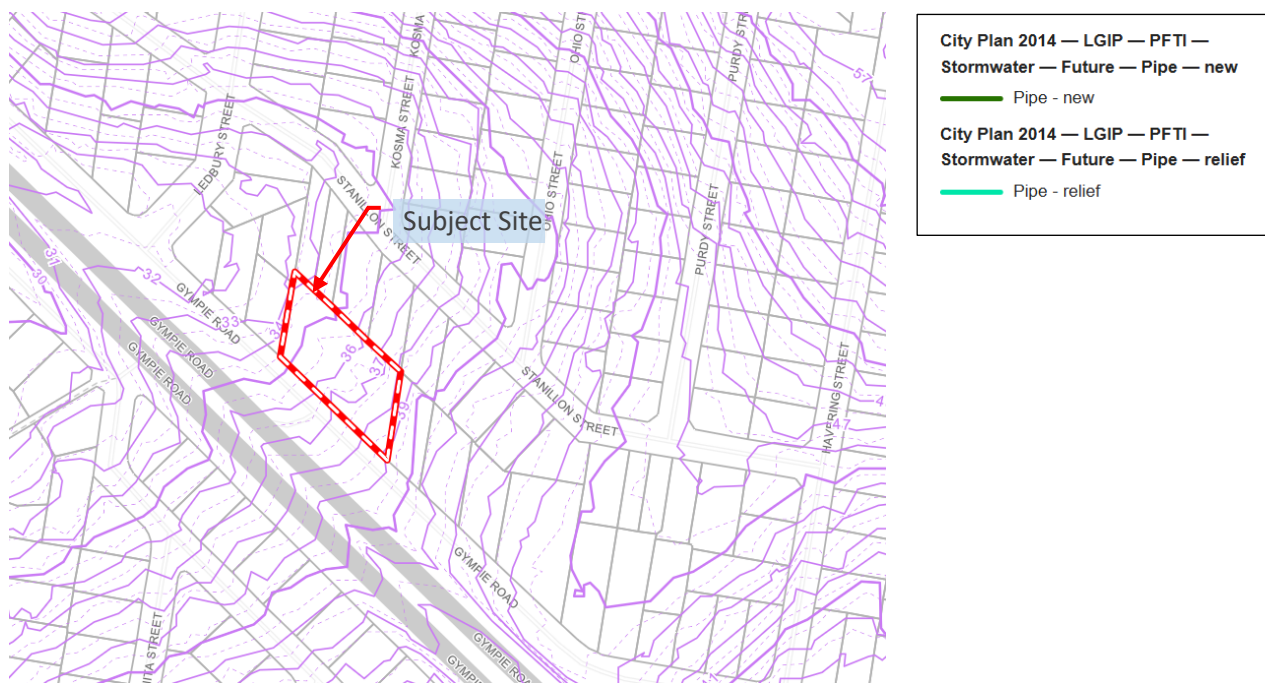


Figure 5 - Priority Infrastructure at Site



## 4 PROPOSED CIVIL ENGINEERING WORKS

Meliora Engineering accepts no responsibility for the accuracy of information supplied to them by second and third parties, including survey, authority mapping data and geotechnical testing information which may have been relied on to inform the civil engineering opinions and calculations presented within the advice below.

Consider that the assessment addresses the requirements for development of the subject site at the time the study was undertaken. If these conditions are known to change, the results of this assessment should be reviewed and amended as required.

The assessment has been carried out in accordance with the relevant Council Planning Scheme Policies and the proposed works described herein will be subject to the conditions attached to the Development Approval to be provided by Council and any nominated referral agencies.

### 4.1 DESCRIPTION OF WORKS

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The proposed development is for MCU (Proposed Additions to Existing Motor Inn).

Please refer to Appendix A – Architectural Drawings for architectural layout plans.

### 4.2 FILLING AND EXCAVATION

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The application does not propose any earthworks nor retaining works. The site falls to the north-west direction.

Refer to Appendix B – Preliminary Earthwork Layout Plan & Sections.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Filling and Excavation Code & responses.

### 4.3 ACCESS & ROADWORKS

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The subject site is adjacent to the following roads:

- Gympie Road – service road, with kerb and channel drainage on each side and a two-way crossfall

The site is currently accessed via three (3) vehicle crossovers along Gympie Road.

The existing vehicle crossover will be utilised for the development.

Refer to Appendix B – Schematic Civil Drawings for details.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Infrastructure Code & responses.



## 4.4 SITE-BASED STORMWATER DRAINAGE MANAGEMENT - QUANTITY

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Refer to Appendix F – Code Response Tables for the Brisbane City Council Stormwater Management Code & responses.

### 4.4.1 ON-SITE DRAINAGE & RUNOFF QUANTITY TREATMENT OBJECTIVE

the stormwater management objectives that apply to the site have been derived from QUDM, State Planning Policy (2017), BCC Planning Scheme Policy and BCC Land Development Guidelines. The key stormwater parameters and desired outcomes are:

- Minimisation of storm-related nuisance to the public;
- Minimisation of legal disputes between neighbouring landowners and communities;
- Flood control & resilience to flooding in excess of nominated design events;
- Pedestrian and vehicular safety
- Integrate stormwater management infrastructure carefully in the urban and natural landscape, promoting retention of natural drainage system and protection/restoration of environmental values

Subsequently, the objectives of Stormwater Runoff Quantity Management for the subject site are;

1. Provide a stormwater conveyance system for minor (10% AEP) and major (2% AEP) storm events to discharge to the nominated Lawful Point of Discharge
2. Limit flooding of public and private property, both within the catchment and downstream, to acceptable levels.
3. To provide convenience and safety for pedestrians and traffic in frequent stormwater flows by controlling those flows within prescribed velocity/depth limits.

### 4.4.2 EXISTING DRAINAGE REGIME

A site survey documenting existing services within and surrounding the development site was performed by SONTA and is shown within Appendix C – Survey Plan. The survey highlights the following existing features related to drainage:

- Mapping record of in-ground drainage infrastructure of inlet pit & pipe within the site & existing gully pit at the site frontage Gympie Road kerb line
- Roof water discharges to the kerb line on Gympie Road
- Sheet flow discharges across north-west boundary
- 7% falls towards north-west boundary

There is no existing upstream connections nor drainage pit that runs through the site which services upstream or adjacent lots.

The site slopes toward the north-west at a gradient of approximately 7%. The adjacent land to the south-east, extending up to the 1149 Gympie Road property, exhibits a similar topography. However, because all these properties utilize an effective drainage management system that discharges directly into the kerb line along the Gympie Road frontage, no new upstream connections are required or proposed.



#### 4.4.2.1 EXISTING LAWFUL POINT OF DISCHARGE

The site discharges to the existing kerb and channel on Gympie Road, which is the existing Lawful Point of Discharge.

Further information on existing Council Stormwater Infrastructure in the area of the site was received via a BYDA search and a Council Mapping search. Details are included in Appendix D – BYDA Results.

#### 4.4.3 PROPOSED DRAINAGE REGIME

##### 4.4.3.1 PROPOSED LAWFUL POINT OF DISCHARGE

In the case of the proposed development, and as per further commentary in the below section, the site DOES NOT alter the site's stormwater discharge characteristics and there is no risk of nuisance flow during the post-development case, therefore a new LPOD is NOT required, and the existing LPOD is maintained. Kerb and channel on Gympie Road is the proposed LPOD for the new development.

##### 4.4.3.2 TAILWATER LEVELS

The tailwater level circumstance considered within the drainage analysis assumes water levels at the top of kerb level.

##### 4.4.3.3 PROPOSED DRAINAGE NETWORK

Stormwater generated from the development will be conveyed through a pit and pipe network for minor stormwater events (10% AEP) and a combination of pits and pipes for major storm events (2% AEP).

All stormwater drainage will be designed in accordance with the requirements of QUDM 2016.

The development will require new drainage outlet to the kerb line on Gympie Road from existing internal pits, which is proposed as the sites lawful point of discharge.

#### 4.4.4 CATCHMENT HYDROLOGY

##### 4.4.4.1 FLOW ESTIMATION METHODS & MODELLING

The choice of hydrologic method must be appropriate to the type of catchment and the required degree of accuracy.

As per Section 7.3 of BCC's current Infrastructure PSP, BCC allows flow estimations using Rational method. For this small-scale development Rational method was deemed suitable for use to estimate peak flows for catchments under existing and developed conditions. The Rational Method Calculations are summarised below.

##### 4.4.4.2 RAINFALL DATA

Catchment hydrology has been estimated using rainfall specific for the site at 1159 Gympie Road, Aspley. This is derived from the Bureau of Meteorology (BOM) Design Rainfall Data System (2016) using the following Latitude, Longitude:

- Latitude -27.37091, Longitude 153.02076

#### 4.4.4.3 EXISTING CATCHMENTS DESCRIPTION

The existing catchments (EX1) within the site discharging to the LPOD encompasses existing hotel room & driveway.

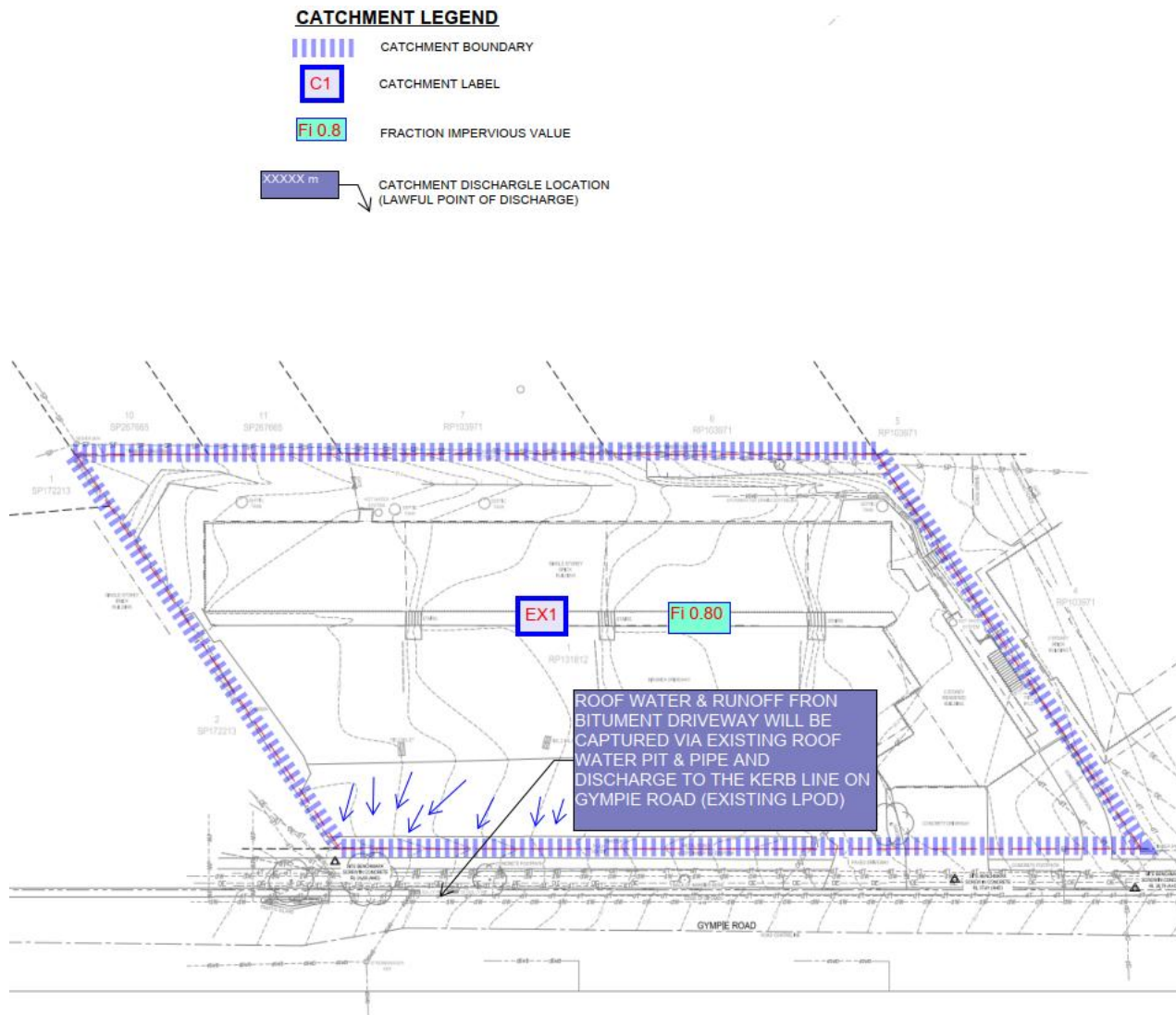


Figure 6 – Existing Catchments

#### 4.4.4.4 PROPOSED CATCHMENTS DESCRIPTION

Post – development, roof water of houses & runoff from driveway area proposes to discharge to the kerb line on Gympie Road via RHS kerb outlet.

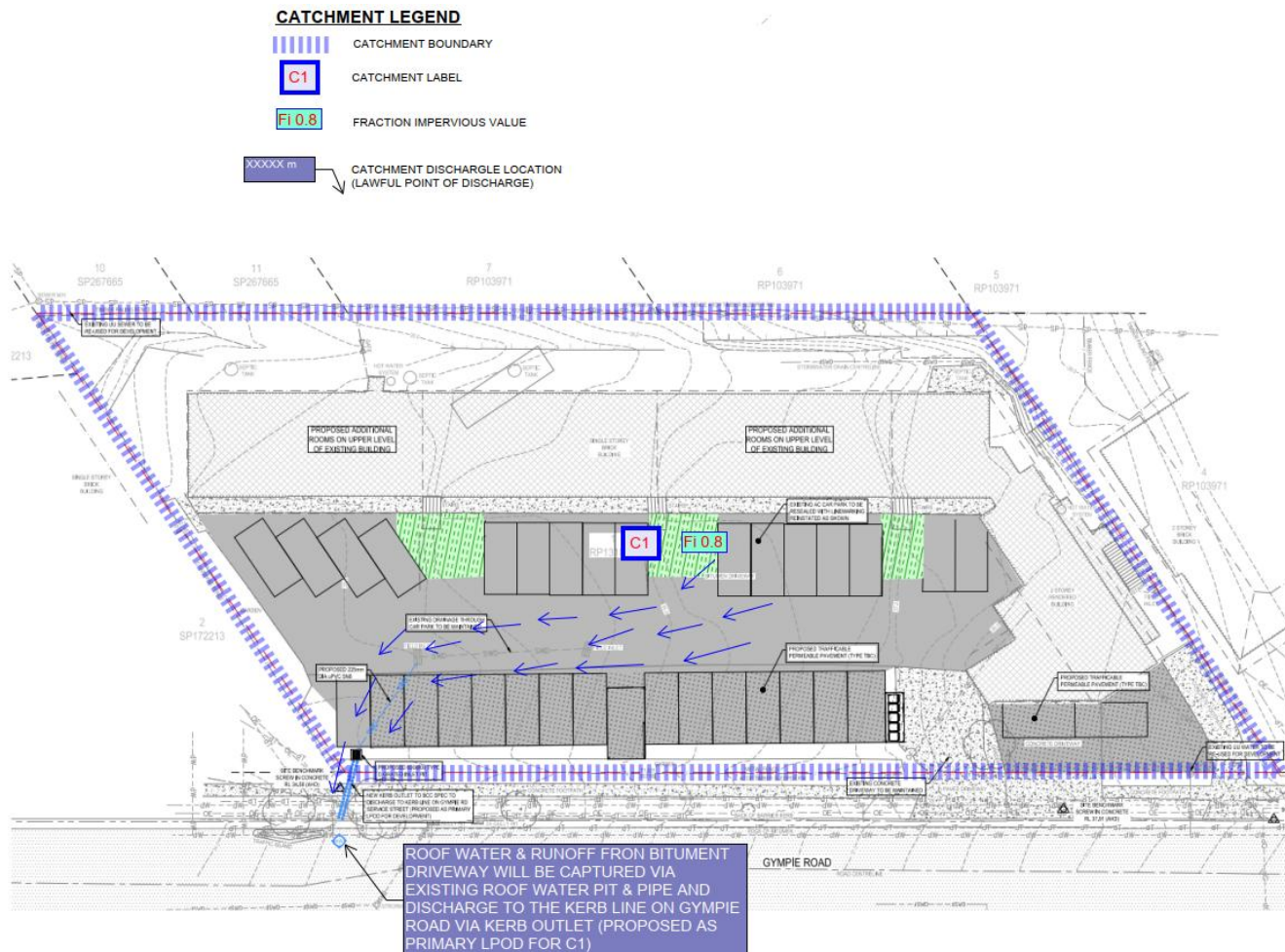


Figure 7 - Proposed Catchment



#### 4.4.4.5 CATCHMENT HYDROLOGY - RATIONAL METHOD CALCULATIONS

##### EX1 – Pre-Development Case existing catchment (EX1) discharges to the kerb line on Gympie Road (Existing LPOD)

CATCHMENT NAME	EX1	Design Storm Event (AEP & ARI)						
RATIONAL METHOD PARAMETERS	(units)	63% (Q1)	38% (Q2)	18% (Q5)	10% (Q10)	5% (Q20)	2% (Q50)	1% (Q100)
Catchment Area	ha				0.250			
Time of Concentration	min				7.0			
Fraction Impervious					0.80			
Runoff Coefficient (Cy)		0.68	0.72	0.81	0.85	0.89	0.98	1.00
Rainfall Intensity (Iy)	mm/hr	104.07	133.69	170.05	191.61	220.78	259.54	289.49
Peak Flow	L/s	49.2	67.1	95.4	113.1	136.9	176.3	201.1

##### C1 – Post-Development, proposed catchment (C1) discharges to the kerb line on Gympie Road (Proposed LPOD)

CATCHMENT NAME	C1	Design Storm Event (AEP & ARI)						
RATIONAL METHOD PARAMETERS	(units)	63% (Q1)	38% (Q2)	18% (Q5)	10% (Q10)	5% (Q20)	2% (Q50)	1% (Q100)
Catchment Area	ha				0.250			
Time of Concentration	min				7.0			
Fraction Impervious					0.80			
Runoff Coefficient (Cy)		0.68	0.72	0.81	0.85	0.89	0.98	1.00
Rainfall Intensity (Iy)	mm/hr	104.07	133.69	170.05	191.61	220.78	259.54	289.49
Peak Flow	L/s	49.2	67.1	95.4	113.1	136.9	176.3	201.1

#### 4.4.4.6 PRE vs POST DEVELOPMENT (UNMITIGATED) – RESULTS SUMMARY

The existing catchments contribute each circa 201L/s (at 1% AEP event) to the kerb line on Gympie Road.

Post – development, catchment C1 contributes circa 201L/s (at 1% AEP event) to the kerb line on Gympie Road. So, there is no increase in flows (at 1% AEP event) due to development.

Total Site Catchment - Unmitigated Discharge Summary				
AEP	Predeveloped Flow	Developed (Unmitigated) Flow	Difference	% Increase in Flow
	(m3/s)	(m3/s)	(m3/s)	
63% (Q1)	0.049	0.049	0.000	0
38% (Q2)	0.067	0.067	0.000	0
18% (Q5)	0.095	0.095	0.000	0
10% (Q10)	0.113	0.113	0.000	0
5% (Q20)	0.137	0.137	0.000	0
2% (Q50)	0.176	0.176	0.000	0
1% (Q100)	0.201	0.201	0.000	0

The above results indicate that the proposed development results in an increase in the quantity of runoff to the lawful point of discharge.

The development proposes to discharge to the kerb line on Gympie Road via 2xRHS which will further flow into the existing gully pit. Furthermore, because the development does not alter the fraction impervious, there is no significant increase in runoff. Consequently, stormwater detention is neither required nor proposed.



#### 4.4.5 CONSTRUCTION PHASE DRAINAGE INFRASTRUCTURE

During the construction phase of the development, the stormwater management design objectives for temporary drainage and basin spillways are to reference the Queensland Government State Planning Policy (SPP) 2017 Appendix 2 Table A (Part 1, 2 & 3).

Refer to Section 4.7 for further details on Construction Phase Erosion & Sediment Control details.

### 4.5 SITE BASED STORMWATER DRAINAGE MANAGEMENT - QUALITY

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Refer to Appendix F – Code Response Tables for the Brisbane City Council Stormwater Management Code & responses.

#### 4.5.1 WATER QUALITY TREATMENT OBJECTIVE

Urban stormwater run-off potentially contributes to adverse water quality in waterways, which impact aquatic ecosystems health and limit human water uses. Unless well managed, urban stormwater can release contaminants such as nutrients, sediment and solid waste to waterways. For the post-construction phase, the SPP's stormwater management design objectives require minimum reductions in the mean annual load for key pollutants.

The SPP contains specific assessment benchmarks for the Water quality state interest. The Performance Outcomes (PO) of the SPP apply to the following applications:

- (1) a material change of use for an urban purpose that involves premises 2500m<sup>2</sup> or greater in size *and*;
  - (a) will result in six or more dwellings; *or*
  - (b) will result in an impervious area greater than 25% of the net developable area; *or*
- (2) reconfiguring a lot for an urban purpose that involves premises 2500m<sup>2</sup> or greater in size and will result in six or more lots; *or*

The proposal, featuring a MCU on a site marginally over 2500m<sup>2</sup>, does trigger the SPP's Post-Development Stormwater Management (Water Quality) Design Objectives. However, given the proposal does not feature additional footprint of buildings and does not increase fraction impervious, tertiary treatment is not proposed and instead, best-practice stormwater quality management will be implemented, with trash baskets be fitted to all inlet pits in the driveway area.

#### 4.5.2 CONSTRUCTION PHASE STORMWATER QUALITY

During the construction phase of the development, the stormwater management design objectives for temporary water quality & ESC devices, including sediment basins, are to reference the Queensland Government State Planning Policy (SPP) 2017 Appendix 2 Table A (Part 1, 2 & 3).

Refer to Section 4.7 for further details on Construction Phase Erosion & Sediment Control details.

### 4.6 STORMWATER DRAINAGE INFRASTRUCTURE MAINTENANCE

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The landowner is responsible for the ongoing operation and maintenance of all privately-owned stormwater management assets & devices to ensure the drainage facility continues to meet its design performance and are maintained for the life of the approved development and may be liable for damages as a result of drainage system malfunction caused by lack of proper maintenance.



Roof-water drainage systems (including upstream connections) are classified as private drains with the responsibility for maintenance lying with the property owners.

## 4.7 SEDIMENT & EROSION CONTROL

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Healthy Waterways have identified that the large and increasing amount of sediment entering our waterways is one of the major issues affecting waterway health across south-east Queensland. Sediment is a contaminant that can seriously degrade water quality and starve marine life of oxygen, leading to fish kills and damage to aquatic ecosystems.

During the construction phase of the development, the stormwater management design objectives for temporary water quality & ESC devices, including sediment basins, are to reference the Queensland Government State Planning Policy (SPP) 2017 Appendix 2 Table A (Part 1, 2 & 3).

IECA 2008 Best Practice Erosion and Sediment Control (as amended) is to be referenced for details on the application of the Construction Phase requirements.

For the construction phase, the SPP's stormwater management design objectives require that developments apply best practice erosion and sediment control. These objectives are derived from International Erosion Control Association of Australasia (IECA) 2008 Best Practice Erosion and Sediment Control.

All sediment and erosion controls will be designed in the detailed design phase to meet the relevant design objectives.

The erosion risk for the proposed development has been assessed against the BCC Erosion hazard guidelines and found that the site is classified MEDIUM risk for Erosion and Sediment Control Hazard.

Refer to Appendix G – BCC E&SC EHA Form for Certified & complete BCC E&SC EHA Form.

## 4.8 SEWERAGE RETICULATION

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### 4.8.1 EXISTING SEWER INFRASTRUCTURE

The site is currently serviced by existing sewer property connections from an existing DN150mm sewer reticulation which runs through the site along north east boundary.

Refer to the QUU Asset Plan provided within Appendix D – BYDA Results for further information.

### 4.8.2 PROPOSED SEWER WORKS

Existing sewer infrastructure will be reused for new development.

The details of this connection, including an analysis of the existing infrastructure capacity to cater for the proposed development sewer discharge will be subject to authority assessment via a future QUU Services Advice Notice (SAN) or Works Application.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Infrastructure Code & responses.



## 4.9 WATER RETICULATION

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### 4.9.1 EXISTING WATER INFRASTRUCTURE

The site is currently serviced by an existing water connection from the existing DN100mm water main within the frontage road corridor.

Refer to the QUU Asset Plan provided within Appendix D – BYDA Results for further information.

### 4.9.2 PROPOSED WATER WORKS

Existing water service infrastructure will be reused for new development.

The details of this connection, including an analysis of the existing infrastructure capacity to cater for the proposed development water demand will be subject to authority assessment via a future QUU Services Advice Notice (SAN) or Works Application.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Infrastructure Code & responses.

## 4.10 ELECTRICITY, COMMUNICATIONS & GAS

---

### 4.10.1 ELECTRICITY INFRASTRUCTURE

Google street view suggest that the frontage road corridor at the site features existing overhead electrical infrastructure. The received site survey also confirms existence of overhead electrical infrastructure available at the site.

Refer to the Energex Asset Plans (obtained from the ‘Before You Dig Australia’ service) within Appendix D – BYDA Results for further details.

Electricity services required for the proposed development will be designed by the electrical engineer and will be assessed by Energex during the detailed design phase of the development.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Infrastructure Code & responses.

### 4.10.2 COMMUNICATIONS INFRASTRUCTURE

Telstra BYDA map suggest that the frontage road corridor at the site features existing telecommunications infrastructure that connects directly to the site. The received site survey confirms existence of telecommunications infrastructure available at the site.

Refer to the Telstra, Optus and NBN Asset Plans within Appendix D – BYDA Results for details.

All works required to provide communication services to the proposed development will be undertaken with the appropriate server’s approval and coordination.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Infrastructure Code & responses.



#### 4.10.3 GAS INFRASTRUCTURE

Apa BYDA group suggests that the frontage road corridor at the site features existing underground gas infrastructure.

Refer to the APA Group within Appendix D – BYDA Results for details.

All works required to provide gas services to the proposed development will be undertaken by the appropriate consultant with APA Group's approval and coordination.

Refer to Appendix F – Code Response Tables for the Brisbane City Council Infrastructure Code & responses.



## 5 SUMMARY & CONCLUSIONS

### 5.1 WORKS SUMMARY AND ENGINEERING RECOMMENDATION

The purpose of this Civil Engineering Report is to provide engineering advice in support of the development proposal as detailed in the Munro Davison architectural drawing which is shown within Appendix A – Architectural Drawings. Commentary and relevant calculations cover civil works required to service the proposed development including earthworks, roadworks, stormwater drainage management (quantity and quality), sewerage and water reticulation, electricity, communications and gas.

This Report relating to the Development Application proposing a MCU (Proposed Additions to Existing Motor Inn) has shown the following in relation to the civil engineering elements:

- The site is not affected by sources of flooding (including river, creek nor overland flow). Minimum habitable levels can be achieved and no further analysis is considered necessary.
- The application does not propose any earthworks nor retaining works. The site falls to the north-west direction.
- The existing vehicle crossover will be utilised for the development.
- The development will require new drainage outlet to the kerb line on Gympie Road from existing internal pits, which is proposed as the sites lawful point of discharge.
- The development proposes to discharge to the kerb line on Gympie Road via 2xRHS which will further flow into the existing gully pit. Furthermore, because the development does not alter the fraction impervious, there is no significant increase in runoff. Consequently, stormwater detention is neither required nor proposed.
- The proposal, featuring a MCU on a site marginally over 2500m<sup>2</sup>, does trigger the SPP's Post-Development Stormwater Management (Water Quality) Design Objectives. However, given the proposal does not feature additional footprint of buildings and does not increase fraction impervious, tertiary treatment is not proposed and instead, best-practice stormwater quality management will be implemented, with trash baskets be fitted to all inlet pits in the driveway area.
- The site appears to be adequately serviced by reticulated water, sewerage, gas, telecommunications, and electricity. These services will need to be connected via the associated authority works process during the development.

Information discussed in this report is inferred from several sources including authority databases, BYDA records, site survey and design documents received from the client.

Meliora Engineering civil schematic sketches addressing Stormwater and Services are shown within Appendix B – Schematic Civil Drawings.

The assessment has been carried out in accordance with the relevant Council Planning Scheme Policies and the proposed works described herein will be subject to the conditions attached to the Development Approval to be provided by Council and any nominated referral agencies.

This report has demonstrated that the proposed development does not present any civil related engineering issues which would prevent the development from proceeding as proposed.



## 5.2 COUNCIL CODE RESPONSES

---

The proposed development will trigger design & construction that will need to be assessed against the following Council Codes:

- [Filling and Excavation Code](#)
- [Stormwater Code](#)
- [Infrastructure Design Code](#)

To aid in Council's Decision, Meliora Engineering has provided an RPEQ certified response to the engineering aspects of the above codes. The codes with associated responses can be found attached in Appendix F – Code Response Tables.

## 5.3 LIMITATIONS

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Meliora Engineering accept no responsibility for the accuracy of information supplied to them by second and third parties, including survey, authority mapping data and geotechnical testing information which may have been relied on to inform the civil engineering opinions and calculations presented within this report.

We consider that the study addresses the requirements for development of the subject site at the time the study was undertaken. If these conditions are known to change, the results of this study should be reviewed.

This Civil Engineering Report has been prepared under the direct supervision of a Registered Professional Engineer of Queensland generally in accordance relevant guidelines and standards.



## 6 APPENDIX

### 6.1 APPENDIX A – ARCHITECTURAL DRAWINGS

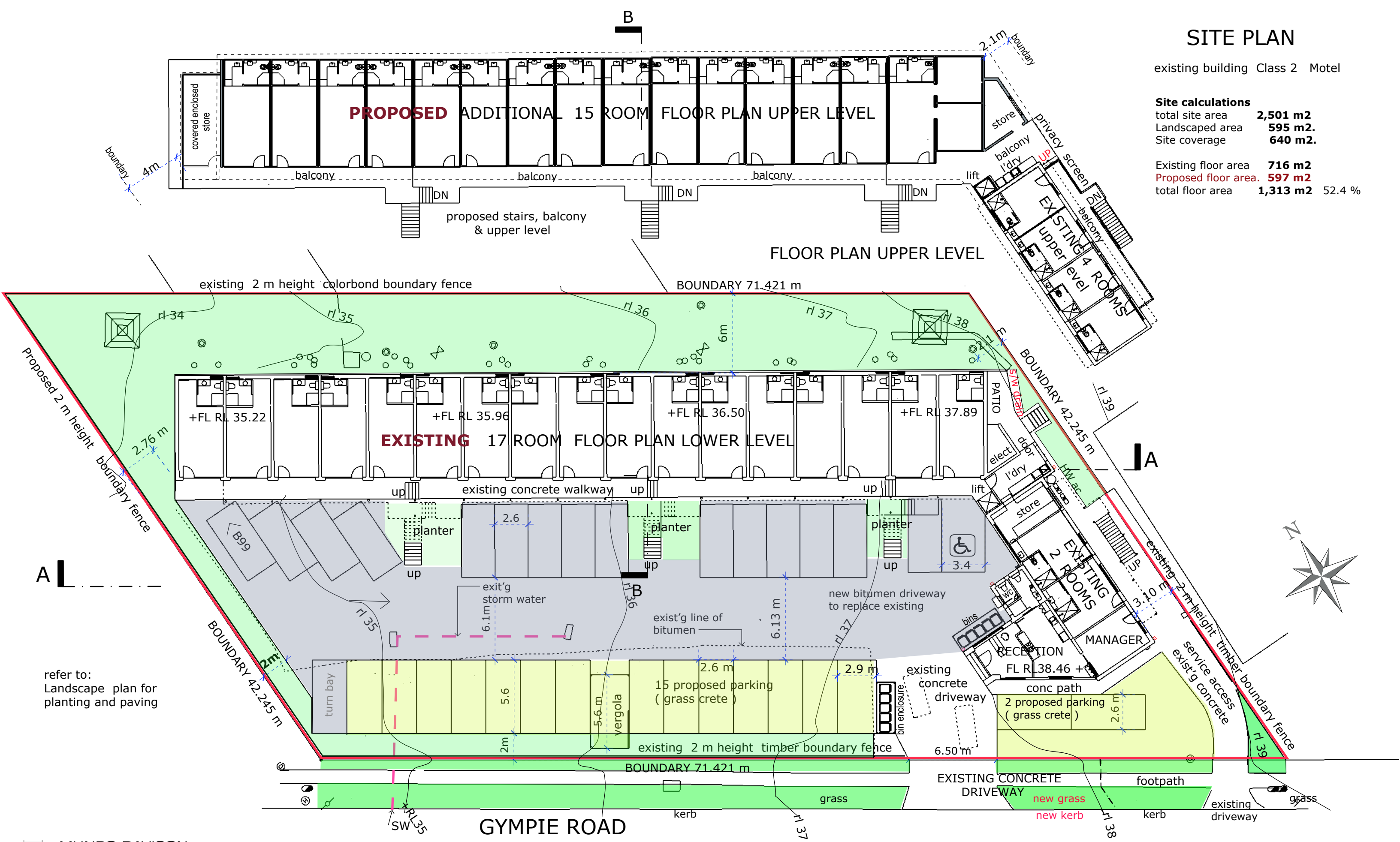
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# SITE PLAN

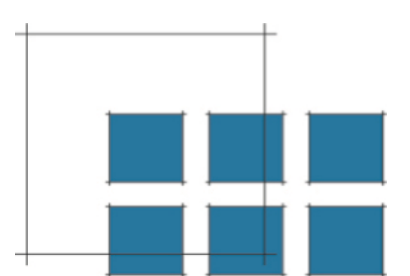
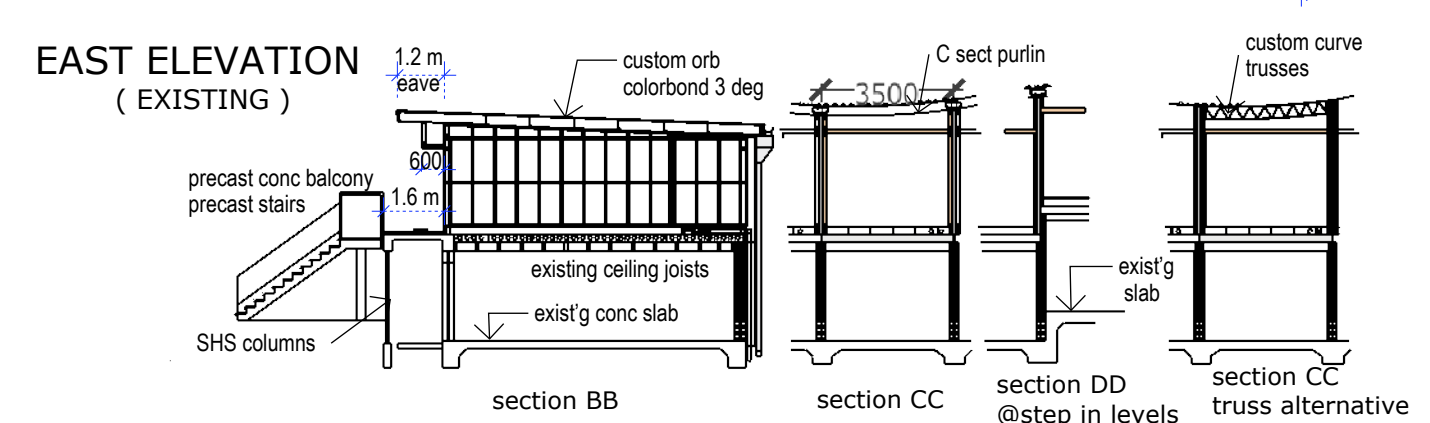
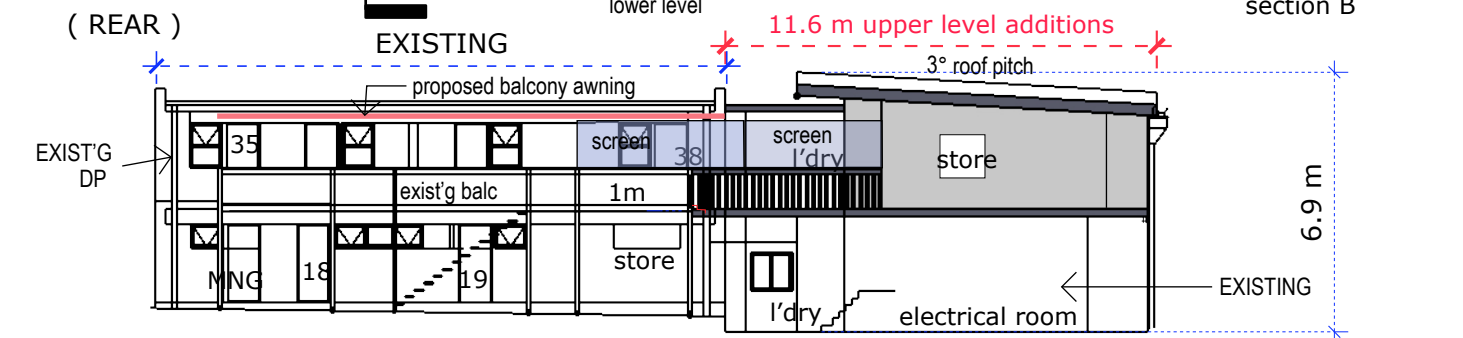
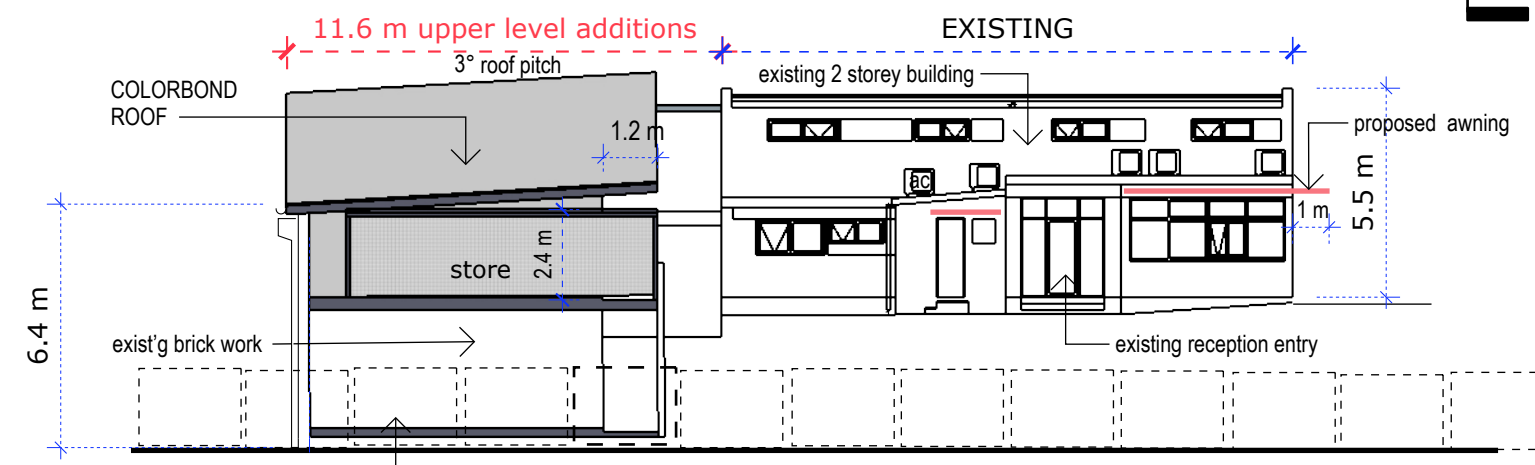
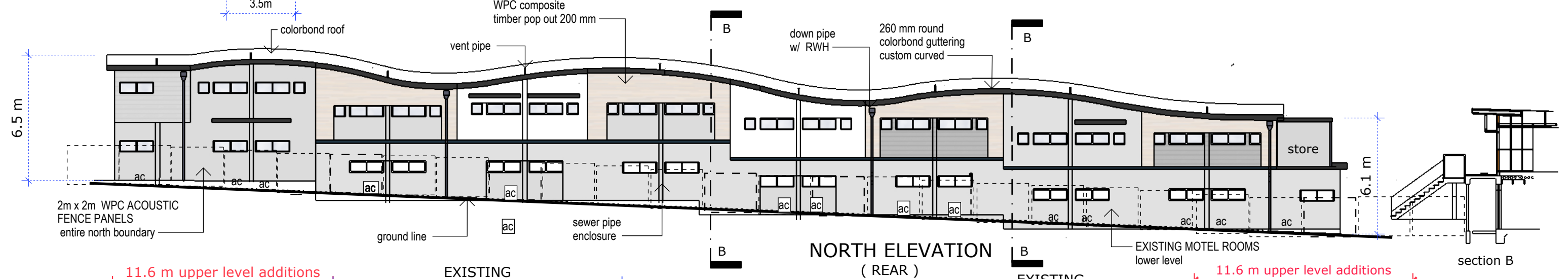
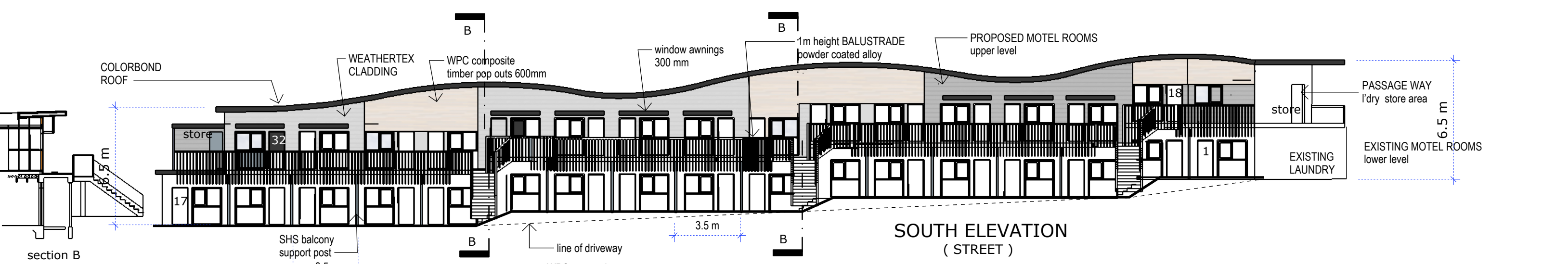
existing building Class 2 Motel

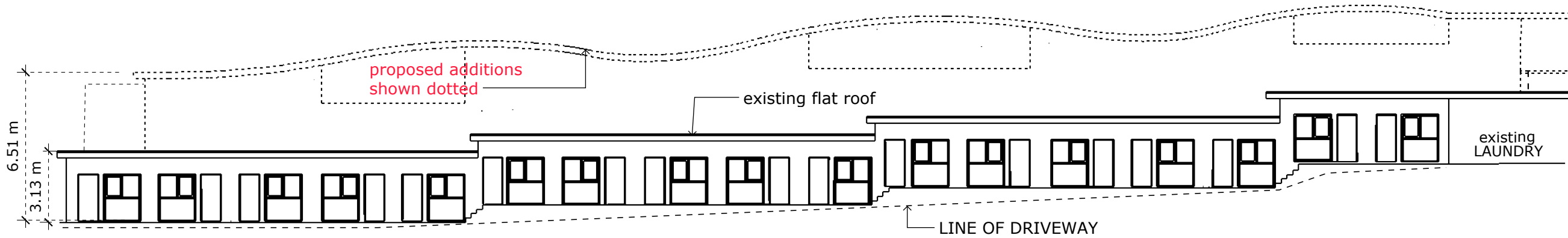
**Site calculations**  
 total site area **2,501 m<sup>2</sup>**  
 Landscaped area **595 m<sup>2</sup>**  
 Site coverage **640 m<sup>2</sup>**

Existing floor area **716 m<sup>2</sup>**  
 Proposed floor area **597 m<sup>2</sup>**  
 total floor area **1,313 m<sup>2</sup>** 52.4 %

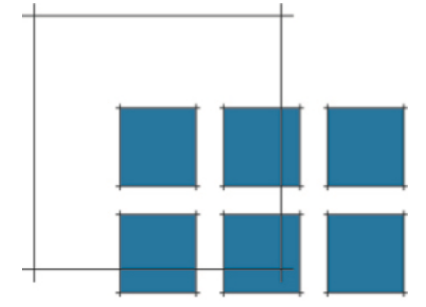


refer to:  
Landscape plan for  
planting and paving



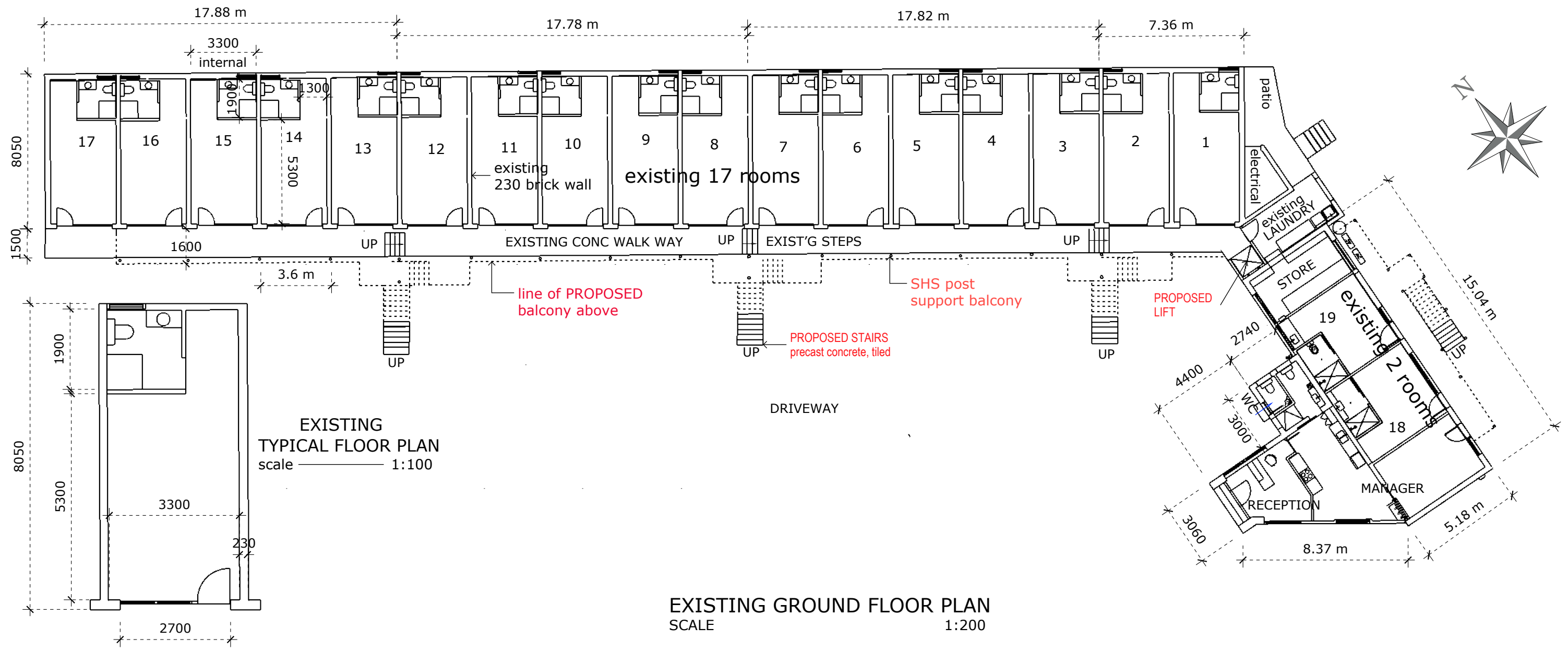


ELEVATION EXISTING



**MUNRO DAVISON**  
urban design & development

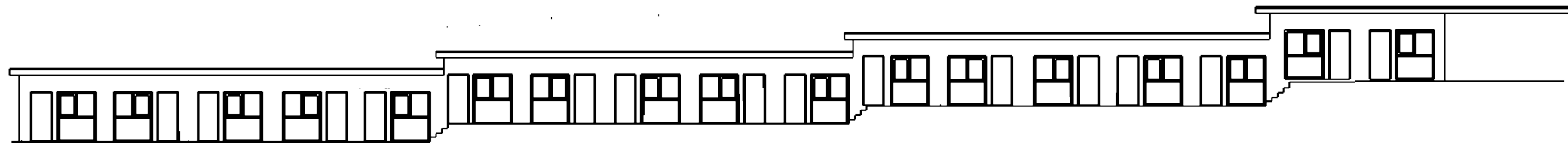
872 Military rd Mosman 2088  
mark.md@mac.com 0414768598



EXISTING TYPICAL FLOOR PLAN  
scale 1:100

EXISTING GROUND FLOOR PLAN  
SCALE 1:200

15 APRIL 2026



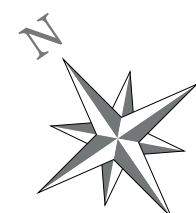
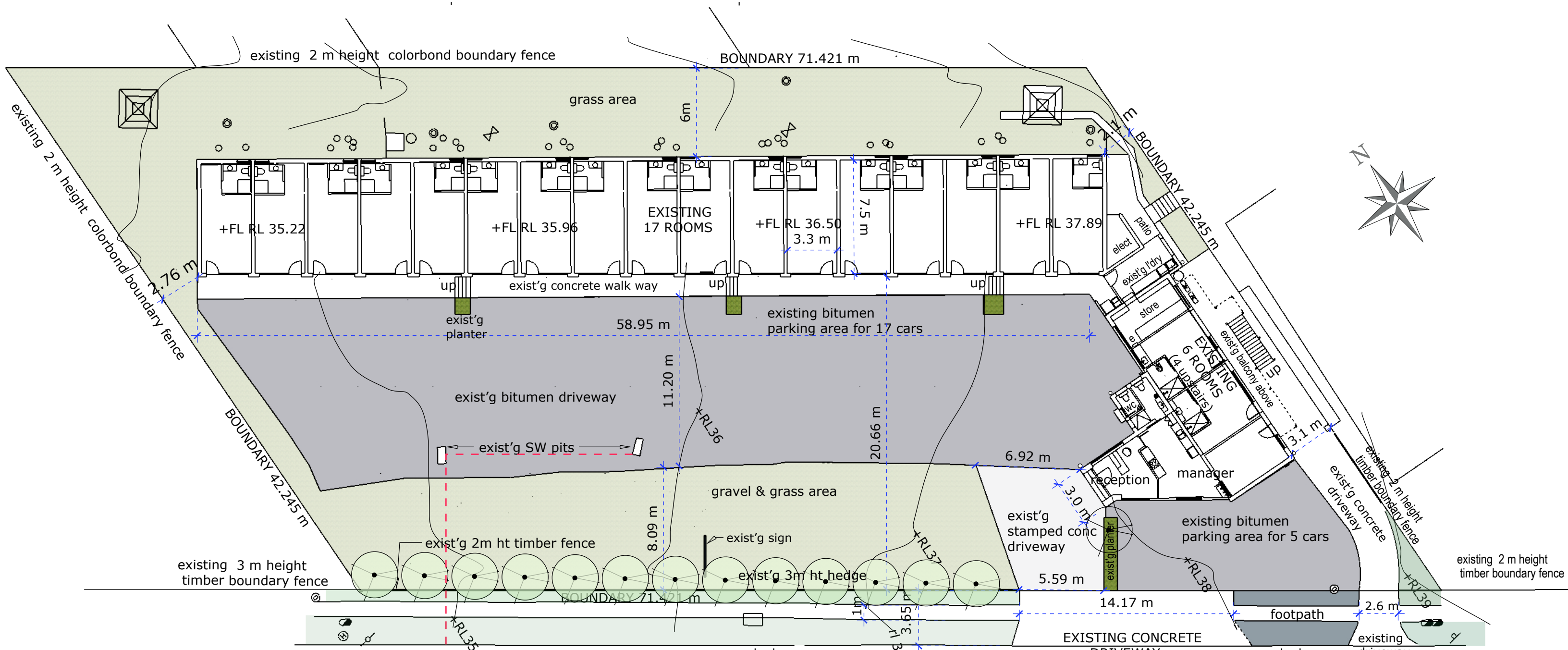
EXISTING SINGLE STOREY  
double brick on concrete slab with metal roof

S.W. ELEVATION



EXISTING TWO STOREY  
double brick on concrete slab

W. ELEVATION





- A** EXISTING MASS PLANTING  
Supplementary planting may be undertaken, where required, to achieve full and consistent coverage of existing garden beds. This will ensure a cohesive landscape presentation and enhance overall visual amenity.
- 1** FEATURE SHADE/ SCREEN TREES  
Medium canopied rounded tree species to provide shade over the frontages and provide visual amenity of the proposed development; Refer Proposed Planting Schedule (ie: *Acronychia imperforata*, *Tristaniopsis laurina* Luscious)
- 2** COLUMNAR TREE  
Columnar planting to assist in providing vertical softening of the proposed building to adjoining residences; Refer Proposed Planting Schedule (ie: *Elaeocarpus eumundi*)
- 3** COLUMNAR SCREEN PLANTING  
Dense planting to boundaries so as to provide visual amenity and privacy screening to neighbouring properties; Refer Proposed Planting Schedule
- 4** SHRUBS AND GROUNDCOVERS  
Mass planting to large areas to assist in building presentation to the streetscape and to provide visual amenity; Refer Proposed Planting Schedule

- PROPERTY BOUNDARY  
As taken from Survey drawings
- EXISTING FENCE  
2000mm high. As taken from Survey drawings
- PROPOSED ACOUSTIC FENCE  
2000mm high

NEARMAP DATED: 12/03/26 (PHOTOMANIPULATED)



CODE	SPECIES	COMMON NAME	SIZE*	SPACING(m)**	HEIGHT(m)	WIDTH (m)
------	---------	-------------	-------	--------------	-----------	-----------

### PROPOSED FEATURE SHADE / SCREEN TREES

As taken from SC6.24 Planting species planning scheme policy

1.1	<i>Acronychia imperforata</i>	Fraser Island Apple	45L	as shown	8	6
1.2	<i>Tristaniopsis laurina</i> Luscious	Water Gum	45L	as shown	10	5

### PROPOSED COLUMNAR TREES

2.1	<i>Elaeocarpus eumundii</i>	Smooth Leaved Quandong	45L	as shown	8	4
-----	-----------------------------	------------------------	-----	----------	---	---

### PROPOSED COLUMNAR SCREEN PLANTING

3.1	<i>Syzygium australe</i> Resilience	Lillypilly	300mm	1.5	3	2
-----	-------------------------------------	------------	-------	-----	---	---

### PROPOSED SHRUBS AND GROUNDCOVERS

4.1	<i>Ficus microcarpa</i> Green Island	Green Island Fig	200mm	1	2	1.5
4.2	<i>Gardenia jasminoides</i> Radicans	Creeping Gardenia	140mm	0.8	0.5	1-2
4.3	<i>Liriope muscari</i> Evergreen Giant	Liriope	140mm	0.6	0.8	0.8
4.4	<i>Philodendron</i> Xanadu	Xanadu	140mm	0.6	1	1

#### \*PLANT CONTAINER SIZE:

45L	45 Litre container stock min	Min. height at time of planting: 1.9-2.3m
300mm	300mm dia minimum pot size	
200mm	200mm dia minimum pot size	
140mm	140mm dia minimum pot size	

#### \*\*PLANT SPACING:

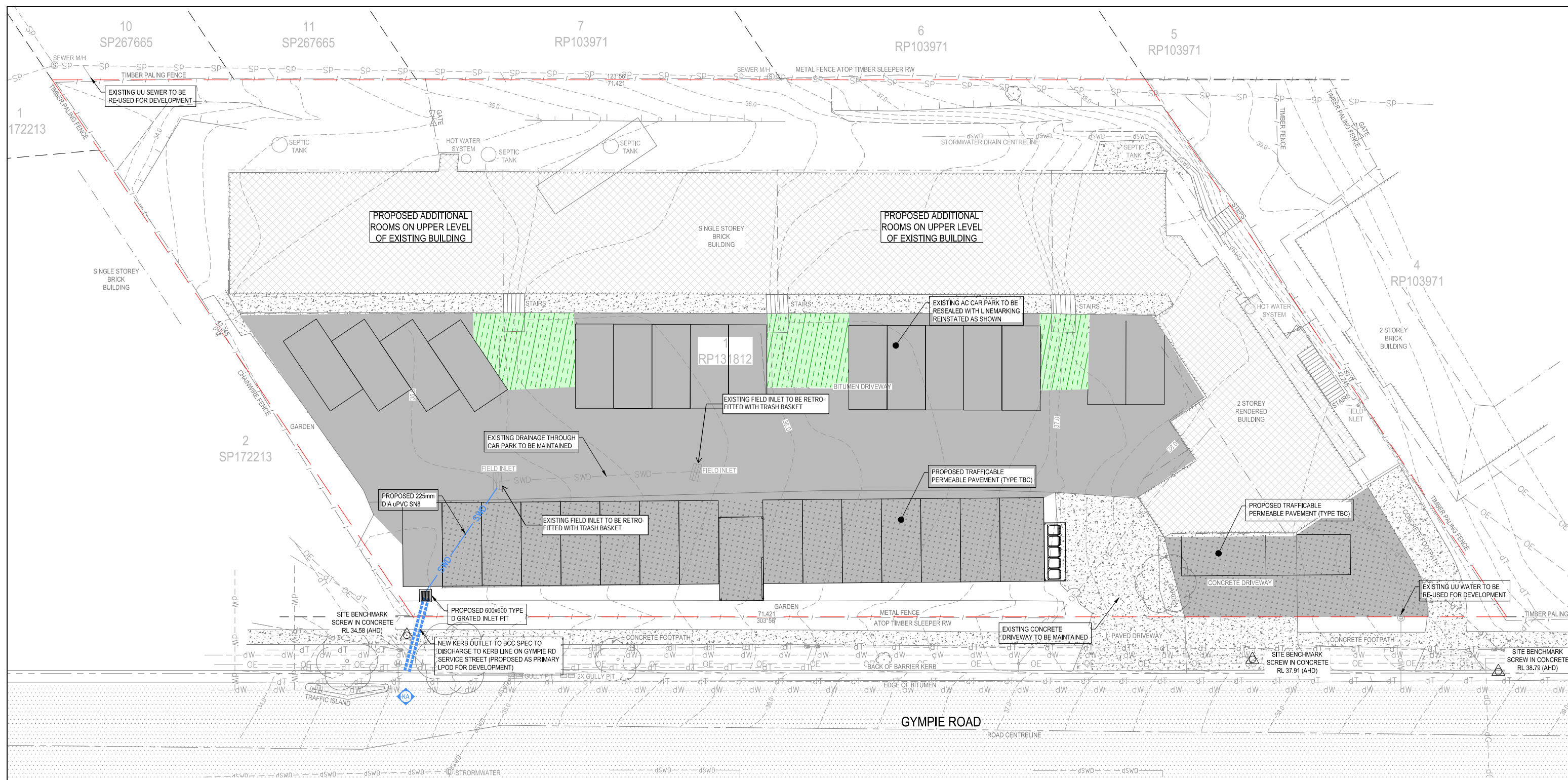
The proposed densities of plants will be derived as a compromise between growth rate, anticipated size, and the ability to provide a good vegetative cover within a reasonable space of time.



## 6.2 APPENDIX B – SCHEMATIC CIVIL DRAWINGS

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**LEGEND**

PROPOSED DRAINAGE (PIPE)		PROPOSED TURF OR LANDSCAPING AREA	
PROPOSED DRAINAGE (RHS)		PROPOSED DEMOLITION EXTENT	
PROPOSED ROOFWATER		EXISTING EXTERNAL ROAD PAVEMENT	
PROPOSED FIELD INLET PIT		EXISTING BUILDINGS	
PROPOSED KERB ADAPTOR		NOTE: FOR CONTOURS, BOUNDARIES & EXISTING FEATURES LEGEND REFER TO DRG No. SK00	
PROPOSED AC TO REPLACE EXISTING DEGRADED CAR PARK			
PROPOSED PERMEABLE PAVEMENT			

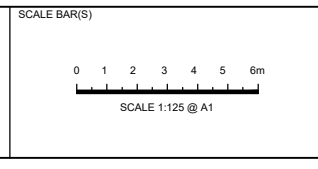
**NOTE**  
ALL PLANS TO BE READ IN CONJUNCTION WITH ALL INFORMATION AND NOTES ON DRG. No. SK00 AND ALL RELEVANT SPECIFICATIONS

- PRELIMINARY ROADWORKS AND DRAINAGE NOTES**
- ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH CURRENT COUNCIL STANDARD SPECIFICATIONS AND DRAWINGS, UNLESS NOTED OTHERWISE
  - CONTRACTOR TO CONDUCT A DIAL BEFORE YOU DIG SEARCH PRIOR TO COMMENCEMENT OF WORKS AND CONFIRM THE LOCATION OF ALL EXISTING SERVICES PRIOR TO ANY EXCAVATION SHOULD ANY OF THE PROPOSED SERVICES CLASH WITH THE IDENTIFIED EXISTING SERVICES, CONSULT ENGINEER FOR ADVICE
  - CONTRACTOR TO ENSURE ALL EXISTING SERVICES ARE PROTECTED DURING THE COURSE OF CONSTRUCTION IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS. ANY DAMAGE TO EXISTING SERVICES IS TO BE REINSTATED AT THE CONTRACTORS EXPENSE.
  - ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH COUNCILS EROSION AND SEDIMENT CONTROL GUIDELINES
  - ALL TRENCH EXCAVATION AND CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT 2011
  - CONTRACTOR TO REINSTATE DAMAGE TO ANY EXISTING INFRASTRUCTURE (KERB AND CHANNEL, ASPHALT, FOOTPATH, VERGE ETC) TO COUNCIL SATISFACTION
  - CONTRACTOR TO ENSURE ADJOINING PROPERTIES AND ROADS ARE PROTECTED FROM PONDING OR NUISANCE FROM STORMWATER RUNOFF AS A RESULT OF THE PROPOSED WORKS
  - CONTRACTOR TO REMOVE ANY REDUNDANT DRAINAGE OUTLETS FROM THE KERB AND CHANNEL INCLUDING ANY ASSOCIATED PIPEWORK ACROSS THE FOOTWAY AND REINSTATE THE KERB AND CHANNEL AND THE FOOTWAY AREA IN ACCORDANCE WITH COUNCIL'S INFRASTRUCTURE GUIDELINES

- PRELIMINARY GENERAL CIVIL WORKS NOTES**
- ALL PROPOSED WORK IS TO BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH REQUIREMENTS OF ALL RELEVANT DEVELOPMENT APPROVAL CONDITIONS
  - RETAIN AND PROTECT TREES ON SITE OR WITHIN STREET AS PER N.A.L.L. (OR ANY OTHER RELEVANT VEGETATION MANAGEMENT PLAN) REQUIREMENTS U.N.O.
  - MINIMISE ON SITE EROSION AND RELEASE OF SEDIMENT AND SEDIMENT LADEN STORMWATER FROM THE SITE AT ALL TIMES IN ACCORDANCE WITH BEST PRACTICE ESC METHODS.
  - SERVICES AUTHORITIES (INCLUDING ELECTRICITY, COMMUNICATIONS, GAS, NBN) CONNECTION APPLICATIONS TO BE FACILITATED BY OTHERS WITH CONDUIT/ CONNECTION DESIGNS TO BE COORDINATED WITH CIVIL INFRASTRUCTURE AS REQUIRED
  - ENSURE SEWER AND WATER WORKS APPROVAL IS GRANTED BY THE RELEVANT WATER AUTHORITY PRIOR TO COMMENCING CONSTRUCTION OF CIVIL WORKS
  - NEW WORK MUST NOT DAMAGE OR COMPROMISE THE WORKING ABILITY OF EXISTING INFRASTRUCTURE. PROTECT EXISTING INFRASTRUCTURE AT ALL TIMES DURING CONSTRUCTION



01	ISSUE FOR APPROVAL	08.06.26	SD	MB
REV	DESCRIPTION	DATE	DRAWN	APPR.



DRAWN: MAY 2026  
DESIGNED: MAY 2026  
APPROVED: MITCHELL BLYTH  
RPEQ No. 21258  
DATE: MAY 2026

**MELIORA ENGINEERING**  
INFO@MELIORA.COM  
ABN 46 153 772 813

CLIENT/DEVELOPER:  
**MUNRO DAVISON**  
CLIENT/DEVELOPER LOGO:

PROJECT:  
**1159 GYMPIE ROAD ASPLEY**  
ARCHITECT: X  
BUILDER:

DRAWING TITLE:  
**PRELIMINARY CIVIL SERVICES LAYOUT PLAN**

**FOR APPROVAL**

MELIORA JOB No. **26040**

SK05  
DWG No

01  
REVISION



## 6.3 APPENDIX C – SURVEY PLAN

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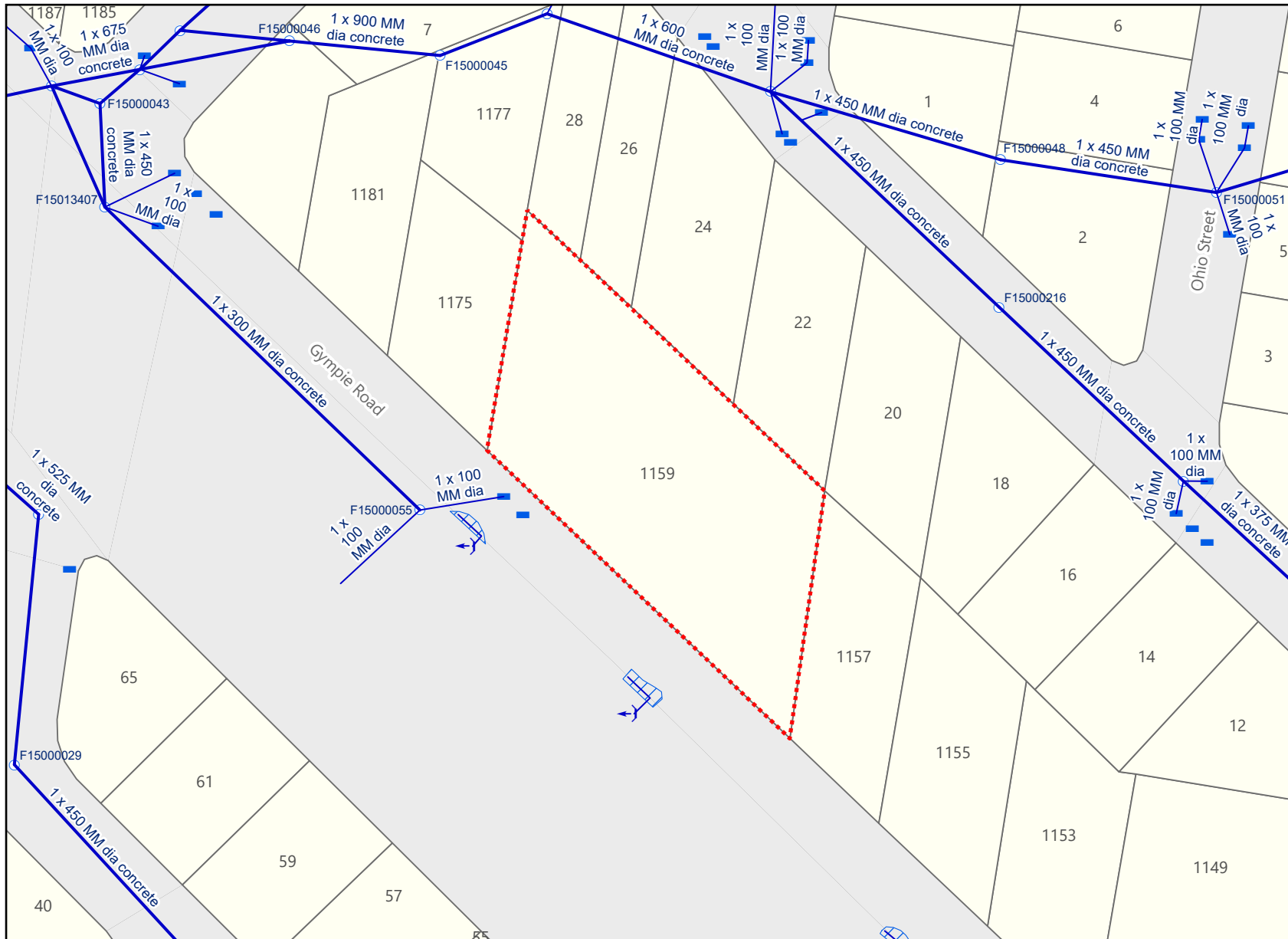


## 6.4 APPENDIX D – BYDA RESULTS

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**Job # 53220965**  
**Seq # 273318097**  
 Provider: Brisbane City Council  
 Telephone: (07) 3403 8888



### Legend

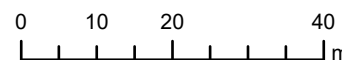
- BYDA Enquiry
- Stormwater Network**
  - Stormwater Drain
  - Stormwater Gully / Roofwater Connection
  - Stormwater Maintenance Hole
  - Stormwater Gully Pit
  - Pipe End Outlet
  - Stormwater Treatment Asset - Area

**Disclaimer:**  
 © Brisbane City Council [2020]  
 In consideration of Council, and the copyright owners listed below, permitting the use of this data, you acknowledge and agree that Council, and the copyright owners, give no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage), relating to any use of this data.  
 Data must not be used for direct marketing or be used in breach of the privacy laws.

Copyright of data is as follows:  
 Cadastre and Street Names © 2020 State of Queensland (Department of Natural Resources, Mines and Energy)

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

In an emergency contact Brisbane City Council on 07 3403 8888  
 22/05/26 (valid for 30 days)

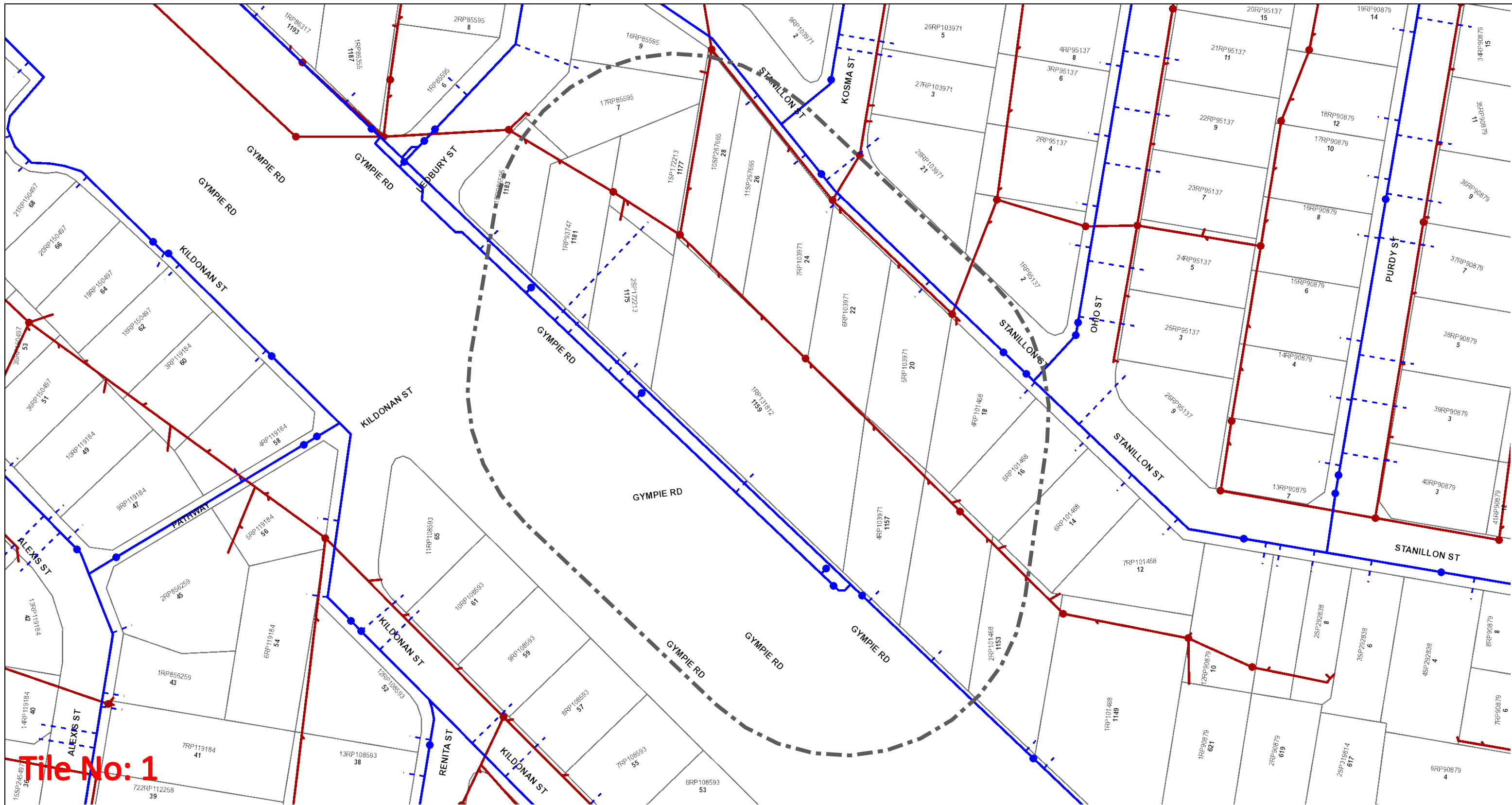


Scale 1:1,000




Plans generated by SmarterWX™ Automate

# Urban Utilities - Water, Recycled Water and Sewer Infrastructure



**File No: 1**

 <p><b>UrbanUtilities</b></p> <p>N</p> <p>Map Scale 1:1000</p>	<p><b>Before You Dig Australia- Urban Utilities Water, Recycled Water and Sewer Infrastructure</b></p> <p><b>BYDA Reference No: 273318099</b></p> <p>Date BYDA Ref Received: 22/05/2026 Date BYDA Job to Commence: 25/05/2026 Date BYDA Map Produced: 22/05/2026</p> <p>This Map is valid for 30 days      Produced By: Urban Utilities</p>	<table border="0"> <tr> <th>Sewer</th> <th>Water</th> <th>Recycled Water</th> </tr> <tr> <td>● Infrastructure</td> <td>● Infrastructure</td> <td>● Infrastructure</td> </tr> <tr> <td>◆ Major Infrastructure</td> <td>◆ Major Infrastructure</td> <td>◆ Major Infrastructure</td> </tr> <tr> <td>— Network Pipelines</td> <td>— Network Pipelines</td> <td>— Network Pipelines</td> </tr> <tr> <td>▨ Network Structures</td> <td>▨ Network Structures</td> <td>▨ Network Structures</td> </tr> <tr> <td></td> <td>- - - Water Service (Indicative only)</td> <td></td> </tr> </table>	Sewer	Water	Recycled Water	● Infrastructure	● Infrastructure	● Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure	— Network Pipelines	— Network Pipelines	— Network Pipelines	▨ Network Structures	▨ Network Structures	▨ Network Structures		- - - Water Service (Indicative only)		<p>While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Urban Utilities nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.</p> <p>The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.</p> <p>Urban Utilities takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.</p> <p>This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.</p> <p>Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2020]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2020]</p> <p>For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7). <a href="http://www.urbanutilities.com.au">www.urbanutilities.com.au</a></p> <p>ABN 86 673 835 011</p>
Sewer	Water	Recycled Water																			
● Infrastructure	● Infrastructure	● Infrastructure																			
◆ Major Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure																			
— Network Pipelines	— Network Pipelines	— Network Pipelines																			
▨ Network Structures	▨ Network Structures	▨ Network Structures																			
	- - - Water Service (Indicative only)																				

# APA

Australia's energy  
infrastructure partner



# Before You Dig Australia

Classification: Networks

<b>Enquiry date</b>	22/05/2026
<b>Sequence number</b>	273318098
<b>Work site address</b>	1159 Gympie Rd Aspley QLD 4034





**For your immediate information**  
**THERE IS A GAS PIPELINE OR GAS ASSETS**  
**located in close vicinity to your works.**

**Enquiry Date:** 22/05/2026  
**Enquirer:** Kousik De  
**Sequence Number:** 273318098  
**Work Site Address:** 1159 Gympie Rd  
Aspley  
QLD 4034

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](mailto: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: <a href="mailto:BYDA_APA@apa.com.au">BYDA_APA@apa.com.au</a>
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):

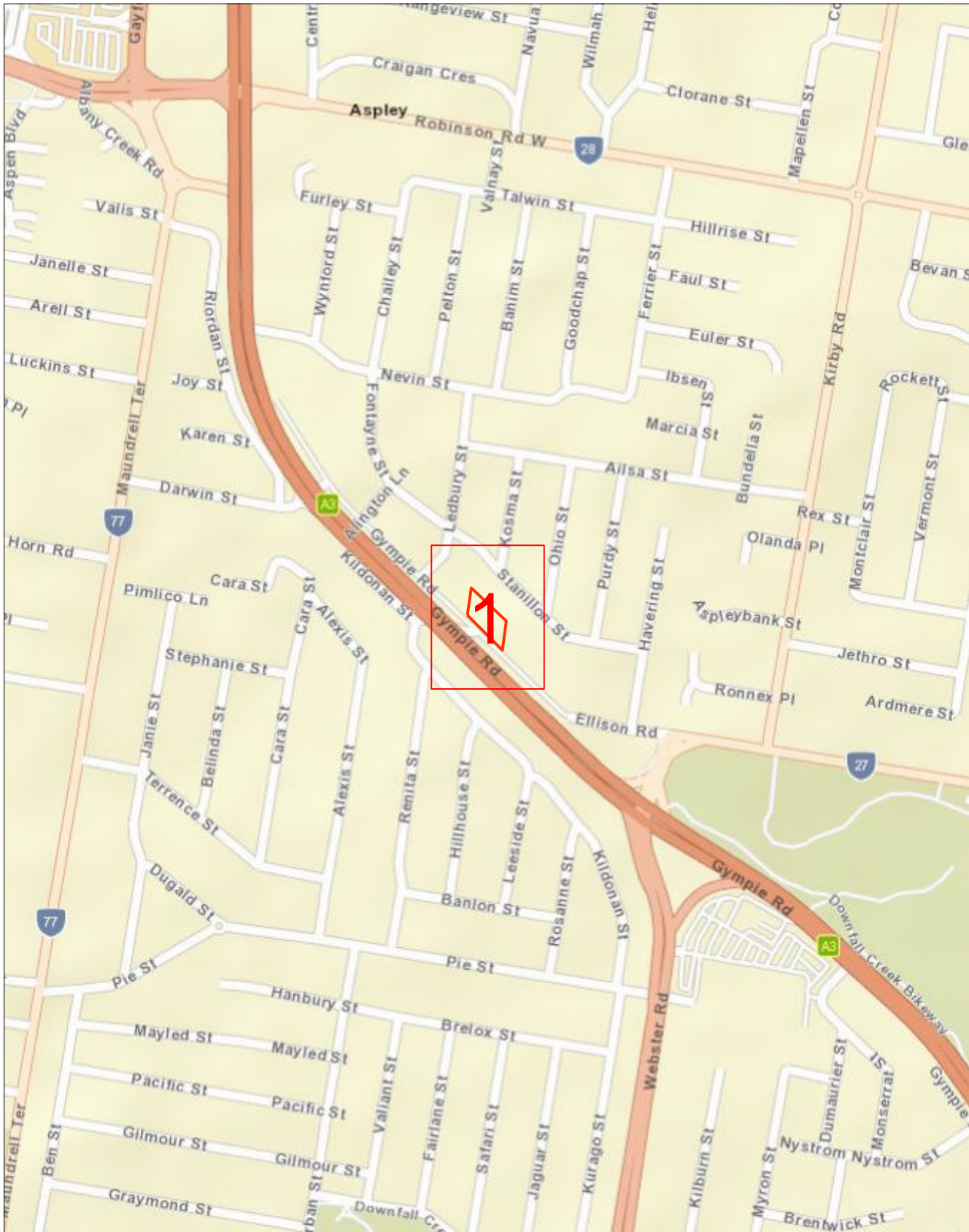
Item	Rate (excl. gst)
Site Watch – Business Hours	\$143.42 per hour
Site Watch – After Hours	\$175.06 per hour
Cancellation Fee	\$286.84
<i>Fee applies where cancellations received after 12pm (midday), 1 business day prior to the booking.</i>	

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

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

Site 1159 Gympie Rd  
Address: Aspley  
QLD 4034

Sequence 273318098  
Number:



Scale 1: 6000

Map Sources: Esri, Garmin, HERE, FAO, NOAA, USGS,  
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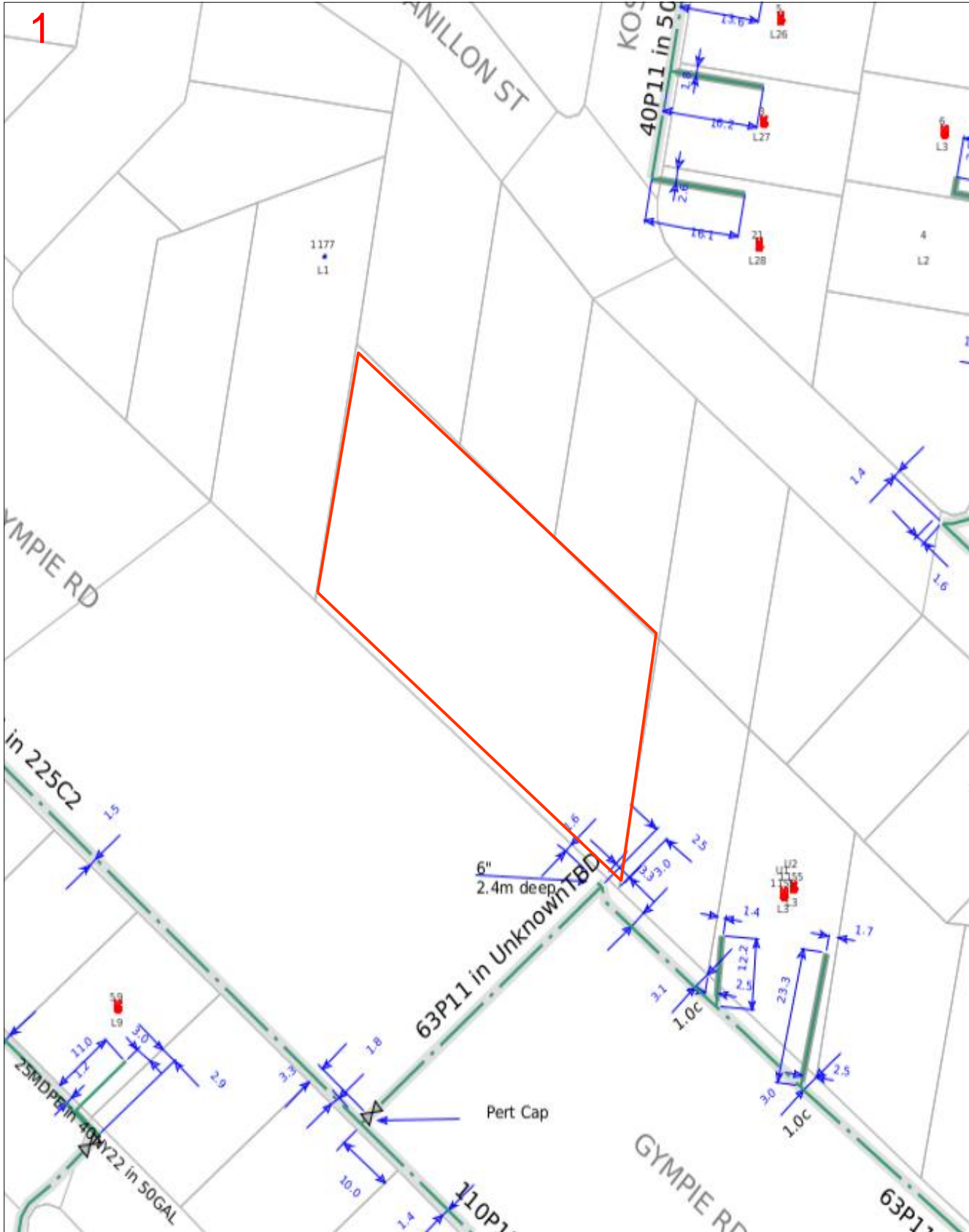


Enquiry Area



Map Key Area





Scale 1: 700

Map Sources: Esri, Garmin, HERE, FAO, NOAA, USGS,  
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Enquiry Area

Map Key Area



# Legend

## PIPE LEGEND: GAS TYPE AND PRESSURE

	Low pressure	Medium pressure	High pressure	Transmission
Natural gas				
Natural gas – proposed				
LPG (yellow dash)	<i>not applicable</i>			<i>not applicable</i>
Hydrogen blended (aqua dash)	<i>not applicable</i>			<i>not applicable</i>

## PIPE LEGEND: SPECIAL DESIGNATION

	Low pressure	Medium pressure	High pressure	Transmission
Critical main (yellow highlight)				
Casing (grey highlight)				<i>not applicable</i>

These designations typically apply to any pipe type and pressure

## PIPE LEGEND: OTHER STATUS

Abandoned pipe	
Idle or inactive pipe	

## ABBREVIATION

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

## OBJECT SYMBOLS

Valve		CP test station		Syphon	
Buried valve		CP anode		Marker	
Regulator station		CP bond wire		Part service <sup>A</sup>	
Gas connected property		CP rectifier terminal			

<sup>A</sup>A live gas service terminated underground within the property boundary, available for future extension to the gas meter.

## PIPE CODE AND MATERIAL

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

## INTERPRETATION EXAMPLE

	High pressure, 40 mm polyethylene in an 80 mm cast iron casing
	Medium pressure, 63 mm steel

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

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

## Important information

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

### Free Gas Pipeline Awareness Training and Information

#### PROFESSIONALS

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

Scan the QR code to register for an online toolbox, or email [damageprevention@apa.com.au](mailto: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](mailto: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.

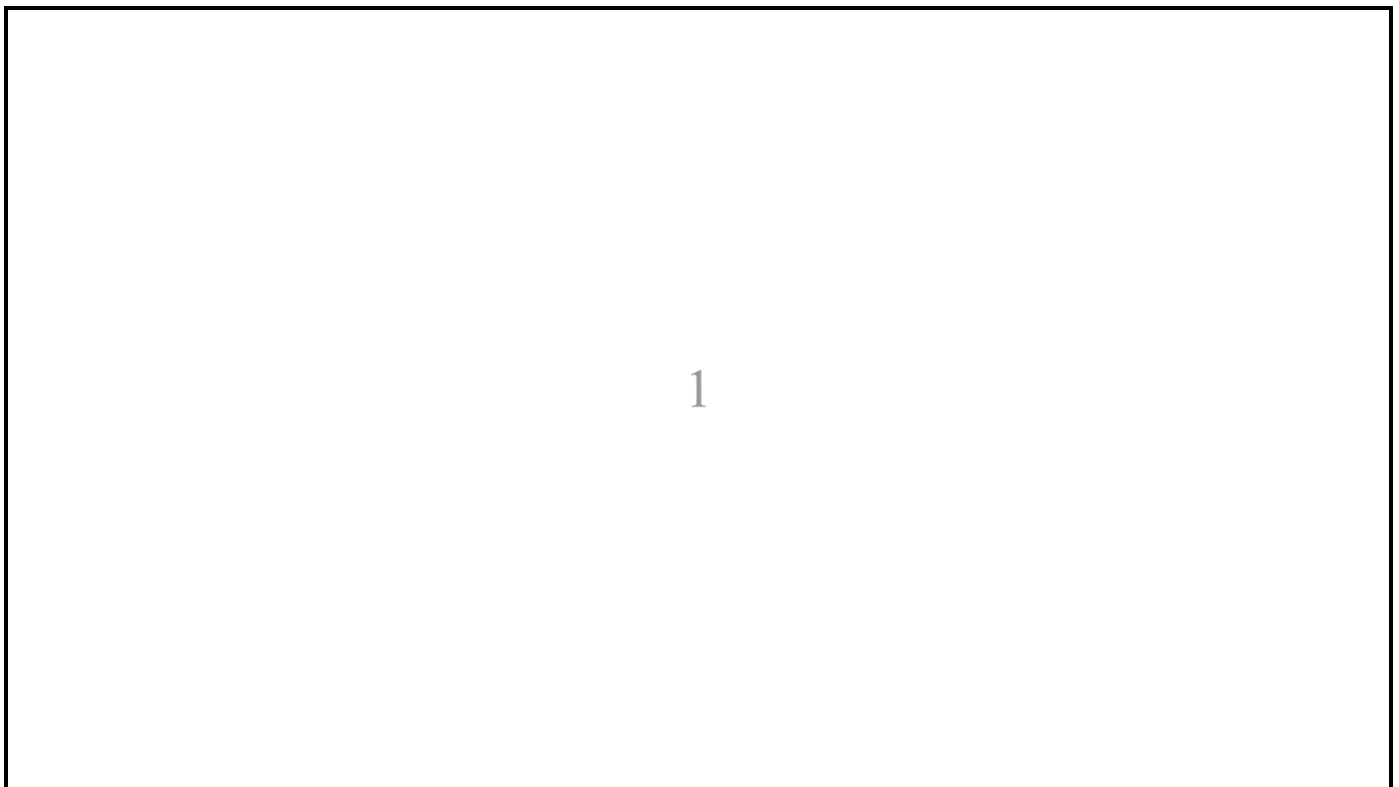


**APA**  
Australia's energy  
infrastructure partner

**To:** Kousik De  
**Phone:** Not Supplied  
**Fax:** Not Supplied  
**Email:** admin@meliorace.com

<b>Dial before you dig Job #:</b>	53220965	 <b>BEFORE YOU DIG</b> www.byda.com.au Zero Damage - Zero Harm
<b>Sequence #</b>	273318096	
<b>Issue Date:</b>	21/05/2026	
<b>Location:</b>	1159 Gympie Rd , Aspley , QLD , 4034	

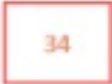




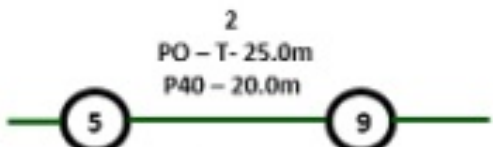
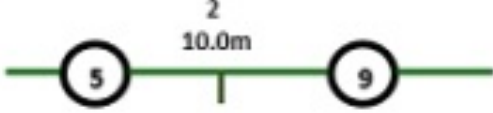




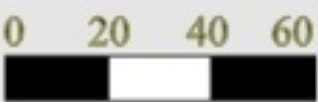
**Indicative Plans are tiled below to demonstrate how to layout and read nbn asset plans**

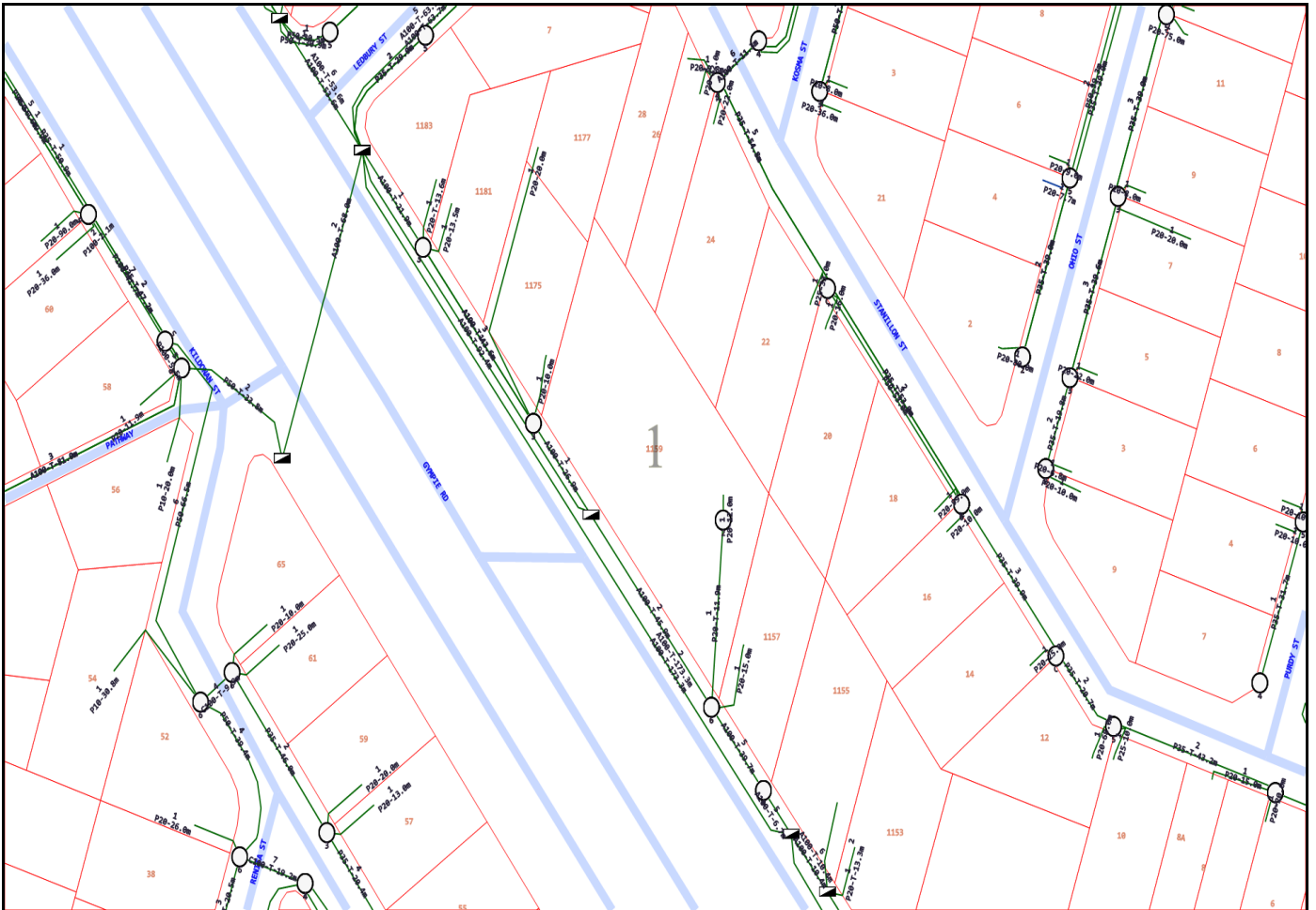




## LEGEND



	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	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 Direct buried cables between pits of sizes, "5" and "9" are 10.0m apart.
	Trench containing any <b>INSERVICE/CONSTRUCTED</b> (Copper/RF/Fibre) cables.
	Trench containing only <b>DESIGNED/PLANNED</b> (Copper/RF/Fibre/Power) cables.
	Trench containing any <b>INSERVICE/CONSTRUCTED</b> (Power) cables.
	Road and the street name "Broadway ST"
Scale	 Meters 1:2000 1 cm equals 20 m



## 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.













**BYDA**

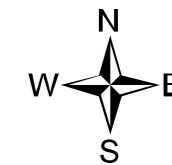
Sequence: 273318100  
Date: 22/05/2026

Scale: 1:1025  
Tile No: **OVERVIEW**

**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



**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.















**BYDA**

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Tile No: 1

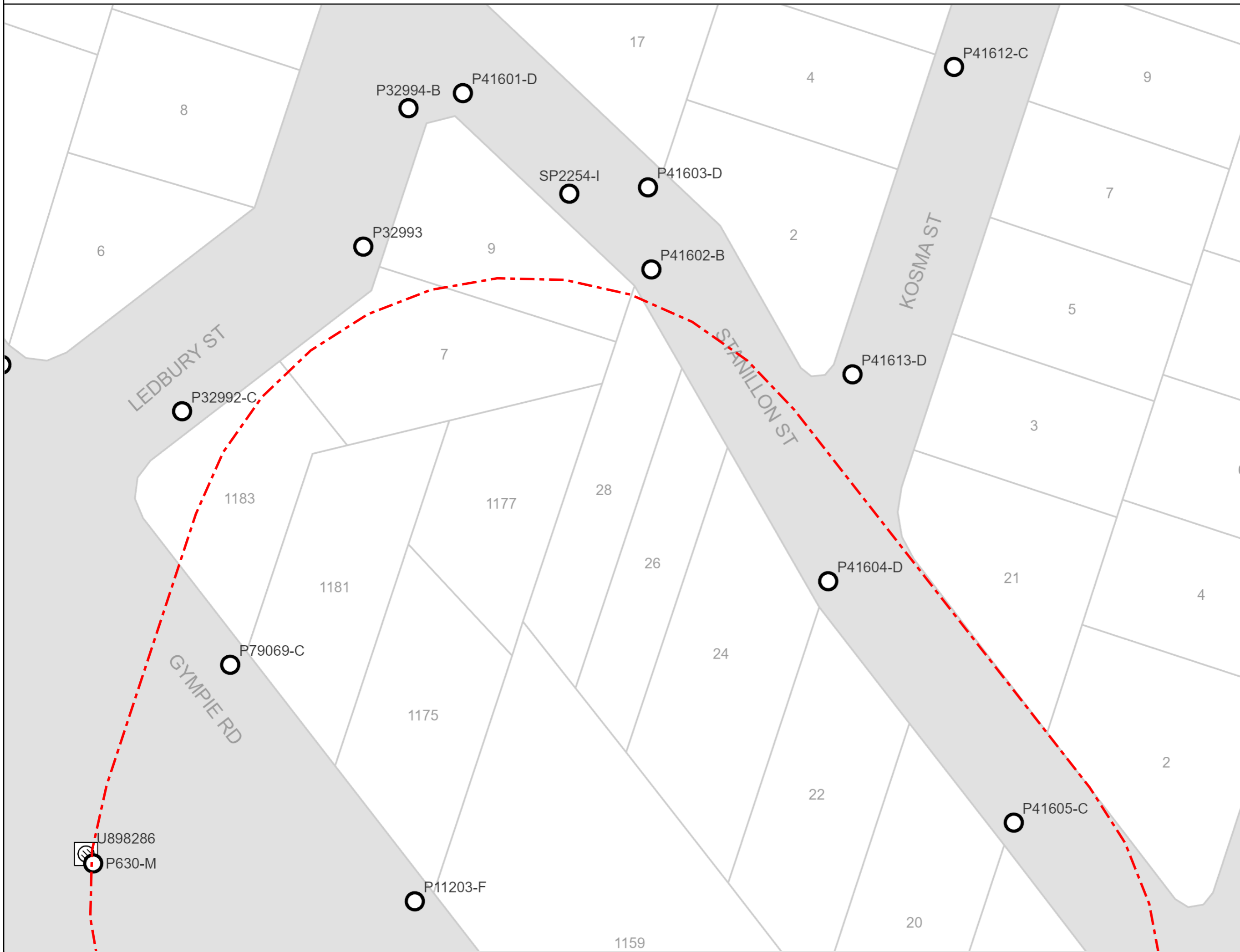
**LEGEND**

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

AS5488 Category "D" Plan



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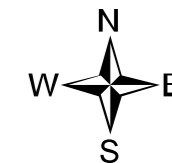
BYDA

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Tile No: 2

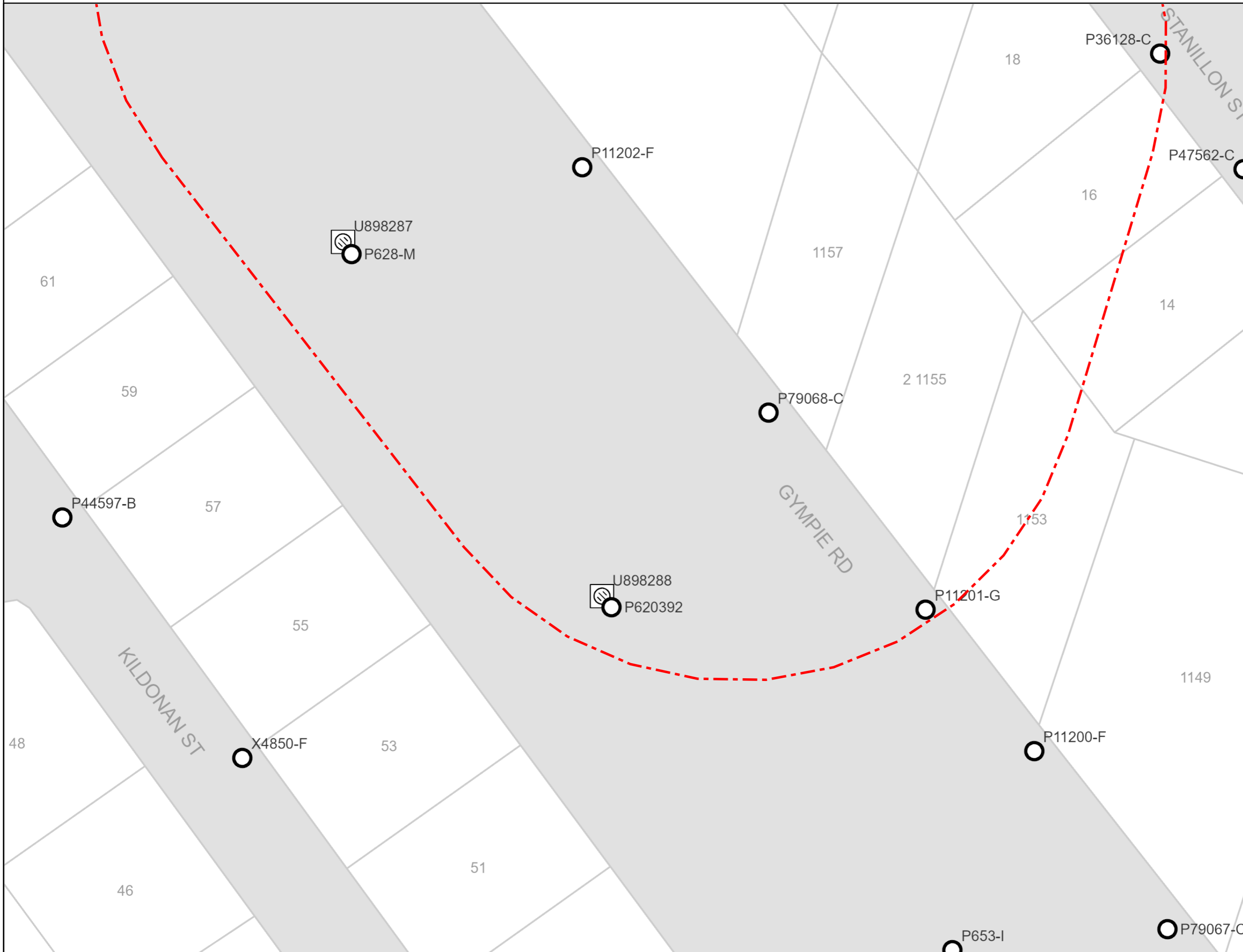
LEGEND

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

AS5488 Category "D" Plan



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## 6.5 APPENDIX E – FLOODWISE REPORT

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## THE PURPOSE OF THIS REPORT IS FOR BUILDING AND DEVELOPMENT

Brisbane City Council's FloodWise Property Report provides technical flood planning information including estimated flood levels, habitable floor level requirements and more. This report uses the adopted flood planning information in Brisbane City Plan 2014, that guides how land in Brisbane is used and developed for the future. Find out more about [planning and building](#). To understand how to be resilient and prepare for floods, visit Council's [Be Prepared](#) webpage. Find more information about [how to read a FloodWise Property Report](#).

### This property has no flood levels

Brisbane City Council has not assigned flood level information for this property however it may be affected by one or more flood or property development flags. Please refer to the Flood Planning and Development Information below for details. The property may have 0.2% AEP flood level which will appear on the Flood Planning Information table if applicable. For professional advice or detailed assessment of a property contact a Registered Professional Engineer of Queensland.

Visit the [Be Prepared](#) page to find more information on how to prepare your home or business for potential flooding.

 **Combined** 1% AEP for river, creek and storm tide flood extent (if applicable) from the adopted Brisbane City Plan 2014. Read more about [Brisbane City Plan 2014](#).



Brisbane City Council | Includes material ©The State of Queensland, all rights reserved, 2019. | ©Brisbane City C... Powered by Esri

# Are you resilient and ready for flood?

- Sign up to the Brisbane Severe Weather Alert at [brisbane.qld.gov.au/beprepared](https://brisbane.qld.gov.au/beprepared)
- Visit [bom.gov.au](https://bom.gov.au) for the latest weather updates.
- Have an evacuation plan, emergency kit and important phone numbers ready.
- Observe where water flows from and to during heavy rain.
- Consider how flood-resilient building techniques will have you home faster and with less damage.

Life threatening emergencies  
**000** Police/fire/ambulance  
(mobiles **000** and **112**)

State Emergency Service (SES) **132 500**  
Energex **13 19 62**  
Brisbane City Council **3403 8888**

## Technical Summary

This section of the FloodWise Property Report contains more detailed flood information for this property so **surveyors, builders, certifiers, architects, and engineers can plan and build** in accordance with Council's planning scheme.

Find more information about [planning and building](#) in Brisbane or talk to a Development Services Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

## Flood Planning and Development Information

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

### Flood overlay code

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the flood planning areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in [Council's planning scheme](#).

Flood planning areas (FPA)		
River	Creek / waterway	Overland flow
		Not Applicable

To find more information about Council's flood planning areas (FPAs) for Brisbane River and Creek/waterway flooding to guide future building and development in flood prone areas, please review [Council's Flood Planning Provisions](#).

### Coastal hazard overlay code

The Coastal hazard overlay code of Council's planning scheme uses the following information to provide guidelines when conducting new developments. The table below summarises the coastal hazard categories that apply to this property. Development guidelines for the following Coastal hazard overlay sub-categories are explained in Council's [planning scheme](#).

Coastal hazard overlay sub-categories
There are currently no Coastal hazard overlay sub-categories that apply to this property.

Note: Where land is identified within one or more flood planning areas on the Flood overlay or is identified within one of the Storm tide inundation area sub-categories on the Coastal hazard overlay, the assessment criteria that provides the highest level of protection from any source of flooding applies.

### Property development flags

**Large allotment** - This property is either a Large Allotment of over 1000 square metres or is located within a Large Allotment. Flood levels may vary significantly across allotments of this size. Further investigations may be warranted in determining the variation in flood levels and the minimum habitable floor level across the site.

For more information or advice, please consult a Registered Professional Engineer of Queensland (RPEQ).

## Useful Flood Information Definitions

**Australian Height Datum (AHD)** - The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.

**Annual Exceedance Probability (AEP)** - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

- **0.2% AEP** - A flood event of this size is considered rare but may still occur. A flood of size or larger has a 1 in 500 chance or a 0.2% probability of occurring in any year.
- **1% AEP** - A flood of this size or larger has a 1 in 100 chance or a 1% probability of occurring in any year.
- **2% AEP** - A flood of this size or larger has a 1 in 50 chance or a 2% probability of occurring in any year.
- **5% AEP** - A flood of this size or larger has a 1 in 20 chance or a 5% probability of occurring in any year.
- **20% AEP** - A flood of this size or larger has a 1 in 5 chance or a 20% probability of occurring in any year.

### Data quality

- **Data Quality Code A** - Level data based on recent surveyor report or approved as-constructed drawings.
- **Data Quality Code B** - Level data based on ground-based mobile survey or similar.
- **Data Quality Code C** - Level data derived from Airborne Laser Scanning or LiDAR information.

**Defined Flood Level (DFL)** - The DFL is used for commercial and industrial development. The Defined flood level (DFL) for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m/s. DFL is only applicable for non-residential uses affected by Brisbane River flooding.

**Flood planning area (FPA)** - Council has developed five Flood planning areas (FPAs) as part of Brisbane City Plan 2014 Flood overlay mapping for Brisbane River, Creek/waterway flooding and Overland flow to guide future building and development in flood prone areas. Storm tide flooding is mapped separately. The FPAs are designed to recognise the flood hazard for different flooding types. Flood hazard is a combination of frequency of flooding, the flood depth, and the speed at which the water is travelling. [Find more information here.](#)

**Maximum and minimum ground level** - Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

**Minimum habitable floor level (dwelling house)** - The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family, and rumpus rooms) must be constructed as required by the Brisbane City Plan 2014.

**Indicative existing floor level** - The approximate level in metres AHD of the lowest habitable floor in the existing building (excluding apartments). The data is sourced from a range of sources with varying accuracy levels.

**Property** - A property will contain 1 or more lots. The multiple lot warning is shown if you have selected a property that contains multiple lots.

**Residential flood level (RFL)** - This flood level for the Brisbane River equates to the 1% annual exceedance probability (AEP) flood level.

To learn more, visit [Brisbane City Council's Flood Information Hub](#)

## Brisbane City Council's Online Flood Tools

Council provides several online flood tools:

- to guide planning and development
- to help residents and businesses understand their flood risk and prepare for flooding.

Council's online flood tools for planning and development purposes include:

- **FloodWise Property Report**
- **Flood Overlay Code**

For more information on Council's planning scheme and online flood tools for planning and development:

- phone (07) 3403 8888 and ask to talk to a Development Services Planning Information Officer

- visit [brisbane.qld.gov.au/planning-building](https://brisbane.qld.gov.au/planning-building)

Council's Planning Scheme - The Brisbane City Plan 2014 (planning scheme) has been prepared in accordance with the Sustainable Planning Act as a framework for managing development in a way that advances the purpose of the Act. In seeking to achieve this purpose, the planning scheme sets out the Council's intention for future development in the planning scheme area, over the next 20 years.

### Disclaimer

1. Defined flood levels and residential flood levels, minimum habitable floor levels and indicative existing floor levels are determined from the best available information to Council at the date of issue. These levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property Report. Council disdaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



### Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit [brisbane.qld.gov.au/planning-building](https://brisbane.qld.gov.au/planning-building)

You can also find the Brisbane City Plan 2014 and Neighbourhood Plans as well as other information and training videos to help, with your building and development plans.



## 6.6 APPENDIX F – CODE RESPONSE TABLES

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**BCC Filling & Excavation Code – Responses**

Performance outcomes	Acceptable outcomes	Responses
<p><b>PO1</b> Development for <a href="#">filling or excavation</a> minimises visual impacts from retaining walls and earthworks.</p>	<p><b>AO1</b> Development ensures that the total height of any cut and fill, whether or not retained, does not exceed: 2.5m in a zone in the Industry zones category; 1m in all other zones, or if adjoining a sensitive zone.</p>	<p><b>Complies with PO1 &amp; AO1</b>  <a href="#">Earthworks on boundaries will comply with code requirements</a></p>
<p><b>PO2</b> Development of a retaining wall proposed as a result of <a href="#">filling or excavation</a>: is designed and constructed to be fit for purpose; does not impact adversely on significant vegetation; is capable of easy maintenance.  Editor's note—A retaining wall also needs to comply with the <a href="#">Building Regulation</a> and embankment gradients will need to comply with the <a href="#">Building Regulation</a>.  Note—Guidance on the protection of native vegetation is included in the <a href="#">Biodiversity areas planning scheme policy</a>.</p>	<p><b>AO2.1</b> Development of a retaining structure, including footings, surface drainage and subsoil drainage: is wholly contained within the site; if the total height to be retained is greater than 1m, then: the retaining wall at the property boundary is no greater than 1m above the <a href="#">ground level</a>; all further terracing from the 1m high boundary retaining wall is 1 vertical unit:1 horizontal unit; the distance between each successive retaining wall (back of lower wall to face of higher wall) is no less than 1m horizontally to incorporate planting areas.</p>	<p><b>Complies with PO2 &amp; AO2.1</b>  <a href="#">Retaining on boundaries will comply with code requirements</a></p>
	<p><b>AO2.2</b> Development of a retaining wall over 1m in height protects significant vegetation on the site and on adjoining land and is designed and constructed in accordance with the structures standards in the <a href="#">Infrastructure design planning scheme policy</a> and certified by a <a href="#">Registered Professional Engineer Queensland</a>.</p>	<p><b>NA</b></p>
	<p><b>AO2.3</b> Development provides a retaining wall finish that presents to adjoining land that is maintenance free if the <a href="#">setback</a> is less than 750mm from the boundary.</p>	<p><b>Complies with PO2 &amp; AO2.3</b></p>
	<p><b>AO2.4</b> Development for filling only uses clean fill that does not include any construction rubble, debris, weed seed or viable parts of plant species listed as an undesirable plant species in the Planting species planning scheme policy .</p>	<p><b>Complies with PO2 &amp; AO2.4</b></p>
<p><b>PO3</b> Development ensures that a rock anchor is designed and constructed to be fit for purpose.</p>	<p><b>AO3</b> Development ensures that a rock anchor: is constructed in accordance with the standards in the <a href="#">Infrastructure design planning scheme policy</a>; where it extends beyond the property boundary, is supported by a letter of consent from the adjoining land and building owners.</p>	<p><b>NA</b></p>
<p><b>PO4</b> Development protects all services and public utilities.</p>	<p><b>AO4</b> Development protects services and public utilities and ensures that any alteration or relocation of services or public utilities meets the standard design specifications of the responsible service authorities.</p>	<p><b>Complies with PO4 &amp; AO4</b></p>



<p><b>PO5</b> Development provides surface and sub-surface drainage to prevent water seepage, concentration of run-off or ponding of stormwater on adjacent land.</p>	<p><b>AO5</b> Development ensures all flows and subsoil drainage are directed to a lawful point of discharge of a surface water diversion drain, including to the top or toe of a retaining wall in accordance with the stormwater drainage section of the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Complies with PO5 &amp; AO5</b></p>
<p><b>PO6</b> Development ensures that the design and construction of all open drainage works is undertaken in accordance with natural channel design principles, being the development of a stormwater conveyance system for major flows, by using a vegetated open channel or drain that approximates the features and functions of a natural waterway to enhance or improve riparian values of those stormwater conveyance systems. Editor's note—Guidance on natural channel design principles can be found in the Council's publication <a href="#">Natural channel design guidelines</a>.</p>	<p><b>AO6</b> Filling or excavation does not involve the construction of open drainage.</p>	<p><b>Complies with PO6 &amp; AO6</b></p>
<p><b>PO7</b> Development for <a href="#">filling or excavation</a>: does not degrade water quality or adversely affect environmental values in receiving waters; ensures site sediment and erosion control standards are best practice.</p>	<p><b>AO7.1</b> Development for <a href="#">filling or excavation</a> provides water quality treatment that complies with the stormwater drainage section of the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Complies with PO7 &amp; AO7.1</b> Details to be nominated post DA as required</p>
	<p><b>AO7.2</b> Development provides erosion and sediment control standards that are in accordance with the stormwater drainage section of the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Complies with PO7 &amp; AO7.2</b> Details to be nominated post DA as required</p>
<p><b>PO8</b> Development for <a href="#">filling or excavation</a> is conducted such that adverse impacts at a sensitive use due to noise and dust are prevented or minimised. Note—A noise and dust impact management plan prepared in accordance with the <a href="#">Management plans planning scheme policy</a> can assist in demonstrating achievement of this performance outcome.</p>	<p><b>AO8.1</b> Development ensures that no dust emissions extend beyond the boundary of the site, including dust from construction vehicles entering and leaving the site.</p>	<p><b>Complies with PO8 &amp; AO8.1</b> Details to be nominated post DA as required</p>
	<p><b>AO8.2</b> Development for <a href="#">filling or excavation</a> activity only occurs between the hours of 6:30am and 6:30pm Monday to Saturday, excluding public holidays.</p>	<p><b>Complies with PO8 &amp; AO8.2</b></p>
<p><b>PO9</b> Development ensures that vibration generated by the <a href="#">filling or excavation</a> operation does not exceed the vibration criteria in <a href="#">Table 9.4.3.3.B</a>, <a href="#">Table 9.4.3.3.C</a>, <a href="#">Table 9.4.3.3.D</a> and <a href="#">Table 9.4.3.3.E</a>. Note—A noise management report prepared in accordance with the <a href="#">Noise impact assessment planning scheme policy</a> can assist in demonstrating achievement of this performance outcome.</p>	<p><b>AO9</b> Development involving <a href="#">filling or excavation</a> does not cause a ground-borne vibration beyond the boundary of the site.</p>	<p><b>Complies with PO9 &amp; AO9</b></p>
<p><b>PO10</b> Development ensures that heavy trucks hauling material to and from the site do not affect the <a href="#">amenity</a> of established areas and limits environmental nuisance impact on adjacent land.</p>	<p><b>AO10</b> Development ensures that heavy trucks hauling material to and from the site: occur for a maximum of 3 weeks; use a major road to access the site;</p>	<p><b>Complies with PO10 &amp; AO10</b></p>



	only use a minor road for the shortest-most-direct route that has the least amount of environmental nuisance if there is no major road alternative.	
<b>PO11</b> Development for filling or excavation protects the environment and community health and wellbeing from exposure to contaminated land and contaminated material.	<b>AO11</b> Development does not involve: excavation on land previously occupied by a notifiable activity or on land listed on the <a href="#">Environmental Management Register</a> or the <a href="#">Contaminated Land Register</a> ; filling with material containing a contaminant.	<b>Complies with PO11 &amp; AO11</b>
<b>PO12</b> Development provides for: landscaping for water conservation purposes; water sensitive urban design measures which are employed within the landscape design to maximise stormwater use and to reduce any adverse impacts on the landscape; stormwater harvesting to be maximised and any adverse impacts of stormwater minimised.	<b>AO12.1</b> Development provides landscaping which is designed using the standards in the <a href="#">Landscape design guidelines for water conservation planning scheme policy</a> .	<b>Complies with PO12 &amp; AO12.1</b>
	<b>AO12.2</b> Development ensures that the design and requirements for irrigation are in compliance with the standards in the <a href="#">Landscape design guidelines for water conservation planning scheme policy</a> .	<b>Complies with PO12 &amp; AO12.2</b>
	<b>AO12.3</b> Development provides areas of pavement, turf and mulched garden beds which are drained. Note—This may be achieved through the provision and/or treatment of swales, spoon drains, field gullies, sub-surface drainage and stormwater connections.	<b>Complies with PO12 &amp; AO12.3</b>
<b>PO13</b> Development ensures cutting and filling for the development of canals or artificial waterways avoids adverse impacts on coastal resources and processes.	<b>AO13</b> Development does not involve the creation of canals or artificial waterways.	<b>NA</b>

**BCC Infrastructure Design Code – Responses**

Performance outcomes	Acceptable outcomes	Response
<p><b>PO1</b> Development provides roads, pavement, edging and landscaping which:</p> <ul style="list-style-type: none"> <li>are designed and constructed in accordance with the road hierarchy;</li> <li>provide for safe travel for pedestrians, cyclists and vehicles;</li> <li>provide access to properties for all modes;</li> <li>provide utilities;</li> <li>provide high levels of aesthetics and amenity, improved liveability and future growth;</li> <li>provide for the amelioration of noise and other pollution;</li> <li>provide a high-quality streetscape;</li> <li>provide a low-maintenance asset with a minimal whole-of-life cost.</li> </ul> <p>Note—This can be demonstrated in an engineering report prepared and certified by a <a href="#">Registered Professional Engineer Queensland</a> in accordance with the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>AO1</b> Development provides roads and associated pavement, edging and landscaping which are designed and constructed in compliance with the road corridor design standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	Complies with PO1 & AO1
<p><b>PO2</b> Development provides road pavement surfaces which:</p> <ul style="list-style-type: none"> <li>are well designed and constructed;</li> <li>durable enough to carry the wheel loads of the intended types and numbers of travelling and parked vehicles;</li> <li>ensures the safe passage of vehicles, pedestrians and cyclists, the discharge of stormwater run-off and the preservation of all-weather access;</li> <li>allows for reasonable travel comfort.</li> </ul>	<p><b>AO2</b> Development provides road pavement surfaces which are designed and constructed in compliance with the road corridor design standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	Complies with PO2 & AO2
<p><b>PO3</b> Development provides a pavement edge which is designed and constructed to:</p> <ul style="list-style-type: none"> <li>control vehicle movements by delineating the carriageway for all users;</li> <li>provide for people with disabilities by allowing safe passage of wheelchairs and other mobility aids.</li> </ul>	<p><b>AO3</b> Development provides pavement edges which are designed and constructed in compliance with the road corridor design standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	Complies with PO3 & AO3
<p><b>PO4</b> Development provides verges which are designed and constructed to:</p> <ul style="list-style-type: none"> <li>provide safe access for pedestrians clear of obstructions and access areas for vehicles onto properties;</li> <li>provide a sufficient area for public utility services;</li> <li>be maintainable by the Council.</li> </ul>	<p><b>AO4</b> Development provides verges which are designed and constructed in compliance with the road corridor design and streetscape locality advice standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	Complies with PO4 & AO4
<b>PO5</b>	<b>AO5</b>	NA



<p>Development provides a lane or laneway identified on the <a href="#">Streetscape hierarchy overlay map</a> or in a neighbourhood plan which:</p> <ul style="list-style-type: none"> <li>• allows equitable access for all modes;</li> <li>• is safe and secure;</li> <li>• has 24-hour access;</li> <li>• is a low-speed shared zone environment;</li> <li>• (e) has a high-quality streetscape.</li> </ul>	<p>Development provides a lane or laneway identified on the <a href="#">Streetscape hierarchy overlay map</a> or in a neighbourhood plan which is embellished in compliance with the streetscape locality advice standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	
<p><b>PO6</b> Development of an existing premises provides at the frontage to the site, if not already provided, the following infrastructure to an appropriate urban standard:</p> <ul style="list-style-type: none"> <li>• an effective, high-quality paved roadway;</li> <li>• an effective, high-quality roadway kerb and channel;</li> <li>• safe, high-quality vehicle crossings over channels and verges;</li> <li>• safe, accessible, high-quality verges compatible and integrated with the surrounding environment;</li> <li>• safe vehicle access to the site that enables ingress and egress in a forward gear;</li> <li>• provision of and required alterations to public utilities;</li> <li>• effective drainage;</li> <li>• appropriate conduits to facilitate the provision of required street-lighting systems and traffic signals.</li> </ul>	<p><b>AO6</b> Development of an existing premises provides at the frontage of the site, if not already existing, the following infrastructure to the standard that would have applied if the development involved new premises as stated in the road corridor design standards in the <a href="#">Infrastructure design planning scheme policy</a>:</p> <ul style="list-style-type: none"> <li>• concrete kerb and channel;</li> <li>• forming and grading to verges;</li> <li>• crossings over channels and verges;</li> <li>• a constructed bikeway;</li> <li>• a constructed verge or reconstruction of any damaged verge;</li> <li>• construction of the carriageway;</li> <li>• payment of costs for required alterations to public utility mains, services or installations;</li> <li>• construction of and required alterations to public utility mains, services or installations;</li> <li>• drainage works;</li> <li>• (j) installation of electrical conduits.</li> </ul>	<p><b>Complies with PO6 &amp; AO6</b></p>
<p><b>PO7</b> Development provides both cycle and walking routes which:</p> <ul style="list-style-type: none"> <li>• are located, designed and constructed to their network classification (where applicable);</li> <li>• provide safe and attractive travel routes for pedestrians and cyclists for commuter and recreational purposes;</li> <li>• provide safe and comfortable access to properties for pedestrians and cyclists;</li> <li>• incorporate water sensitive urban design into stormwater drainage;</li> <li>• provide for utilities;</li> <li>• provide for a high level of aesthetics and amenity, improved liveability and future growth;</li> <li>• are a low-maintenance asset with a minimal whole-of-life cost;</li> <li>• minimise the clearing of significant native vegetation.</li> </ul> <p>Note—This can be demonstrated in an engineering report prepared and certified by a <a href="#">Registered Professional Engineer Queensland</a> in accordance with the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>AO7</b> Development provides cycle and walking routes which are located, designed and constructed in compliance with the road corridor design and off-road pathway design standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>NA</b></p>
<p><b>PO8</b></p>	<p><b>AO8.1</b></p>	<p><b>Complies with PO8 &amp; AO8.1</b></p>



<p>Development provides refuse and recycling collection, separation and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.</p>	<p>Development provides refuse and recycling collection and storage facilities in accordance with the <a href="#">Refuse planning scheme policy</a>.</p> <p><b>AO8.2</b> Development ensures that refuse and recycling collection and storage location and design do not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note—Refer to the <a href="#">Refuse planning scheme policy</a> for further guidance.</p>	<p><b>Complies with PO8 &amp; AO8.2</b></p>
<p><b>PO9</b> Development ensures that:</p> <ul style="list-style-type: none"> <li>land used for an urban purpose is serviced adequately with regard to water supply and waste disposal;</li> <li>the water supply meets the stated standard of service for the intended use and fire-fighting purposes.</li> </ul>	<p><b>AO9.1</b> Development ensures that the reticulated water and sewerage distribution system for all services is in place before the first use is commenced.</p> <p><b>AO9.2</b> Development provides the lot with reticulated water supply and sewerage to a standard acceptable to the distributor–retailer.</p>	<p><b>Complies with PO9 &amp; AO9.1</b> <a href="#">Via QUU process</a></p> <p><b>Complies with PO9 &amp; AO9.2</b> <a href="#">Via QUU process</a></p>
<p><b>PO10</b> Development provides public utilities and street lighting which are the best current or alternative technology and facilitate accessibility, easy maintenance, minimal whole-of-life costs, and minimal adverse environmental impacts.</p>	<p><b>AO10.1</b> Development provides public utilities and street lighting which are located and aligned to:</p> <ul style="list-style-type: none"> <li>avoid significant native vegetation and areas identified within the <a href="#">Biodiversity areas overlay map</a>;</li> <li>minimise earthworks;</li> <li>avoid crossing waterways, waterway corridors and wetlands or if a crossing is unavoidable, tunnel-boring techniques are used to minimise disturbance, and a disturbed area is reinstated and restored on completion of the work.</li> </ul> <p>Note—Guidance on the restoration of habitat is included in the <a href="#">Biodiversity areas planning scheme policy</a>.</p> <p><b>AO10.2</b> Development provides compatible public utility services and street-lighting services which are co-located in common trenching for underground services.</p> <p><b>AO10.3</b> Development provides public utilities and street lighting which are designed and constructed in compliance with the public utilities standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Complies with PO10 &amp; AO10.1</b> Will comply as required</p> <p><b>Complies with PO10 &amp; AO10.2</b> Will comply as required</p> <p><b>Complies with PO10 &amp; AO10.3</b> Will comply as required</p>
<p><b>PO11</b> Development ensures that land used for urban purposes is serviced adequately with telecommunications and energy supply.</p>	<p><b>AO11</b> Development provides land with the following services to the standards of the approved supplier: electricity; telecommunications services; gas service where practicable.</p>	<p><b>Complies with PO11 &amp; AO11</b> Will comply as required</p>
<p><b>PO12</b> Development ensures that major public projects promote the provision of affordable, high-bandwidth telecommunications services throughout the city.</p>	<p><b>AO12</b> Development provides conduits which are provided in all major Council and government works projects to enable the future provision of fibre optic cabling, if:</p> <ul style="list-style-type: none"> <li>the additional expense is unlikely to be prohibitive; or</li> </ul>	<p><b>NA</b></p>



	<ul style="list-style-type: none"> <li>• further major work is unlikely or disruption would be a major concern, such as where there is a limited capacity road; or</li> <li>• there is a clear gap in the telecommunications network; or</li> <li>• there is a clear gap in the bandwidth available to the area.</li> </ul> <p>Editor's note—An accurate, digital 'as built' three-dimensional location plan is to be supplied for all infrastructure provided in a road.</p>	
<p><b>PO13</b> Development provides public art identified in a neighbourhood plan or park concept plan which:</p> <ul style="list-style-type: none"> <li>• is provided commensurate with the status and scale of the proposed development;</li> <li>• is sited and designed:             <ol style="list-style-type: none"> <li>(i) as an integrated part of the project design;</li> <li>(ii) as conceptually relevant to the context of the location;</li> <li>(iii) to reflect and respond to the cultural values of the community;</li> <li>(iv) to promote local character in a planned and informed manner.</li> </ol> </li> </ul>	<p><b>AO13</b> Development provides public art identified in a neighbourhood plan or <a href="#">park concept plan</a> which is sited and designed in compliance with the public art standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	NA
<p><b>PO14</b> Development provides signage of buildings and spaces which promote legibility to help users find their way.</p>	<p><b>AO14</b> Development provides public signage: at public transport interchanges and stops, key destinations, public spaces, pedestrian linkages and at entries to centre developments; which details the location of the key destinations, public spaces and pedestrian linkages in the vicinity, the services available within the development and where they are located. Editor's note—Signage is to be in accordance with <a href="#">Local Law Number 1 (Control of Advertisements Local Law)</a>.</p>	NA
<p><b>PO15</b> Development that provides community facilities which form part of the development is functional, safe, low maintenance, and fit for purpose.</p>	<p><b>AO15</b> Development that provides community facilities which form part of the development is designed in compliance with the community facilities standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	NA
<p><b>PO16</b> Development provides public toilets which:</p> <ul style="list-style-type: none"> <li>• are required as part of a community facility or park;</li> <li>• are located, designed and constructed to be:             <ul style="list-style-type: none"> <li>• safe;</li> <li>• durable;</li> <li>• resistant to vandalism;</li> <li>• able to service expected demand;</li> <li>• fit for purpose.</li> </ul> </li> </ul>	<p><b>AO16</b> Development that provides public toilets is designed and constructed in compliance with the public toilets standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	NA
<p><b>PO17</b> Development provides bridges, tunnels, elevated structures and water access structures that are designed and constructed using proven methods, materials and technology to provide for:</p>	<p><b>AO17</b> Development that provides bridges, tunnels, elevated structures and water access structures is designed and constructed in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	NA



<ul style="list-style-type: none"> <li>• safe movement of intended users;</li> <li>• an attractive appearance appropriate to the general surroundings and any adjacent structures;</li> <li>• functionality and easy maintenance;</li> <li>• minimal whole-of-life cost;</li> <li>• longevity;</li> <li>• current and future services.</li> </ul> <p>Note—All bridges and elevated and associated elements must be designed and certified by a <a href="#">Registered Professional Engineer Queensland</a> in accordance with the <a href="#">Infrastructure design planning scheme policy</a>.</p>		
<p><b>PO18</b> Development provides culverts which are designed and constructed using proven methods, materials and technology to provide for:</p> <ul style="list-style-type: none"> <li>• safety;</li> <li>• an attractive appearance appropriate to the general surroundings;</li> <li>• functionality and easy maintenance;</li> <li>• minimal whole-of-life cost;</li> <li>• longevity;</li> <li>• future widening;</li> <li>• current and future services;</li> <li>• minimal adverse impacts, such as increase in water levels or flow velocities, and significant change of flood patterns.</li> </ul> <p>Note—All culverts and associated elements are to be designed and certified by a <a href="#">Registered Professional Engineer Queensland</a> in accordance with the applicable design standards.</p>	<p><b>AO18</b> Development that provides culverts is designed and constructed in compliance with the structures standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>NA</b></p>
<p><b>PO19</b> Development provides batters, retaining walls, and seawalls and river walls which are designed and constructed using proven methods, materials and technology to provide for:</p> <ul style="list-style-type: none"> <li>• safety;</li> <li>• an attractive appearance appropriate to the surrounding area;</li> <li>• easy maintenance;</li> <li>• minimal whole-of-life cost;</li> <li>• longevity;</li> <li>• minimal water seepage.</li> </ul> <p>Note—All retaining walls and associated elements are to be designed and certified by a <a href="#">Registered Professional Engineer Queensland</a> in accordance with the applicable design standards.</p>	<p><b>AO19</b> Development that provides batters, retaining walls, seawalls and river walls is designed and constructed in compliance with the structures standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Complies with PO19 &amp; AO19</b> Will comply</p>
<p><b>If for development with a <a href="#">gross floor area</a> greater than 1,000m<sup>2</sup></b></p>		<p><b>NA</b></p>
<p><b>PO20</b> Development ensures that construction is managed so that use of public spaces and movement on pedestrian, cyclist and other traffic routes is</p>	<p><b>AO20</b> Development ensures that during construction:</p> <ul style="list-style-type: none"> <li>• the ongoing use of adjoining and surrounding parks and public spaces, such as malls and outdoor dining, is not compromised;</li> </ul>	



<p>not unreasonably disrupted and existing landscaping is adequately protected from short- and long-term impacts.</p> <p>Note—The preparation of a construction management plan can assist in demonstrating achievement of this performance outcome.</p> <p>Note—The <a href="#">Transport, access, parking and servicing planning scheme policy</a> provides advice on the management of vehicle parking and deliveries during construction.</p>	<ul style="list-style-type: none"> <li>• adjoining and surrounding landscaping is protected from damage;</li> <li>• (c) safe, legible, efficient and sufficient pedestrian, cyclist and vehicular accessibility and connectivity to the wider network are maintained.</li> </ul>	
<p><b>PO21</b> Development ensures that construction and demolition activities are guided by measures that prevent or minimise adverse impacts including sleep disturbance at a sensitive use, due to noise and dust, including dust from construction vehicles entering and leaving the site.</p> <p>Note—A noise and dust impact management plan prepared in accordance with the <a href="#">Management plans planning scheme policy</a> can assist in demonstrating achievement of this performance outcome.</p>	<p><b>AO21.1</b> Development ensures that demolition and construction: only occur between 6:30am and 6:30pm Monday to Saturday, excluding public holidays; do not occur over periods greater than 6 months.</p> <p><b>AO21.2</b> Development including construction and demolition does not release dust emissions beyond the boundary of the site.</p> <p><b>AO21.3</b> Development construction and demolition does not involve asbestos-containing materials.</p>	
<p><b>PO22</b> Development ensures that: construction and demolition do not result in damage to surrounding property as a result of vibration;</p> <p>vibration levels achieve the vibration criteria in <a href="#">Table 9.4.4.3.B</a>, <a href="#">Table 9.4.4.3.C</a>, <a href="#">Table 9.4.4.3.D</a> and <a href="#">Table 9.4.4.3.E</a>.</p> <p>Note—A vibration impact assessment report prepared in accordance with the <a href="#">Noise impact assessment planning scheme policy</a> can assist in demonstrating achievement of this performance outcome.</p>	<p><b>AO22</b> Development ensures that the nature and scale of construction and demolition do not generate noticeable levels of vibration.</p>	
<p><b>If for a material change of use or reconfiguring a lot in an urban area (as defined in <a href="#">the Regulation</a>) involving premises that is, or will be, accessed by common private title, where involving buildings, either attached or detached, that are not covered by other legislation mandating fire hydrants</b></p>		<p><b>NA (NO COMMON PRIVATE TITLE)</b></p>
<p><b>PO23</b> Development ensures that fire hydrants are: installed and located to enable fire services to access water safely, effectively and efficiently;</p> <p>suitably identified so that fire services can locate them at all hours.</p>	<p><b>AO23.1</b> Above or below ground fire hydrants are provided on residential, commercial and industrial streets and private roads, at not more than 90m intervals, and at each street intersection.</p> <p>Note—On residential streets, above ground fire hydrants may be single outlet. On commercial and industrial streets above ground fire hydrants should have dual valved outlets.</p> <p><b>AO23.2</b> Fire hydrants are identified by: raised reflectorised pavement markers (RRPM) on sealed roads; marker posts at the fence line where on an unsealed road, as road (HR) or path (HP) hydrants.</p>	<p><b>Complies with PO23 &amp; AO23</b></p>
<p><b>PO24</b></p>	<p><b>AO24</b></p>	



<p>Development ensures road widths and construction within the development, are adequate for refuse vehicles and for fire emergency vehicles to gain access to a safe working area close to buildings and near water supplies whether or not on-street parking spaces are occupied.</p>	<p>Internal private roads have a minimum roadway clearance between obstructions of 3.5m wide and 4.8m high in addition to any width required for on-street parking.</p>	
<p><b>Development for major electricity infrastructure and bulk water supply infrastructure identified on the <a href="#">State Planning Policy Interactive Mapping System</a> where not in the Utility services zone precinct of the Special purpose zone</b></p>		<p><b>NA</b></p>
<p><b>PO25</b> Development avoids or otherwise minimises adverse impacts on surrounding land uses through the use of buffers and setbacks and the appropriate design and location of plant and operational areas within the site.</p>	<p><b>AO25</b> No acceptable outcome is prescribed.</p>	
<p><b>Development potentially impacting on major electricity infrastructure and bulk water supply infrastructure identified on the <a href="#">State Planning Policy Interactive Mapping System</a> where the infrastructure is not in the Utility services zone precinct of the Special purpose zone</b></p>		<p><b>NA</b></p>
<p><b>PO26</b> Development is sited and designed to:</p> <ul style="list-style-type: none"> <li>• avoid safety risks to people or property;</li> <li>• minimise noise and visual impacts to people and property;</li> <li>• ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.</li> </ul>	<p><b>AO26</b> No acceptable outcome is prescribed.</p>	

**BCC Stormwater Code - Responses**

Performance outcomes	Acceptable outcomes	Response
<b>Section A—If for a material change of use, reconfiguring a lot, operational work or building work</b> Note—Compliance with the performance outcomes and acceptable outcomes in this section should be demonstrated by the submission of a site-based stormwater management plan for high risk development only.		
<b>PO1</b> Development provides a stormwater management system which achieves the integrated management of stormwater to: <ul style="list-style-type: none"> <li>• minimise flooding;</li> <li>• protect environmental values of receiving waters;</li> <li>• maximise the use of water sensitive urban design;</li> <li>• minimise safety risk to all persons;</li> <li>• maximise the use of natural waterway corridors and natural channel design principles.</li> </ul> Editor's note—The stormwater management system to be developed to address PO1 is not intended to require management of stormwater quality.	<b>AO1</b> Development provides a stormwater management system designed in compliance with the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO1 &amp; AO1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
<b>PO2</b> Development ensures that the stormwater management system and site work does not adversely impact flooding or drainage characteristics of premises which are up slope, down slope or adjacent to the site.	<b>AO2.1</b> Development does not result in an increase in flood level or flood hazard on up slope, down slope or adjacent premises.	<b>Complies with PO2 &amp; AO2.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO2.2</b> Development provides a stormwater management system which is designed in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO2 &amp; AO2.2</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
<b>PO3</b> Development ensures that the stormwater management system does not direct stormwater run-off through existing or proposed lots and property where it is likely to adversely affect the safety of, or cause nuisance to properties.	<b>AO3.1</b> Development ensures that the location of the stormwater drainage system is contained within a road reserve, drainage reserve, public pathway, park or waterway corridor.	<b>Complies with PO3 &amp; AO3.1</b>  <a href="#">Refer stormwater layout within civil services schematics. Proposal will not trigger nuisance flows</a>
	<b>AO3.2</b> Development provides a stormwater management system which is designed in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO3 &amp; AO3.2</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO3.3</b> Development obtains a lawful point of discharge in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO3 &amp; AO3.3</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO3.4</b> Where on private land, all underground stormwater infrastructure is secured by a drainage easement.	<b>Complies with PO3 &amp; AO3.4</b>  <a href="#">Refer stormwater layout within civil services schematics</a>



<b>PO4</b> Development provides a stormwater management system which has sufficient capacity to safely convey run-off taking into account increased run-off from impervious surfaces and flooding in local catchments.	<b>AO4.1</b> Development provides a stormwater conveyance system which is designed to safely convey flows in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO4 &amp; AO4.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO4.2</b> Development provides sufficient area to convey run-off which will comply with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO4 &amp; AO4.2</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
<b>PO5</b> Development designs stormwater channels, creek modification works, bridges, culverts and major drains to protect and enhance the value of the waterway corridor or drainage path for fauna movement.	<b>AO5</b> Development ensures the design of stormwater channels, creek modifications or other infrastructure, permits terrestrial and aquatic fauna movement.	<b>NA</b>
<b>PO6</b> Development ensures that location and design of stormwater detention and water quality treatment: (a) minimises risk to people and property; (b) provides for safe access and maintenance; (c) minimises ecological impacts to creeks and waterways.	<b>AO6.1</b> Development locates stormwater detention and water quality treatment: outside of a waterway corridor; offline to any catchment not contained within the development.	<b>Complies with PO6 &amp; AO6.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO6.2</b> Development providing for stormwater detention and water quality treatment devices are designed in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO6 &amp; AO6.2</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
<b>PO7</b> Development is designed, including any car parking areas and channel works to: (a) reduce property damage; (b) provide safe access to the site during the <a href="#">defined flood event</a> .	<b>AO7.1</b> Development (including any ancillary structures and car parking areas) is located above minimum flood immunity levels in <a href="#">Table 9.4.9.3.B</a> , <a href="#">Table 9.4.9.3.C</a> , <a href="#">Table 9.4.9.3.D</a> , <a href="#">Table 9.4.9.3.E</a> and <a href="#">Table 9.4.9.3.F</a> .  Note—Compliance with this acceptable outcome can be demonstrated by the submission of a hydraulic and hydrology report identifying flood levels and development design levels (as part of a site-based stormwater management plan).	<b>Complies with PO7 &amp; AO7.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO7.2</b> Development including the road network provides a stormwater management system that provides safe pedestrian and vehicle access in accordance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO7 &amp; AO7.2</b>  Access is safe during storm event
<b>PO8</b> Development designs stormwater channels, creek modification works and the drainage network to protect and enhance the environmental values of the waterway corridor or drainage path.	<b>AO8.1</b> Development ensures natural waterway corridors and drainage paths are retained.	<b>Complies with PO8 &amp; AO8.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO8.2</b> Development provides the required hydraulic conveyance of the drainage channel and floodway, while maximising its potential to maximise environmental benefits and minimise scour.	<b>Complies with PO8 &amp; AO8.2</b>  <a href="#">Refer stormwater layout within civil services schematics</a>



	Editor's note—Guidance on natural channel design principles can be found in the Council's publication <a href="#">Natural channel design guidelines</a> .	
	<b>AO8.3</b> Development provides stormwater outlets into waterways, creeks, wetlands and overland flow paths with energy dissipation to minimise scour in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	NA
	<b>AO8.4</b> Development ensures that the design of modifications to the existing design of new stormwater channels, creeks and major drains is in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a> .	NA
<b>PO9</b> Development is designed to manage run-off and peak flows by minimising large areas of impervious material and maximising opportunities for capture and re-use.	<b>AO9</b> No acceptable outcome is prescribed.	<b>Complies with PO9 &amp; AO9</b>  <a href="#">Refer stormwater layout within civil services schematics. Post-Dev impervious are not considered 'large'.</a>
<b>PO10</b> Development ensures that there is sufficient site area to accommodate an effective stormwater management system. Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.	<b>AO10</b> No acceptable outcome is prescribed.	<b>Complies with PO10 &amp; AO10</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
<b>PO11</b> Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to the: (a) existing capacity of stormwater infrastructure within and external to the site, and any planned stormwater infrastructure upgrades; (b) safe management of stormwater discharge from existing and future up-slope development; (c) implication for adjacent and down-slope development.	<b>AO11.1</b> Development with up-slope external catchment areas provides a drainage connection sized for ultimate catchment conditions that is directed to a lawful point of discharge.	<b>Complies with PO11 &amp; AO11.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO11.2</b> Development ensures that existing stormwater infrastructure that is undersized is upgraded in compliance with the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO11 &amp; AO11.2</b>  <a href="#">There is no stormwater infrastructure on site</a>
<b>PO12</b> Development provides stormwater infrastructure which: (a) remains fit for purpose for the life of the development and maintains full functionality in the design flood event; (b) can be safely accessed and maintained cost effectively; (c) ensures no structural damage to existing stormwater infrastructure.	<b>AO12.1</b> The stormwater management system is designed in compliance with the <a href="#">Infrastructure design planning scheme policy</a> .	<b>Complies with PO12 &amp; AO12.1</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
	<b>AO12.2</b> Development provides a clear area with a minimum of 2m radius from the centre of an existing manhole cover and with a minimum height clearance of 2.5m.	<b>Will Complies with PO12 &amp; AO12.2</b>  <a href="#">Refer stormwater layout within civil services schematics</a>
<b>PO13</b> Development ensures that all reasonable and practicable measures are taken to manage the impacts of erosion, turbidity and sedimentation, both within and external to the development site from construction activities, including vegetation	<b>AO13</b> No acceptable outcome is prescribed.	<b>Complies with PO13 &amp; AO13</b>  <a href="#">Refer stormwater layout within civil services schematics</a>



<p>clearing, earthworks, civil construction, installation of services, rehabilitation, revegetation and landscaping to protect:</p> <ul style="list-style-type: none"> <li>(a) the environmental values and water quality objectives of waters;</li> <li>(b) waterway hydrology;</li> <li>(c) the maintenance and serviceability of stormwater infrastructure.</li> </ul> <p>Note—The <a href="#">Infrastructure design planning scheme policy</a> outlines the appropriate measures to be taken into account to achieve the performance outcome.</p>		
<p><b>PO14</b> Development ensures that:</p> <ul style="list-style-type: none"> <li>(a) unnecessary disturbance to soil, waterways or drainage channels is avoided;</li> <li>(b) all soil surfaces remain effectively stabilised against erosion in the short and long term.</li> </ul>	<p><b>AO14</b> No acceptable outcome is prescribed.</p>	<p><b>Complies with PO14 &amp; AO14</b></p> <p><a href="#">Refer stormwater layout within civil services schematics</a></p>
<p><b>PO15</b> Development does not increase:</p> <ul style="list-style-type: none"> <li>(a) the concentration of total suspended solids or other contaminants in stormwater flows during site construction;</li> <li>(b) run-off which causes erosion either on site or off site.</li> </ul>	<p><b>AO15</b> No acceptable outcome is prescribed.</p>	<p><b>Complies with PO15 &amp; AO15</b></p> <p><a href="#">Details to be supplied during Detailed Design within ESC plans.</a> <a href="#">Run-off will no cause erosion.</a></p>
<p><b>Section B—Additional performance outcomes and acceptable outcomes which apply to high-risk development, being one or more of the following:</b></p> <ul style="list-style-type: none"> <li>(a) a material change of use for an urban purpose which involves greater than 2,500m<sup>2</sup> of land that: <ul style="list-style-type: none"> <li>(i) will result in an impervious area greater than 25% of the net developable area; or</li> <li>(ii) will result in 6 or more dwellings.</li> </ul> </li> <li>(b) reconfiguring a lot for an urban purpose that involves greater than 2,500m<sup>2</sup> of land and will result in 6 or more lots;</li> <li>(c) operational work for an urban purpose which involves disturbing greater than 2,500m<sup>2</sup> of land.</li> </ul>		<p><b>Site is 2,501 sqm.</b> Existing arrangement to be maintained. Performance outcome sought – existing driveway pits to be retrofitted with trash baskets.</p>
<p><b>PO16</b> Development ensures that the entry and transport of contaminants into stormwater is avoided or minimised to protect receiving water environmental values.</p> <p>Note—Prescribed water contaminants are defined in the <a href="#">Environmental Protection Act 1994</a>.</p> <p>Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.</p>	<p><b>AO16</b> Development provides a stormwater management system which is designed in compliance with the standards in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Site is 2,501 sqm.</b> Existing arrangement to be maintained. Performance outcome sought – existing driveway pits to be retrofitted with trash baskets.</p>
<p><b>PO17</b> Development ensures that:</p> <ul style="list-style-type: none"> <li>(a) the discharge of wastewater to a waterway or external to the site is avoided; or</li> <li>(b) if the discharge cannot practicably be avoided, the development minimises wastewater discharge through re-use, recycling, recovery and treatment.</li> </ul> <p>Note—The preparation of a wastewater management plan can assist in demonstrating achievement of this performance outcome.</p>	<p><b>AO17</b> No acceptable outcome is prescribed.</p>	<p><b>Site is 2,501 sqm.</b> Existing arrangement to be maintained. Performance outcome sought – existing driveway pits to be retrofitted with trash baskets.</p>



<p>Editor's note—This code does not deal with sewerage which is the subject of the <a href="#">Wastewater code</a>.</p>		
<p><b>Section C—Additional performance outcomes and acceptable outcomes for assessable development for a material change of use or reconfiguring a lot</b></p>		
<p><b>PO18</b> Development protects stormwater infrastructure to ensure the following are not compromised: (a) the <a href="#">long term infrastructure</a> for the stormwater network in the <a href="#">Long term infrastructure plans</a>; (b) the existing and planned infrastructure for the stormwater network in the <a href="#">Local government infrastructure plan</a>; (c) the provision of long term, existing and planned infrastructure for the stormwater network which: (i) is required to service the development or an existing and future urban development in the planning scheme area; or (ii) is in the interests of rational development or the efficient and orderly planning of the general area in which the site is situated. Editor's note—A condition which requires a proposed development to keep permanent improvements and structures associated with the approved development clear of the area of long term infrastructure, may be imposed.</p>	<p><b>AO18</b> Development protects stormwater infrastructure in compliance with the following: (a) for <a href="#">long term infrastructure</a> for the stormwater network, the <a href="#">Long term infrastructure plans</a>; (b) for existing and planned infrastructure for the stormwater network, the <a href="#">Local government infrastructure plan</a>; (c) the standards for stormwater drainage in the <a href="#">Infrastructure design planning scheme policy</a>.</p>	<p><b>Complies with PO18 &amp; AO18</b> <a href="#">Refer stormwater layout within civil services schematics</a></p>
<p><b>PO19</b> Development provides for the payment of extra trunk infrastructure costs for the following: (a) for development completely or partly outside the priority infrastructure area in the <a href="#">Local government infrastructure plan</a>; (b) for development completely inside the priority infrastructure area in the <a href="#">Local government infrastructure plan</a> involving: (i) trunk infrastructure that is to be provided earlier than planned in the <a href="#">Local government infrastructure plan</a>; (ii) <a href="#">long term infrastructure</a> for the stormwater network which is made necessary by development that is not assumed future urban development; (iii) other infrastructure for the stormwater network associated with development that is not assumed future urban development which is made necessary by the development. Editor's note—The payment of extra trunk infrastructure costs for development completely inside the priority infrastructure area in the <a href="#">Local government infrastructure plan</a> is to be worked out in accordance with the Charges Resolution. Editor's note—See section 130 Imposing Development conditions (Conditions for extra trunk infrastructure costs) of the <a href="#">Planning Act 2016</a>.</p>	<p><b>AO19</b> No acceptable outcome is prescribed.</p>	<p><b>NA</b> <a href="#">Site is outside LGIP</a></p>



## 6.7 APPENDIX G – BCC E&SC EHA FORM

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**Table 1: Low Risk Test**

		<b>Yes</b>	<b>No</b>
<b>1.1</b>	is the area of land disturbance > 1000 m <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>
<b>1.2</b>	does any land disturbance occur in a BCC mapped waterway corridor	<input type="checkbox"/>	<input type="checkbox"/>
<b>1.3</b>	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%	<input type="checkbox"/>	<input type="checkbox"/>
<b>1.4</b>	does any land disturbance occur below 5 m AHD	<input type="checkbox"/>	<input type="checkbox"/>
<b>1.5</b>	does development involve endorsement of a staging plan	<input type="checkbox"/>	<input type="checkbox"/>
<b>1.6</b>	is there an upstream catchment passing through the site > 1 hectare	<input type="checkbox"/>	<input type="checkbox"/>

Have you answered 'yes' to any of the questions in Table 1?

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

If 'Yes' then proceed to Table 2

If 'No' then site is **low risk** with respect to erosion and sediment control

**Table 2: Medium Risk Test**

		<b>Yes</b>	<b>No</b>
<b>2.1</b>	is the area of land disturbance > 1 hectare	<input type="checkbox"/>	<input type="checkbox"/>

If 'Yes' then proceed to Table 3

If 'No' then site is **medium risk** with respect to erosion and sediment control

**Table 3: High Risk Test**

<b>3.1</b>	is there an upstream catchment passing through the site > 1 hectare	<input type="checkbox"/>	<input type="checkbox"/>
<b>3.2</b>	does any land disturbance occurs in a BCC mapped waterway corridor	<input type="checkbox"/>	<input type="checkbox"/>
<b>3.3</b>	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%	<input type="checkbox"/>	<input type="checkbox"/>

Have you answered 'yes' to any of the questions in Table 3?

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

If 'No' then site is **medium risk** with respect to erosion and sediment control

If 'Yes' then site is **high risk** with respect to erosion and sediment control



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