

# Proposed Subdivision

202 Gardner Road, Rochedale

Engineering Services Report

Partners in Property Queensland Pty Ltd

1 July 2025

## DOCUMENT VERIFICATION

Job Title           **Proposed Subdivision**  
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 Document Title    Engineering Services Report

## DOCUMENT CONTROL

Date	Document	Revision No.	Author	Reviewer
11.09.24	Engineering Services Report	00	WN	MRB/ML
19.03.25	Engineering Services Report	01	WN	MRB/ML
01.07.25	Engineering Services Report – RFI Response	02	WN	MRB/ML

## APPROVAL FOR ISSUE

Authority	Name	Signature	Date
Author	William Nuthun		01.07.25
Reviewer	Michael Lepelaar		01.07.25

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# 1 INTRODUCTION

## 1.1 General

ADG Engineers (Aust.) Pty Ltd has been engaged by Partners in Property Queensland Pty Ltd to prepare an Engineering Services Report (ESR) suitable for submission to Brisbane City Council (BCC) as additional information in support of a Reconfiguration of Lot (ROL) Development Application for a proposed englobo subdivision located at 202 Gardner Road, Rochedale QLD 4123.

This ESR has been prepared to provide advice relating to a further development application to create one (1) balance lot and a new road reserve in the south-western corner of the site as shown in the Plan of Reconfiguration in Appendix A.

The proposed road will provide connectivity between the ultimate intersection in Prebble Street to the west and the proposed road within 198 Gardner Road (BCC Ref: A005747839).

The works described herein are subject to further approvals and cover works required to service the proposed development with regard to earthworks, roadworks, stormwater drainage, sewerage and water supply, electrical and communications.

The required infrastructure will be subject to the conditions attached to the Development Approval to be provided by Brisbane City Council and any nominated referral agencies.

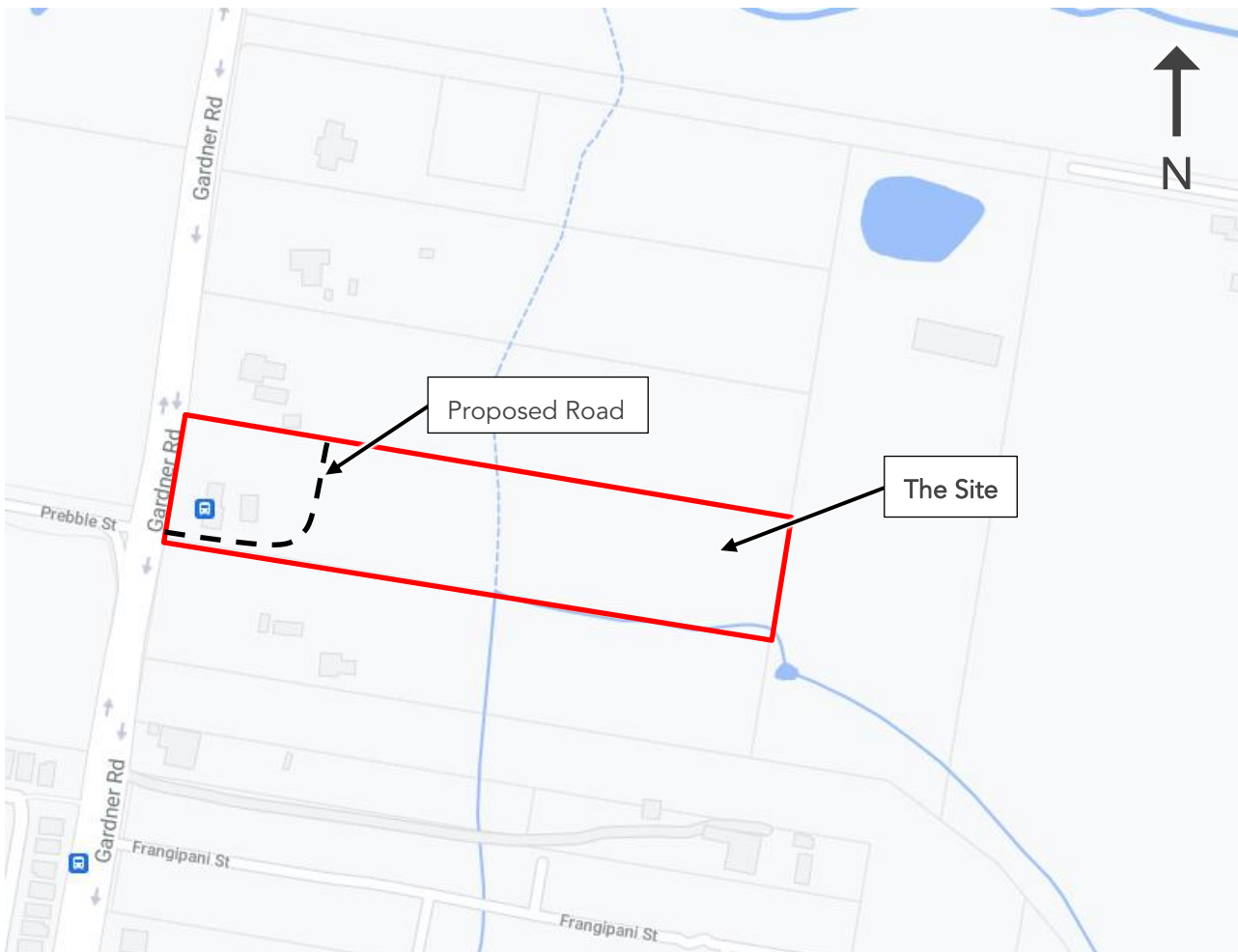


Figure 1 – Locality Map (As accessed from Google Maps 10.11.2023)

## 1.2 Background Information

This report was compiled using information from the following sources:

- Plan of Reconfiguration by Wolter Consulting Group (refer to Appendix A);
- Site Survey by Wolter Consulting Group (refer to Appendix B);
- ADG preliminary drawings (refer to Appendix C);
- BCC eBimap2 records (refer to Appendix D);
- BCC Overlay Mapping (refer to Appendix E);
- 'Before You Dig Australia' (BYDA) search results (refer to Appendix F); and
- Aerial Imagery.

## 1.1 Property Details

The existing land titles that make up the site are given in Table 1. Refer to the Site Plan in Appendix A for further details regarding the proposed development.

Table 1 – Property Detail

Title Details	Lot 4 on RP114765
Street Address	202 Gardner Road, Rochedale QLD 4123
Site Area	3.676 ha

## 2 THE SITE

### 2.1 Location

The site is located at 202 Gardner Road, Rochedale QLD. The site is fronted by Gardner Road to the west and is surrounded by lots zoned for 'Emerging Community' by BCC Zone Overlay Map to the remaining boundaries. The land titles that make up the site are given in Table 1. Figure 1 displays the site locality.



Figure 2 – Pre-developed Site Features (Nearmap Image dated 06.06.2022)

### 3 PLAN OF DEVELOPMENT

#### 3.1 The Proposal

The proposed development as described in Appendix A proposes to create one (1) balance lot and a new road reserve. The proposed road will provide connectivity between the ultimate intersection in Prebble Street to the west and the proposed road within 198 Gardner Road (BCC Ref: A005747839). Figure 3 illustrates the proposed development.

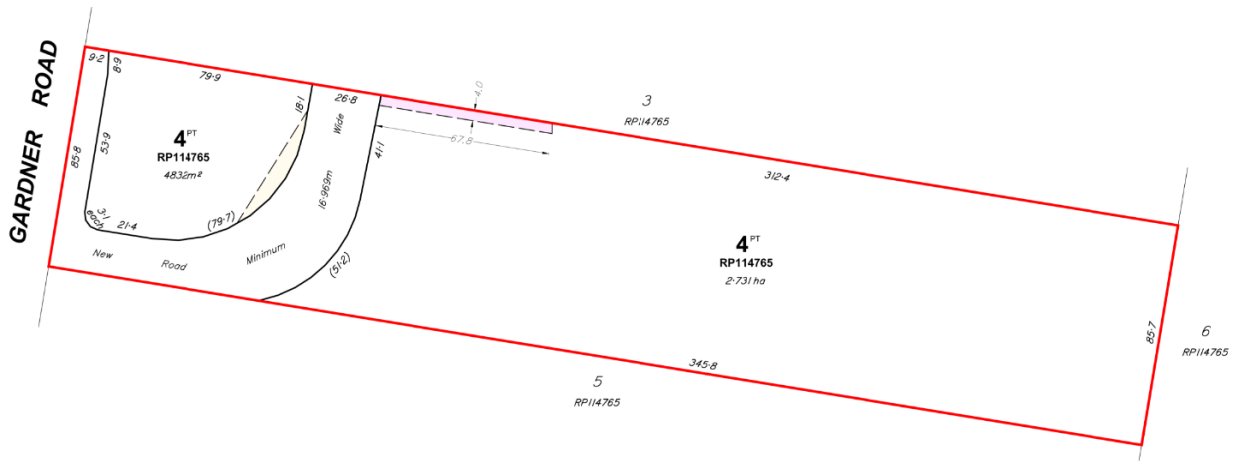


Figure 3 – Plan of Reconfiguration by Wolter Consulting Group

## 4 CHARACTERISTICS OF THE LAND & SURROUNDING AREA

### 4.1 Description

The pre-developed site comprises of a rural residential dwelling, along with sheds and associated driveway and hardstand areas. The site is fronted by Gardner Road to the west and is surrounded by lots zoned for 'Emerging Community'.

### 4.2 Dimensions

The site has a total area of 3.676 hectares with approximately 85.8m of road frontage to Gardner Road. The site has a rectangular shape with a depth of approximately 428m from Gardner Road. Refer to the site survey in Appendix B for further information on the existing site dimensions.

### 4.3 Topography

Two (2) catchments have been identified across the existing site. Both catchments generally fall towards an existing waterway corridor that flows south to north through the centre of the site. The high point in the south-western corner of the site is 50.22m AHD, with a low point of 32.87m AHD along the northern boundary of the site. The site falls at varying grades generally between 5% and 10%. Refer to the site survey in Appendix B for further information.

### 4.4 Features

The pre-developed site is mostly pervious with exception to the existing dwelling, sheds and associated hardstand areas. The balance of the pre-developed site can be characterised by good vegetation coverage with several trees located across the site. Figure 2 demonstrates the pre-developed site conditions discussed above.

### 4.5 Accessibility

Current access to the subject site is gained via a vehicular crossover from Gardner Road to the west. It is proposed to construct a new road in the south-western corner of the site. The new road will provide connectivity between the ultimate intersection in Prebble Street to the west and the proposed road within 198 Gardner Road which will be part of a separate application.

A specialist traffic report is to be completed by TTM in support of this development, which will include additional information regarding the accessibility of the site. Refer to the Plan of Reconfiguration in Appendix A for further information regarding the proposed road system.

### 4.6 Easements

No easements have been identified across the existing site. An easement has been shown over the stormwater line in the balance land on the Preliminary Roadwork Layout Plan DA02 in Appendix C. We note this stormwater drainage and associated easement would only be required if the district road has not been completed within 198 Gardner Road.

### 4.7 External Catchments

The site is impacted by external catchments to the east and south of the site, with flow crossing of the site boundary via sheet flow.

## 5 EARTHWORKS

### 5.1 Proposed Earthworks

Earthworks are proposed to facilitate the construction of the new road. No further earthworks are required to facilitate the creation of the proposed balance lot.

The fill material and placement procedure will comply with Council's specification for earthworks procedures and the necessary permits from Council shall be obtained prior to earthworks commencing. In all situations where earthworks are proposed, sediment and erosion control measures will be implemented in accordance with the following:

- ▶ I.E. Australia "Sediment and Erosion Control Guidelines";
- ▶ International Erosion Control Association, Australasia: Erosion and Sediment Control Field Guide for Builders; and
- ▶ BCC Infrastructure Planning Scheme.

Refer to the preliminary bulk earthworks layout plan and sections prepared by ADG in Appendix C for further information.

### 5.2 Slope Stability

BCC Landslide Overlay Maps indicate the site is not within an area subject to the Landslide Overlay Code.

### 5.3 Erosion and Sediment Control

The erosion risk has been assessed against the BCC Erosion hazard guidelines and found to be 'medium risk'. The BCC Erosion Hazard Assessment has advised that an RPEQ or CPESC must prepare a sediment and erosion control plan for the lodgement of operational works and the following construction phase of the development. Detailed Erosion and Sediment Control Plans will be prepared at the detailed design phase.

Refer to the BCC Erosion Hazard Assessment attached in Appendix H.

### 5.4 Acid Sulfate Soils

Acid Sulfate Soils are soils which contain iron sulphides generally found in low-lying coastal areas below 20m AHD. The site survey has identified that levels across the site vary from a low point of 32.87m AHD to a high point of 50.22m AHD. A review of the BCC Potential and Actual Acid Sulfate Soils Overlay Map has confirmed that the subject site is not located in areas subject to the Potential and Actual Acid Sulfate Soils Overlay Code.

## 6 ROADWORKS

### 6.1 Existing Infrastructure

The site has a frontage of approximately 85.8m to Gardner Road.

Gardner road consists of a single traffic lane in each direction with centre line marking. The pavement cross-section consists of a two-way crossfall and a crown in the centre such that stormwater flows away from the cress towards open swales on both side of the road. The posted speed limit is 70km/hr.

Refer to the site survey in Appendix B for further information regarding the existing infrastructure.

### 6.2 Proposed Infrastructure

As part of the proposed development a new district road is proposed within the site. The proposed road will consist of a minimum 16.969m wide road reserve and provide connectivity between the ultimate intersection in Pebble Street to the west and the proposed road within 198 Gardner Road (BCC Ref: A005747839). The proposed road pavement and overall road reserve widths are in accordance with the minimum requirements for a district road.

External roadworks are proposed along the development side of Gardner Road to facilitate the proposed upgrade works at the Pebble Street and Gardner Road intersection. As shown on DA06 in Appendix C, an approximately maximum 9m wide pavement is proposed along the development side of Gardner Road. The external roadworks will also facilitate the ultimate connection between Pebble Street and the proposed road within the site.

For more information on the proposed road infrastructure refer to the ADG preliminary roadworks plans located within Appendix C.

## 7 WATER SUPPLY

### 7.1 Existing Infrastructure

The site survey, Before You Dig Australia (BYDA) and BCC eBIMAP2 records has identified the following water infrastructure within the vicinity of the site:

- An existing DN450 Ductile Iron (DI) trunk water main (Asset ID: TS413627) runs along the non-development side verge of Gardner Road;
- An existing DN180 Polyethylene (PE) reticulation water main (Asset ID: RS274605) runs along the development side verge of Gardner Road;
- A water hydrant (Asset ID: RHY159614) located over the abovementioned DN180 PE water main near the western boundary of the site;
- Two (2) 355 diameter PE water mains (Asset ID's: RS449974 & RS423836) run south from Prebble Street, along the non-development side verge of Gardner Road; and
- The site is currently serviced by a 25mm diameter property connection (Asset ID: WS454466) to the abovementioned DN180 PE water main.

Refer to the site survey in Appendix B and BCC eBIMAP2 information in Appendix D for further information regarding the existing water infrastructure.

### 7.2 Proposed Infrastructure

To provide a connection point for the new lot, it is proposed to construct a new water main along the proposed road that extends from the existing DN180 PE water main in Gardner Road described in Section 7.1. The proposed main will connect to the southern end of the water main in 198 Gardner Road proposed as part of a separate application (BCC Ref: A005747839).

A conceptual layout of the proposed water network prepared by ADG can be found on DA05 in Appendix C. Detailed water reticulation drawings will be provided to Urban Utilities as part of a future operational works application once the development application has been approved by Council.

The proposed water reticulation within the development will comply with the following documents;

- BCC Planning Scheme;
- UU Water Supply & Sewerage Standards;
- SEQ Water Supply and Sewerage Design & Construction Code; and
- AS3500.1 Plumbing and Drainage – Water Services.

## 8 SEWERAGE RETICULATION

### 8.1 Existing Infrastructure

The site survey, Before You Dig Australia (BYDA) and BCC eBIMAP2 records has identified the following sewer infrastructure within the vicinity of the site:

- ▶ An existing DN250 Polyethylene (PE) sewer gravity main (Asset ID's: LS978172 - LS978178) flows north through the centre of the site and other adjoining lots to the north of the site.

Refer to the site survey in Appendix B and the BCC eBimap2 records in Appendix D for further information regarding the existing sewer infrastructure.

### 8.2 Proposed Infrastructure

To provide a connection point for the new lot, it is proposed to construct a sewer across the proposed road that connects to the southern end of the sewer in 198 Gardner Road proposed as part of a separate application (BCC Ref: A005747839). Alternatively, if there is to be no connection to the sewer in 198 Gardner Road, it is proposed to connect to the existing DN250 sewer main within the site described in Section 8.1.

A conceptual layout of the proposed sewer network prepared by ADG can be found in DA04 in Appendix C. Detailed sewer reticulation drawings will be provided to Urban Utilities as part of a future operational works application once the development application has been approved by Council.

The sewerage works proposed within the development will comply with the following documents:

- ▶ BCC Planning Scheme;
- ▶ UU Water Supply & Sewerage Standards;
- ▶ SEQ Water Supply and Sewerage Design & Construction Code; and
- ▶ AS3500.2 Plumbing and Drainage – Sanitary plumbing and drainage.

## 9 STORMWATER DRAINAGE

### 9.1 Existing Drainage

BCC overlay mapping from eBIMAP2 records in addition to the site survey have identified the following stormwater infrastructure within the vicinity of the site:

- An overland flow path passes through the site from south to the north; and
- Open swales on both side of Gardner Road;

Refer to the site survey in Appendix B and eBIMAP2 records Appendix D for further information regarding the existing stormwater infrastructure.

### 9.2 Proposed Drainage

The drainage proposed within the development will comply with the following documents:

- BCC Stormwater Drainage Guidelines;
- Queensland Urban Drainage Manual (QUDM); and
- AS 3500.3 Plumbing and Drainage – Stormwater Drainage.

For the purposes of the ROL creating the englobo lot, a stormwater management plan has not been prepared. A stormwater management plan for each of the further development applications on the englobo lot will be prepared as part of those applications. Given the proximity to overland flow path, detention for the future uses on the englobo lot and for the road catchment of the new road proposed through 202 Gardner Rd is not required. Stormwater quality management for the new road is proposed through the implementation of WSUD tree pits in accordance with BCC Drg BSD-8331-8334. Refer further details shown on ADG Preliminary Roadwork Layout Plan DA02 located within Appendix C. Further stormwater quality management measures will be addressed as part of the future development applications on the englobo lot.

### 9.3 Flooding Considerations

The site is located outside of Council's Overland Flow Flood Planning Area. Refer to Appendix E for the BCC Flood Overlay map Creek/waterway overlay map.

## 10 ELECTRICAL SUPPLY

The BYDA search has identified that there are currently minimal underground electrical cables within close proximity to the site along Gardner Road. On review of aerial imagery, it is evident that the site is currently serviced via overhead electrical cables that run along the development side verge of Gardner Road.

The Electrical Consultant will determine the extent of the network and connection works that will be required to facilitate the electrical reticulation for the proposed development at the detailed design stage.

Refer to the BYDA Information in Appendix F for further details on the existing electrical reticulation.

## 11 COMMUNICATIONS

According to BYDA information, the following communication services are in the vicinity to the site:

- A 100mm Polyvinyl Chloride (PVC) conduit owned by Telstra runs along the development side verge of Gardner Road to a 5-pit located near the western boundary of the site;
- A 50mm PVC conduit owned by Telstra containing assorted cables runs along the development side verge of Gardner Road between two (2) 5-pits located near the western boundary of the site;
- A small section of TPG PIPE network duct and an adjoining PIPE network pit located within the opposite side verge of Gardner Road;
- An underground Uecomm conduit and Optus cable runs along the non-development side of Gardner Road; and
- A 10mm PVC Conduit owned by NBN runs across Gardner Road and currently services the site.

The telecommunications consultant will negotiate with the relevant carriers regarding the requirements of the proposed development telecommunications connection and the extent of any upgrading and possible relocation works to the system if necessary.

Refer to the BYDA Information in Appendix F for further details on the existing communication infrastructure.

## 12 GAS

According to BYDA information there is the following gas infrastructure in close proximity of the site:

- An existing 110mm Polyethylene (PE) high pressure gas reticulation main within the development side verge of Gardner Road to the west of the site that turns into Prebble Street.

For further information regarding the gas reticulation infrastructure relevant to the site, refer to the BYDA information shown in Appendix F.

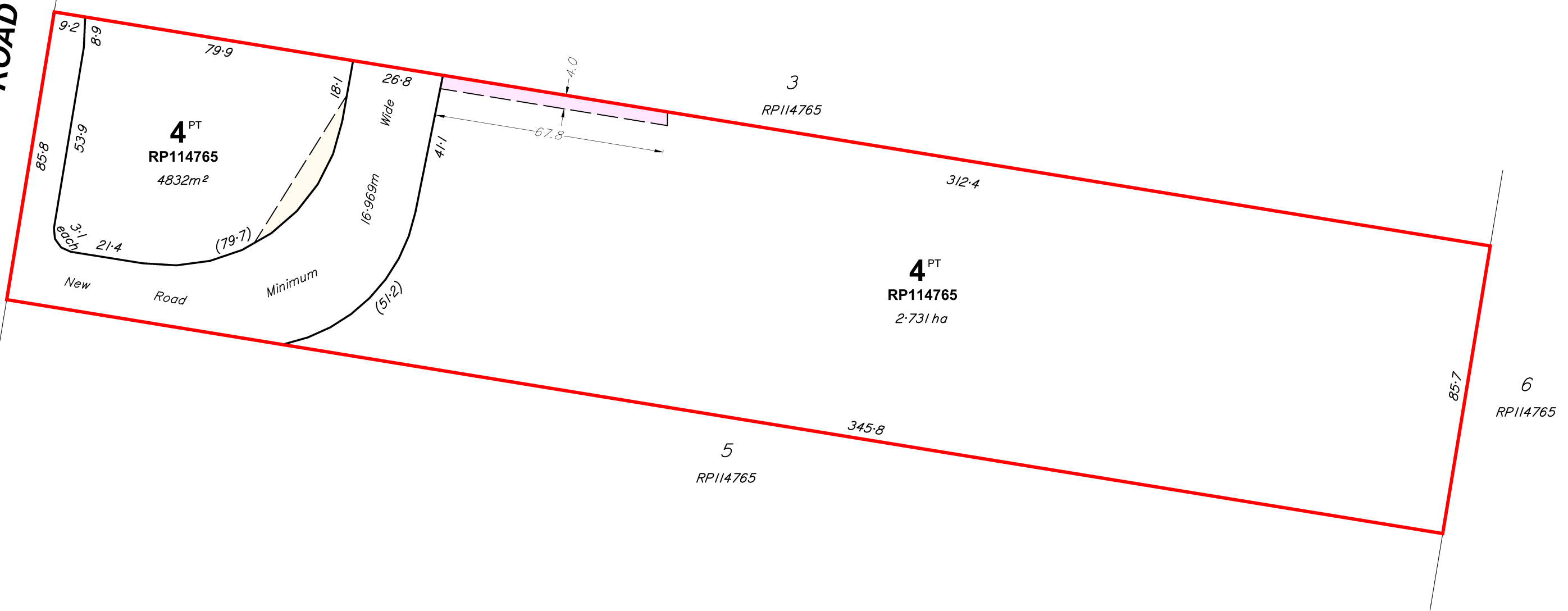
## 13 CONCLUSION

With the abovementioned site servicing measures implemented, the site appears to be able to be adequately serviced by roadworks, stormwater drainage and management, sewer, water, electricity and communications. The preliminary sewer and water designs are subject to assessment by Urban Utilities and the electrical and communications requirements are to be determined by a suitably qualified engineer during detailed design.

Further detailed engineering drawings will be prepared on approval of the development prior to construction.

# Appendix A Site Plan

**GARDNER ROAD**



**Legend**

	Site Boundary
	Proposed Height Restricted Easement (Light & Air) - 222m²
	Proposed Stormwater Easement (If Required) - 269m²

- Notes**
1. Any licence, express or implied, to use this document for any purpose whatsoever is restricted to the terms of the agreement or implied agreement between Therefor Group and the instructing party.
  2. Design subject to local authority approval & detailed engineering requirements, areas and dimensions are approximate only and are subject to survey. Therefore this drawing is not to be used for engineering design.
  3. Indicative road pavement design, subject to biopods and engineering review.
  4. This note is an integral part of this plan. This plan may not be reproduced without this notation being included.

**Table of Development**

Gross area of subject land.....	3.676ha
Area of new road.....	46.14m²
Length of new road.....	227m
Net area of subject land.....	3.214ha
Number of proposed lots.....	1
Number of existing lots.....	1

**Future intended use of new lots:**  
Proposed Lot is for residential/commercial use.



Scale 1:1250 @ A3 - Lengths are in metres.

**Plan of Reconfiguration**  
 202 Gardner Road, Rochedale  
 Description: Lot 4 on RP114765  
 Local Authority: Brisbane City

**BCC DS**  
**RECEIVED**  
 25-08-2025  
**APPLICATION REF**  
 A006738631

**DRAWING NO.** 24-01814P-01  
**VERSION** D  
**DATE DRAWN** 30-06-2025  
**SHEET NO.** 1 of 1 JC

## Appendix B Site Survey

**IMPORTANT NOTES**

**MAP GRID OF AUSTRALIA**  
 This plan is on GDA2020, MGA Zone 56 with ground distances. For true MGA Zone 56 Coordinates, scale all data from PSM 21911 by 0.9996.

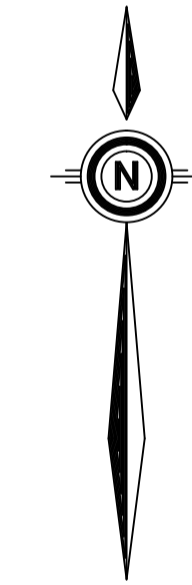
**PROPERTY BOUNDARIES**  
 The subject lot boundaries and dimensions shown on this plan are compiled from original survey records and plotted with a surveying methodology that gives these boundaries a positional uncertainty of 100-200 millimetres and must not be used for detailed design. A Cadastral Survey as defined by the Surveying and Mapping Infrastructure Act 2003 and Surveyors Act 2003 is required for accurate boundary positions and dimensions.

**UNDERGROUND SERVICES**  
 This plan generally complies with Australian Standard 5488—2013: Classification of Subsurface Utility Information (SUI).

**Definitions:**  
 Quality Level C (QL-C): Alignments are service provider's records with their positioning enhanced by QL-A or QL-B points. All alignments in this data should be considered QL-C unless otherwise noted.  
 Quality Level D (QL-D): Alignments that have been scaled or digitized from service provider's records.

Only information with Quality Level A should be relied upon for detailed design. For more information see ASS488—2013.

**CONTOURS**  
 The contours shown on this plan may not be "natural surface" or "ground level" as defined by some local councils and should not be used as the reference surface when determining building height limits.  
 Contour Interval: 0.5 metres.



**PROJECT:**  
 Gardiner and Farley Road, Rochedale

**CLIENT:**  
 Partners in Property

**TITLE :**  
 Detail and Contour Survey  
 Verification Plot



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Rev.	Reason for Issue or Amendment	Date	Surveyed	Drawn	Approved
B	Updated Gardner Road Detail	19-10-2022	M.Le Guier	G.Hanton	G.Hanton
A	Original Issue	23-09-2022	M.Le Guier	G.Hanton	G.Hanton

Scale: 1: 1500 at A1

Level Datum: AHD (d)

Co-ord System: MGA2020 (localised)

Sheet: 1 of 1

Origin:

Project Number: 21-0260S






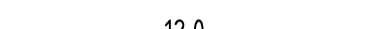

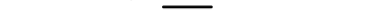
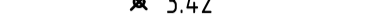

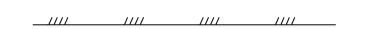



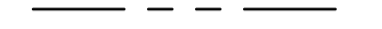











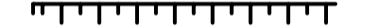



Drawing Number: 002

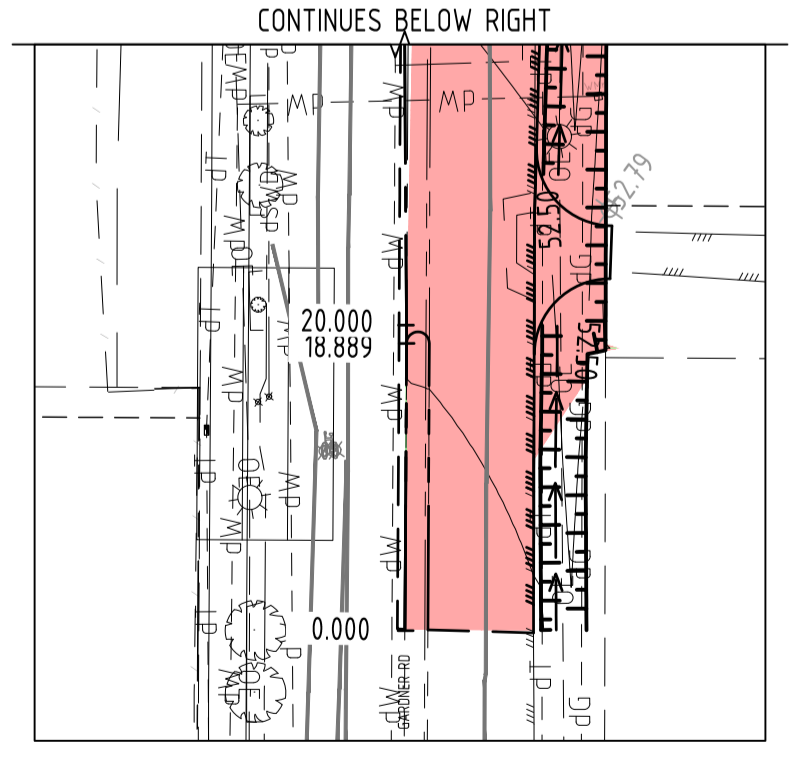
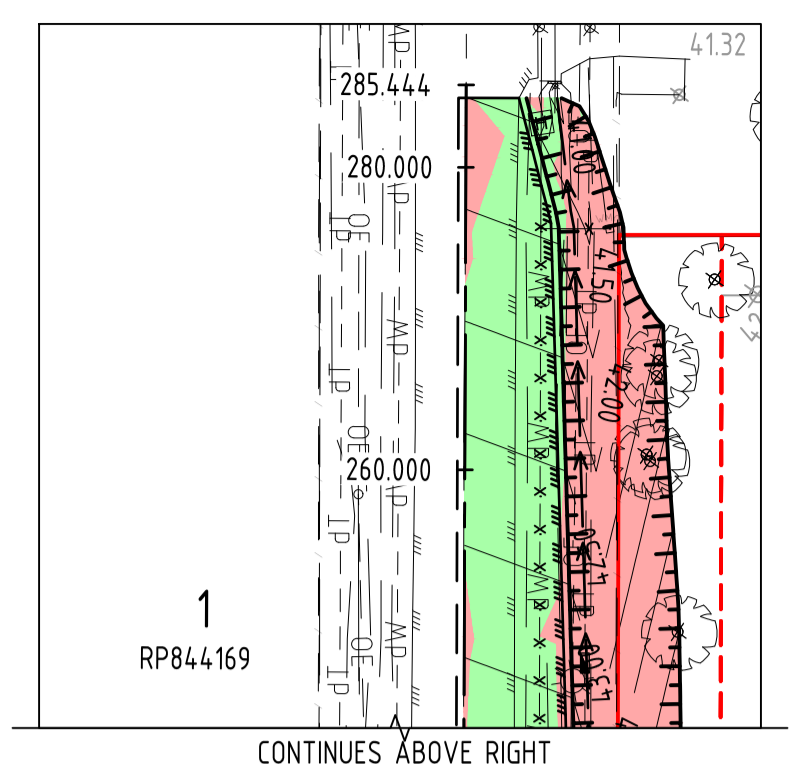
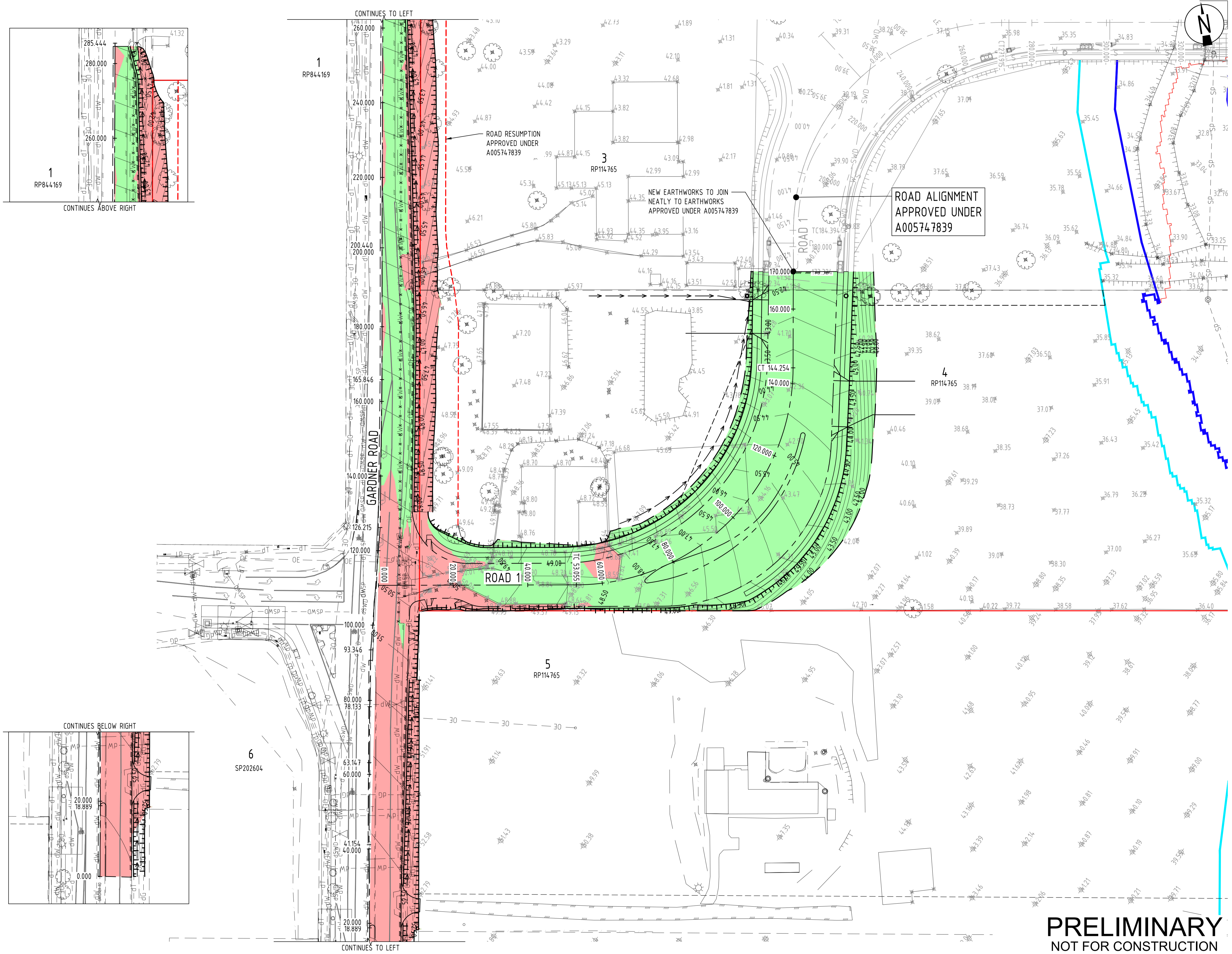
Revision: B

# Appendix C

## ADG Preliminary Drawings

**LEGEND**

-  SITE BOUNDARY
-  PROPOSED ROAD RESUMPTION LINE
-  EXISTING PROPERTY BOUNDARY
-  EXISTING SURFACE CONTOURS
-  12.0 EARTHWORKS CONTOURS
-  3.42 EXISTING SURFACE LEVEL
-  3.42 FINISHED SURFACE LEVEL
-  EXISTING NOMINAL KERB LINE
-  EXISTING EDGE OF BITUMEN LINE
-  EXISTING ROAD CENTERLINE
-  EXISTING EDGE OF BUILDING
-  PROPOSED NOMINAL KERB LINE
-  PROPOSED ROAD CENTRE LINE
-  SWD EXISTING STORMWATER DRAINAGE
-  dS EXISTING SEWER (RECORDS)
-  dW EXISTING WATER (RECORDS)
-  OE EXISTING OVERHEAD ELECTRICITY
-  dT EXISTING TELECOMMUNICATIONS (RECORDS)
-  ABANDONED SERVICE
-  EXISTING BATTER
-  EXISTING FENCE
-  PROPOSED BATTER
-  PROPOSED TEMPORARY SWALE
-  LIMIT OF WORKS
-  PROPOSED EARTHWORKS CUT
-  PROPOSED EARTHWORKS FILL
-  POST DEVELOPMENT 1% AEP FLOOD LINE
-  EXISTING WATERWAY FRINGE (10m)
-  EXISTING WATERWAY CORE (30m)
-  EXISTING WATERWAY CENTRELINE



ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN

**PRELIMINARY**  
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
03	01.07.25	PRELIMINARY - ISSUED FOR RFI RESPONSE	PP	ML
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

**BCC DS**  
**RECEIVED**  
25-08-2025  
**APPLICATION REF**  
A006738631

**ADG**  
T: 1300 657 402 E: info@adg.com W: www.adg.com  
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018  
Environmental Management ISO 14001:2015

Client: PARTNERS IN PROPERTY QLD PTY LTD  
Project Name: 202-210 GARDNER ROAD  
ROCHEDALE, QLD, 4123

Discipline: CIVIL	Status: PRELIMINARY
Designed By: LDV	Checked By: ML
Project No: 27292	Drawn By: LDV
Approved By: ML	Scale at A1: 1:500

Title: PRELIMINARY EARTHWORKS LAYOUT PLAN	Drawing No: DA01	Revision: 03
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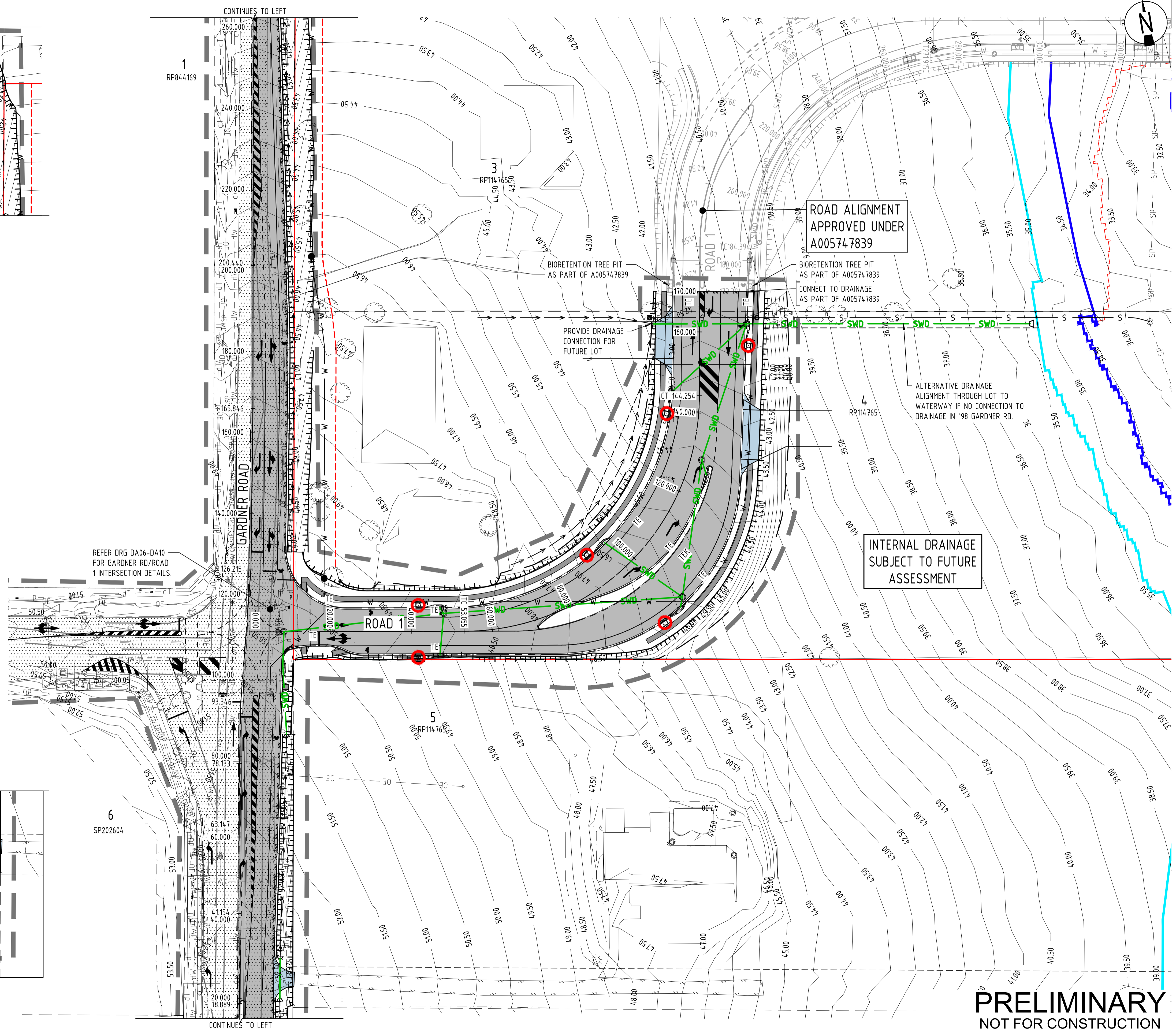
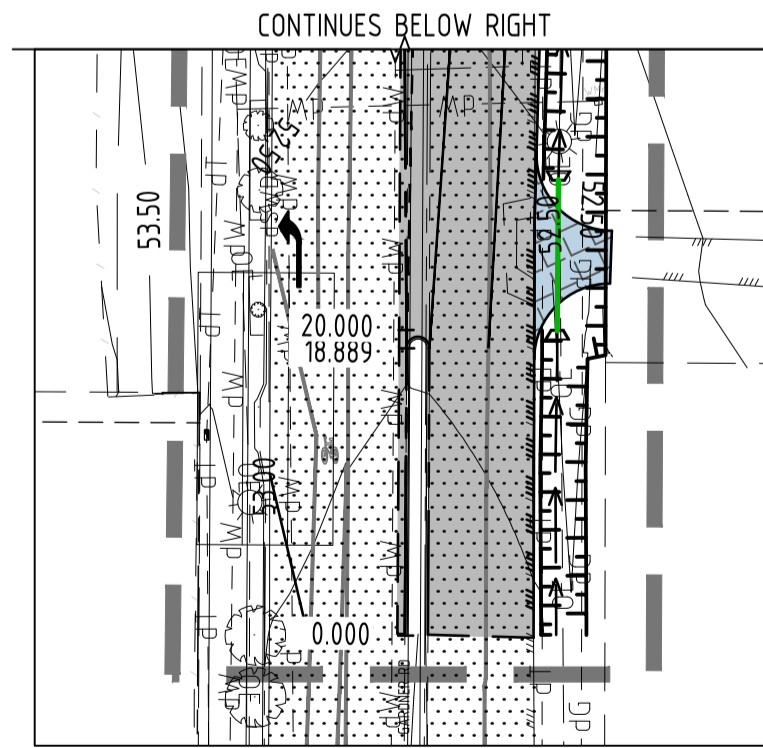
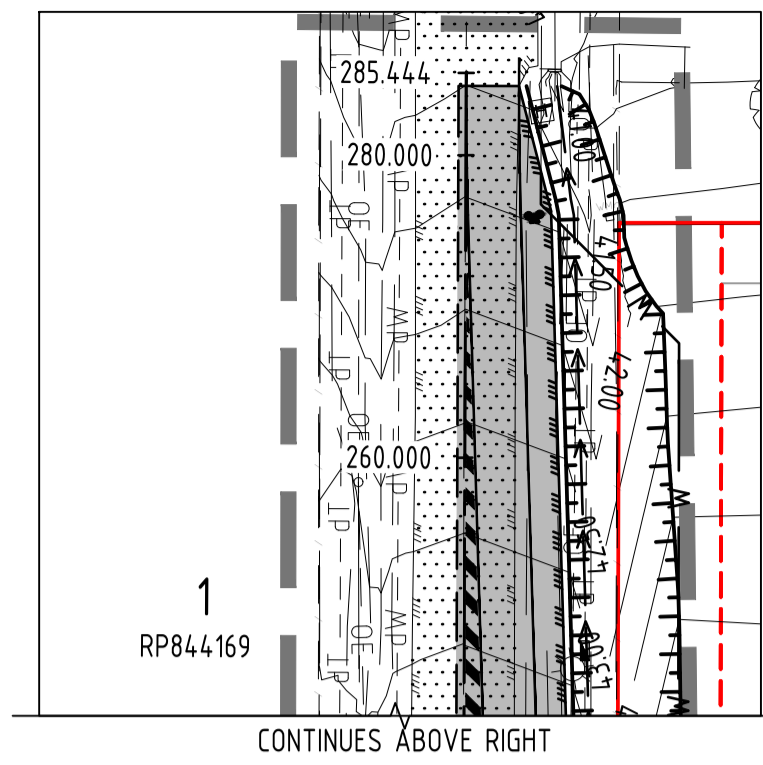
**LEGEND**

- SITE BOUNDARY
- PROPOSED ROAD RESUMPTION LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN
- EXISTING ROAD CENTERLINE
- SWD EXISTING STORMWATER DRAINAGE
- dS EXISTING SEWER (RECORDS)
- dW EXISTING WATER (RECORDS)
- OE EXISTING OVERHEAD ELECTRICITY
- dT EXISTING TELECOMMUNICATIONS (RECORDS)
- x x x x x ABANDONED SERVICE
- EXISTING BATTER
- EXISTING FENCE
- LIMIT OF WORKS
- SWD PROPOSED STORMWATER DRAINAGE
- SWD PREVIOUS STAGE STORMWATER DRAINAGE
- PROPOSED BIORETENTION TREE PITS
- S PROPOSED SEWER MAIN
- S PREVIOUS STAGE SEWER
- W PROPOSED WATER
- W PREVIOUS STAGE WATER
- PROPOSED ROAD CENTRE LINE
- PREVIOUS STAGE ROAD CENTRE LINE
- EXISTING ROAD
- PROPOSED 1.2m WIDE FOOTPATH IN ACCORDANCE WITH BCC STD DRG. BSD-5201
- PROPOSED ROAD PAVEMENT
- PROPOSED DRIVEWAY CROSSOVER
- PROPOSED RURAL DRIVEWAY CROSSOVER
- PROPOSED EASEMENTS
- TE PROPOSED 'TYPE E' BARRIER KERB AND CHANNEL IN ACCORDANCE WITH BCC STD DRG BSD-2001
- TEK PROPOSED 'TYPE E' BARRIER KERB ONLY IN ACCORDANCE WITH BCC STD DRG BSD-2001
- SH PROPOSED EDGE OF SHOULDER
- PREVIOUS STAGE KERB NOMINAL LINE
- PROPOSED TEMPORARY SWALE
- PROPOSED 1% AEP FLOOD LINE
- EXISTING WATERWAY FRINGE (10m)
- EXISTING WATERWAY CORE (30m)

**NOTES**

1. FOR ROADWORKS LONGITUDINAL SECTIONS REFER DRG No. DA03.
2. FOR ROADWORKS AND DRAINAGE TYPICAL CROSS SECTION REFER DRG No. DA03.

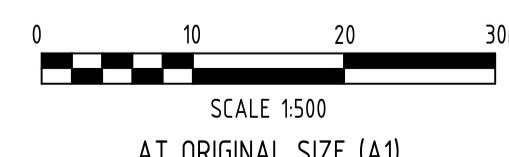
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**PRELIMINARY**  
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
04	01.07.25	PRELIMINARY - ISSUED FOR RFI RESPONSE	PP	ML
03	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	PP	ML
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

**BCC DS**  
**RECEIVED**  
25-08-2025  
**APPROVAL REF**  
**A006738631**

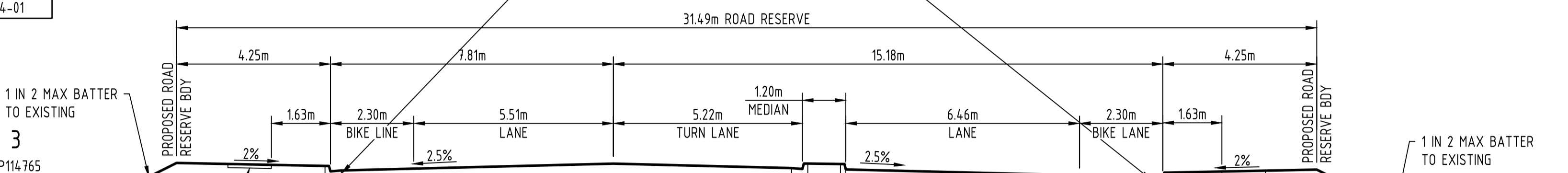
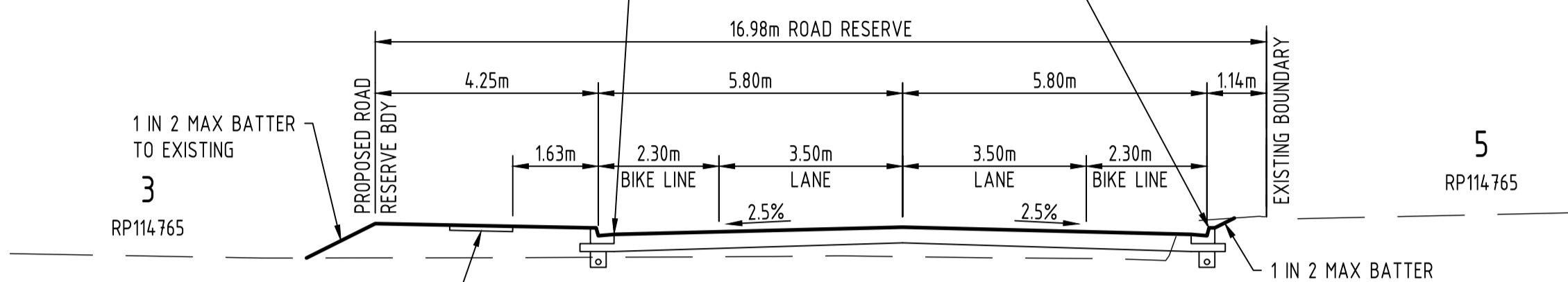
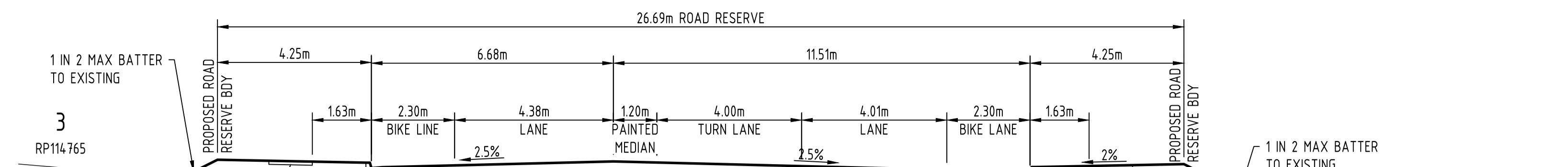
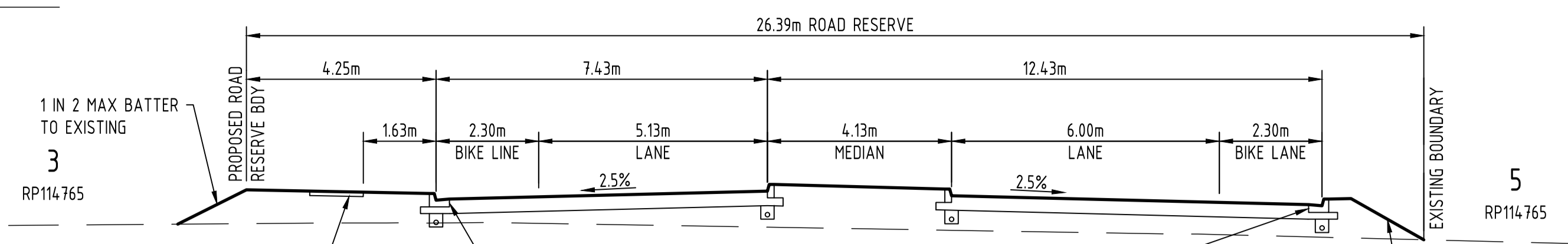


Client: PARTNERS IN PROPERTY QLD PTY LTD  
Project Name: 202-210 GARDNER ROAD, ROCHEDALE, QLD, 4123

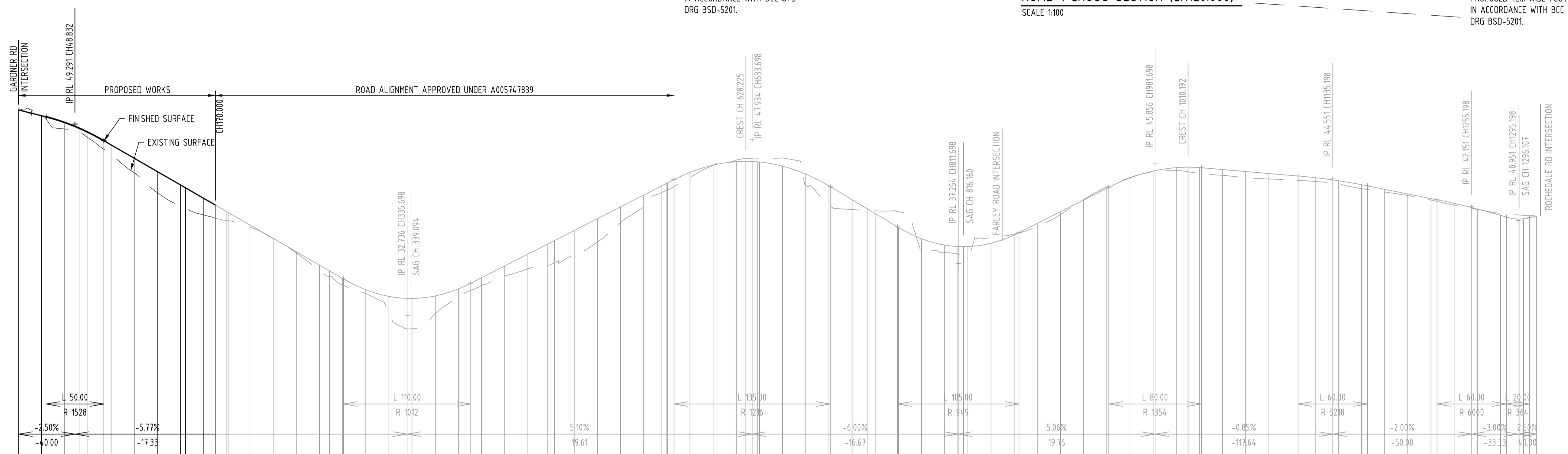
Discipline	Status	Title
CIVIL	PRELIMINARY	PRELIMINARY ROADWORK LAYOUT PLAN
Designed By: LDV	Checked By: ML	Approved By: ML
Project No: 27292	Drawn By: LDV	Scale at A1: 1:500

Rev	Date	Description
04		

Drawing No: DA02



\* LANE WIDTHS VARY TO BE IN ACCORDANCE WITH TTM INTERIM LAYOUT PLAN Z3BR10408-SK 4-01



ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN

Vertical Curve Length (m)  
Vertical Curve Radius (m)  
Vertical Grade (%)  
Vertical Grade (1 in ...)

DATUM RL17.000

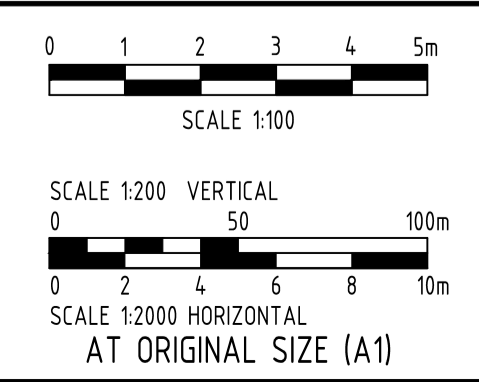
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0.000	50.611	50.512	-0.098
20.000	50.261	50.012	-0.249
23.832	49.730	49.516	0.214
40.000	48.866	49.071	0.205
48.808	48.087	48.729	0.641
53.055	48.518	48.907	0.389
60.000	48.118	48.584	0.466
73.832	47.109	47.849	0.740
80.000	46.683	47.093	0.410
100.000	45.081	46.338	1.257
120.000	43.358	45.184	1.826
140.000	42.107	44.030	1.923
144.234	41.997	43.184	1.188
160.000	41.432	42.876	1.443
170.000	41.159	42.299	1.140
180.000	40.957	41.721	0.764
181.092	40.944	41.658	0.714
200.000	40.373	40.567	0.194
220.000	39.440	39.413	-0.027
240.000	38.158	38.259	0.101
260.000	36.599	37.104	0.506
268.613	36.127	36.607	0.480
280.000	35.393	36.950	0.558
280.698	35.363	35.910	0.547
300.000	34.642	34.980	0.338
320.000	32.973	34.405	1.432
335.698	31.585	34.230	2.646
339.094	31.598	34.225	2.627
340.000	34.025	2.623	
360.000	32.879	34.441	1.562
380.000	34.425	35.052	0.627
390.698	34.914	35.541	0.626
400.000	35.341	36.015	0.674
420.000	36.153	37.035	0.882
440.000	36.795	38.055	1.260
454.716	37.000	38.900	1.897
459.000	37.050	38.935	1.885
463.922	37.310	39.276	1.966
480.000	38.051	40.095	2.044
500.000	39.092	41.115	2.023
520.000	40.767	42.135	1.368
540.000	42.136	43.155	1.019
555.715	43.384	43.956	0.572
560.000	43.555	44.735	1.180
560.689	43.586	44.700	1.114
566.198	43.896	44.691	0.795
580.000	44.661	45.117	0.455
600.000	45.731	45.145	0.414
613.744	46.026	45.987	-0.039
620.000	46.184	46.045	-0.139
626.225	46.328	46.073	-0.255
633.698	46.303	46.160	-0.243
638.192	46.279	46.032	-0.247
640.000	46.285	46.016	-0.269
660.000	46.363	45.858	-0.705
680.000	44.995	44.971	0.024
700.000	42.331	43.955	1.624
701.198	42.231	43.884	1.652
720.000	41.993	42.155	0.853
733.068	41.829	41.971	0.142
740.000	41.796	41.555	-0.241
759.198	41.740	40.404	-1.336
760.000	41.722	40.356	-1.366
780.000	38.296	39.383	1.087
800.000	38.193	38.832	0.640
811.404	38.038	38.707	0.669
811.698	38.047	38.705	0.658
816.160	37.962	38.695	0.733
820.000	37.873	38.103	0.830
840.000	39.477	38.994	-0.483
860.000	39.793	39.707	-0.086
864.198	39.897	39.910	0.013
880.000	40.430	40.710	0.280
900.000	41.172	41.722	0.250
920.000	42.769	42.734	-0.036
940.000	43.856	43.746	-0.110
941.698	43.941	43.832	-0.109
960.000	44.666	44.634	-0.032
980.000	45.172	45.228	0.056
981.698	45.193	45.265	0.067
1000.000	45.275	45.226	-0.049
1000.192	45.170	45.564	0.394
1020.000	45.040	45.529	0.489
1021.698	45.016	45.516	0.497
1040.000	44.863	45.360	0.497
1060.000	44.654	45.190	0.536
1080.000	44.544	45.020	0.476
1100.000	44.455	44.850	0.395
1105.198	44.476	44.808	0.379
1120.000	44.331	44.653	0.328
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1140.000	44.110	44.394	0.284
1160.000	43.712	44.052	0.340
1165.198	43.623	43.951	0.318
1180.000	43.414	43.655	0.241
1200.000	43.114	43.255	0.141
1220.000	42.725	42.855	0.130
1225.198	42.612	42.751	0.139
1240.000	42.291	42.437	0.145
1255.198	42.008	42.076	0.067
1260.000	41.918	41.954	0.036
1280.000	41.572	41.404	-0.167
1285.198	41.473	41.268	-0.205
1296.000	41.347	41.087	-0.247
1300.000	41.404	41.100	-0.296
1305.198	41.201	41.128	-0.178
1311.228	41.352	41.352	0.000

ROAD 1 - LONGITUDINAL SECTION  
SCALE HORIZONTAL 1:2000  
VERTICAL 1:200

**PRELIMINARY**  
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

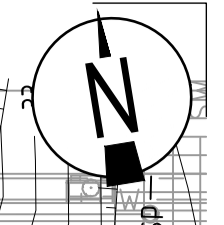
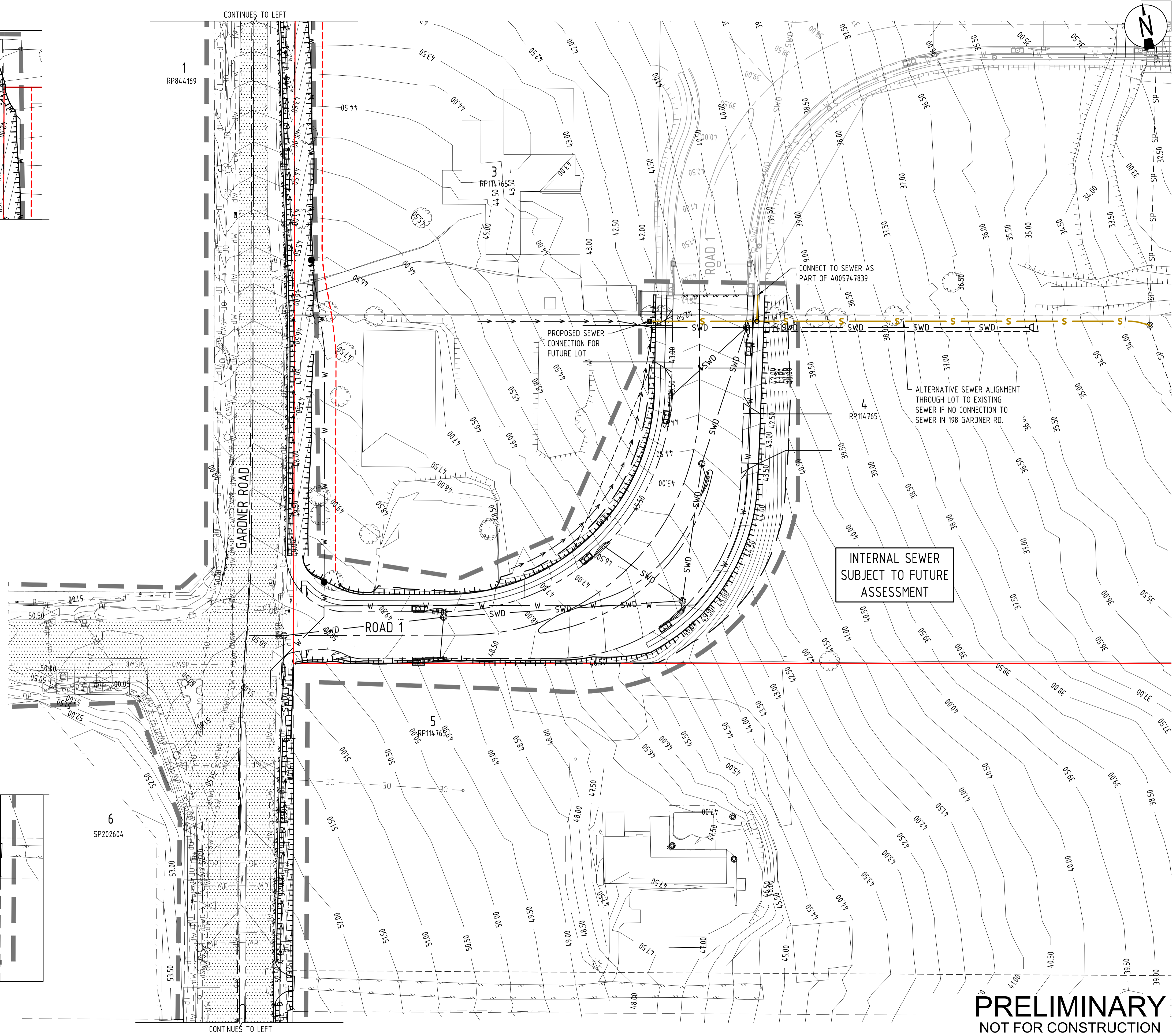
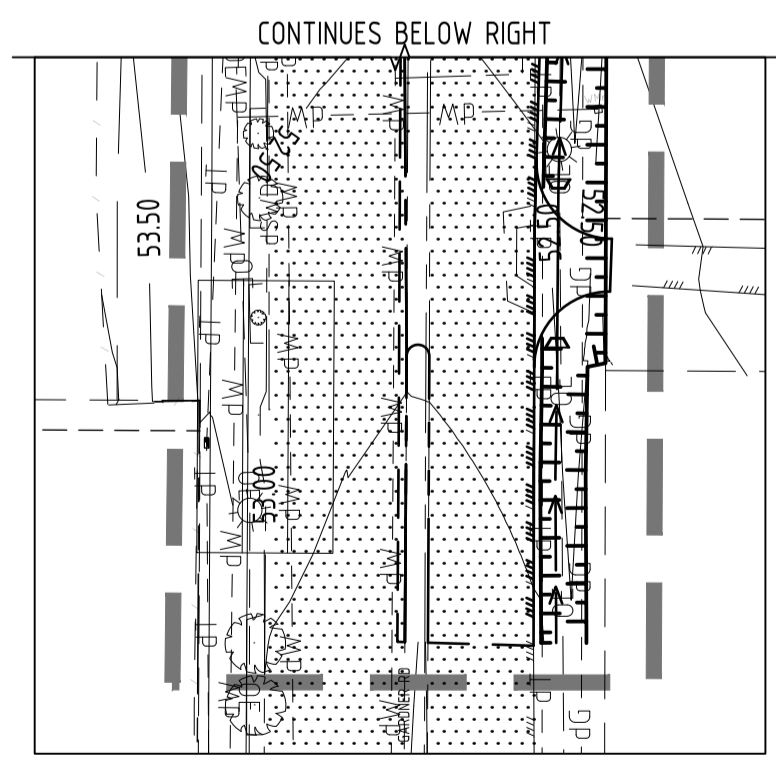
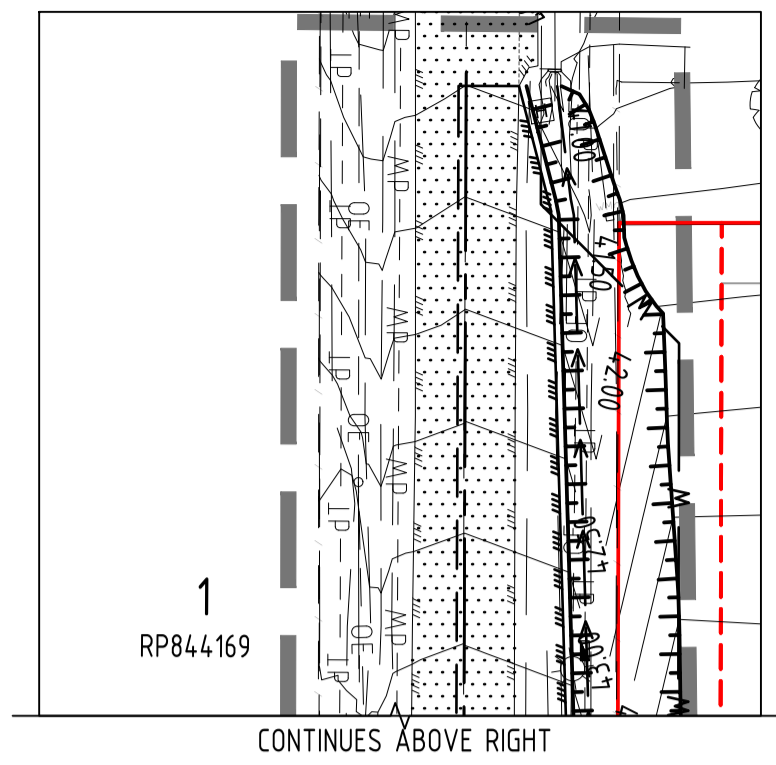
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25-08-2025  
**APPLICATION REF**  
A006738631



Client <b>PARTNERS IN PROPERTY QLD PTY LTD</b>	Discipline <b>CIVIL</b>	Status <b>PRELIMINARY</b>	Title <b>PRELIMINARY ROAD 1 LONGITUDINAL AND TYPICAL CROSS SECTION</b>
Project Name <b>202-210 GARDNER ROAD ROCHEDALE, QLD, 4123</b>	Designed By <b>LDV</b>	Checked By <b>ML</b>	Approved By <b>ML</b>
Project No. <b>27292</b>	Drawn By <b>LDV</b>	Scale at A1 <b>AS SHOWN</b>	Drawing No. <b>DA03</b>
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**LEGEND**

- 12.0 FINISHED SURFACE CONTOURS
- SITE BOUNDARY
- - - PROPOSED ROAD RESUMPTION LINE
- - - EXISTING PROPERTY BOUNDARY
- - - EXISTING EASEMENT BOUNDARY
- - - EXISTING NOMINAL KERB LINE
- - - EXISTING EDGE OF BITUMEN
- - - EXISTING ROAD CENTERLINE
- - - EXISTING EDGE OF BUILDING
- - - EXISTING STORMWATER DRAINAGE
- - - EXISTING SEWER (RECORDS)
- - - EXISTING TELECOMMUNICATIONS (RECORDS)
- - - EXISTING WATER (RECORDS)
- x x x x x ABANDONED SERVICE
- EXISTING BATTER
- EXISTING FENCE
- LIMIT OF WORKS
- SWD PROPOSED STORMWATER DRAINAGE
- SWD PREVIOUS STAGE STORMWATER DRAINAGE
- S PROPOSED SEWER MAIN
- S PREVIOUS STAGE SEWER MAIN
- W PROPOSED WATER MAIN
- W PREVIOUS STAGE WATER MAIN
- PROPOSED NOMINAL KERB LINE
- PREVIOUS STAGE NOMINAL KERB LINE
- PROPOSED ROAD CENTRE LINE
- PREVIOUS STAGE ROAD CENTRE LINE
- PROPOSED EASEMENTS

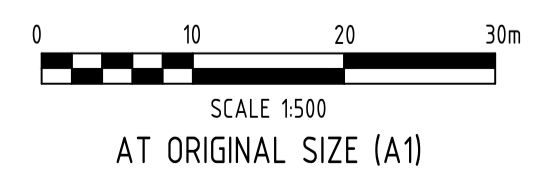


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**PRELIMINARY**  
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
03	01.07.25	PRELIMINARY - ISSUED FOR RFI RESPONSE	PP	ML
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25-08-2025  
**APPLICATION REF**  
A006738631



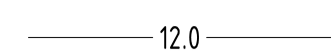

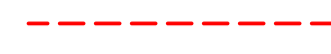

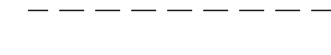



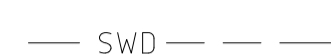

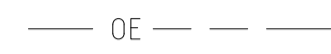

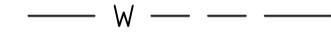
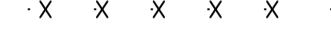
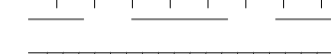




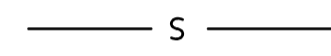
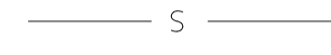





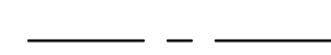

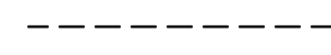




Client  
PARTNERS IN PROPERTY QLD PTY LTD  
Project Name  
202-210 GARDNER ROAD  
ROCHEDALE, QLD, 4123

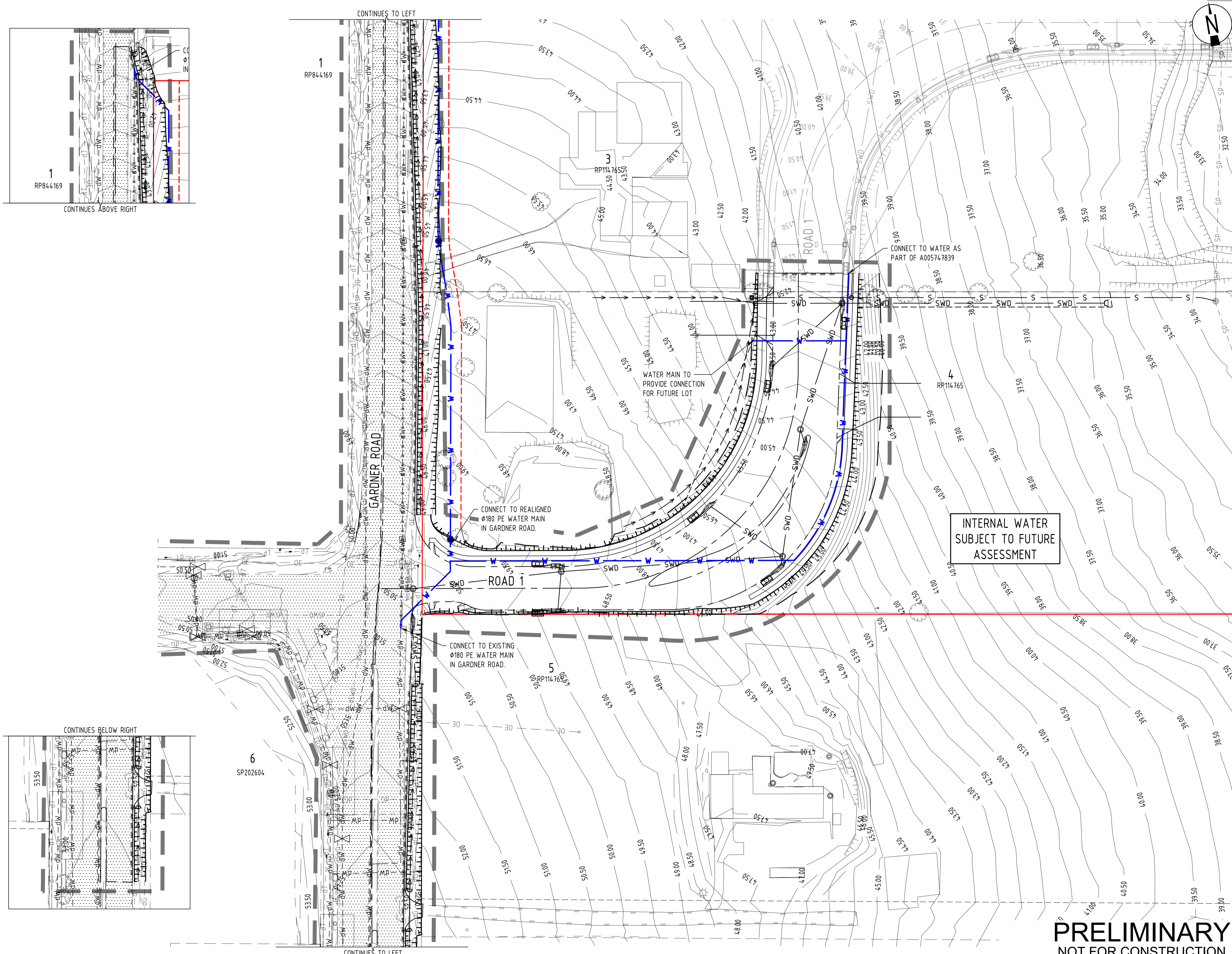
Discipline	Checked By	Status
CIVIL	ML	PRELIMINARY
Designed By	Checked By	Approved By
LDV	ML	ML
Project No.	Drawn By	Scale at A1
27292	LDV	1:500

Title  
PRELIMINARY SEWER RETICULATION LAYOUT PLAN

Drawing No.  
DA04  
Revision  
03

**LEGEND**

-  FINISHED SURFACE CONTOURS
-  SITE BOUNDARY
-  PROPOSED ROAD RESUMPTION LINE
-  EXISTING PROPERTY BOUNDARY
-  EXISTING EASEMENT BOUNDARY
-  EXISTING NOMINAL KERB LINE
-  EXISTING EDGE OF BITUMEN
-  EXISTING ROAD CENTERLINE
-  EXISTING EDGE OF BUILDING
-  EXISTING STORMWATER DRAINAGE
-  EXISTING SEWER
-  EXISTING OVERHEAD ELECTRICITY
-  EXISTING TELECOMMUNICATIONS
-  EXISTING WATER
-  ABANDONED SERVICE
-  EXISTING BATTER
-  EXISTING RETAINING WALL
-  EXISTING FENCE
-  LIMIT OF WORKS
-  PROPOSED STORMWATER DRAINAGE
-  PREVIOUS STAGE STORMWATER DRAINAGE
-  PROPOSED SEWER
-  PREVIOUS STAGE SEWER MAIN
-  PROPOSED WATER MAIN
-  PROPOSED FIRE HYDRANT
-  PROPOSED SLUICE VALVE
-  PREVIOUS STAGE WATER MAIN
-  PROPOSED NOMINAL KERB LINE
-  PREVIOUS STAGE NOMINAL KERB LINE
-  PROPOSED ROAD CENTRE LINE
-  PREVIOUS STAGE ROAD CENTRE LINE
-  PROPOSED EASEMENTS
-  EXISTING ROAD

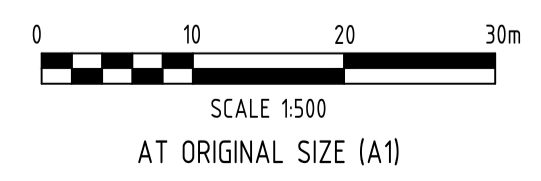


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**PRELIMINARY**  
NOT FOR CONSTRUCTION

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25-08-2025  
**APPLICATION REF**  
A006738631



Client: PARTNERS IN PROPERTY QLD PTY LTD  
Project Name: 202-210 GARDNER ROAD  
ROCHEDALE, QLD, 4123

Discipline: CIVIL	Status: PRELIMINARY
Designed By: LDV	Checked By: ML
Project No: 27292	Drawn By: LDV
Approved By: ML	Scale at A1: 1:500

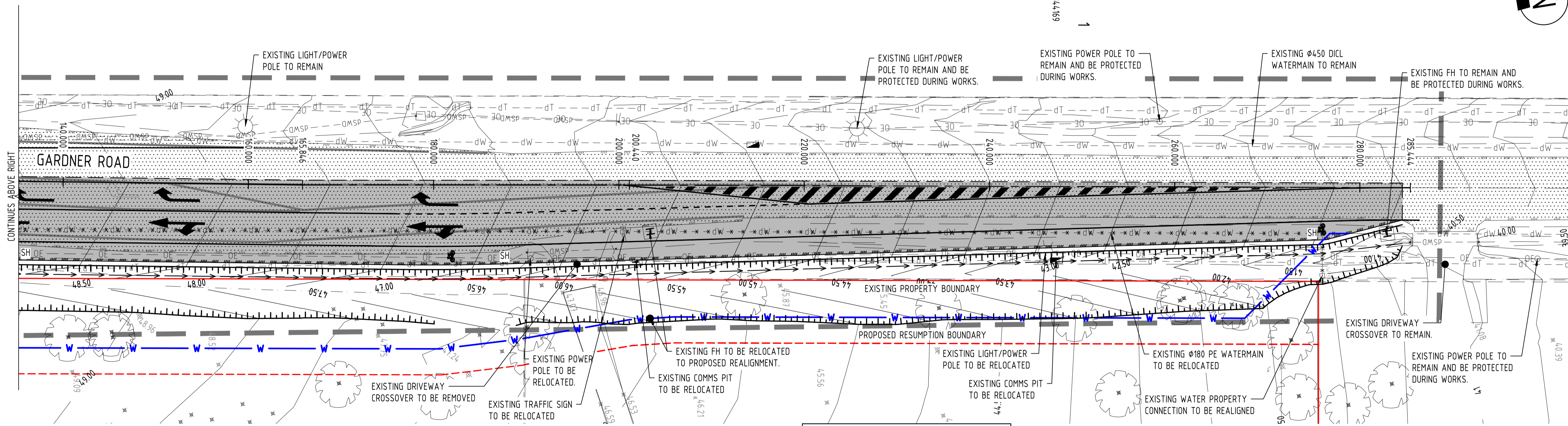
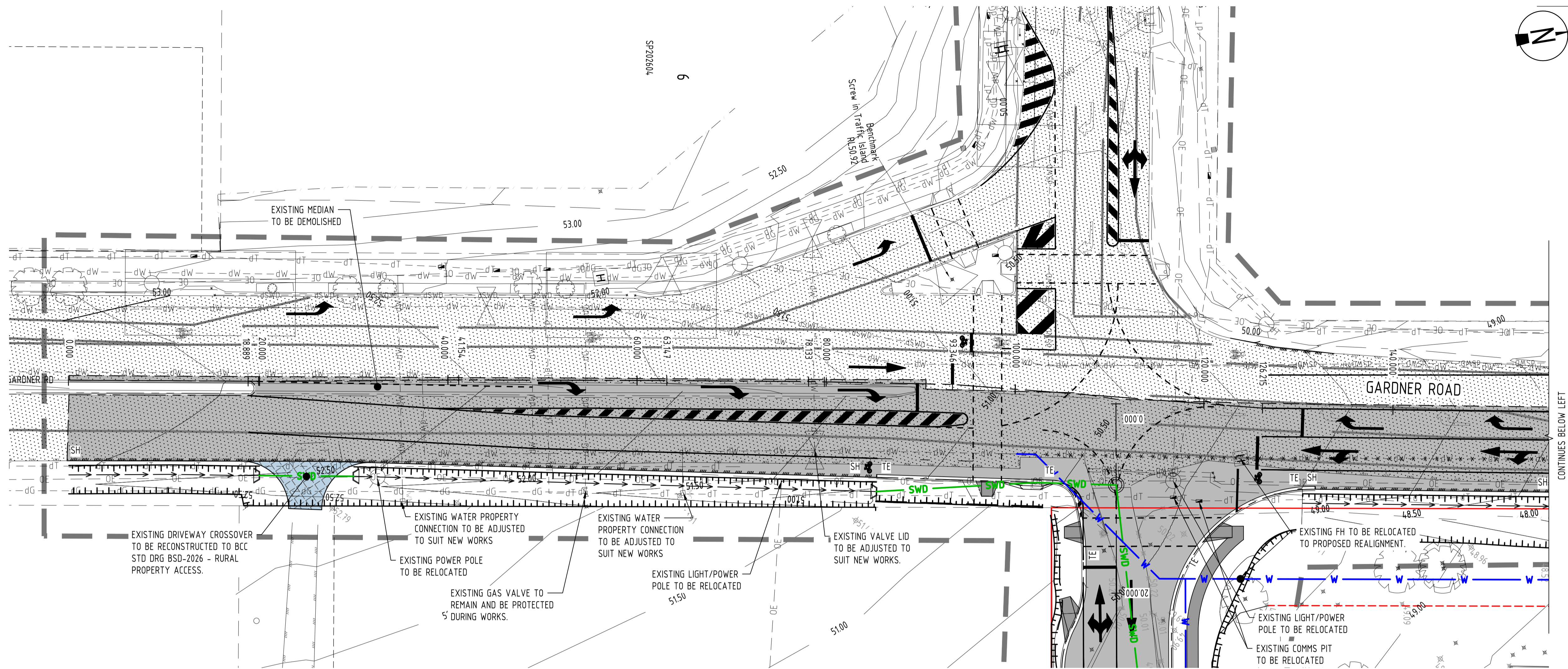
Title: PRELIMINARY WATER RETICULATION LAYOUT PLAN

Drawing No: DA05  
Revision: 03

**LEGEND**

- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN
- EXISTING ROAD CENTERLINE
- EXISTING BATTER
- EXISTING FENCE
- LIMIT OF WORKS
- PROPOSED PROPERTY BOUNDARY
- PROPOSED ROAD RESUMPTION LINE
- PROPOSED ROAD CENTRE LINE
- EXISTING ROAD
- PROPOSED 1.2m WIDE FOOTPATH IN ACCORDANCE WITH BCC STD DRG BSD-5201
- PROPOSED ROAD PAVEMENT
- PROPOSED DRIVEWAY CROSSOVER
- PROPOSED RURAL DRIVEWAY CROSSOVER
- PROPOSED 'TYPE E' BARRIER KERB AND CHANNEL IN ACCORDANCE WITH BCC STD DRG BSD-2001
- PROPOSED EDGE OF SHOULDER
- PROPOSED STORMWATER DRAINAGE
- PROPOSED WATERMAIN ALIGNMENT SUBJECT TO UU APPROVAL

**NOTES**  
REFER ALSO FUNCTIONAL LAYOUT PLAN BY TTM DRG 23BRT0408-SK 4-01 REV B



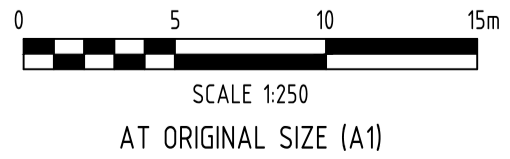
ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN

**NOTE:**  
ALL EXISTING SERVICES LOCATED WITHIN PROPOSED PAVEMENT WIDENING TO BE RELOCATED AS REQUIRED AS DIRECTED BY SERVICES AUTHORITIES.

**PRELIMINARY**  
NOT FOR CONSTRUCTION

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03	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	PP	ML
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

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25-08-2025  
**APPLICATION REF**  
A006738631



Client: PARTNERS IN PROPERTY QLD PTY LTD  
Project Name: 202-210 GARDNER ROAD ROCHEDALE, QLD, 4123

Discipline: CIVIL	Status: PRELIMINARY
Designed By: LDV	Checked By: ML
Project No: 27292	Drawn By: LDV
Approved By: ML	Scale at A1: 1:250

Title: GARDNER ROAD PRELIMINARY INTERSECTION LAYOUT PLAN  
Drawing No: DA06  
Revision: 04

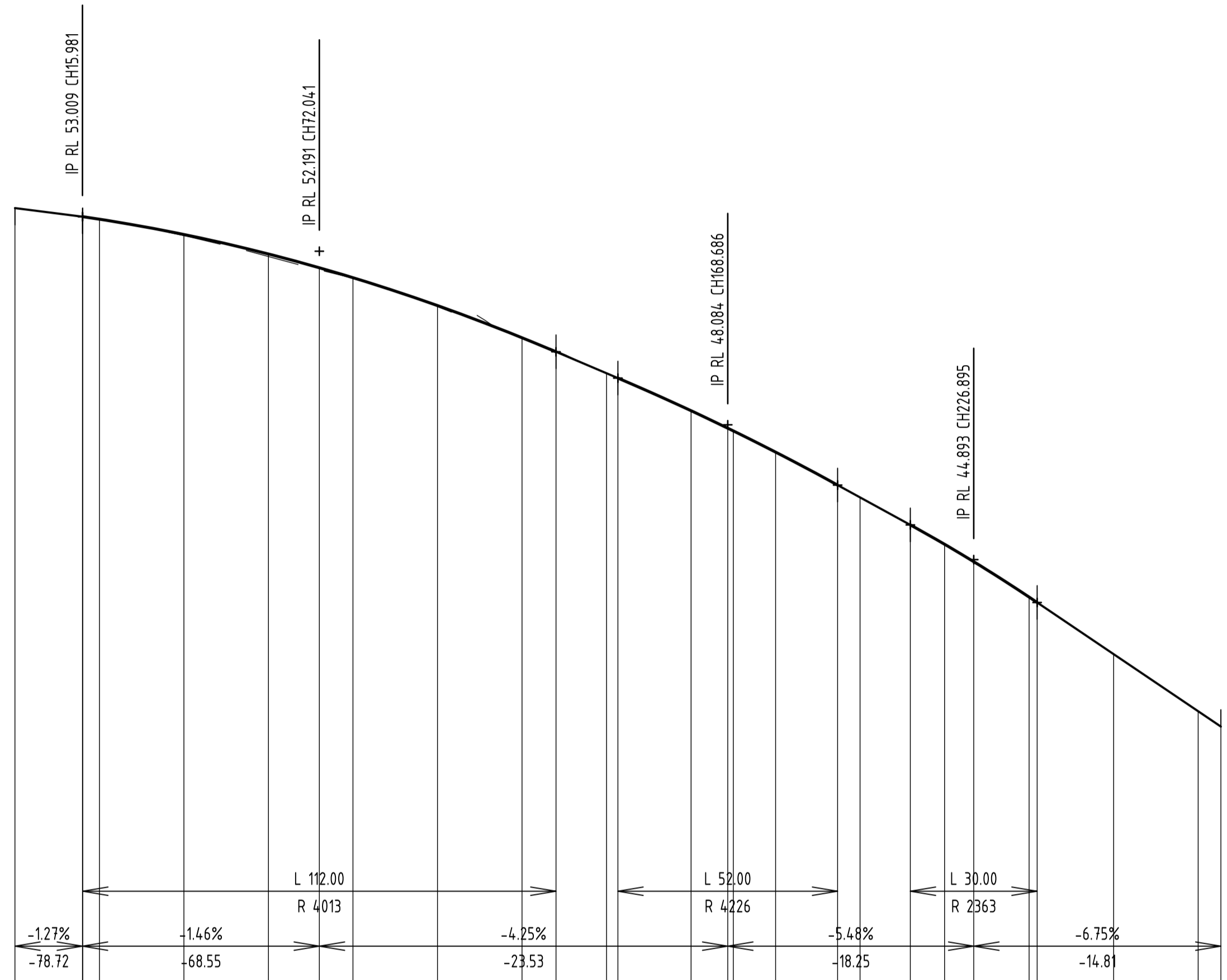
Vertical Curve Length (m)  
 Vertical Curve Radius (m)  
 Vertical Grade (%)  
 Vertical Grade (1 in ...)

DATUM RL33.000

CUT / FILL DEPTH	DESIGN LEVELS ON ROAD CL	EXISTING SURFACE ON ROAD CL	CHAINAGE
-0.000	53.212	53.212	0.000
0.001	53.009	53.008	15.981
0.001	53.008	53.007	16.041
0.004	52.948	52.944	20.000
0.029	52.587	52.558	40.000
0.061	52.126	52.064	60.000
0.051	51.800	51.749	72.041
0.013	51.565	51.552	80.000
0.025	50.905	50.879	100.000
0.004	50.145	50.141	120.000
-0.026	49.811	49.837	128.041
0.003	49.303	49.300	140.000
0.009	48.189	49.180	142.686
0.011	48.417	48.406	160.000
-0.003	48.004	48.007	168.686
-0.004	47.939	47.943	170.000
-0.020	47.438	47.458	180.000
0.003	46.659	46.656	194.686
0.003	46.367	46.364	200.000
0.004	45.716	45.712	211.895
-0.016	45.257	45.274	220.000
-0.001	44.846	44.847	226.895
-0.005	44.008	44.014	240.000
-0.006	43.881	43.887	241.895
0.006	42.653	42.653	260.000
-0.006	41.309	41.315	280.000
-0.004	40.945	40.949	285.383
	40.945	40.944	285.444

ROAD GARDNER RD - LONGITUDINAL SECTION

SCALE HORIZONTAL 1 : 1000  
 VERTICAL 1 : 100



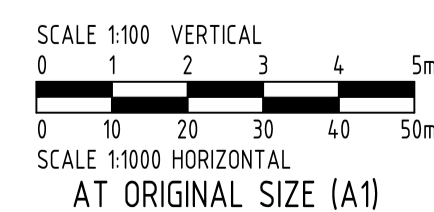
ALL DETAILS SHOWN ARE  
 SUBJECT TO FURTHER  
 DETAILED DESIGN

ALL DETAILS SHOWN ARE  
 SUBJECT TO FURTHER  
 DETAILED DESIGN

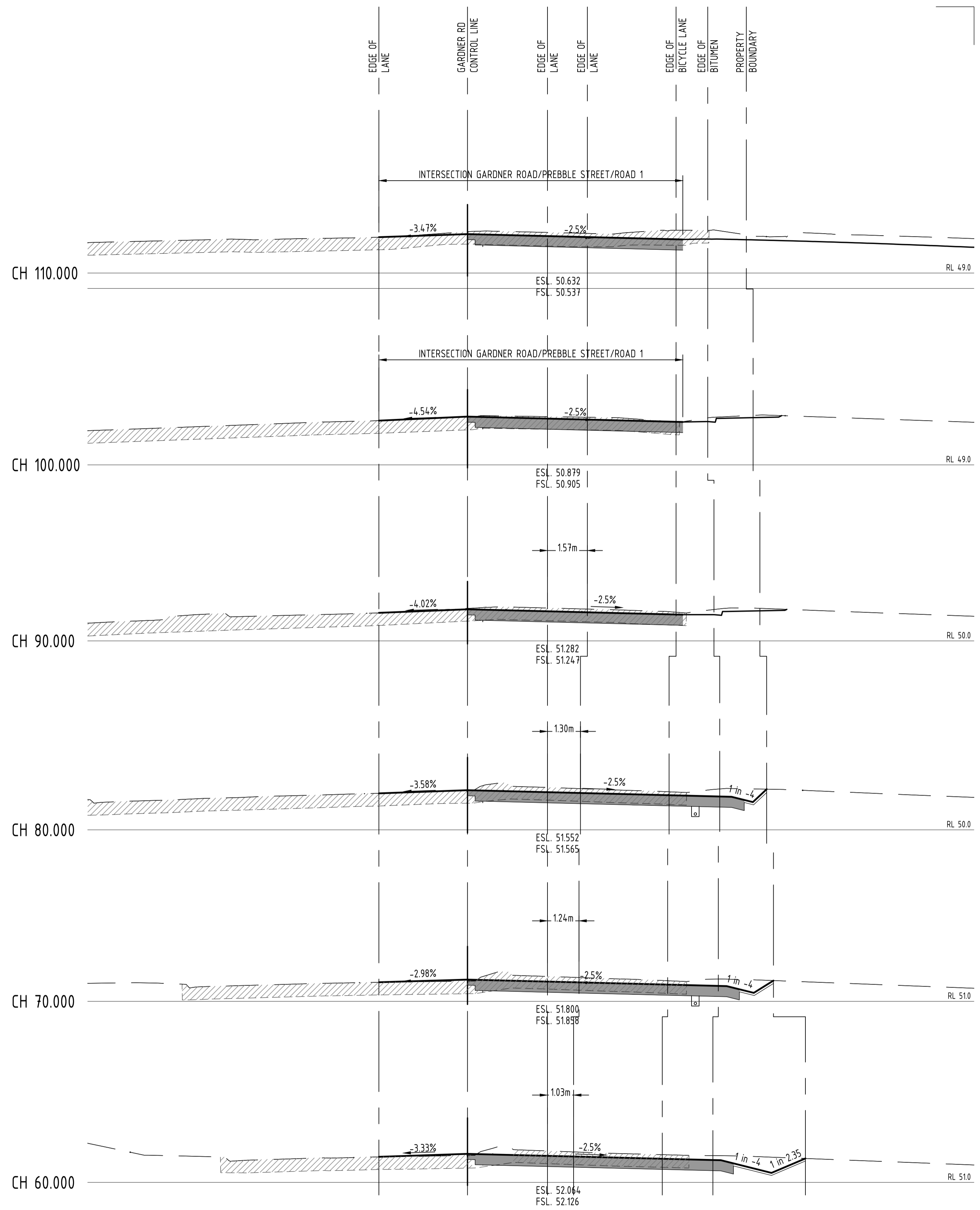
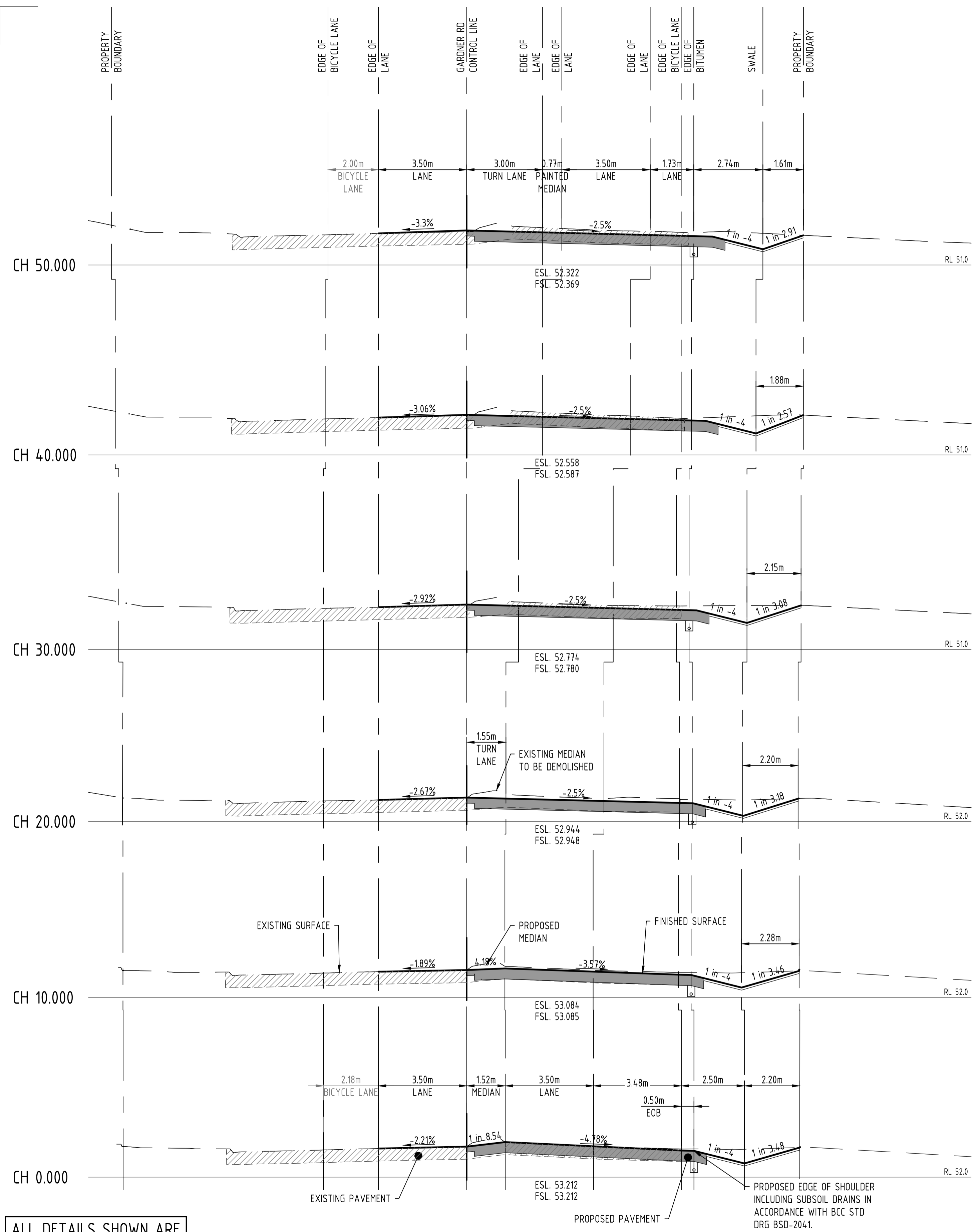
**PRELIMINARY**  
 NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

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**APPLICATION REF**  
 A006738631



Client PARTNERS IN PROPERTY QLD PTY LTD		Discipline CIVIL		Status PRELIMINARY		Title GARDNER ROAD PRELIMINARY LONGITUDINAL SECTION	
Project Name 202-210 GARDNER ROAD ROCHEDALE, QLD, 4123		Designed By LDV	Checked By ML	Approved By ML			
Project No. 27292		Drawn By LDV	Scale at A1 AS SHOWN		Drawing No. DA07		Revision 02
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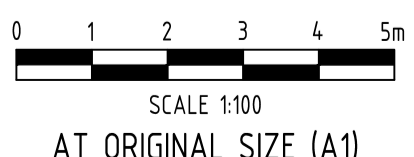
ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN

GARDNER ROAD CROSS SECTIONS  
SCALE 1:100

**PRELIMINARY**  
NOT FOR CONSTRUCTION

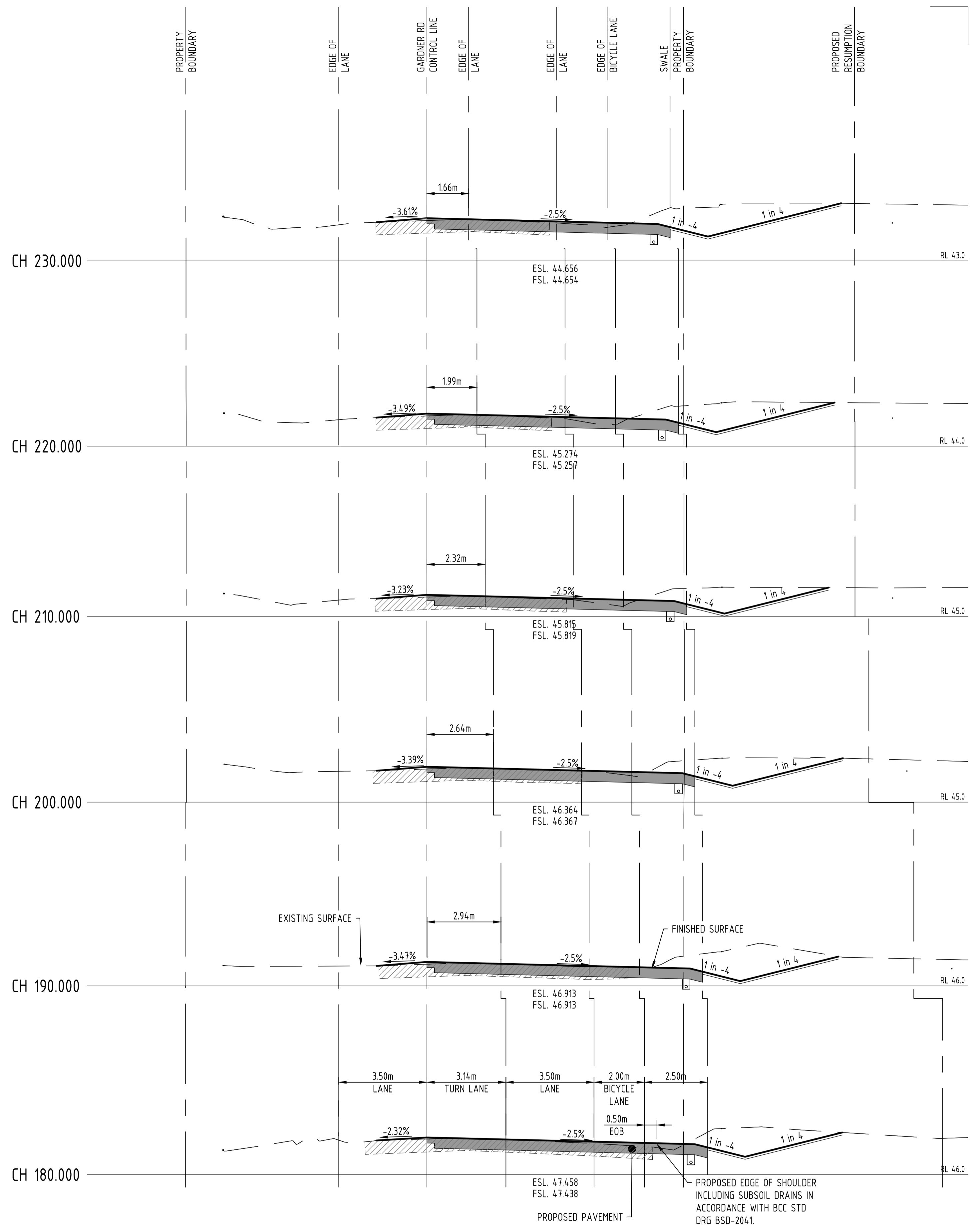
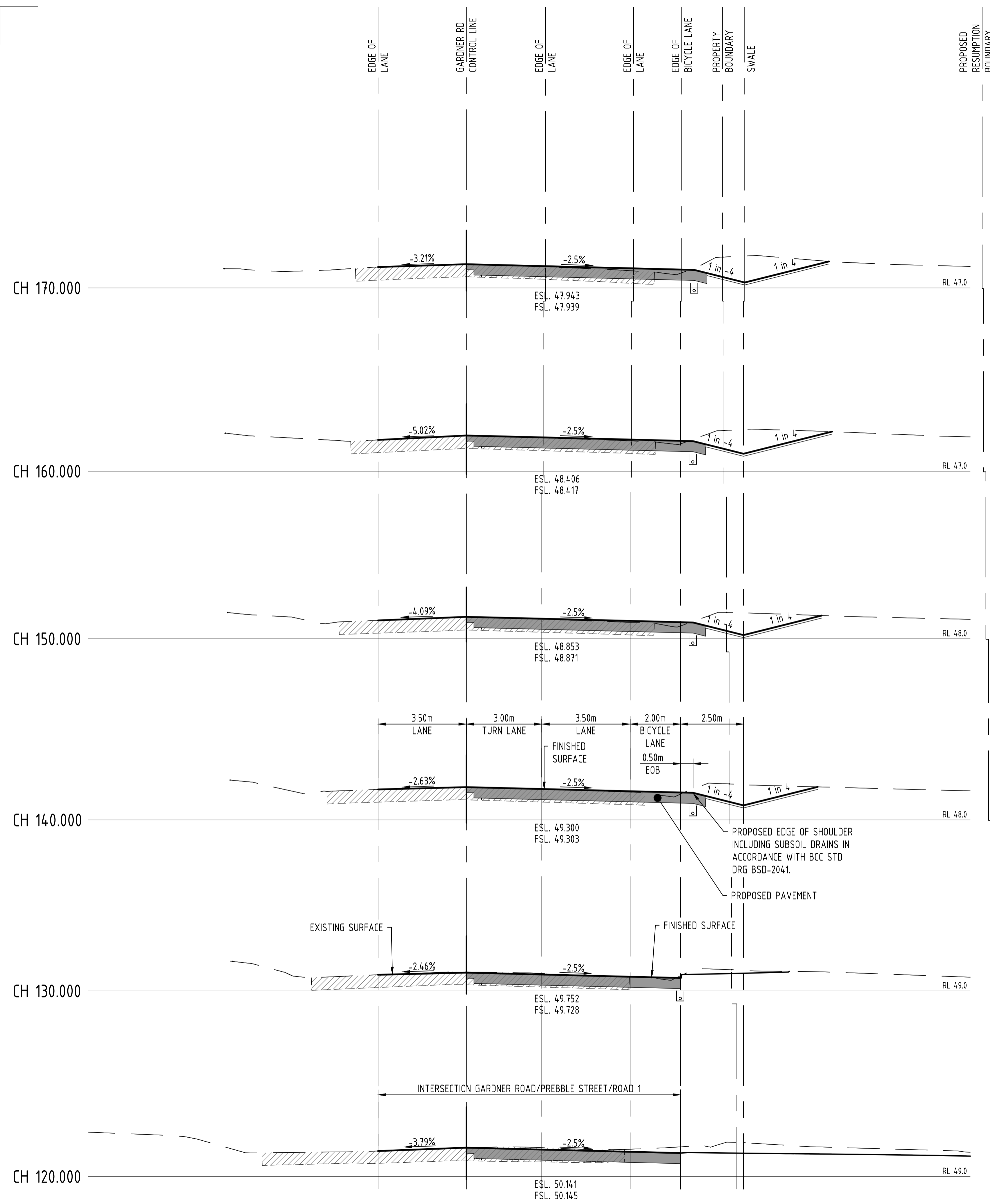
Rev	Date	Description	By	Chk
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

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**APPLICATION REF**  
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Client PARTNERS IN PROPERTY QLD PTY LTD	Discipline CIVIL	Status PRELIMINARY
Project Name 202-210 GARDNER ROAD ROCHEDALE, QLD, 4123	Designed By LDV	Checked By ML
	Project No. 27292	Drawn By LDV
		Approved By ML
		Scale at A1 1:100

Title GARDNER ROAD PRELIMINARY CROSS SECTIONS SHEET 1 OF 3		Revision 02
Drawing No. DA08		



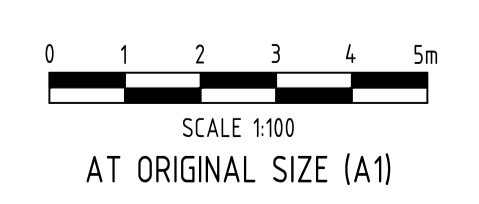
ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN

GARDNER ROAD CROSS SECTIONS  
SCALE 1:100

**PRELIMINARY**  
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

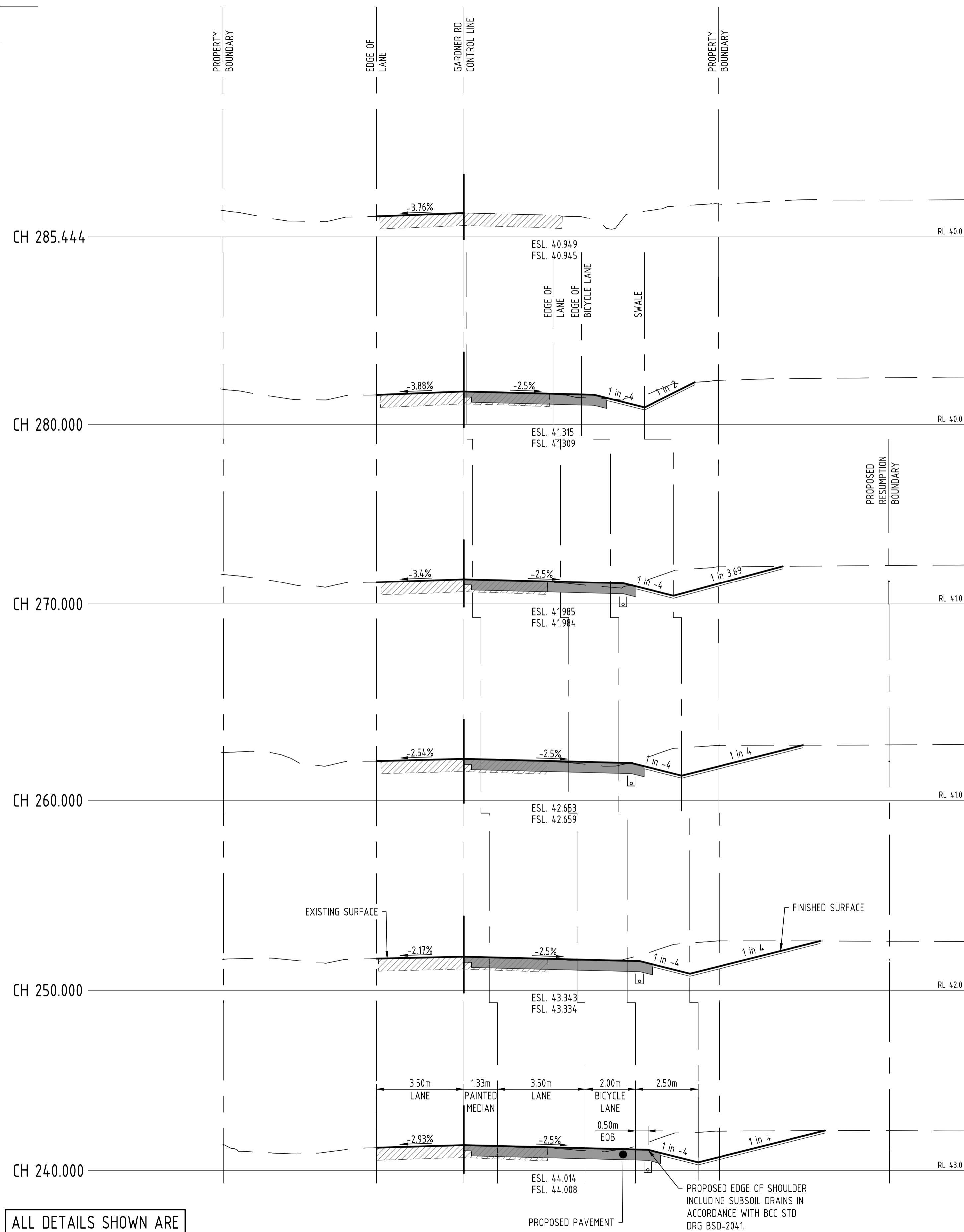
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**APPLICATION REF**  
A006738631



Client PARTNERS IN PROPERTY QLD PTY LTD	Discipline CIVIL	Status PRELIMINARY
Project Name 202-210 GARDNER ROAD ROCHEDALE, QLD, 4123	Designed By LDV	Checked By ML
	Project No. 27292	Drawn By LDV
		Approved By ML
		Scale at A1 1:100

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Title GARDNER ROAD PRELIMINARY CROSS SECTIONS SHEET 2 OF 3	Drawing No. DA09	Revision 02
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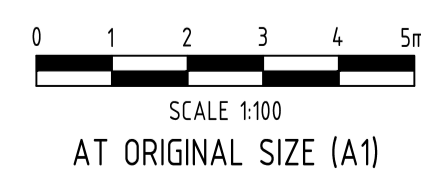
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**GARDNER ROAD CROSS SECTIONS**  
SCALE 1:100

**PRELIMINARY**  
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
02	18.03.25	PRELIMINARY - ISSUED FOR INFORMATION	CM	ML
01	27.08.24	PRELIMINARY - ISSUED FOR INFORMATION	LDV	ML

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A006738631**



Client PARTNERS IN PROPERTY QLD PTY LTD		Discipline CIVIL	Status PRELIMINARY	Title GARDNER ROAD PRELIMINARY CROSS SECTIONS SHEET 3 OF 3	
Project Name 202-210 GARDNER ROAD ROCHEDALE, QLD, 4123		Designed By LDV	Checked By ML	Approved By ML	Scale at A1 1:100
		Project No. 27292	Drawn By LDV		
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					Revision 02

**LEGEND**

- SITE BOUNDARY
- PROPOSED ROAD RESUMPTION LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN
- EXISTING ROAD CENTERLINE
- SWD EXISTING STORMWATER DRAINAGE
- dS EXISTING SEWER (RECORDS)
- dW EXISTING WATER (RECORDS)
- OE EXISTING OVERHEAD ELECTRICITY
- dT EXISTING TELECOMMUNICATIONS (RECORDS)
- x x x x x ABANDONED SERVICE
- EXISTING BATTER
- EXISTING FENCE
- LIMIT OF WORKS
- SWD PROPOSED STORMWATER DRAINAGE
- S PREVIOUS STAGE STORMWATER DRAINAGE
- S PROPOSED SEWER MAIN
- S PREVIOUS STAGE SEWER
- W PROPOSED WATER
- W PREVIOUS STAGE WATER
- PROPOSED ROAD CENTRE LINE
- PREVIOUS STAGE ROAD CENTRE LINE
- EXISTING ROAD
- PROPOSED EASEMENTS
- TE PROPOSED 'TYPE E' BARRIER KERB AND CHANNEL IN ACCORDANCE WITH BCC STD DRG BSD-2001
- TEK PROPOSED 'TYPE E' BARRIER KERB ONLY IN ACCORDANCE WITH BCC STD DRG BSD-2001
- SH PROPOSED EDGE OF SHOULDER
- PROPOSED TEMPORARY SWALE
- PROPOSED ULTIMATE 12m WIDE FOOTPATH IN ACCORDANCE WITH BCC STD DRG BSD-5201 (CONSTRUCTED AS PART OF PROPOSED DEVELOPMENT)
- PROPOSED ULTIMATE ROAD PAVEMENT (CONSTRUCTED AS PART OF PROPOSED DEVELOPMENT)
- PROPOSED DRIVEWAY CROSSOVER
- PROPOSED RURAL DRIVEWAY CROSSOVER
- PROPOSED 1% AEP FLOOD LINE
- PROPOSED INTERIM KERB ALIGNMENT (SACRIFICIAL WORKS)
- PROPOSED ULTIMATE KERB ALIGNMENT
- PROPOSED INTERIM ROAD PAVEMENT (SACRIFICIAL WORKS)
- PROPOSED INTERIM KERB RAMP (SACRIFICIAL WORKS)
- PROPOSED ULTIMATE 12m WIDE FOOTPATH
- PROPOSED ULTIMATE ROAD PAVEMENT (FUTURE CONSTRUCTION)

**INTERSECTION INTERIM SACRIFICIAL WORKS SCHEDULE (ROC-RC-004)**

ITEM	TYPE	LENGTH/AREA
KERB	TYPE 'E' KERB AND CHANNEL	36.4m

**ROAD INTERIM SACRIFICIAL WORKS SCHEDULE (ROC-RC-046)**

ITEM	TYPE	LENGTH/AREA
KERB	TYPE 'E' KERB AND CHANNEL	87.0m
KERB	TYPE 'E' KERB ONLY	22.3m
ASPHALT WEARING SURFACE	TBC	156.1m <sup>2</sup>
GULLY PIT	TYPE 'A' KERB IN LINE SMALL	1
KERB RAMP	STANDARD	11.8m <sup>2</sup>

**GARDNER ROAD (NORTH) SACRIFICIAL WORKS SCHEDULE (ROC-RC-047)**

ITEM	TYPE	LENGTH/AREA
KERB	TYPE 'E' KERB AND CHANNEL	4.7m
ASPHALT WEARING SURFACE	TBC	389.1m <sup>2</sup>

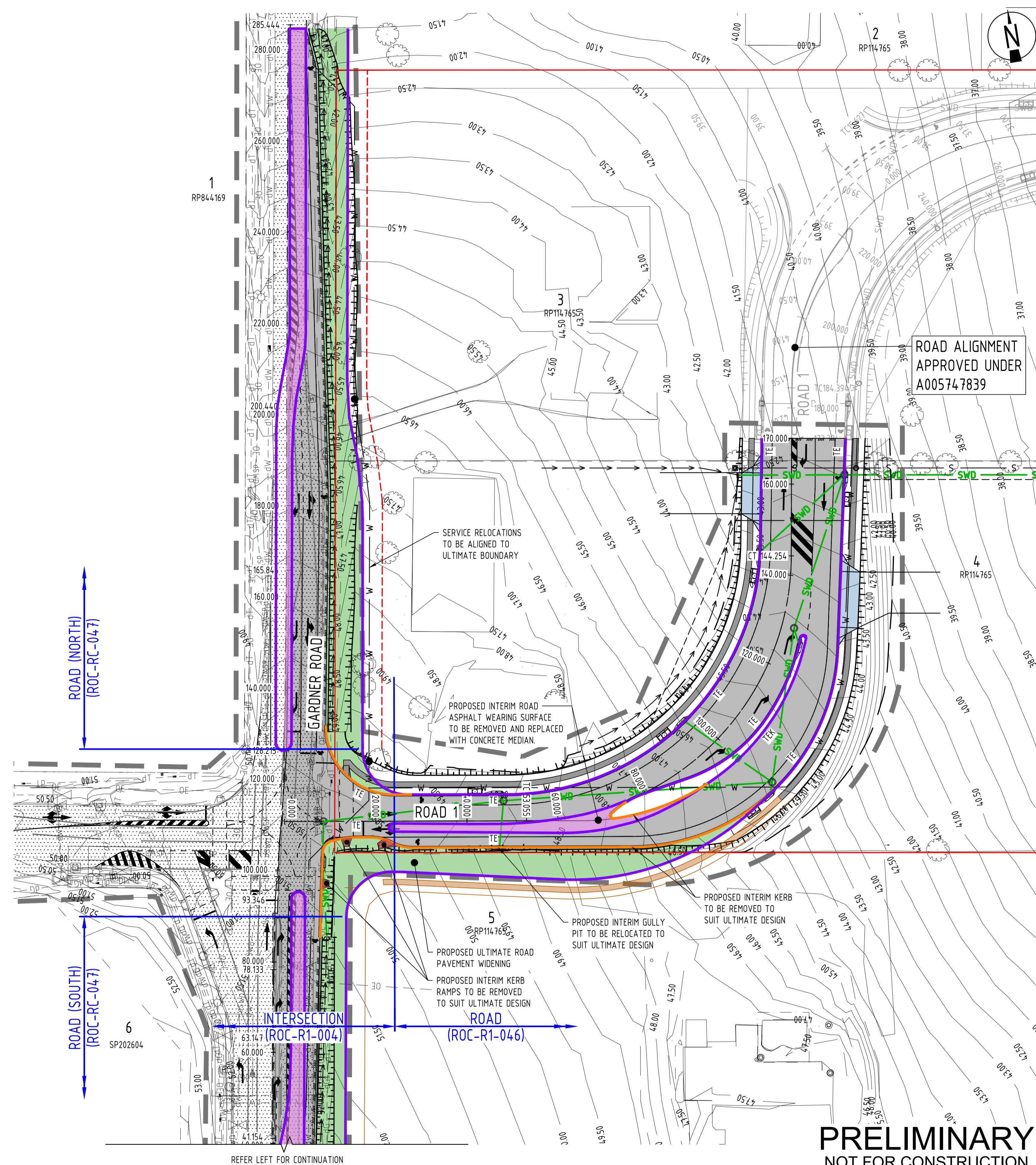
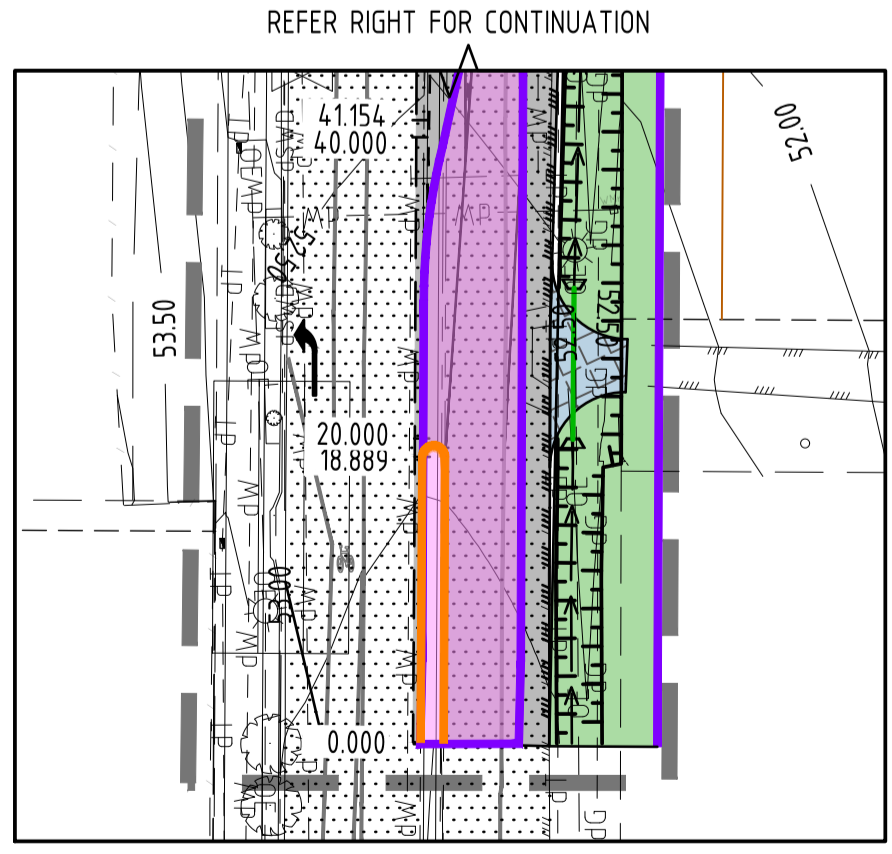
**GARDNER ROAD (SOUTH) SACRIFICIAL WORKS SCHEDULE (ROC-RC-047)**

ITEM	TYPE	LENGTH/AREA
KERB	TYPE 'E' KERB AND CHANNEL	5.3m
KERB	TYPE 'E' KERB ONLY	40.2m
ASPHALT WEARING SURFACE	TBC	434.4m <sup>2</sup>

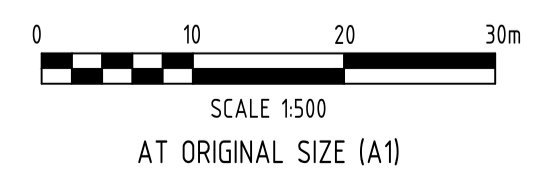
**NOTES**

1. FOR ROADWORKS LONGITUDINAL SECTIONS REFER DRG No. DA03.
2. FOR ROADWORKS AND DRAINAGE TYPICAL CROSS SECTION REFER DRG No. DA03.

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Client: PARTNERS IN PROPERTY QLD PTY LTD  
Project Name: 202-210 GARDNER ROAD  
ROCHEDALE, QLD, 4123

Discipline: CIVIL  
Status: PRELIMINARY  
Designed By: LDV  
Checked By: ML  
Approved By: ML  
Project No: 27292  
Drawn By: CM  
Scale at A1: 1:500

Title: PROPOSED ROADWORKS SACRIFICIAL WORKS LAYOUT PLAN  
Drawing No: DA12  
Revision: 02

**LEGEND**

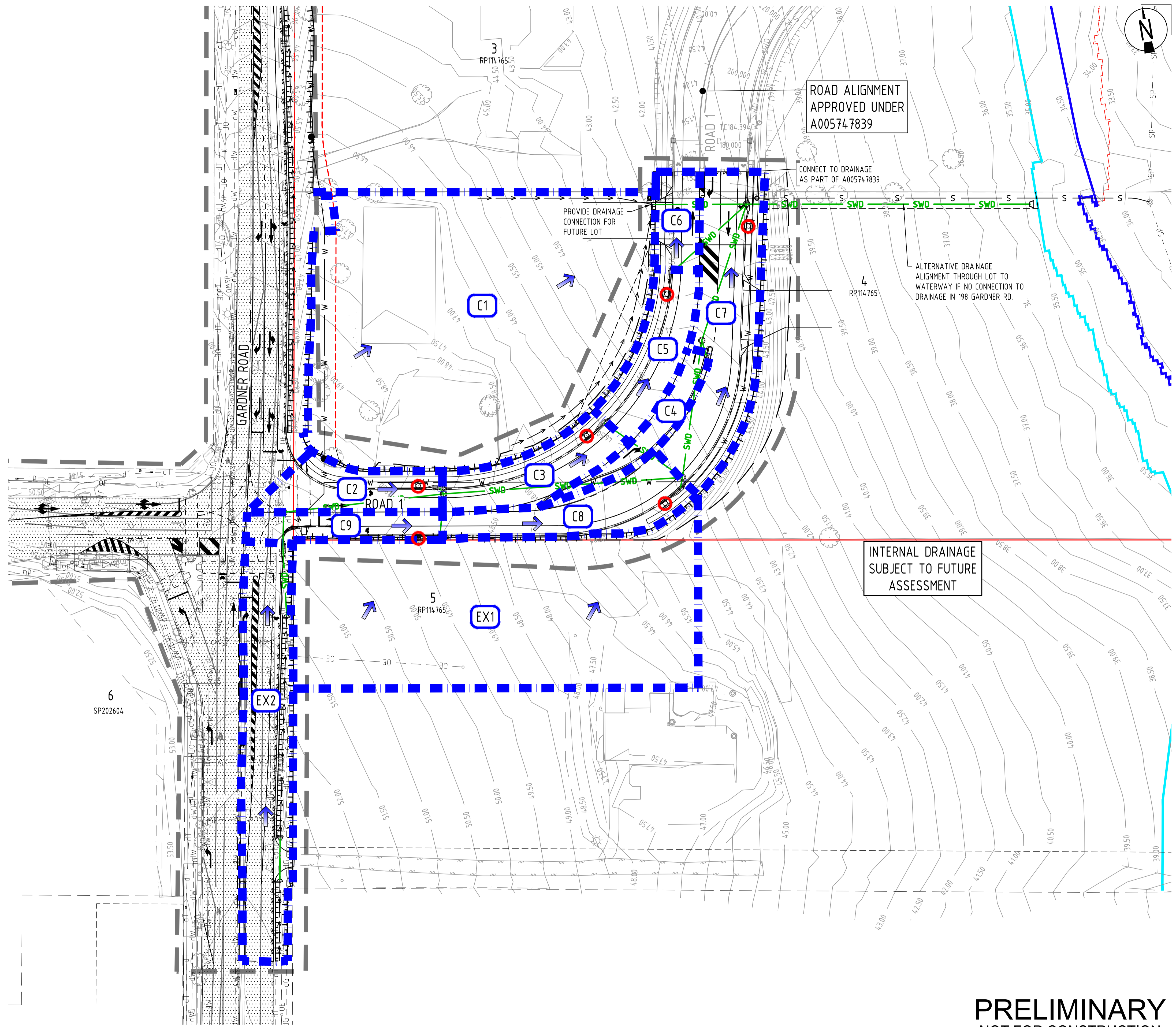
- SITE BOUNDARY
- PROPOSED ROAD RESUMPTION LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN
- EXISTING ROAD CENTERLINE
- SWD EXISTING STORMWATER DRAINAGE
- dS EXISTING SEWER (RECORDS)
- dW EXISTING WATER (RECORDS)
- OE EXISTING OVERHEAD ELECTRICITY
- dT EXISTING TELECOMMUNICATIONS (RECORDS)
- x x x x x ABANDONED SERVICE
- EXISTING BATTER
- EXISTING FENCE
- LIMIT OF WORKS
- SWD PROPOSED STORMWATER DRAINAGE
- SWD PREVIOUS STAGE STORMWATER DRAINAGE
- PROPOSED BIORETENTION TREE PITS
- S PROPOSED SEWER MAIN
- S PREVIOUS STAGE SEWER
- W PROPOSED WATER
- W PREVIOUS STAGE WATER
- PROPOSED ROAD CENTRE LINE
- PREVIOUS STAGE ROAD CENTRE LINE
- EXISTING ROAD
- PROPOSED EASEMENTS
- PREVIOUS STAGE KERB NOMINAL LINE
- PROPOSED TEMPORARY SWALE
- PROPOSED 1% AEP FLOOD LINE
- EXISTING WATERWAY FRINGE (10m)
- EXISTING WATERWAY CORE (30m)
- C1 CATCHMENT LABEL
- CATCHMENT FLOW DIRECTION

**CATCHMENT TABLE (POST DEVELOPMENT)**

CATCHMENT NAME	AREA (ha)	FRACTION IMPERVIOUS
C1	0.521	0.87*
C2	0.047	0.72
C3	0.053	0.73
C4	0.026	0.71
C5	0.051	0.73
C6	0.026	0.64
C7	0.117	0.74
C8	0.062	0.75
C9	0.034	0.74
EX1	0.379	0.87*
EX2	0.126	0.68

\* ASSUMED FOR FUTURE EMERGING COMMUNITY (EC) DEVELOPMENT, BASED ON LOW-MEDIUM DENSITY RESIDENTIAL LAND USES, TABLE 7.3.3.1A OF BCC CITY PLAN AND TABLE 4.5.3 OF QUQM. RAINFALL INTENSITY SOURCED FROM BOM IFD TABLES. TC SET TO 10 MINS.

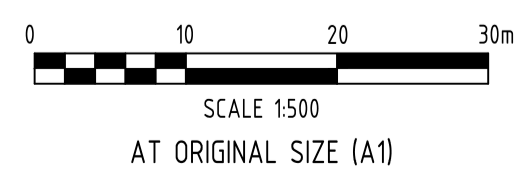
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01	01.07.25	PRELIMINARY - ISSUED FOR RFI RESPONSE	PP	ML

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Environmental Management ISO 14001:2015

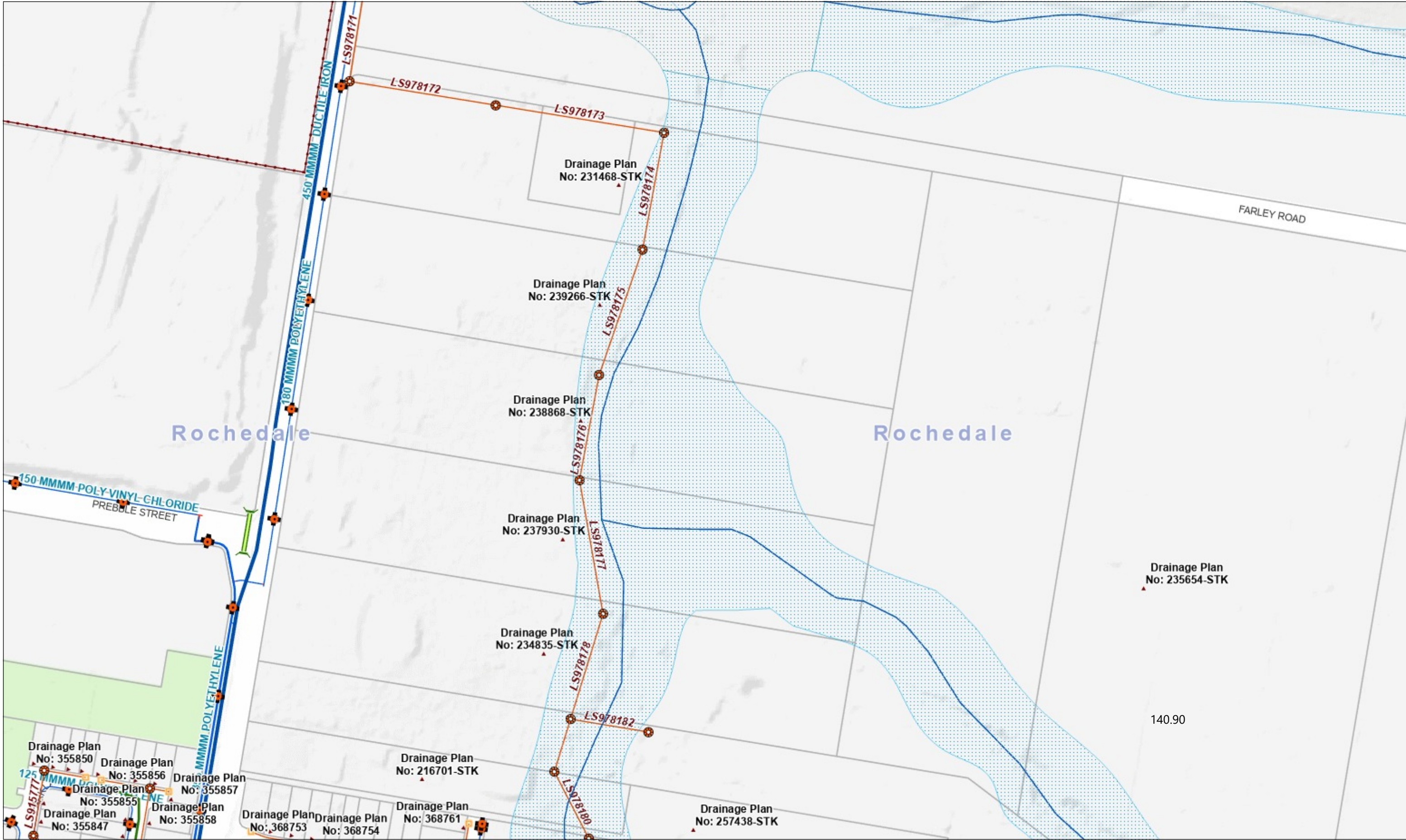
Client: PARTNERS IN PROPERTY QLD PTY LTD  
Project Name: 202-210 GARDNER ROAD  
ROCHEDALE, QLD, 4123

Discipline	Status	Title
CIVIL	PRELIMINARY	PRELIMINARY POST-DEVELOPMENT CATCHMENT PLAN
Designed By: LDV	Checked By: ML	Approved By: ML
Project No: 27292	Drawn By: WN	Scale at A1: 1:500

Rev	Date	Description	PP	ML
01			PP	ML

# Appendix D

## Brisbane City Council eBimap2 Records



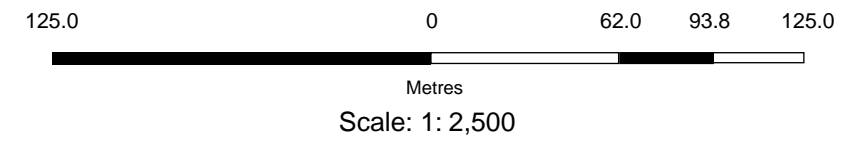
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Print Date:  
14/11/2023 - 10:02 AM  
Projection:  
Web Mercator Auxiliary Sphere

Notes:

**Infrastructure**

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Contours © 2014, 2019 Department of Resources  
Contours © 2002, 2009 AAMHatch  
Road Network © State of Queensland (Department of Resources) 2023



Legend

Brisbane River flood planning area 4	Brisbane River flood planning area 1	Brisbane River flood planning area 2a	Brisbane River flood planning area 2b	Brisbane River flood planning area 3
Brisbane River corridor - section	Waterway centreline	Brisbane River corridor	Citywide waterway corridor	Local waterway corridor
LEVEL SENSOR	PRESSURE GAUGE - OFFLINE	FLOW METER - OFFLINE	PRESSURE GAUGE	FLOW METER
Recycled Water Fitting	BEND	END CAP	LEVEL SENSOR - OFFLINE	<all other values>
GIBAULT JOINT	TAPPING BAND	TAPPING	CROSS	JOINT
TEE	RESERVOIR INLET	SCOUR OUTLET	REDUCER	WYE
CHEMICAL INJECTION POINT	<all other values>	PIPE BRIDGE	PIGGING POINT	SAMPLING STATION
HEAD WALL	PIER	INGROUND HYDRANT	ANCHOR BLOCK	CONCRETE STOP
Recycled Network Structure Bou	Recycled Water Hydrant	Recycled Water Structures	<all other values>	Recycled Water Chamber
Recycled Water Control Valve	REFLUX	SCOUR	PILLAR HYDRANT	Recycled Water Flow Meter
PRESSURE REDUCING	ALTITUDE	FLOW CONTROL	AIR	PRESSURE SUSTAINING
AIR - OFFLINE	PRESSURE SUSTAINING - OFFLINE	PRESSURE REDUCING - OFFLINE	REFLUX - OFFLINE	SCOUR - OFFLINE
Recycled Water System Valve	GATE, CLOSED	GATE, OPEN	ALTITUDE - OFFLINE	FLOW CONTROL - OFFLINE
BALL, OPEN	<all other values>	Recycled Water Service Valve	BUTTERFLY, OPEN	BALL, CLOSED
<all other values>	Recycled Water- Reservoirs	RESERVOIR	SERVICE VALVE CLOSED	SERVICE VALVE OPEN
TREATMENT PLANT	FILLING STATION	Recycled Water Pump Stations	RESERVOIR - OFFLINE	Recycled Water Network Structu
Recycled Water Network Structu	Recycled Water Pumps	Recycled Water Pressure Main	PUMP STATION	PUMP STATION - OFFLINE
LIFT PUMP - OFFLINE	Recycled Vertical Pressure Main	RETIC MAIN - OFFLINE	LIFT PUMP	BOOSTER PUMP - OFFLINE
TRUNK MAIN	SCOUR MAIN	INLINE FLUSHING POINT	MODEL LINK	RETIC MAIN
Sewer Fitting - Main Fittings	END FLUSHING POINT	RODDING JOINT	TRUNK MAIN - OFFLINE	SCOUR MAIN - OFFLINE
Sewer Fitting - All Other Fittings	JOINT	WYE	OUTLET	VACUUM LIFT
END CAP	BEND	INLET	PROPERTY CONNECTION BOUNDA	JUNCTION
GIBAULT JOINT	CROSS	MANHOLE - OFFLINE	TEE	REDUCER
Sewer Manholes	MANHOLE	VACCUM, AS CONSTRUCTED	OUTLET	<all other values>
AIR	SCOUR	REFLUX - OFFLINE	<all other values>	Sewer Control Valve - by Type
SCOUR - OFFLINE	VACCUM - OFFLINE	SEWER DOOR - OFFLINE	REFLUX	AIR - OFFLINE
GATE	BUTTERFLY	TREATMENT PLANT, AS CONSTRU	Sewer System Valve - by Type	SEWER DOOR
<all other values>	Sewer Network Structure -Treatn	WET WELL	GATE - OFFLINE	BUTTERFLY - OFFLINE
STORAGE FACILITY	ODOUR CONTROL	PUMP STATION	TREATMENT PLANT - OFFLINE	Sewer Network Structure - All Fe
ODOUR CONTROL - OFFLINE	Sewer Pump Station	Sewer Gravity Main - by Type	STORAGE FACILITY - OFFLINE	WET WELL - OFFLINE
Sewer Vertical Gravity Main	Sewer Vertical Pressure Main	OVERFLOW MAIN	PUMP STATION - OFFLINE	Sewer Network Structure Bound:
TRUNK MAIN	RETICULATION MAIN	RETICULATION MAIN - OFFLINE	SYPHON	DISCHARGE
DISCHARGE - OFFLINE	TRUNK MAIN - OFFLINE	MODEL LINK	MODEL LINK	SYPHON - OFFLINE
<all other values>	Sewer Pressure Main - by Type	LOW PRESSURE MAIN	OVERFLOW MAIN - OFFLINE	MODEL LINK - OFFLINE
VACUUM MAIN	MODEL LINK - OFFLINE	LOW PRESSURE MAIN - OFFLINE	RISING MAIN	RISING MAIN
Sewer Drainage Plan	Sewer Drainage Plan Joiner	Sewer Drainage Plan Extension	Culvert	VACUUM MAIN - OFFLINE
SQID	Surface Drain	Waterbody	Artesian Well	Drain
Lake	Water Device - All Other Assets	FLOW METER	PRESSURE GAUGE	Detention Basin
FLOW METER - OFFLINE	PRESSURE GAUGE - OFFLINE	LEVEL SENSOR - OFFLINE	<all other values>	LEVEL SENSOR
PILLAR HYDRANT	INGROUND HYDRANT	<all other values>	Water Network Structure - Reser	Water Hydrant
SEQWATER	PRIVATE	QUU - NON POT	SEQ - NON POT	QUU
QUU - OFFLINE	SEQ - OFFLINE	PRIV - OFFLINE	Water Network Structure Bound:	PRIVATE - NON POT
QUU	SEQWATER	PRIVATE	QUU - OFFLINE	Water Pump Stations
PRIVATE - OFFLINE	<all other values>	Water Sampling Point	Water Pumps	SEQWATER - OFFLINE
BORE PUMP	LIFT PUMP	BOOSTER PUMP - OFFLINE	BORE PUMP - OFFLINE	BOOSTER PUMP
Water Vertical Pressure Main	Water Pressure Main - by Type	Water - Model Link	Raw Water Main	LIFT PUMP - OFFLINE
Trunk Main	Scour Main	Property Holding	Sealed Plan	Reticulation Main
				Parcel - Outside Brisbane

# Appendix E

## Brisbane City Council Overlay Mapping




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**Overland flow flood planning area**

 Overland flow flood planning area

**Local Government Authorities**

 LGA boundary

**Property boundaries holding**

 Property Holding

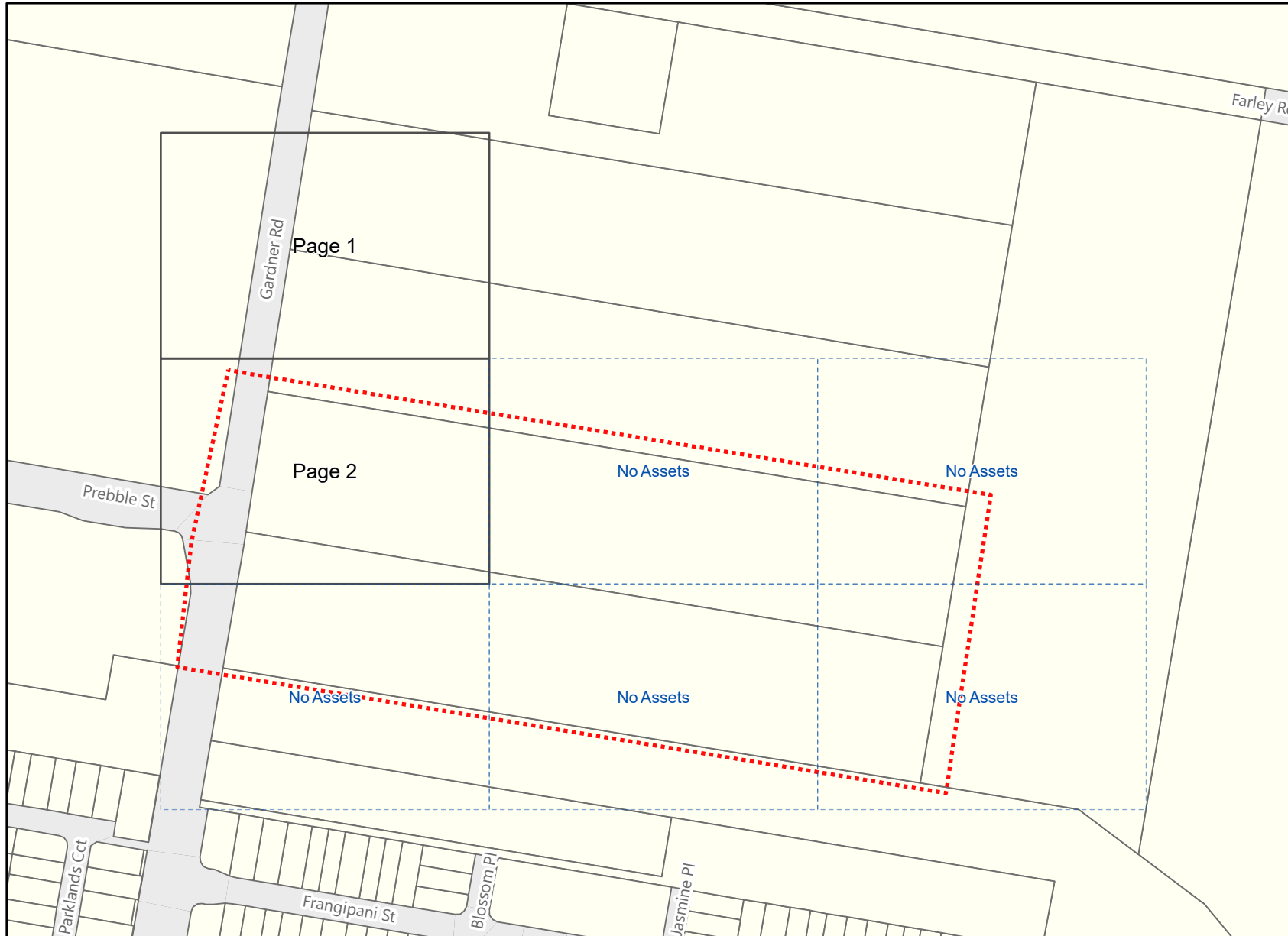
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# Appendix F BYDA



Job # 35459884  
 Seq # 232066488  
 Provider: Brisbane City Council  
 Telephone: 07 3403 8888



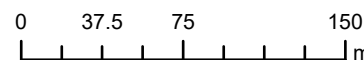
**Legend**

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

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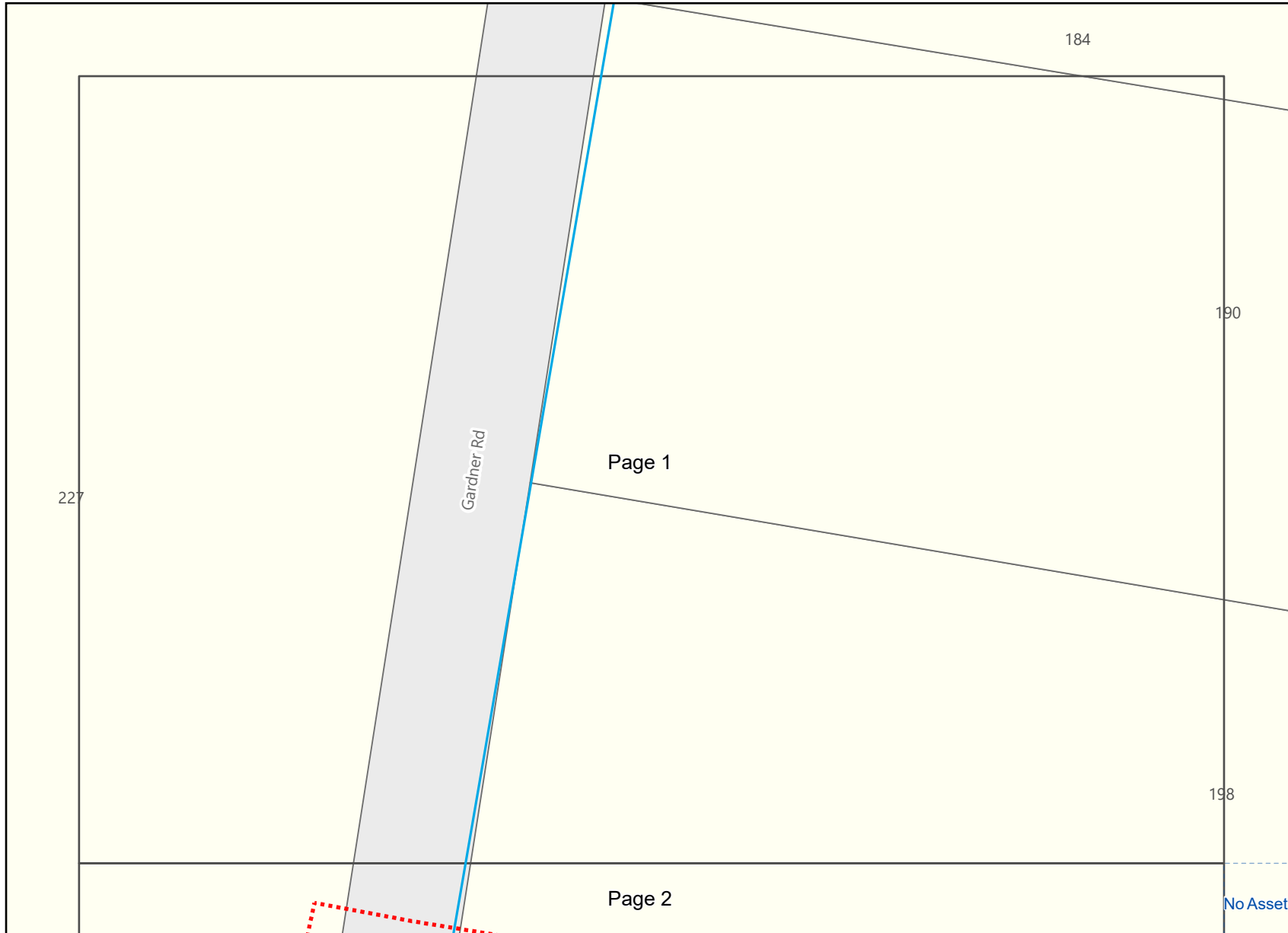
Copyright of data is as follows:  
 Cadastre and Street Names © 2020 State of Queensland (Department of Natural Resources, Mines and Energy)

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.





Job # 35459884  
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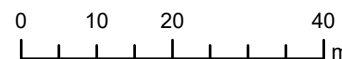
**Legend**

- BYDA Enquiry
- BCC Cable Network**
- Fibre Optic Cable Location

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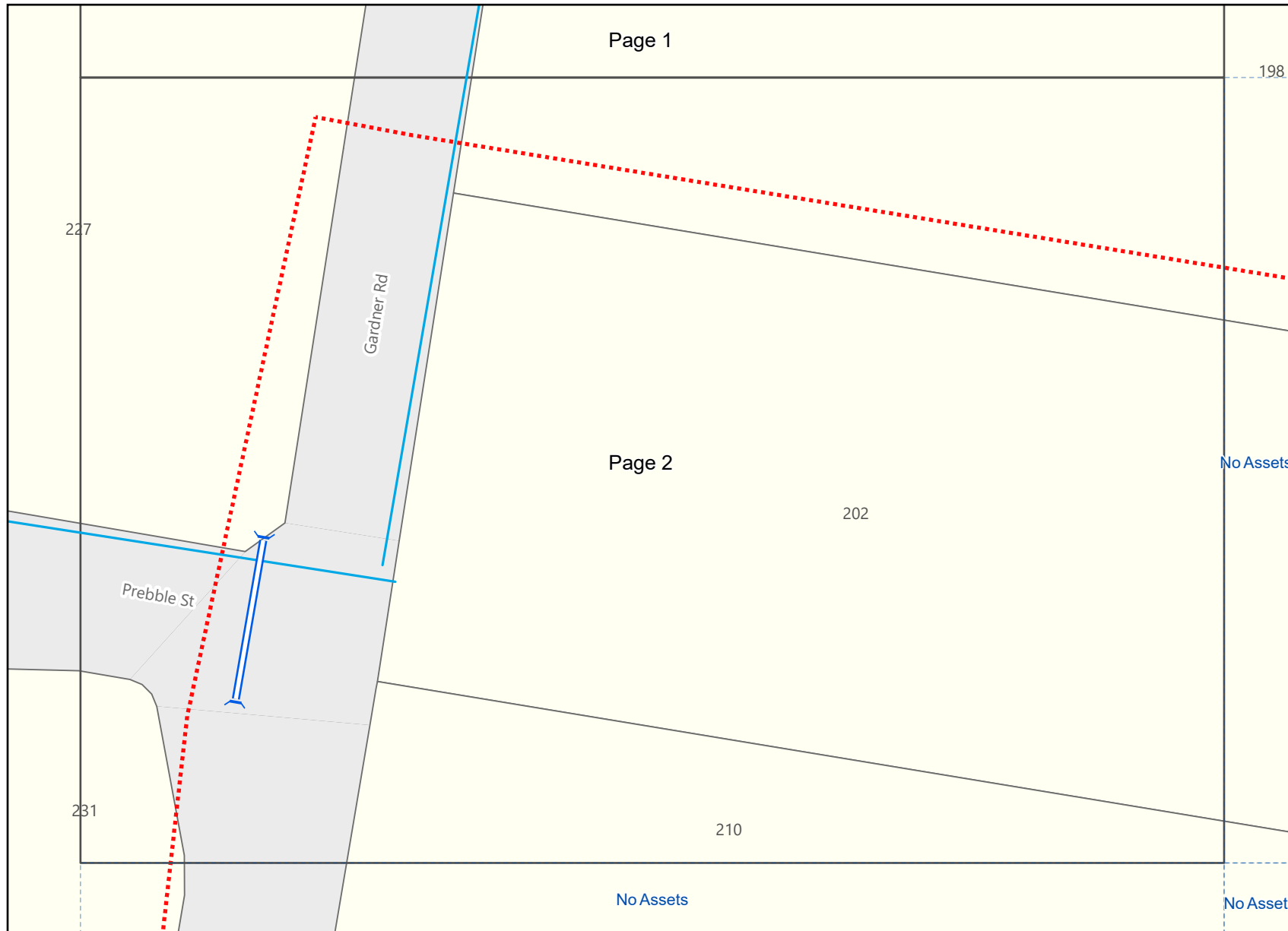
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Job # 35459884  
 Seq # 232066488  
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**Legend**

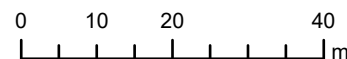
- BYDA Enquiry
- Stormwater Network**
- Stormwater Culvert
- BCC Cable Network**
- Fibre Optic Cable Location

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In an emergency contact Brisbane City Council on 07 3403 8888  
 13/11/23 (valid for 30 days)

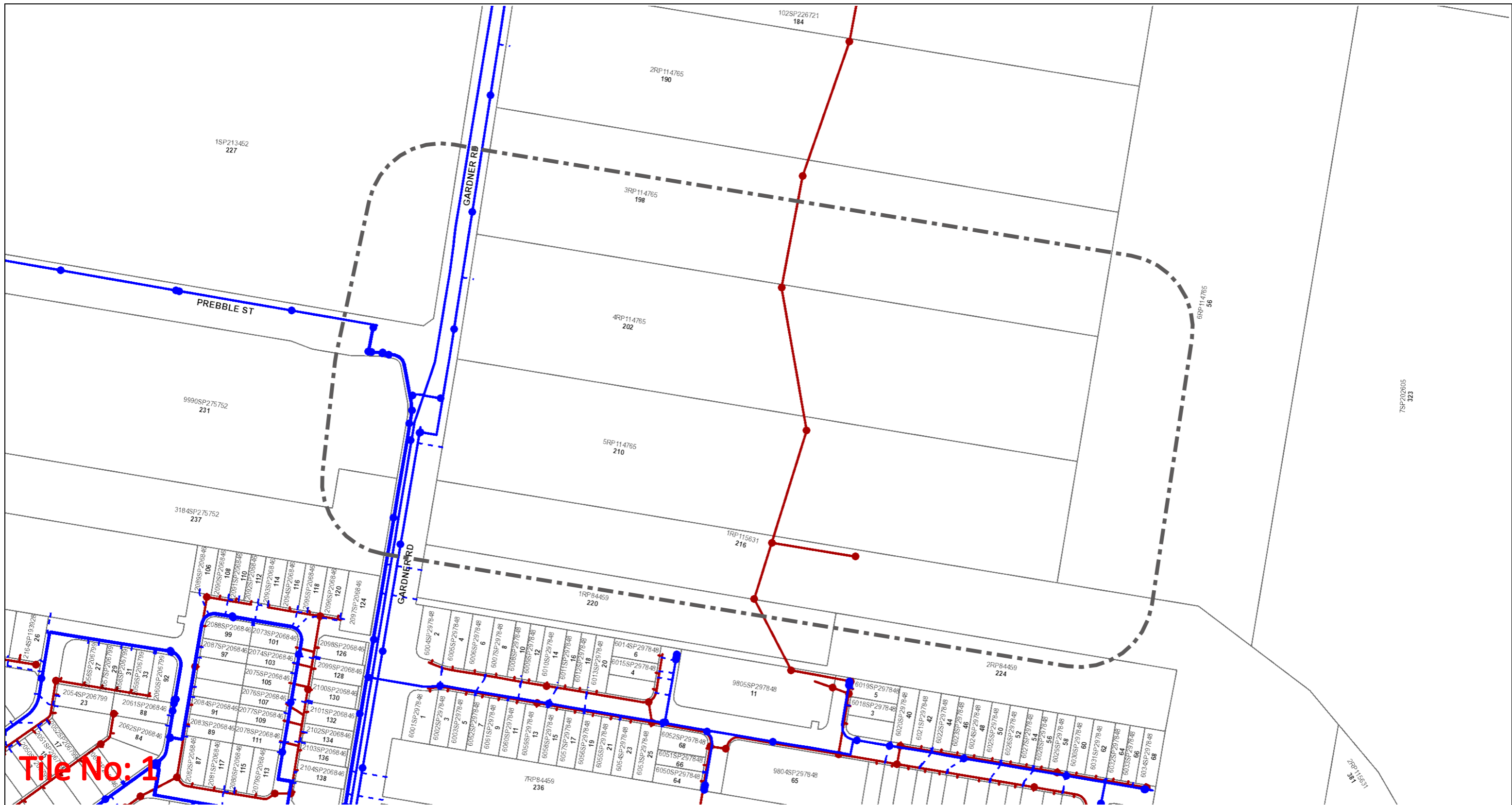


Scale 1:1,000



Plans generated by SmarterWX™ Automate

# Urban Utilities - Water, Recycled Water and Sewer Infrastructure



Tile No: 1

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

DBYD Reference No: 232066495

Date DBYD Ref Received: 13/11/2023

Date DBYD Job to Commence: 14/11/2023

Date DBYD Map Produced: 13/11/2023

This Map is valid for 30 days

Produced By: Urban Utilities



### Sewer

- Infrastructure
- ◆ Major Infrastructure
- Network Pipelines
- ▨ Network Structures

### Water

- Infrastructure
- ◆ Major Infrastructure
- Network Pipelines
- ▨ Network Structures
- - - Water Service (Indicative only)



Map Scale  
1:2500

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

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

[www.urbanutilities.com.au](http://www.urbanutilities.com.au)

ABN 86 673 835 011



# BYDA SYMBOLOLOGY LEGEND

	Cross Bonding Link Box - <b>Critical</b>		Planned Cross Bonding Link Box - New/Updated
	Disconnect Box - <b>Critical</b>		Planned Cross Bonding Link Box - Remove
	Ring Main Unit		Planned Disconnect Box - New/Updated
	Distribution Pad Substation		Planned Disconnect Box - Remove
	Earth		Planned Distribution Pad Substation - New/Updated
	Remote Earth		Planned Distribution Pad Substation - Remove
	Cable Marker		Planned Distribution Ground Substation - New/Updated
	Handhole		Planned Distribution Ground Substation - Remove
	Manhole		Planned Ring Main Unit - New/Updated
	Commercial Industrial Pillar		Planned Ring Main Unit - Remove
	Distribution Cabinet		Planned Earth - New/Updated
	Link Pillar		Planned Earth - Remove
	Service Pillar		Planned Cable Marker - New/Updated
	Feeder Pillar		Planned Cable Marker - Remove
	Pole		Planned Remote Earth - New/Updated
	Streetlight Column		Planned Remote Earth - Remove
	Communication Junction Pillar		Planned Underground Warning Post - New/Updated
	Communication Pit		Planned Underground Warning Post - Remove
	Fibre Patch Panel		Planned Pilot Cubicle - New/Updated
	Pilot Cubicle		Planned Pilot Cubicle - Remove
	Underground Asset 33kV and above		Planned Fibre Patch Panel - New/Updated
	Underground Asset below 33kV		Planned Fibre Patch Panel - Remove
	Underground Conduit with or without cable		Planned Commercial Industrial Pillar - New/Updated
	Pit		Planned Commercial Industrial Pillar - Remove
	Communication Boundary		Planned Distribution Cabinet - New/Updated
	Reserve (RE)		Planned Distribution Cabinet - Remove
	Water Resource (WR)		Planned Link Pillar - New/Updated
	Cadastral Parcels		Planned Link Pillar - Remove
	Planned Jointing Pit - New/Updated		Planned Service Pillar - New/Updated
	Planned Jointing Pit - Remove		Planned Service Pillar - Remove
	Planned Communication Boundary - New/Updated		Planned Pole - New/Updated
	Planned Communication Boundary - Remove		Planned Pole - Remove
	Planned Tunnel/Trench/Bore - New/Updated		Planned Manhole - New/Updated
	Planned Tunnel/Trench/Bore - Remove		Planned Manhole - Remove
			Planned Streetlight Column - New/Updated
			Planned Streetlight Column - Remove
			Planned Handhole - New/Updated
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			Planned Communication Junction Pillar - Remove



BYDA

Sequence: 232066490

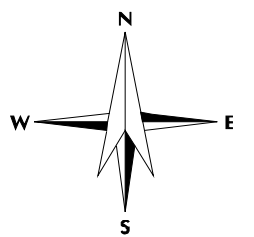
Date: 13/11/2023

Scale: 1:2050

OVERVIEW

For a full list of Map  
Symbols, please  
refer to the supplied  
BYDA Symbology  
Legend page

AS5488 Category "D" Plan



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



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

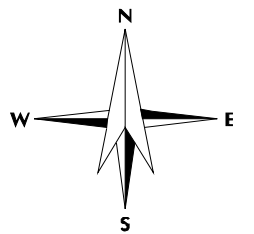


**BYDA**

Sequence: 232066490  
Date: 13/11/2023  
Scale: 1:500  
**Tile No: 1**

**For a full list of Map  
Symbols, please  
refer to the supplied  
BYDA Symbology  
Legend page**

**AS5488 Category "D" Plan**



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GARDNER RD

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For Emergency Situations  
please call 13 19 62

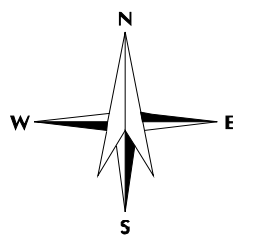


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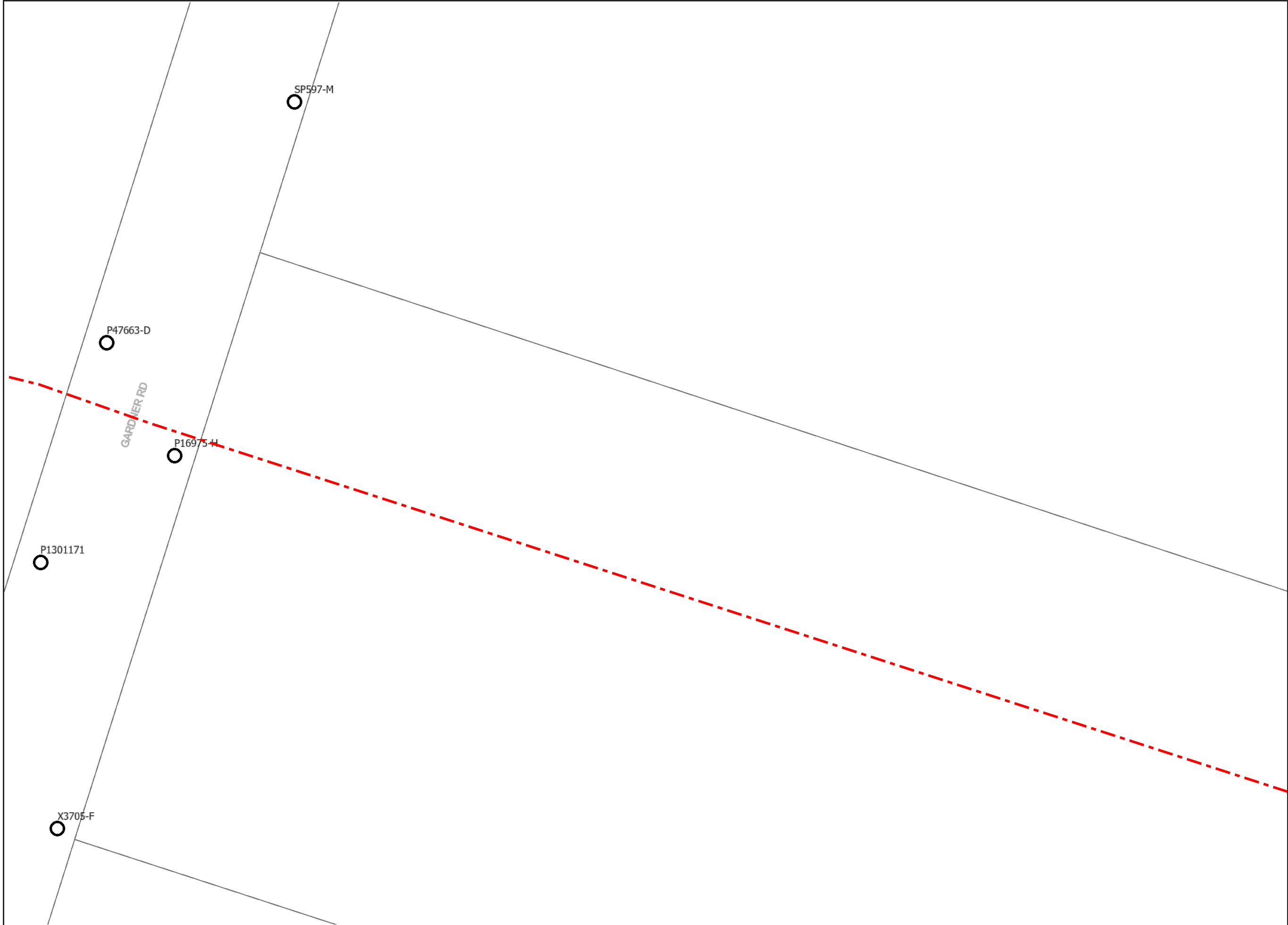
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Date: 13/11/2023  
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Tile No: 2

**For a full list of Map Symbols, please refer to the supplied BYDA Symbology Legend page**

**AS5488 Category "D" Plan**



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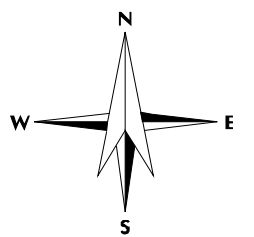


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Tile No: 3

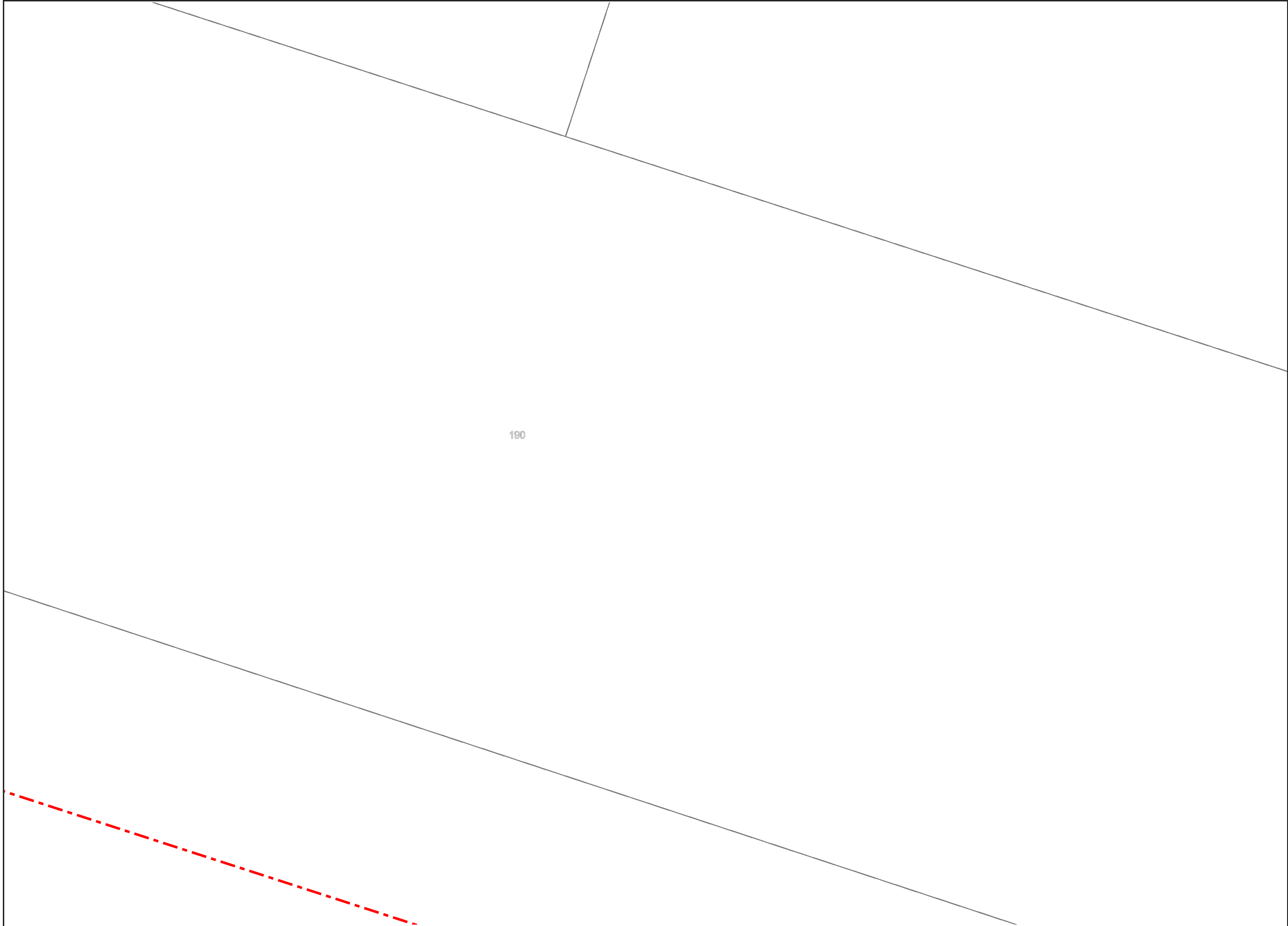
**For a full list of Map  
Symbols, please  
refer to the supplied  
BYDA Symbology  
Legend page**

**AS5488 Category "D" Plan**



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BYDA

Sequence: 232066490

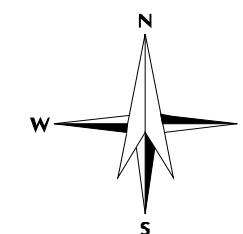
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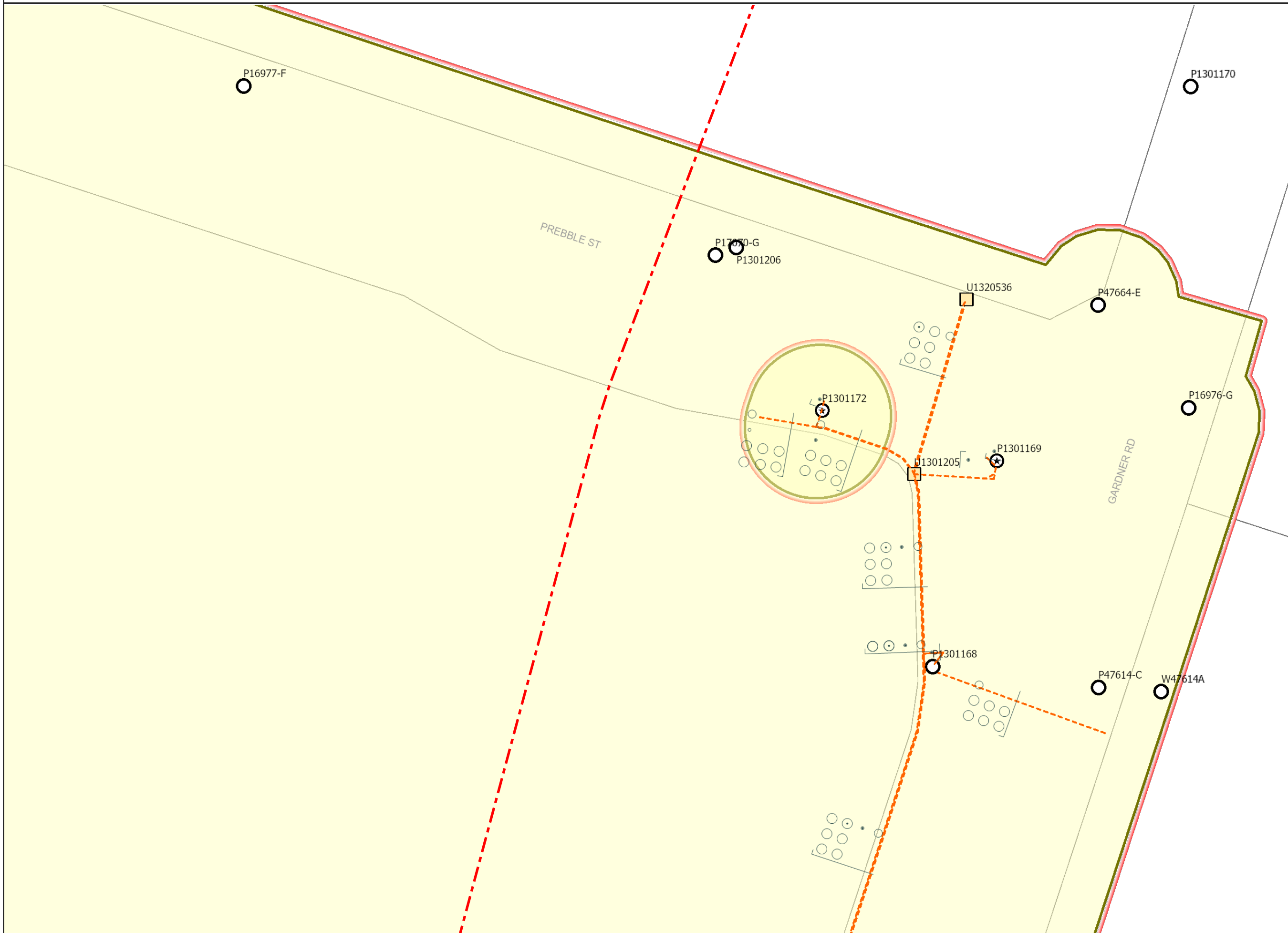
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For a full list of Map Symbols, please refer to the supplied BYDA Symbology Legend page

AS5488 Category "D" Plan



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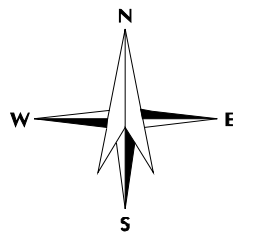


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Date: 13/11/2023  
Scale: 1:500  
**Tile No: 5**

**For a full list of Map  
Symbols, please  
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BYDA Symbology  
Legend page**

**AS5488 Category "D" Plan**



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BYDA

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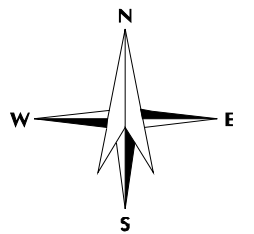
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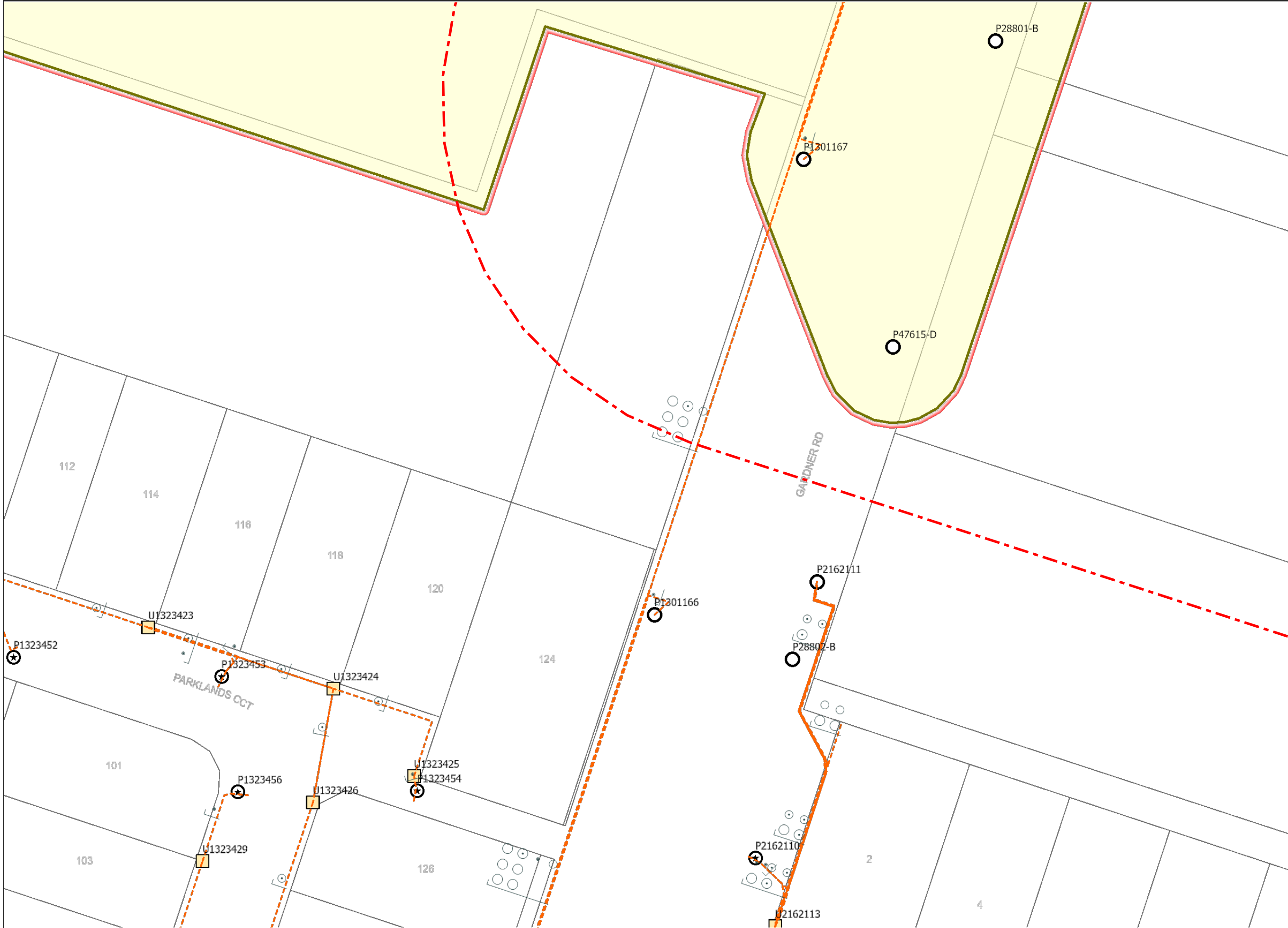
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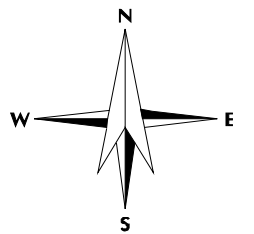


BYDA

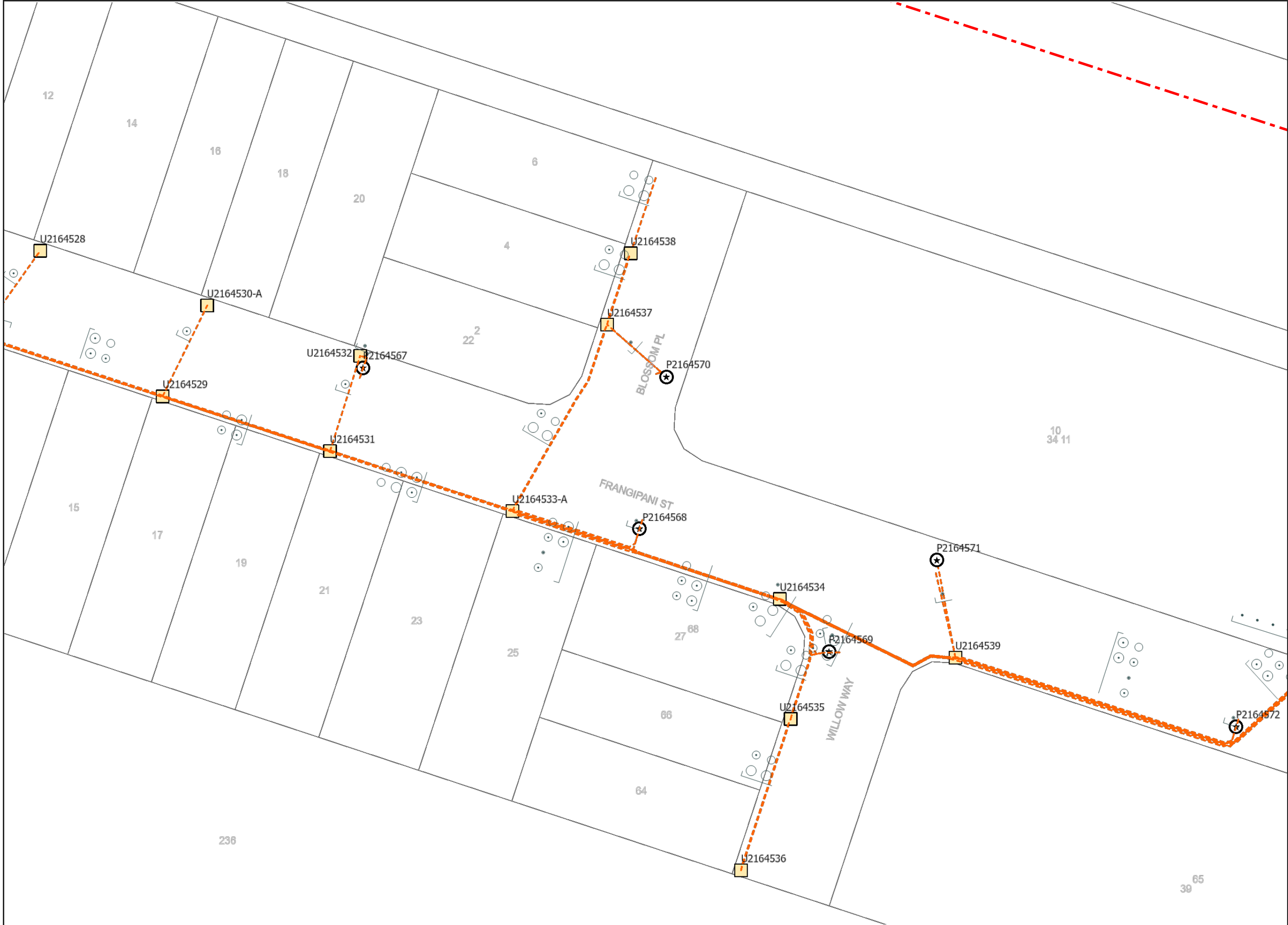
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Date: 13/11/2023  
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Tile No: 7

For a full list of Map Symbols, please refer to the supplied BYDA Symbolology Legend page

AS5488 Category "D" Plan



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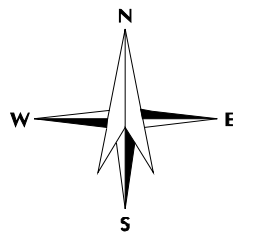


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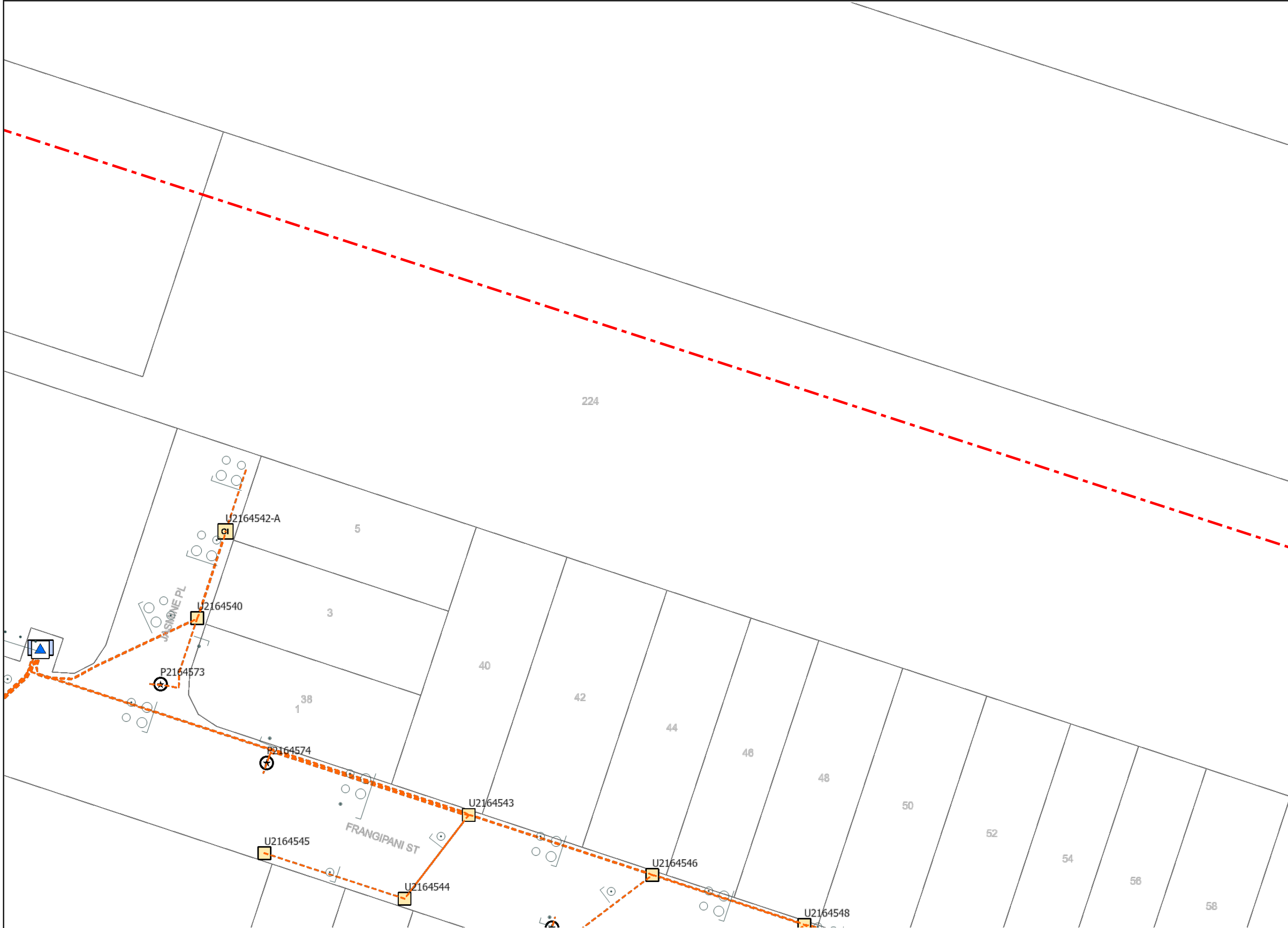
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Date: 13/11/2023  
Scale: 1:500  
Tile No: 8

For a full list of Map Symbols, please refer to the supplied BYDA Symbology Legend page

AS5488 Category "D" Plan



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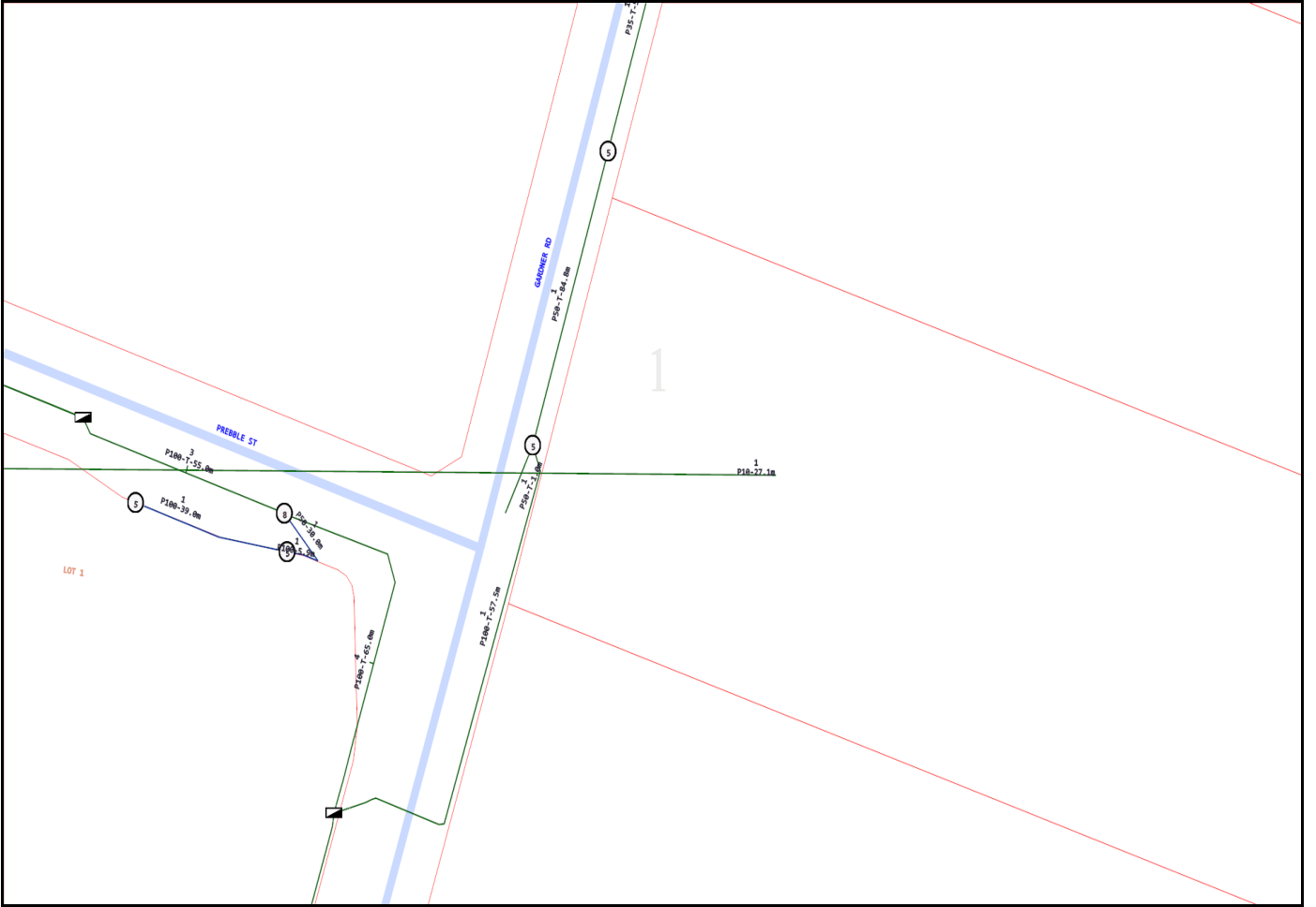
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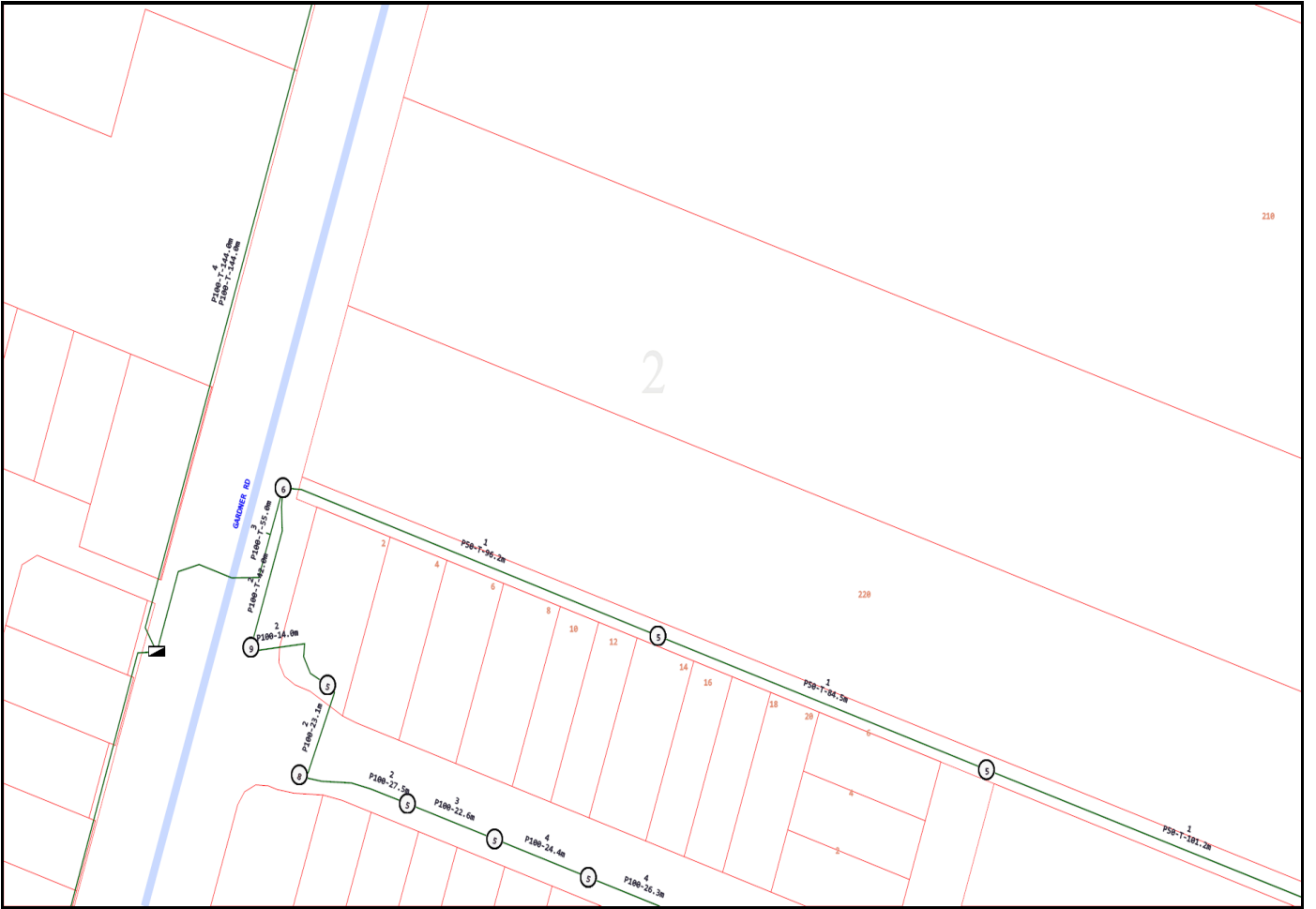


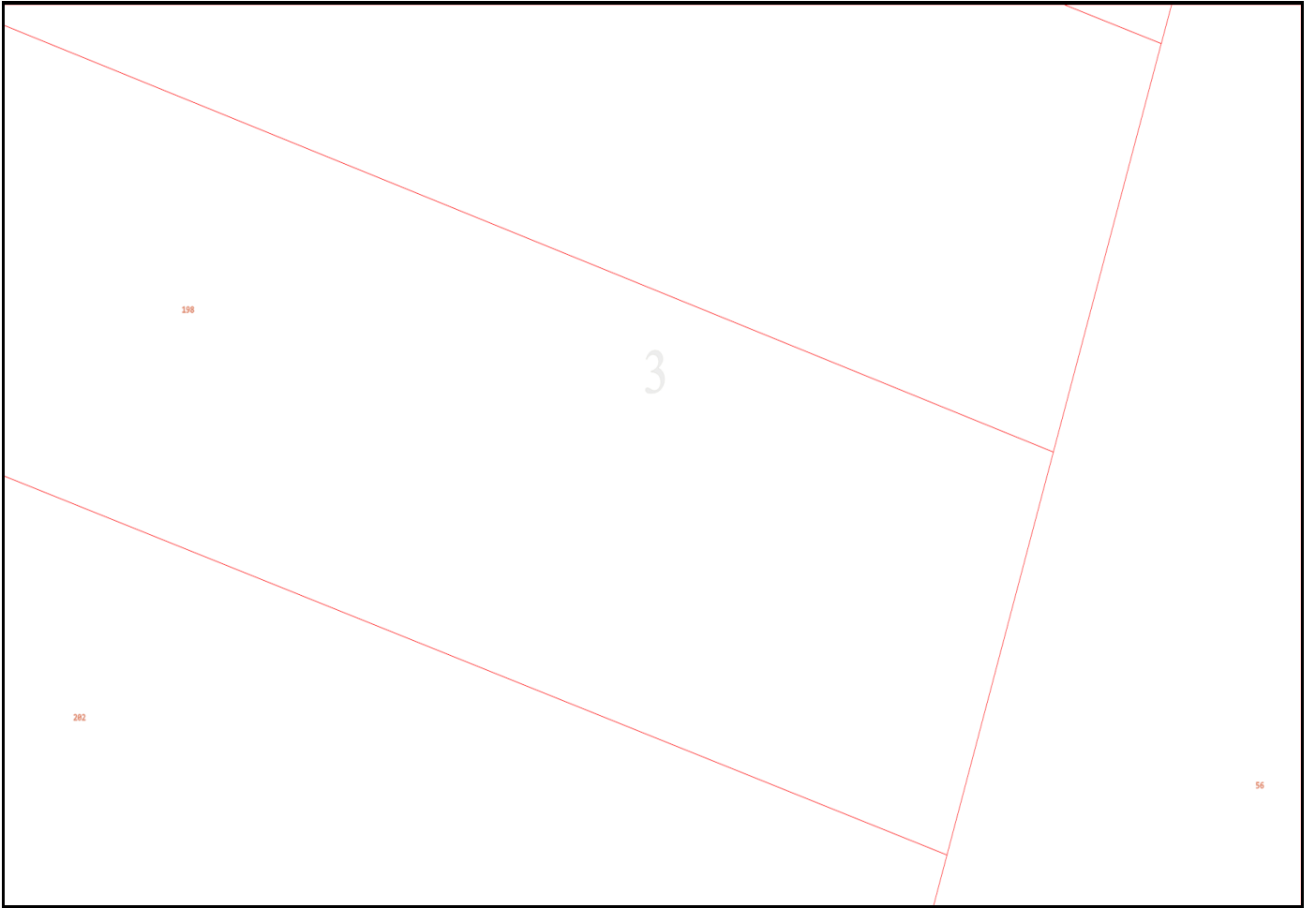
## LEGEND

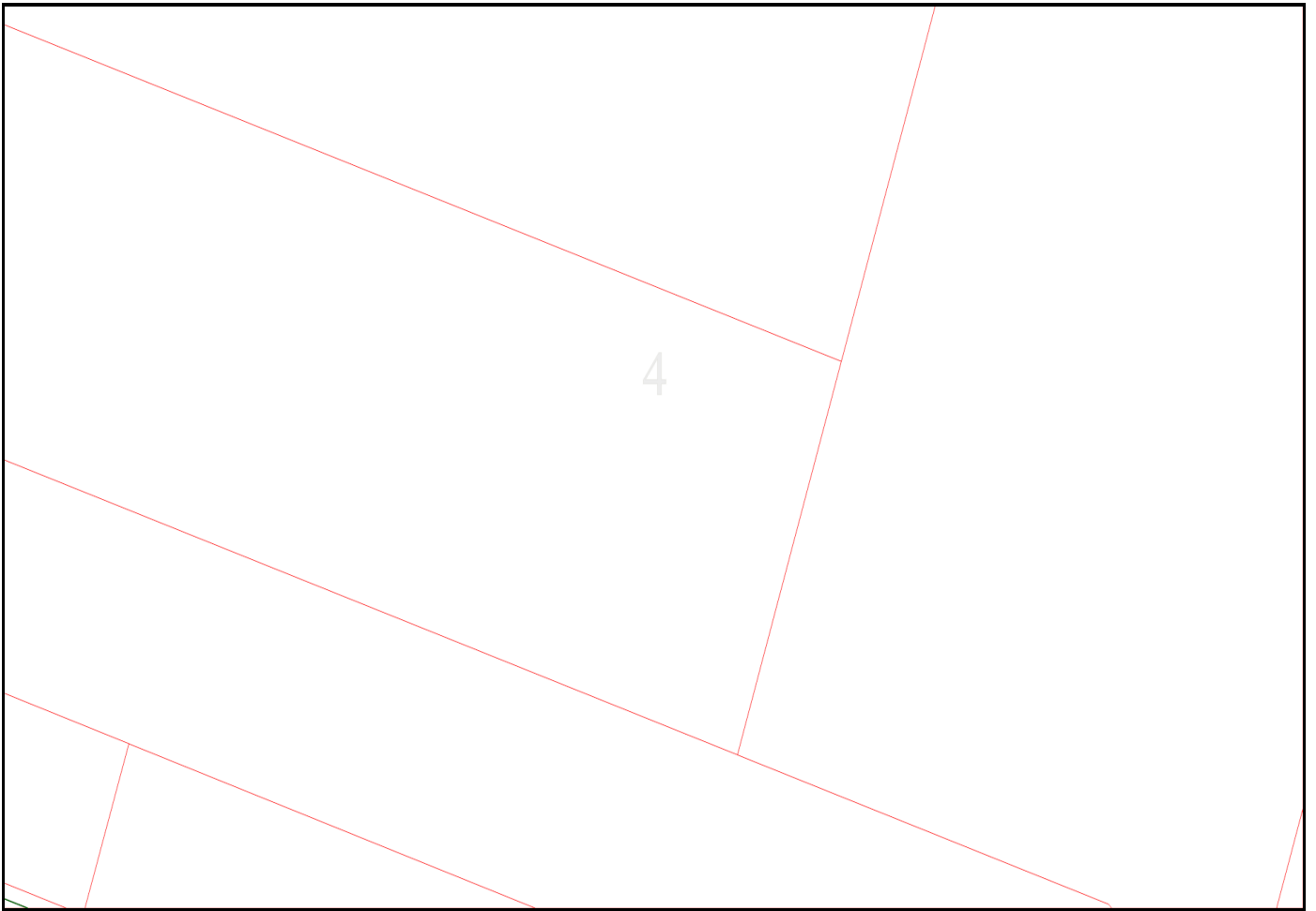


	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) 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	0 20 40 60 Meters 1:2000 1 cm equals 20 m 











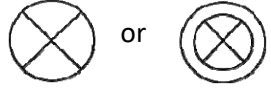
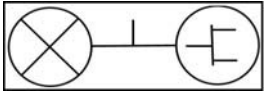
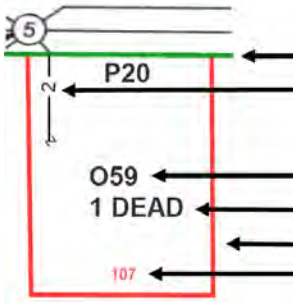
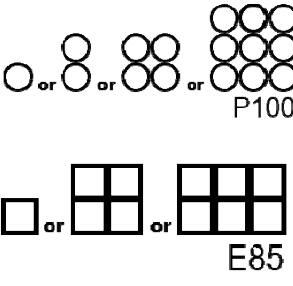
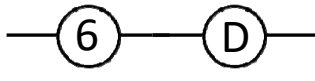

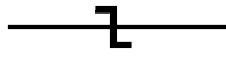




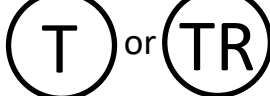


## Emergency Contacts

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

# LEGEND



For more info contact a [Certified Locating Organisation](#) or Telstra Plan Services 1800 653 935

 <p>Exchange (Major Cable Present)</p>  <p>Footway Access Chamber (can vary from 1-lid to 12-lid)</p>  <p>Pillar / Cabinet (above ground / free standing)</p>  <p>Above ground complex equipment housing (eg RIM) Please Note: This equipment is powered by 240V Electricity</p> <p>OC Other Carrier Telecommunications Cable/Asset</p> <p>Dist MC Main Cable ducts on a Distribution plan Blocked or damaged duct.</p>  <p>Roadside / Front Boundary 2 pair lead-in to property from pit in street 1</p> <p>P20 pair working (pair ID 059) 1 pair dead (i.e. spare, not connected)</p> <p>O59 1 DEAD</p> <p>Side / Rear Property Boundary Property Number</p> <p>107</p>  <p>Single to multiple round conduit Configurations 1,2,4,9 respectively (attached text denotes conduit type and size)</p> <p>P100</p> <p>Multiple square conduit Configurations 2, 4, 6 respectively (attached text denotes conduit type and size)</p> <p>E85</p>	 <p>Cable Jointing Pit (number / Letter indicating Pit Type)</p>  <p>Elevated Joint (above ground joint on buried cable)</p>  <p>Telstra Plant in shared Utility trench</p>  <p>Aerial Cable / Overhead (includes on wall)</p>  <p>Aerial Cable (attached to joint Use Pole eg. Power)</p>  <p>Direct Buried Cable</p>  <p>Marker Post Installed</p>  <p>Buried Transponder</p>  <p>Marker Post, Transponder</p>  <p>Optical Fibre cable direct buried</p>
--	---

**Some examples of conduit type and size:**

A - Asbestos cement, P - PVC / Plastic, C - Concrete,  
GI - Galanised iron, E - Earthenware  
Conduit sizes *nominally* range from 20mm to 100mm  
P50 50mm PVC conduit  
P100 100mm PVC conduit  
A100 100mm asbestos cement conduit

Some Examples of how to read Telstra Plans

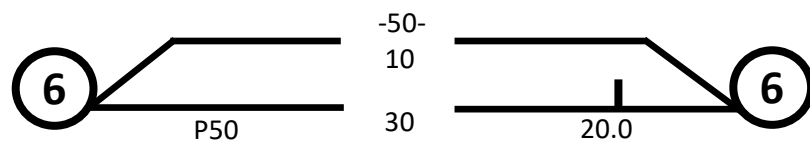


Diagram 1: One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits. approximately 20.0m apart, with a direct buried 30-pair cable along the same route

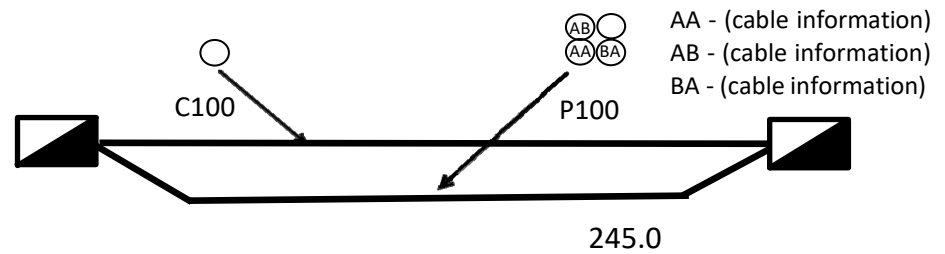
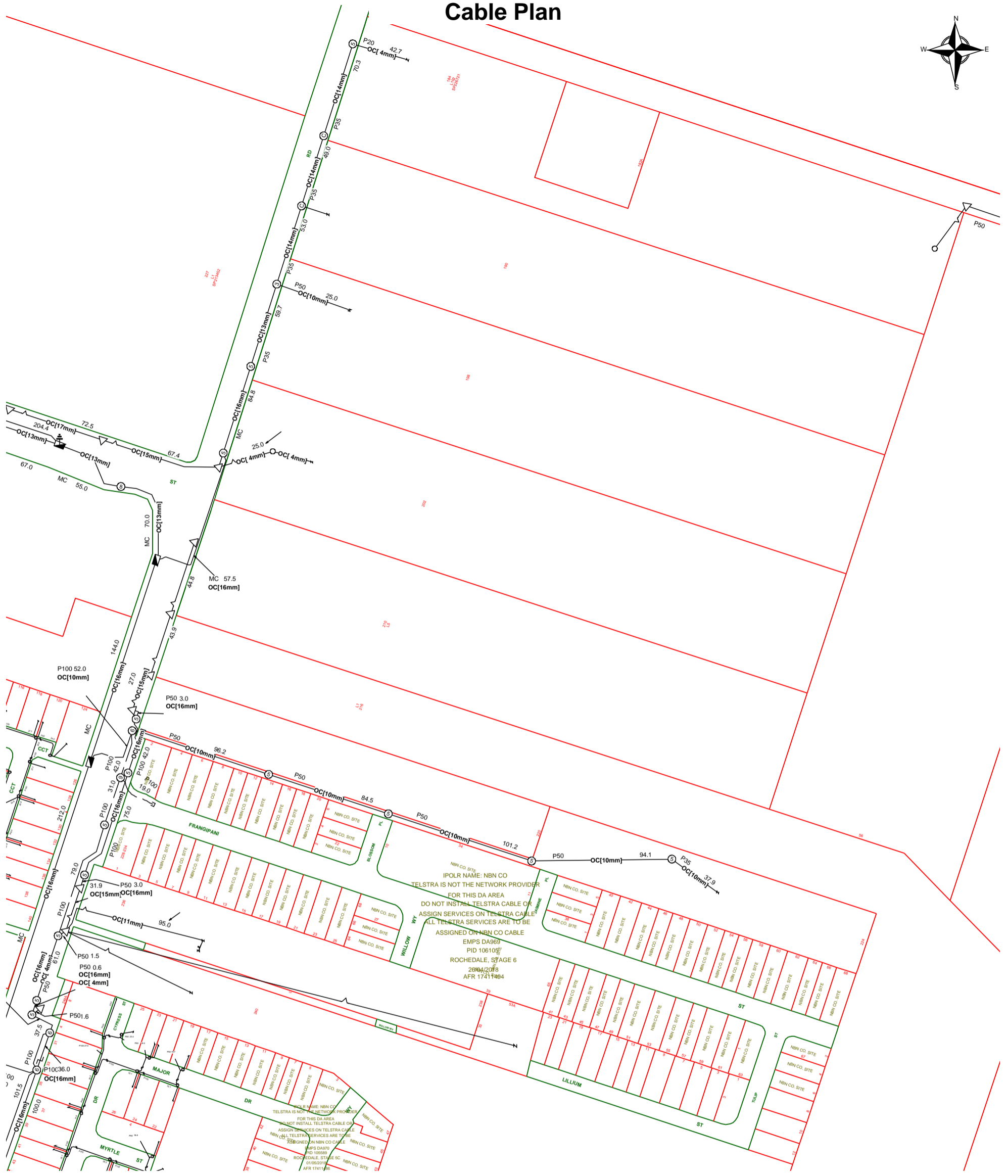
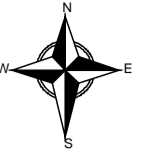


Diagram 2: Two separate conduit runs between two footway access chambers (manholes) approximately 245m apart. A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100)

**WARNING:** Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

# Cable Plan



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

Sequence Number: 232066492

TELSTRA LIMITED A.C.N. 086 174 781  
 Generated On 13/11/2023 14:57:27

**CAUTION: Critical Network Route in plot area.  
 DO NOT PROCEED with any excavation prior to  
 seeking advice from Telstra Plan Services on :  
 1800 653 935**

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

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

# Mains Cable Plan



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

Sequence Number: 232066492

**CAUTION: Critical Network Route in plot area. DO NOT PROCEED with any excavation prior to seeking advice from Telstra Plan Services on : 1800 653 935**

TELSTRA LIMITED A.C.N. 086 174 781

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

- Use suitably qualified and supervised professionals, particularly if you are working near assets that contain electricity cables or gas pipes.
- Ensure the below minimum clearance distances between the construction activities and the actual location of our assets are met. If you need clearance distances for our above ground assets, or if the below distances cannot be met, call **1800 786 306** to discuss.

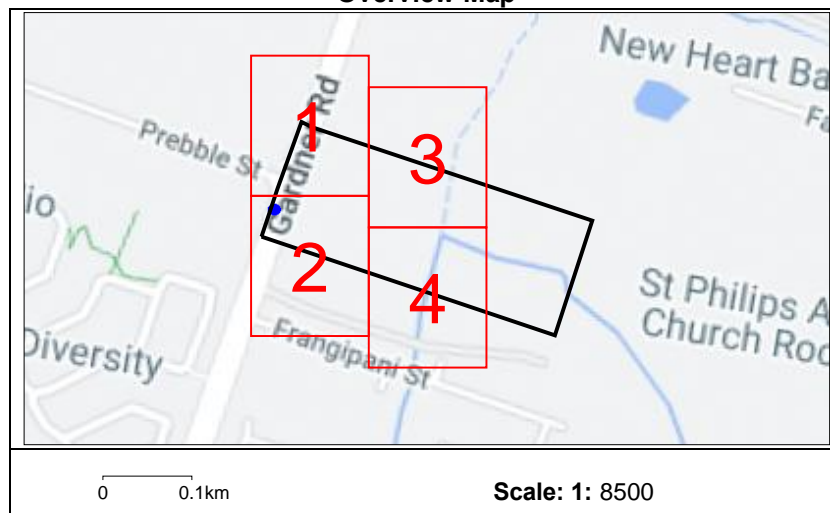
**Minimum assets clearance distances.**

- 300mm when laying asset inline, horizontal or vertical.
  - 1000mm when operating vibrating equipment. Eg: vibrating plates. No vibrating equipment on top of asset.
  - 1000mm when operating mechanical excavators or jackhammers/pneumatic breakers.
  - 2000mm when performing directional bore in-line, horizontal and vertical.
  - No heavy vehicle over 3 tonnes to be driven over asset with less than 600mm of cover.
- Reinstate exposed TPG network infrastructure back to original state.

**PRIVACY & CONFIDENTIALITY**

- Privacy Notice – Your information has been provided to us by Before You Dig Australia to respond to your Before You Dig Australia enquiry. We will keep your personal information in accordance with TPG’s privacy policy, see [www.tpg.com.au/about/privacy](http://www.tpg.com.au/about/privacy).
- Confidentiality – The information we have provided to you is confidential and is to be used only for planning and designing purposes in connection with your Before You Dig Australia enquiry. Please dispose of the information by shredding or other secure disposal method after use. We retain all intellectual property rights (including copyrights) in all our documents and plans.

**Overview Map**



TPG Telecom Limited

1



Enquiry Number: 232066494

Map Sheet: 1

Scale: 1: 750

0 0.008km



**LEGEND**

BYDA Work Area



AAPT/PowerTel Pit



TransACT Pit



AAPT/PowerTel Duct



TransACT Duct



DDA Pit



SOUL Pattinson Telecoms Pit



DDA Duct



SOUL Pattinson Telecoms Duct



Agile/Adam Pit



PIPE Networks Pit



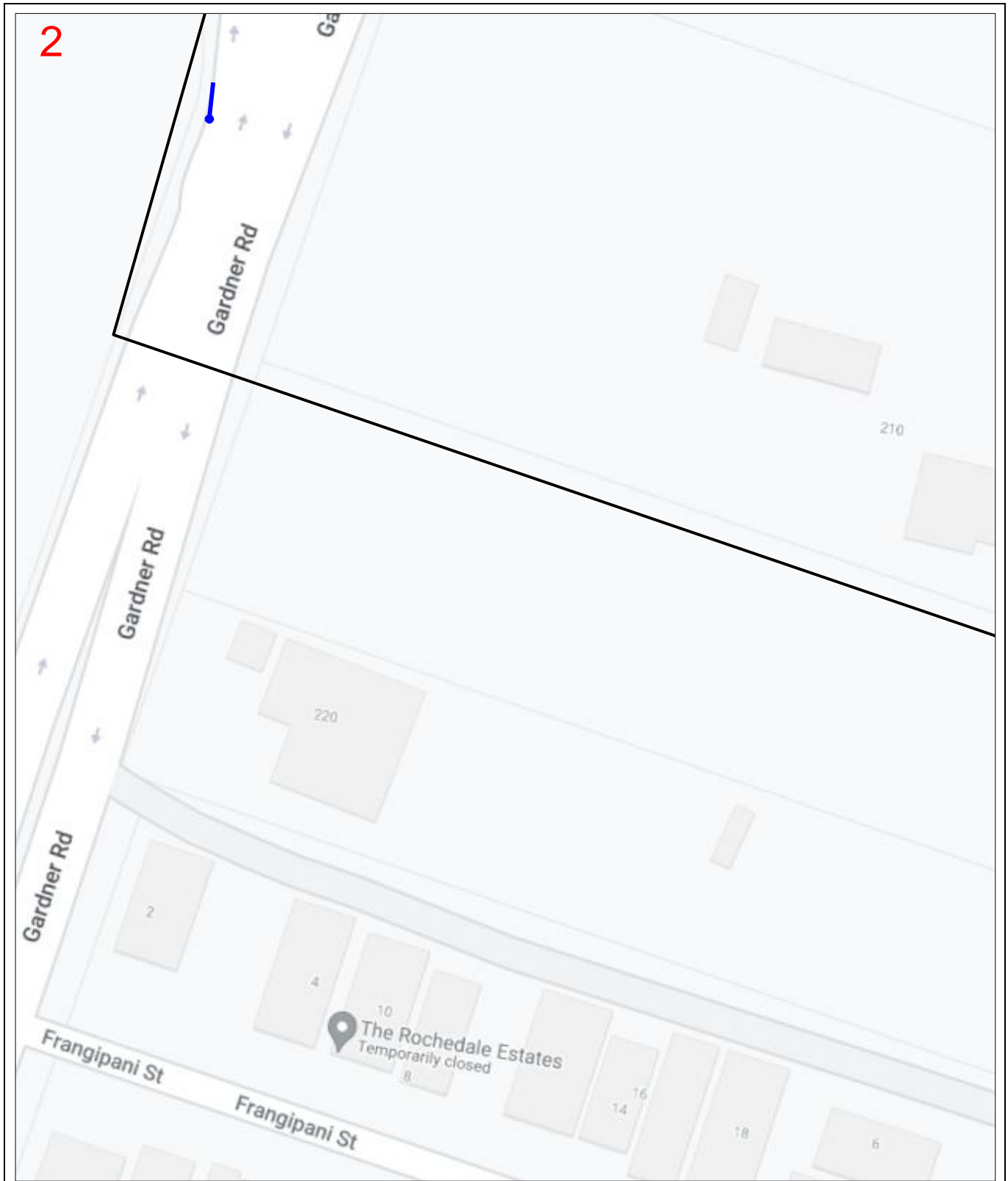
Agile/Adam Duct



PIPE Networks Duct



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**Enquiry Number:** 232066494

**Map Sheet:** 2

**Scale:** 1: 750

0 0.008km



**LEGEND**

BYDA Work Area



AAPT/PowerTel Pit



AAPT/PowerTel Duct



DDA Pit



DDA Duct



Agile/Adam Pit



Agile/Adam Duct



TransACT Pit



TransACT Duct



SOUL Pattinson Telecoms Pit



SOUL Pattinson Telecoms Duct



PIPE Networks Pit



PIPE Networks Duct



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3



Enquiry Number: 232066494

Map Sheet: 3

Scale: 1: 750

0 0.008km



**LEGEND**

BYDA Work Area



AAPT/PowerTel Pit



AAPT/PowerTel Duct



DDA Pit



DDA Duct



Agile/Adam Pit



Agile/Adam Duct



TransACT Pit



TransACT Duct



SOUL Pattinson Telecoms Pit



SOUL Pattinson Telecoms Duct



PIPE Networks Pit



PIPE Networks Duct



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4



Enquiry Number: 232066494

Map Sheet: 4

Scale: 1: 750

0 0.008km



**LEGEND**

BYDA Work Area



AAPT/PowerTel Pit



AAPT/PowerTel Duct



DDA Pit



DDA Duct



Agile/Adam Pit



Agile/Adam Duct



TransACT Pit



TransACT Duct



SOUL Pattinson Telecoms Pit



SOUL Pattinson Telecoms Duct



PIPE Networks Pit



PIPE Networks Duct



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# OVERVIEW

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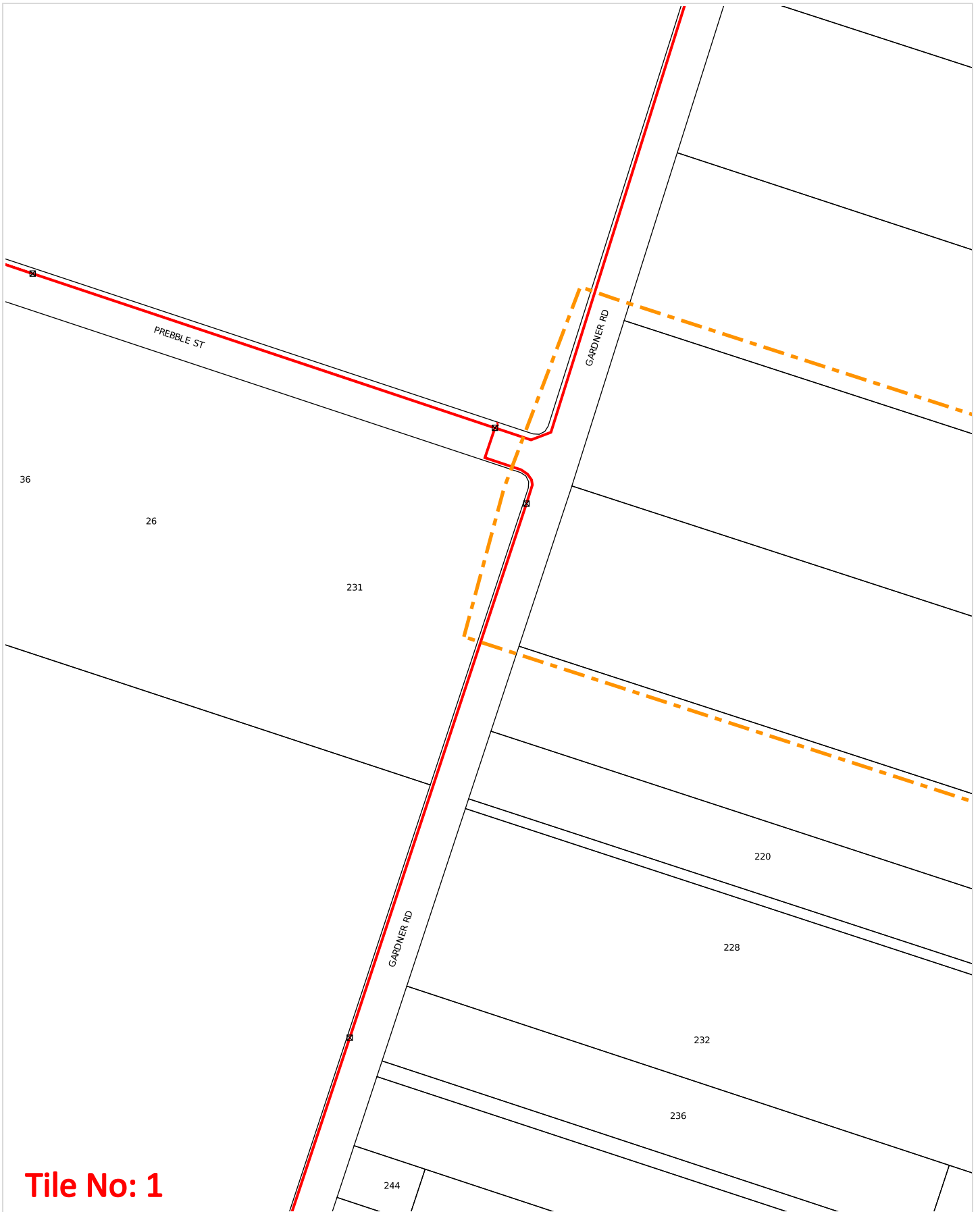
Sequence Number: 232066489

Date Generated: 13 Nov 2023



For all Optus DBYD plan enquiries –  
 Email: [Fibre.Locations@optus.net.au](mailto:Fibre.Locations@optus.net.au)  
 For urgent onsite assistance contact 1800 505 777  
 Optus Limited ACN 052 833 208





**Tile No: 1**

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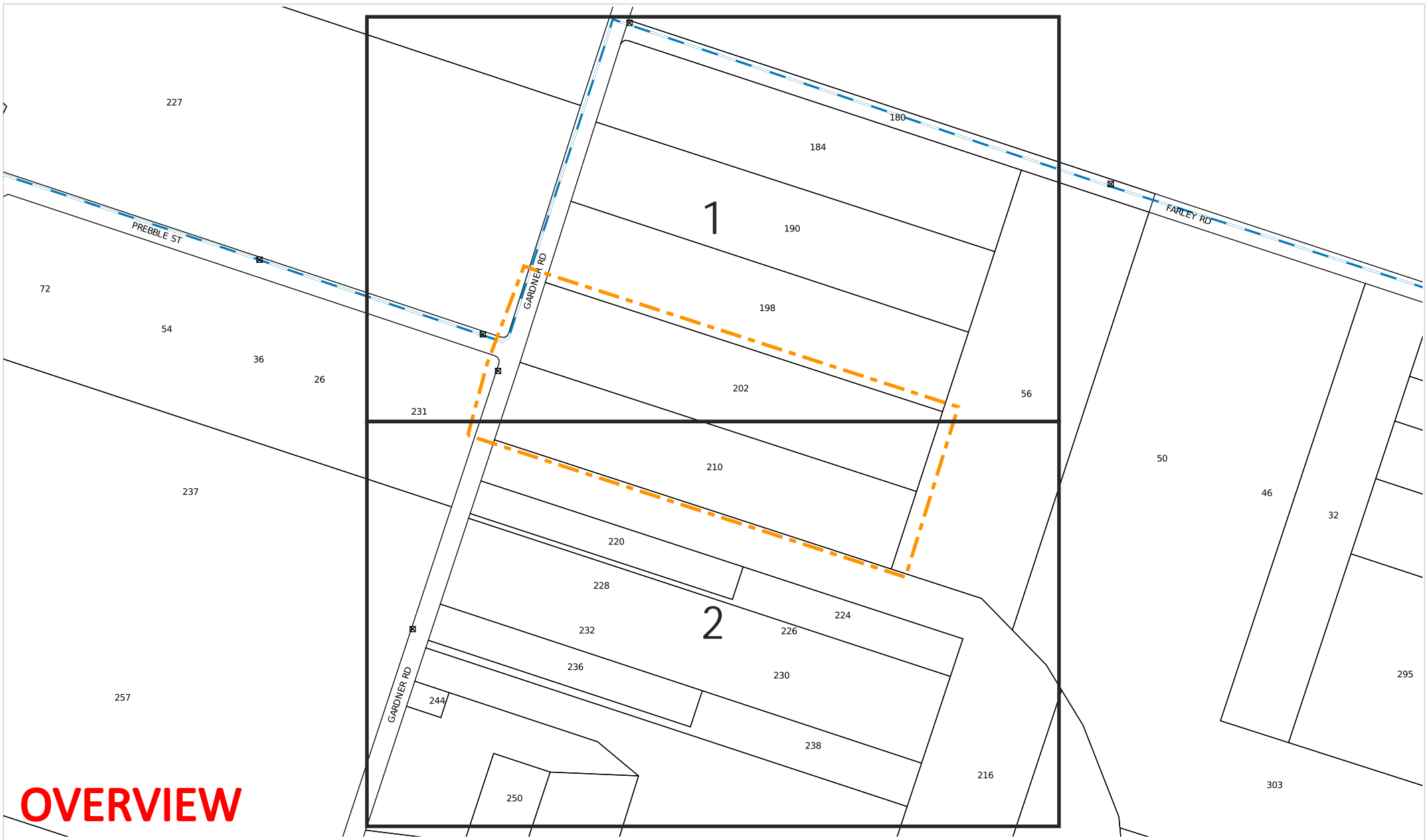
Sequence Number: 232066489

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For urgent onsite assistance contact 1800 505 777  
Optus Limited ACN 052 833 208





# OVERVIEW

## Uecomm Underground Cable

Scale: 1:5125

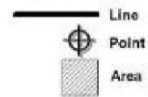
Printed on: 13 Nov 2023

Sequence Number: 232066489

Location: 202 Gardner Road, Rochedale, QLD 4123



### Job Location

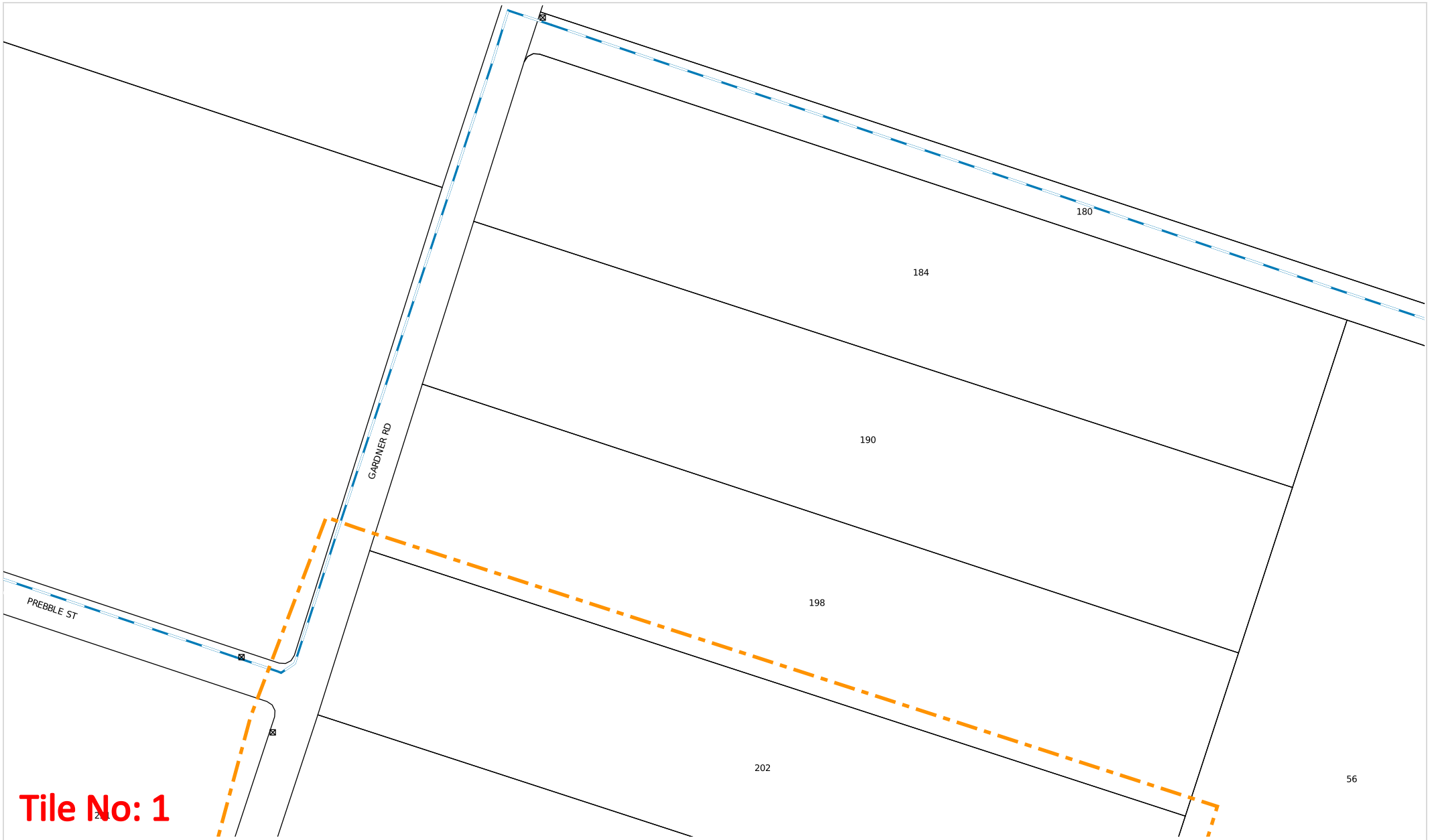


### Underground Asset



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**Tile No: 1**

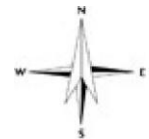
**Uecomm Underground Cable**

Scale: 1:2500

Printed on: 13 Nov 2023

Sequence Number: 232066489

Location: 202 Gardner Road, Rochedale, QLD 4123



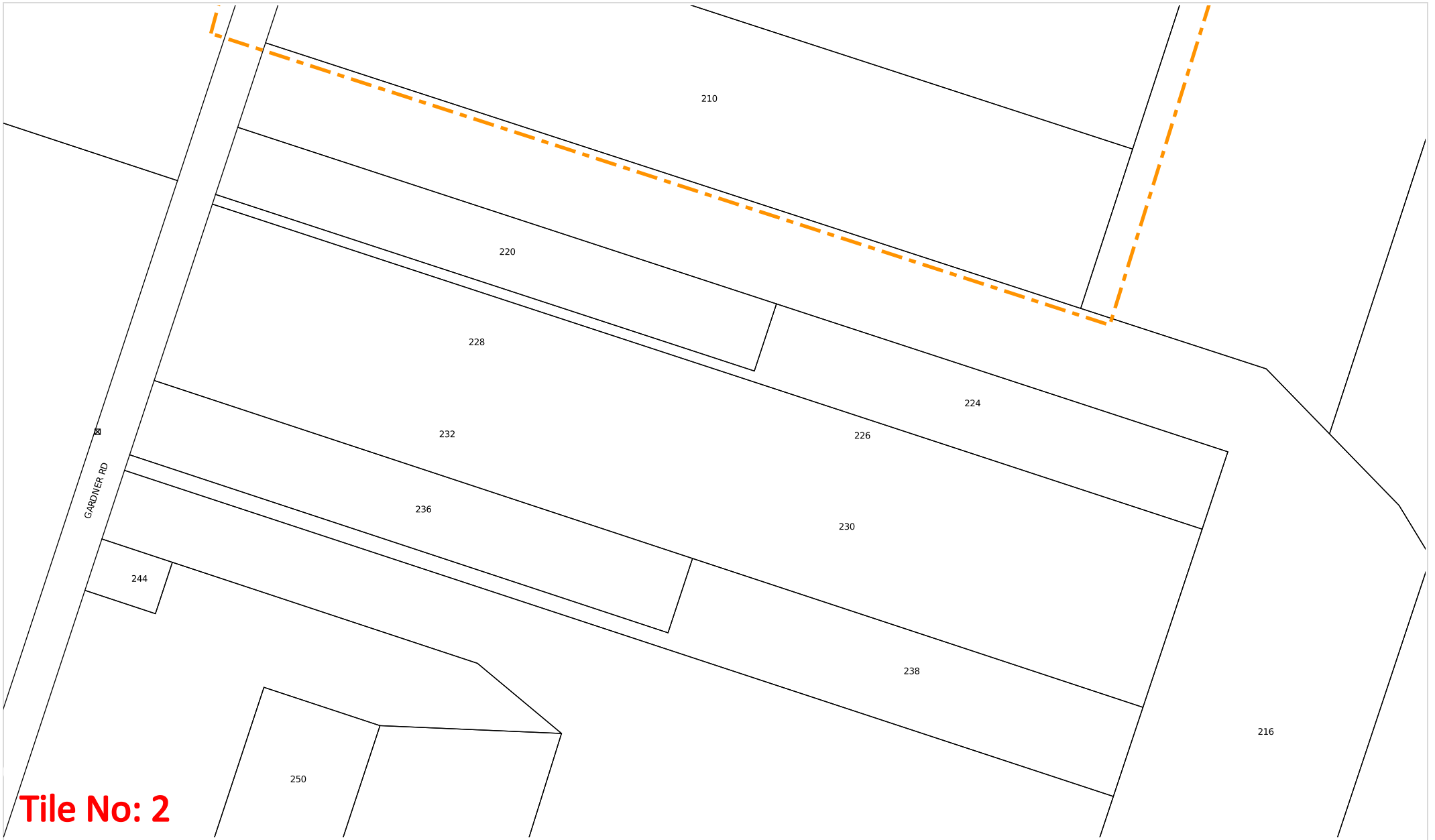
**Job Location**

- Line
- ⊕ Point
- ▒ Area

**Underground Asset**

- ▬ Uecomm

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**Tile No: 2**

**Uecomm Underground Cable**

Scale: 1:2500

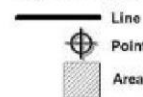
Printed on: 13 Nov 2023

Sequence Number: 232066489

Location: 202 Gardner Road, Rochedale, QLD 4123



**Job Location**



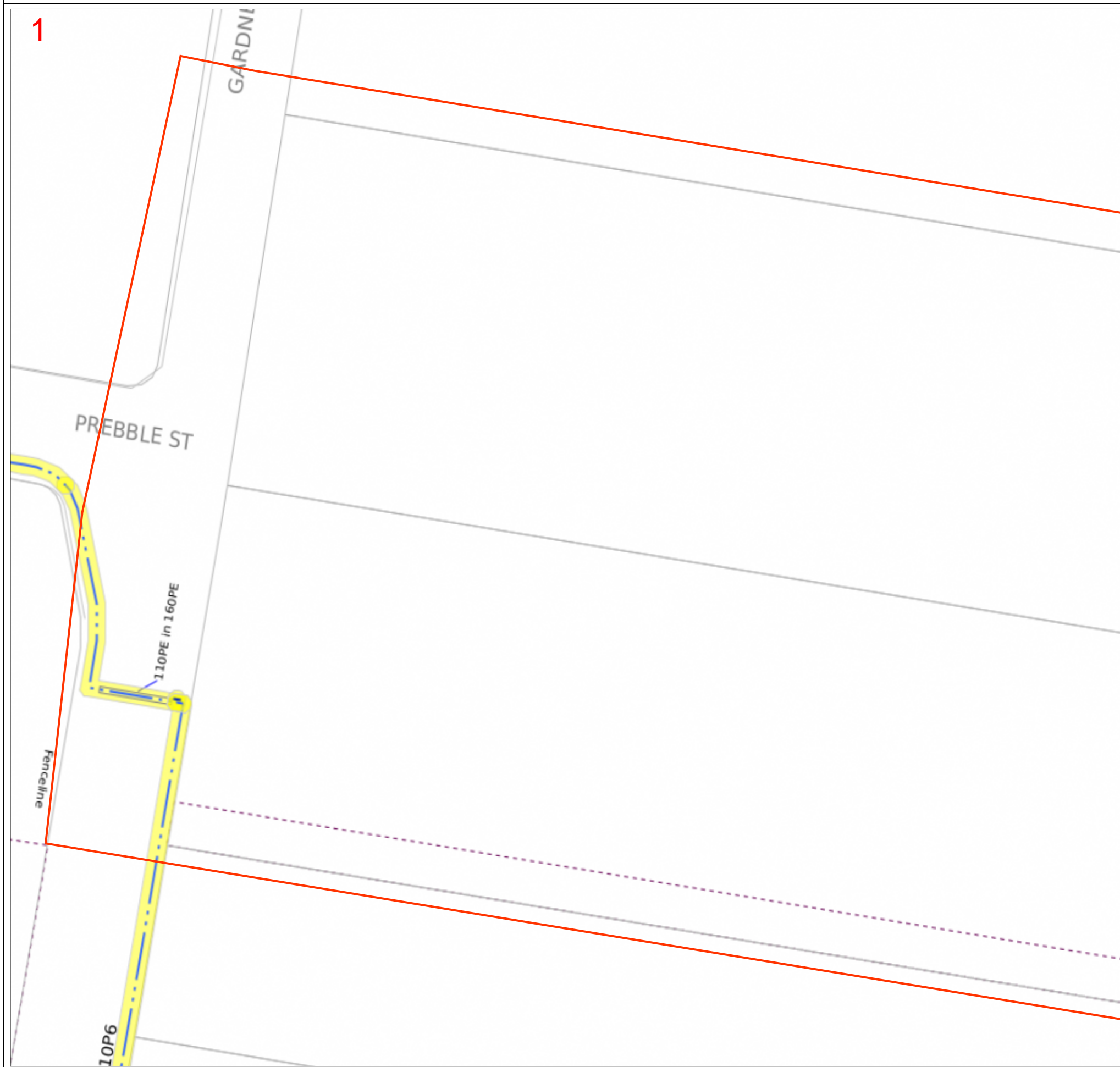
**Underground Asset**



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<b>Site Address</b>	202 Gardner Road Rosedale 4123	<b>Sequence No</b>	232066493
---------------------	-----------------------------------	--------------------	-----------

Before you commence any works you are required to complete the attached 'Work In The Vicinity Of Critical Gas Assets' request form and forward this to APA as soon as practicable.



LEGEND		PIPE CODE / MATERIALS		OBJECTS or TERMS		Map Key
<b>PIPE AND BOUNDARIES</b>		<b>C# (e.g. C2)</b>	Cast Iron	<b>VALVES</b>		<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">1</div>
LOW PRESSURES		CU	Copper	BURIED VALVES		
MEDIUM PRESSURES		N2	Nylon	REGULATORS		
HIGH PRESSURES		P# (e.g. P6)	Polyethylene (PE)	GAS SUPPLIED = YES		
TRANSMISSION PRESSURES		P6,P7,P9-P12	Medium Density PE	CP RECTIFIER UNIT		
PRIORITY MAIN (BEHIND PIPE)		P2,P4,P8	High Density PE	CP TEST POINT/ ANODE		
PROPOSED (COLOUR BY PRESSURE)		S# (e.g. S8)	Steel	SYPHON		
LPG (COLOUR BY PRESSURE)		W2	Wrought Galv. Iron	TRACE WIRE POINT		
ABANDONED		W3	Poly Coat Wrought Galv. Iron	PIPELINE MARKER		
IDLE		<i>Pipe diameter in millimetres is shown before pipe code e.g. 40P6 = 40mm nominal diameter</i>		NOT TIED IN	N.T.I.	
SLEEVE				DEPTH OF COVER	C	
CASING / SPLIT (BEHIND PIPE)				BACK / FRONT OF KERB	Bok Bok	
EASEMENT/ JURISDICTION						
<b>EXAMPLES</b>	40P6 in 80C2	40mm High Pressure Medium Density Polyethylene in an 80mm Cast Iron Casing				
	63S8	63mm Medium Pressure Steel				
	Line / Polygon Request					

Scale 1:700

0 0.008km



# Appendix G Development Codes

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## 9.4.3 Filling and excavation code

### 9.4.3.1 Application

1. This code applies to assessing:
  - a. accepted development subject to compliance with identified requirements, where acceptable outcomes of this code are identified requirements in a table of assessment for an overlay (section 5.10); or
  - b. operational work for filling or excavation which is assessable development if this code is an applicable code identified in the assessment benchmarks column of a table of assessment for operational work (section 5.8) or an overlay (section 5.10); or
  - c. a material change of use or reconfiguring a lot if:
    - i. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for material change of use (section 5.5) or reconfiguring a lot (section 5.6); or
    - ii. impact assessable development, to the extent relevant.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—This code does not apply to building work as defined in the Act.

Note—A development application involving a rock anchor within an adjoining site is submitted with proof of consent from an adjoining land and building owner.

Editor's note—Guidance on managing the spread of invasive species in filling or excavation activities is provided in Minimising Pest Spread Advisory Guidelines prepared for the Petroleum industry.

Editor's note—Where filling or excavation is conducted on land previously occupied by a notifiable activity or on land listed on the Environmental Management Register or the Contaminated Land Register, the relevant Queensland Government department should be contacted for advice and guidelines.

2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

- air quality assessment, guidance is provided in the Air quality planning scheme policy;
- ecological assessment, koala habitat or development design, guidance is provided in the Biodiversity areas planning scheme policy;
- retaining wall construction, guidance is provided in the Infrastructure design planning scheme policy;
- landscape design, guidance is provided in the Landscape design planning scheme policy;
- noise and dust impacts during construction and/or demolition, guidance is provided in the Management plans planning scheme policy;
- noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy;
- the selection of planting species, guidance is provided in the Planting species planning scheme policy;
- significant vegetation, guidance is provided in the Vegetation planning scheme policy.

Editor's note—For a proposal to be accepted development, subject to compliance with identified requirements, it must meet all the identified acceptable outcomes of this code and any other applicable code. Where it does not meet all identified acceptable outcomes, the proposal becomes assessable development and a development application is required. Where a development application is triggered, only the specific acceptable outcome that the proposal fails to meet needs to be assessed against the corresponding acceptable outcome or performance outcome and relevant overall outcomes. Other identified acceptable outcomes that are met are not assessed as part of the development application.

### 9.4.3.2 Purpose

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1. The purpose of the Filling and excavation code is to assess the suitability of development for filling or excavation.
2. The purpose of the code will be achieved through the following overall outcomes:
  - a. filling or excavation does not adversely affect the visual character and amenity of the site or the surrounding area and provides access for maintenance to any structure as a result of filling or excavation.
  - b. filling or excavation does not adversely impact significant vegetation, water quality or drainage of upstream, downstream and adjoining land.
  - c. filling or excavation effectively manages the impacts associated with the activity.
  - d. filling or excavation and any retaining structure is designed and constructed to be fit for purpose and to protect services and utilities.

### 9.4.3.3 Performance outcomes and acceptable outcomes

Table 9.4.3.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
<p><b>PO1</b>                      Development for filling or excavation 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:</p> <ol style="list-style-type: none"> <li>a. 2.5m in a zone in the Industry zones category;</li> <li>b. 1m in all other zones, or if adjoining a sensitive zone.</li> </ol>	<p><b>Complies</b>                      Proposed cut and fill does not exceed 1m.</p>
<p><b>PO2</b>                      Development of a retaining wall proposed as a result of filling or excavation:</p> <ol style="list-style-type: none"> <li>a. is designed and constructed to be fit for purpose;</li> <li>b. does not impact adversely on significant vegetation;</li> <li>c. is capable of easy maintenance.</li> </ol> <p>Editor's note—A retaining wall also needs to comply with the Building Regulation and embankment gradients will need to comply with the Building Regulation.                      Note—Guidance on the protection of native vegetation is included in the Biodiversity areas planning scheme policy.</p>	<p><b>AO2.1</b>                      Development of a retaining structure, including footings, surface drainage and subsoil drainage:</p> <ol style="list-style-type: none"> <li>a. is wholly contained within the site;</li> <li>b. if the total height to be retained is greater than 1m, then:                             <ol style="list-style-type: none"> <li>i. the retaining wall at the property boundary is no greater than 1m above the ground level;</li> <li>ii. all further terracing from the 1m high boundary retaining wall is 1 vertical unit:1 horizontal unit;</li> <li>iii. the distance between each successive retaining wall (back of lower wall to face of</li> </ol> </li> </ol>	<p><b>N/A</b>                      No retaining structures proposed.</p>

	<p>higher wall) is no less than 1m horizontally to incorporate planting areas.</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 Infrastructure design planning scheme policy and certified by a Registered Professional Engineer Queensland.</p> <p><b>AO2.3</b>                  Development provides a retaining wall finish that presents to adjoining land that is maintenance free if the setback is less than 750mm from the boundary.</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>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:</p> <ol style="list-style-type: none"> <li>a. is constructed in accordance with the standards in the Infrastructure design planning scheme policy;</li> <li>b. where it extends beyond the property boundary, is supported by a letter of consent from the adjoining land and building owners.</li> </ol>	<p>N/A</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</b>                  Alteration and relocation of any services and/or public utilities will be in accordance with authority.</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 Infrastructure design planning scheme policy.</p>	<p><b>Complies</b>                  Surface and sub-surface drainage design for the development will be in accordance with the BCC Planning Scheme and Policies.</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 Natural channel design guidelines.</p>	<p><b>AO6</b>                  Filling or excavation does not involve the construction of open drainage.</p>	<p><b>N/A</b></p>
<p><b>PO7</b>                  Development for filling or excavation:</p> <ul style="list-style-type: none"> <li>a. does not degrade water quality or adversely affect environmental values in receiving waters;</li> <li>b. ensures site sediment and erosion control standards are best practice.</li> </ul>	<p><b>AO7.1</b>                  Development for filling or excavation provides water quality treatment that complies with the stormwater drainage section of the Infrastructure design planning scheme policy.</p> <p><b>AO7.2</b>                  Development provides erosion and sediment control standards that are in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy.</p>	<p>Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development.</p>

<p><b>PO8</b>                  Development for filling or excavation is conducted such that adverse impacts at a sensitive use due to noise and dust are prevented or minimised.                  Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.</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>AO8.2</b>                  Development for filling or excavation activity only occurs between the hours of 6:30am and 6:30pm Monday to Saturday, excluding public holidays.</p>	<p><b>Development will comply at construction phase.</b></p>
<p><b>PO9</b>                  Development ensures that vibration generated by the filling or excavation operation does not exceed the vibration criteria in Table 9.4.3.3.B, Table 9.4.3.3.C, Table 9.4.3.3.D and Table 9.4.3.3.E.                  Note—A noise management report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.</p>	<p><b>AO9</b>                  Development involving filling or excavation does not cause a ground-borne vibration beyond the boundary of the site.</p>	<p><b>Development will comply at construction phase.</b></p>
<p><b>PO10</b>                  Development ensures that heavy trucks hauling material to and from the site do not affect the amenity of established areas and limits environmental nuisance impact on adjacent land.</p>	<p><b>AO10</b>                  Development ensures that heavy trucks hauling material to and from the site:</p> <ol style="list-style-type: none"> <li>a. occur for a maximum of 3 weeks;</li> <li>b. use a major road to access the site;</li> <li>c. only use a minor road for the shortest-most-direct route that has the least amount of environmental nuisance if there is no major road alternative.</li> </ol>	<p><b>Development will comply at construction phase.</b></p>
<p><b>PO11</b>                  Development for filling or excavation protects the environment and community health and wellbeing from exposure to contaminated land and contaminated material.</p>	<p><b>AO11</b>                  Development does not involve:</p> <ol style="list-style-type: none"> <li>a. excavation on land previously occupied by a notifiable activity or on land listed on the Environmental Management Register or the Contaminated Land Register;</li> <li>b. filling with material containing a contaminant.</li> </ol>	<p><b>N/A</b></p>

<p><b>PO12</b>                  Development provides for:</p> <ul style="list-style-type: none"> <li>a. landscaping for water conservation purposes;</li> <li>b. water sensitive urban design measures which are employed within the landscape design to maximise stormwater use;</li> <li>c. drainage and stormwater measures to reduce any adverse impacts on the landscape;</li> <li>d. stormwater harvesting to be maximised and any adverse impacts of stormwater minimised;</li> <li>e. reticulated irrigation to all artificial growing environments.</li> </ul> <p>Note—The Landscape design planning scheme policy provides guidance on information to be provided to demonstrate compliance with the performance outcome and acceptable outcomes.</p>	<p><b>AO12.1</b>                  Development provides drainage for artificial growing environments which is connected to the stormwater drain.</p> <p><b>AO12.2</b>                  Development ensures that the maximum site stormwater harvest capacity is utilised to meet the irrigation demand of the development before alternative irrigation sources are utilised and is in compliance with the standards in the Landscape design planning scheme policy.</p> <p><b>AO12.3</b>                  Development provides areas of pavement, turf, landscaping and mulched garden beds which are drained.                  Note—This may be achieved through the provision and/or treatment of swales, spoon drains, field gullies, sub-surface drainage and stormwater connections.</p> <p><b>AO12.4</b>                  Development provides a reticulated irrigation system to all landscaping areas in accordance with the Landscape design planning scheme policy.</p>	<p>N/A</p>
<p><b>PO13</b>                  Development ensures cutting and filling for the development of canals or artificial waterways avoids adverse impacts on coastal resources and processes.</p>	<p><b>AO13</b>                  Development does not involve the creation of canals or artificial waterways.</p>	<p>N/A</p>

**Table 9.4.3.3.B— Recommended intermittent vibration levels for cosmetic damage**

Type of building	Peak particle velocity (mm/s)
Reinforced or framed structures; industrial and heavy commercial buildings	50mm/s at 4Hz and above

Unreinforced or light-framed structures; residential or light-commercial type buildings	Below 4Hz	4Hz to 15Hz	15Hz and above
	0.6mm/s	15mm/s at 4Hz increasing to 20mm/s at 15Hz	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above

**Table 9.4.3.3.C— Recommended blasting vibration levels for human comfort**

Type of building	Type of blasting operations	Peak component particle velocity (mm/s)
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	5mm/s for 95% blasts per year 10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Residences, educational establishments and places of worship	Operations lasting for less than 12 months or less than 20 blasts	10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Industry or commercial premises	All blasting	25 mm/s maximum unless agreement is reached with the occupier that a higher limit may apply. For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that do not adversely affect the equipment operation.

**Table 9.4.3.3.D— Recommended levels for continuous and impulsive vibration acceleration (m/s<sup>2</sup>) 1—80Hz for human comfort**

Location	Assessment period <sup>(1)</sup>	Preferred values <sup>(3)</sup>		Maximum values <sup>(3)</sup>	
		z-axis	x and y axes	z-axis	x and y axes
<b>Continuous vibration</b>					

Critical areas <sup>(2)</sup>	Day or night	0.005 m/s <sup>2</sup>	0.0036 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>	0.0072 m/s <sup>2</sup>
Residences	Day	0.01 m/s <sup>2</sup>	0.0071 m/s <sup>2</sup>	0.02 m/s <sup>2</sup>	0.014 m/s <sup>2</sup>
-	Night	0.007 m/s <sup>2</sup>	0.005 m/s <sup>2</sup>	0.014 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>
Offices, educational establishments and places of worship	Day or night	0.02 m/s <sup>2</sup>	0.014 m/s <sup>2</sup>	0.04 m/s <sup>2</sup>	0.028 m/s <sup>2</sup>
Workshops	Day or night	0.04 m/s <sup>2</sup>	0.029 m/s <sup>2</sup>	0.08 m/s <sup>2</sup>	0.058 m/s <sup>2</sup>
<b>Impulsive vibration</b>					
Critical areas	Day or night	0.005 m/s <sup>2</sup>	0.0036 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>	0.0072 m/s <sup>2</sup>
Residences	Day	0.3 m/s <sup>2</sup>	0.21 m/s <sup>2</sup>	0.6 m/s <sup>2</sup>	0.42 m/s <sup>2</sup>
-	Night	0.1 m/s <sup>2</sup>	0.071 m/s <sup>2</sup>	0.2 m/s <sup>2</sup>	0.14 m/s <sup>2</sup>
Offices, educational establishments and places of worship	Day or night	0.64 m/s <sup>2</sup>	0.46 m/s <sup>2</sup>	1.28 m/s <sup>2</sup>	0.92 m/s <sup>2</sup>
Workshops	Day or night	0.64 m/s <sup>2</sup>	0.46 m/s <sup>2</sup>	1.28 m/s <sup>2</sup>	0.92 m/s <sup>2</sup>

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

**Table 9.4.3.3.E— Recommended vibration dose values for intermittent vibration (m/s<sup>1.75</sup>) for human comfort**

Location	Daytime <sup>(1)</sup>		Night time <sup>(1)</sup>	
	Preferred value	Maximum value	Preferred value <sup>(3)</sup>	Maximum value <sup>(3)</sup>

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Critical areas <sup>(2)</sup>	0.1 m/s <sup>1.75</sup>	0.2 m/s <sup>1.75</sup>	0.1 m/s <sup>1.75</sup>	0.2 m/s <sup>1.75</sup>
Residences	0.2 m/s <sup>1.75</sup>	0.4 m/s <sup>1.75</sup>	0.13 m/s <sup>1.75</sup>	0.26 m/s <sup>1.75</sup>
Offices, educational establishments and places of worship	0.4 m/s <sup>1.75</sup>	0.8 m/s <sup>1.75</sup>	0.4 m/s <sup>1.75</sup>	0.8 m/s <sup>1.75</sup>
Workshops	0.8 m/s <sup>1.75</sup>	1.6 m/s <sup>1.75</sup>	0.8 m/s <sup>1.75</sup>	1.6 m/s <sup>1.75</sup>

Note—

<sup>(1)</sup> Day is 7am to 10pm and night is 10pm to 7am.

<sup>(2)</sup> Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

<sup>(3)</sup> Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

## 9.4.4 Infrastructure design code

### 9.4.4.1 Application

1. This code applies to assessing a material change of use, reconfiguring a lot or building work if:
  - a. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5), reconfiguring a lot (section 5.6), operational work (section 5.8), or an overlay (section 5.10); or
  - b. impact assessable development, to the extent relevant.
2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

- ecological assessment, koala habitat or development design, guidance is provided in the Biodiversity areas planning scheme policy;
- infrastructure design and construction works, guidance is provided in the Infrastructure design planning scheme policy;
- noise and dust impacts during construction and/or demolition, guidance is provided in the Management plans planning scheme policy;
- noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy;
- refuse and recycling, guidance is provided in the Refuse planning scheme policy;
- parking or servicing management during construction, guidance is provided in the Transport, access, parking and servicing planning scheme policy.

### 9.4.4.2 Purpose

1. The purpose of the Infrastructure design code is to assess the suitability of infrastructure for development.
2. The purpose of the code will be achieved through the following overall outcomes:
  - a. Development is provided with a safe, connected and efficient transport network for all modes that has a minimal whole-of-life cost.
  - b. Development provides for public utilities and services to the standards acceptable to the Council and the reasonable expectations of service providers.
  - c. Development involving infrastructure which is intended to become a Council asset is safe, aesthetically pleasing, functional, fit for purpose, durable, minimises environmental impacts and has minimal whole-of-life cost.
  - d. Development provides for a public space to be safe and inviting, allowing high levels of pedestrian activity.
  - e. Development ensures that the community and environment are not unreasonably disrupted or impacted by construction or demolition for the development.
  - f. Development involving infrastructure is designed with consideration of, and to integrate with, other related and interfacing infrastructure components.
  - g. Development accessed by common private title is provided with appropriate fire hydrant infrastructure and has unimpeded access for refuse vehicles and for emergency service vehicles to protect people, property and the environment.
  - h. Development ensures major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System is not compromised.
  - i. Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System avoids or otherwise minimises adverse impacts on surrounding land uses.

9.4.4.3 Performance outcomes and acceptable outcomes

Table 9.4.4.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
<p><b>PO1</b>                      Development provides roads, pavement, edging and landscaping which:</p> <ul style="list-style-type: none"> <li>a. are designed and constructed in accordance with the road hierarchy;</li> <li>b. provide for safe travel for pedestrians, cyclists and vehicles;</li> <li>c. provide access to properties for all modes;</li> <li>d. provide utilities;</li> <li>e. provide high levels of aesthetics and amenity, improved liveability and future growth;</li> <li>f. provide for the amelioration of noise and other pollution;</li> <li>g. provide a high-quality streetscape;</li> <li>h. 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 Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.</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 Infrastructure design planning scheme policy.</p>	<p><b>Development Complies</b>                      Proposed road will be designed in accordance with the Infrastructure design planning scheme policy.</p>
<p><b>PO2</b>                      Development provides road pavement surfaces which:</p> <ul style="list-style-type: none"> <li>a. are well designed and constructed;</li> <li>b. durable enough to carry the wheel loads of the intended types and numbers of travelling and parked vehicles;</li> <li>c. ensures the safe passage of vehicles, pedestrians and cyclists, the discharge of stormwater run-off</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 Infrastructure design planning scheme policy.</p>	<p><b>Development Complies</b>                      Proposed road will be designed in accordance with the Infrastructure design planning scheme policy.</p>

<p>and the preservation of all-weather access;                  d. allows for reasonable travel comfort.</p>		
<p><b>PO3</b>                  Development provides a pavement edge which is designed and constructed to:                  a. control vehicle movements by delineating the carriageway for all users;                  b. provide for people with disabilities by allowing safe passage of wheelchairs and other mobility aids.</p>	<p><b>AO3</b>                  Development provides pavement edges which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.</p>	<p><b>Development Complies</b>                  Proposed road will be designed in accordance with the Infrastructure design planning scheme policy.</p>
<p><b>PO4</b>                  Development provides verges which are designed and constructed to:                  a. provide safe access for pedestrians clear of obstructions and access areas for vehicles onto properties;                  b. provide a sufficient area for public utility services;                  c. be maintainable by the Council.</p>	<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 Infrastructure design planning scheme policy.</p>	<p><b>Development Complies</b>                  Proposed road will be designed in accordance with the Infrastructure design planning scheme policy.</p>
<p><b>PO5</b>                  Development provides a lane or laneway identified on the Streetscape hierarchy overlay map or in a neighbourhood plan which:                  a. allows equitable access for all modes;                  b. is safe and secure;                  c. has 24-hour access;                  d. is a low-speed shared zone environment;                  e. has a high-quality streetscape.</p>	<p><b>AO5</b>                  Development provides a lane or laneway identified on the Streetscape hierarchy overlay map or in a neighbourhood plan which is embellished in compliance with the streetscape locality advice standards in the Infrastructure design planning scheme policy.</p>	<p><b>N/A</b>                  No lanes or laneways proposed.</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:                  a. an effective, high-quality paved roadway;                  b. an effective, high-quality roadway kerb and</p>	<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 Infrastructure</p>	<p><b>Development complies.</b>                  Any design will be in accordance with all relevant BCC and Australian Standards.</p>

<p>channel;</p> <ul style="list-style-type: none"> <li>c. safe, high-quality vehicle crossings over channels and verges;</li> <li>d. safe, accessible, high-quality verges compatible and integrated with the surrounding environment;</li> <li>e. safe vehicle access to the site that enables ingress and egress in a forward gear;</li> <li>f. provision of and required alterations to public utilities;</li> <li>g. effective drainage;</li> <li>h. appropriate conduits to facilitate the provision of required street-lighting systems and traffic signals.</li> </ul>	<p>design planning scheme policy:</p> <ul style="list-style-type: none"> <li>a. concrete kerb and channel;</li> <li>b. forming and grading to verges;</li> <li>c. crossings over channels and verges;</li> <li>d. a constructed bikeway;</li> <li>e. a constructed verge or reconstruction of any damaged verge;</li> <li>f. construction of the carriageway;</li> <li>g. payment of costs for required alterations to public utility mains, services or installations;</li> <li>h. construction of and required alterations to public utility mains, services or installations;</li> <li>i. drainage works;</li> <li>j. installation of electrical conduits.</li> </ul>	
<p><b>PO7</b>                  Development provides both cycle and walking routes which:</p> <ul style="list-style-type: none"> <li>a. are located, designed and constructed to their network classification (where applicable);</li> <li>b. provide safe and attractive travel routes for pedestrians and cyclists for commuter and recreational purposes;</li> <li>c. provide safe and comfortable access to properties for pedestrians and cyclists;</li> <li>d. incorporate water sensitive urban design into stormwater drainage;</li> <li>e. provide for utilities;</li> <li>f. provide for a high level of aesthetics and amenity, improved liveability and future growth;</li> <li>g. are a low-maintenance asset with a minimal whole-of-life cost;</li> <li>h. minimise the clearing of significant native vegetation.</li> </ul> <p>Note—This can be demonstrated in an engineering report prepared and</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 Infrastructure design planning scheme policy.</p>	<p><b>N/A</b></p>

<p>certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.</p>		
<p><b>PO8</b>                  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><b>A08.1</b>                  Development provides refuse and recycling collection and storage facilities in accordance with the Refuse planning scheme policy.</p> <p><b>A08.2</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 Refuse planning scheme policy for further guidance.</p>	<p><b>N/A – Subdivision</b></p>
<p><b>PO9</b>                  Development ensures that:</p> <ol style="list-style-type: none"> <li>a. land used for an urban purpose is serviced adequately with regard to water supply and waste disposal;</li> <li>b. the water supply meets the stated standard of service for the intended use and fire-fighting purposes.</li> </ol>	<p><b>A09.1</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>A09.2</b>                  Development provides the lot with reticulated water supply and sewerage to a standard acceptable to the distributor—retailer.</p>	<p><b>Development will comply.</b>                  Refer to preliminary engineering drawings 27292_DA04 and 27292_DA05 and Engineering Services Report by ADG Engineers (ADG Ref: 27292 C ESR) for preliminary water and sewer layout proposal.</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> <ol style="list-style-type: none"> <li>a. avoid significant native vegetation and areas identified within the Biodiversity areas overlay map;</li> <li>b. minimise earthworks;</li> <li>c. avoid crossing waterways, waterway corridors and wetlands or if a crossing is unavoidable, tunnel-boring techniques are used to minimise disturbance, and a disturbed area is reinstated and restored on completion of the work.</li> </ol> <p>Note—Guidance on the restoration of habitat is included in the</p>	<p><b>Development will comply.</b></p>

	<p>Biodiversity areas planning scheme policy.</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 Infrastructure design planning scheme policy.</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:</p> <ol style="list-style-type: none"> <li>a. electricity;</li> <li>b. telecommunications services;</li> <li>c. gas service where practicable.</li> </ol>	<p><b>Development will comply.</b>                  Refer to Engineering Services Report by ADG Engineers (ADG Ref: 27292 C ESR) for details.</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> <ol style="list-style-type: none"> <li>a. the additional expense is unlikely to be prohibitive; or</li> <li>b. further major work is unlikely or disruption would be a major concern, such as where there is a limited capacity road; or</li> <li>c. there is a clear gap in the telecommunications network; or</li> <li>d. there is a clear gap in the bandwidth available to the area.</li> </ol> <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>Development will comply.</b></p>
<p><b>PO13</b></p>	<p><b>AO13</b></p>	<p><b>N/A</b></p>

<p>Development provides public art identified in a neighbourhood plan or park concept plan which:</p> <ul style="list-style-type: none"> <li>a. is provided commensurate with the status and scale of the proposed development;</li> <li>b. is sited and designed:                             <ul 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> </ul> </li> </ul>	<p>Development provides public art identified in a neighbourhood plan or park concept plan which is sited and designed in compliance with the public art standards in the Infrastructure design planning scheme policy.</p>	
<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:</p> <ul style="list-style-type: none"> <li>a. at public transport interchanges and stops, key destinations, public spaces, pedestrian linkages and at entries to centre developments;</li> <li>b. which details the location of the key destinations, public spaces and pedestrian linkages in the vicinity, the services available within the development and where they are located.</li> </ul> <p>Editor's note—Signage is to be in accordance with Local Law Number 1 (Control of Advertisements Local Law).</p>	<p><b>Development will comply.</b></p>
<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 Infrastructure design planning scheme policy.</p>	<p><b>N/A</b></p>
<p><b>PO16</b>                  Development provides public toilets which:</p> <ul style="list-style-type: none"> <li>a. are required as part of a community facility or park;</li> <li>b. are located, designed and constructed to be:                             <ul style="list-style-type: none"> <li>i. safe;</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 Infrastructure design planning scheme policy.</p>	<p><b>N/A</b></p>

<ul style="list-style-type: none"> <li>ii. durable;</li> <li>iii. resistant to vandalism;</li> <li>iv. able to service expected demand;</li> <li>v. fit for purpose.</li> </ul>		
<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> <ul style="list-style-type: none"> <li>a. safe movement of intended users;</li> <li>b. an attractive appearance appropriate to the general surroundings and any adjacent structures;</li> <li>c. functionality and easy maintenance;</li> <li>d. minimal whole-of-life cost;</li> <li>e. longevity;</li> <li>f. current and future services.</li> </ul> <p>Note—All bridges and elevated and associated elements must be designed and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.</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 Infrastructure design planning scheme policy.</p>	<p>N/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>a. safety;</li> <li>b. an attractive appearance appropriate to the general surroundings;</li> <li>c. functionality and easy maintenance;</li> <li>d. minimal whole-of-life cost;</li> <li>e. longevity;</li> <li>f. future widening;</li> <li>g. current and future services;</li> <li>h. minimal adverse impacts, such as increase in water levels or flow velocities, and significant change of</li> </ul>	<p><b>AO18</b>                  Development that provides culverts is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy.</p>	<p>Development will comply.</p>

<p>flood patterns.                  Note—All culverts and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.</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> <ol style="list-style-type: none"> <li>a. safety;</li> <li>b. an attractive appearance appropriate to the surrounding area;</li> <li>c. easy maintenance;</li> <li>d. minimal whole-of-life cost;</li> <li>e. longevity;</li> <li>f. minimal water seepage.</li> </ol> <p>Note—All retaining walls and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.</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 Infrastructure design planning scheme policy.</p>	<p><b>Development will comply.</b>                  Refer to ADG preliminary bulk earthworks plan 27292_DA01 and Engineering Services Report by ADG Engineers (ADG Ref: 27292 C ESR).</p>
<p><b>If for development with a gross floor area greater than 1,000m<sup>2</sup></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 not unreasonably disrupted and existing landscaping is adequately protected from short- and long-term impacts.                  Note—The preparation of a construction management plan can assist in demonstrating achievement of this performance outcome.                  Note—The Transport, access, parking and servicing planning scheme policy provides advice on the management of vehicle parking and deliveries during construction.</p>	<p><b>AO20</b>                  Development ensures that during construction:</p> <ol style="list-style-type: none"> <li>a. the ongoing use of adjoining and surrounding parks and public spaces, such as malls and outdoor dining, is not compromised;</li> <li>b. 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> </ol>	<p>N/A</p>
<p><b>PO21</b>                  Development ensures that construction and demolition activities are guided by measures that prevent or</p>	<p><b>AO21.1</b>                  Development ensures that demolition and construction:</p> <ol style="list-style-type: none"> <li>a. only occur between 6:30am and 6:30pm Monday to</li> </ol>	<p>N/A</p>

<p>minimise adverse impacts including sleep disturbance at a sensitive use, due to noise and dust, including dust from construction vehicles entering and leaving the site.                  Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.</p>	<p>Saturday, excluding public holidays;                  b. 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:                  a. construction and demolition do not result in damage to surrounding property as a result of vibration;                  b. vibration levels achieve the vibration criteria in Table 9.4.4.3.B, Table 9.4.4.3.C, Table 9.4.4.3.D and Table 9.4.4.3.E.                  Note—A vibration impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.</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>N/A</p>
<p><b>If for a material change of use or reconfiguring a lot in an urban area (as defined in the Regulation) involving premises that is, or will be, accessed by common private title, where involving buildings, either attached or detached, that are not covered by other legislation mandating fire hydrants</b></p>		
<p><b>PO23</b>                  Development ensures that fire hydrants are:                  a. installed and located to enable fire services to access water safely, effectively and efficiently;                  b. suitably identified so that fire services can locate them at all hours.</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.                  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:</p>	<p>N/A</p>

	<ul style="list-style-type: none"> <li>a. raised reflectorised pavement markers (RRPM) on sealed roads;</li> <li>b. marker posts at the fence line where on an unsealed road, as road (HR) or path (HP) hydrants.</li> </ul>	
<b>PO24</b> 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.	<b>AO24</b> 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.	N/A
<b>Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where not in the Utility services zone precinct of the Special purpose zone</b>		
<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.	<b>AO25</b> No acceptable outcome is prescribed.	N/A
<b>Development potentially impacting on major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where the infrastructure is not in the Utility services zone precinct of the Special purpose zone</b>		
<b>PO26</b> Development is sited and designed to: <ul style="list-style-type: none"> <li>a. avoid safety risks to people or property;</li> <li>b. minimise noise and visual impacts to people and property;</li> <li>c. ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.</li> </ul>	<b>AO26</b> No acceptable outcome is prescribed.	N/A

**Table 9.4.4.3.B—Recommended intermittent vibration levels for cosmetic damage**

Type of building	Peak particle velocity (mm/s)		
Reinforced or framed structures; industrial and heavy commercial buildings	50mm/s at 4Hz and above		
Unreinforced or light-framed structures; residential or light commercial type buildings	Below 4Hz	4Hz to 15Hz	15Hz and above
	0.6mm/s	15mm/s at 4Hz increasing to 20mm/s at 15Hz	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above

**Table 9.4.4.3.C—Recommended blasting vibration levels for human comfort**

Type of building	Type of blasting operations	Peak component particle velocity (mm/s)
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	5mm/s for 95% blasts per year 10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Industry or commercial premises	All blasting	25mm/s maximum unless agreement is reached with the occupier that a higher limit may apply. For sites containing

		equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that do not adversely affect the equipment operation.
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**Table 9.4.4.3.D—Recommended levels for continuous and impulsive vibration acceleration (m/s<sup>2</sup>) 1—80Hz for human comfort**

Location	Assessment period <sup>(1)</sup>	Preferred values <sup>(3)</sup>		Maximum values <sup>(3)</sup>	
		z-axis	x and y axes	z-axis	x and y axes
<b>Continuous vibration</b>					
Critical areas <sup>(2)</sup>	Day or night	0.005 m/s <sup>2</sup>	0.0036 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>	0.0072 m/s <sup>2</sup>
Residences	Day	0.01 m/s <sup>2</sup>	0.0071 m/s <sup>2</sup>	0.02 m/s <sup>2</sup>	0.014 m/s <sup>2</sup>
-	Night	0.007 m/s <sup>2</sup>	0.005 m/s <sup>2</sup>	0.014 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>
Offices, educational establishments and places of worship	Day or night	0.02 m/s <sup>2</sup>	0.014 m/s <sup>2</sup>	0.04 m/s <sup>2</sup>	0.028 m/s <sup>2</sup>
Workshops	Day or night	0.04 m/s <sup>2</sup>	0.029 m/s <sup>2</sup>	0.08 m/s <sup>2</sup>	0.058 m/s <sup>2</sup>
<b>Impulsive vibration</b>					
Critical areas	Day or night	0.005 m/s <sup>2</sup>	0.0036 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>	0.0072 m/s <sup>2</sup>
Residences	Day	0.3 m/s <sup>2</sup>	0.21 m/s <sup>2</sup>	0.6 m/s <sup>2</sup>	0.42 m/s <sup>2</sup>
-	Night	0.1 m/s <sup>2</sup>	0.071 m/s <sup>2</sup>	0.2 m/s <sup>2</sup>	0.14 m/s <sup>2</sup>
Offices, educational establishments and places of worship	Day or night	0.64 m/s <sup>2</sup>	0.46 m/s <sup>2</sup>	1.28 m/s <sup>2</sup>	0.92 m/s <sup>2</sup>
Workshops	Day or night	0.64 m/s <sup>2</sup>	0.46 m/s <sup>2</sup>	1.28 m/s <sup>2</sup>	0.92 m/s <sup>2</sup>

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

**Table 9.4.4.3.E—Recommended vibration dose values for intermittent vibration ( $\text{m/s}^{1.75}$ ) for human comfort**

Location	Daytime <sup>(1)</sup>		Night time <sup>(1)</sup>	
	Preferred value	Maximum value	Preferred value <sup>(3)</sup>	Maximum value <sup>(3)</sup>
Critical areas <sup>(2)</sup>	0.1 $\text{m/s}^{1.75}$	0.2 $\text{m/s}^{1.75}$	0.1 $\text{m/s}^{1.75}$	0.2 $\text{m/s}^{1.75}$
Residences	0.2 $\text{m/s}^{1.75}$	0.4 $\text{m/s}^{1.75}$	0.13 $\text{m/s}^{1.75}$	0.26 $\text{m/s}^{1.75}$
Offices, educational establishments and places of worship	0.4 $\text{m/s}^{1.75}$	0.8 $\text{m/s}^{1.75}$	0.4 $\text{m/s}^{1.75}$	0.8 $\text{m/s}^{1.75}$
Workshops	0.8 $\text{m/s}^{1.75}$	1.6 $\text{m/s}^{1.75}$	0.8 $\text{m/s}^{1.75}$	1.6 $\text{m/s}^{1.75}$

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

## 9.4.9 Stormwater code

### 9.4.9.1 Application

1. This code applies to assessing a material change of use, reconfiguring a lot or operational work if:
  - a. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5), reconfiguring a lot (section 5.6) operational work (section 5.8) or an overlay (section 5.10); or
  - b. impact assessable development, to the extent relevant.
2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to infrastructure design and construction works, guidance is provided in the Infrastructure design planning scheme policy.

### 9.4.9.2 Purpose

1. The purpose of the Stormwater code is to assess the suitability of the stormwater aspects of development.
2. The purpose of the code will be achieved through the following overall outcomes:
  - a. Development achieves acceptable levels of stormwater run-off quality and quantity by applying water sensitive urban design principles as part of an integrated stormwater management framework.
  - b. Development protects public health and safety and protects against damage or nuisance caused by stormwater flows.
  - c. Development has a stormwater management system which maintains, recreates or minimises impact to natural catchment hydrological processes.
  - d. Development ensures that the environmental values of the city’s waterways are protected or enhanced.
  - e. Development minimises run-off, including peak flows.
  - f. Development maintains or enhances the efficiency and integrity of the stormwater infrastructure network.
  - g. Development minimises the whole of life cycle cost of stormwater infrastructure.

### 9.4.9.3 Performance outcomes and acceptable outcomes

**Table 9.4.9.3.A—Performance outcomes and acceptable outcomes**

Performance outcomes	Acceptable outcomes	Comments
<p><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.</p>		

<p><b>PO1</b>                  Development provides a stormwater management system which achieves the integrated management of stormwater to:</p> <ul style="list-style-type: none"> <li>a. minimise flooding;</li> <li>b. protect environmental values of receiving waters;</li> <li>c. maximise the use of water sensitive urban design;</li> <li>d. minimise safety risk to all persons;</li> <li>e. maximise the use of natural waterway corridors and natural channel design principles.</li> </ul> <p>Editor's note—The stormwater management system to be developed to address PO1 is not intended to require management of stormwater quality.</p>	<p><b>AO1</b>                  Development provides a stormwater management system designed in compliance with the Infrastructure design planning scheme policy.</p>	<p><b>Complies</b>                  Stormwater management system designed in accordance with Infrastructure design planning scheme policy. Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR for further information).</p>
<p><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.</p>	<p><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.</p> <p><b>AO2.2</b>                  Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy.</p>	<p><b>Complies</b>                  Site outside of flood planning area.</p>
<p><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.</p>	<p><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.</p> <p><b>AO3.2</b>                  Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy.</p> <p><b>AO3.3</b></p>	<p><b>Complies</b>                  Stormwater drainage system designed in accordance with Infrastructure design planning scheme policy. Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.</p>

	Development obtains a lawful point of discharge in compliance with the standards in the Infrastructure design planning scheme policy.	
<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>AO3.4</b> Where on private land, all underground stormwater infrastructure is secured by a drainage easement.	<b>Complies</b> Stormwater management system designed in accordance with Infrastructure design planning scheme policy. Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.
<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>AO4.1</b> Development provides a stormwater conveyance system which is designed to safely convey flows in compliance with the standards in the Infrastructure design planning scheme policy.  <b>AO4.2</b> Development provides sufficient area to convey run-off which will comply with the standards in the Infrastructure design planning scheme policy.	<b>N/A</b> No proposed modification to overland flow path.
<b>PO6</b> Development ensures that location and design of stormwater detention and water quality treatment: <ul style="list-style-type: none"> <li>a. minimises risk to people and property;</li> <li>b. provides for safe access and maintenance;</li> <li>c. minimises ecological impacts to creeks and waterways.</li> </ul>	<b>AO5</b> Development ensures the design of stormwater channels, creek modifications or other infrastructure, permits terrestrial and aquatic fauna movement.	<b>AO6.1</b> Development locates stormwater detention and water quality treatment: <ul style="list-style-type: none"> <li>a. outside of a waterway corridor;</li> <li>b. offline to any catchment not contained within the development.</li> </ul> <b>AO6.2</b> Development providing for stormwater detention and water quality treatment devices are designed in compliance with the standards in the Infrastructure design planning scheme policy.

<p><b>PO7</b>                  Development is designed, including any car parking areas and channel works to:</p> <ul style="list-style-type: none"> <li>a. reduce property damage;</li> <li>b. provide safe access to the site during the defined flood event.</li> </ul>	<p><b>A07.1</b>                  Development (including any ancillary structures and car parking areas) is located above minimum flood immunity levels in Table 9.4.9.3.B, Table 9.4.9.3.C, Table 9.4.9.3.D, Table 9.4.9.3.E and Table 9.4.9.3.F.                  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).</p> <p><b>A07.2</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 Infrastructure design planning scheme policy.</p>	<p><b>Complies</b>                  Minimum design level of road will be above 2% AEP flood level. Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.</p>
<p><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.</p>	<p><b>A08.1</b>                  Development ensures natural waterway corridors and drainage paths are retained.</p> <p><b>A08.2</b>                  Development provides the required hydraulic conveyance of the drainage channel and floodway, while maximising its potential to maximise environmental benefits and minimise scour.                  Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines.</p> <p><b>A08.3</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 Infrastructure design planning scheme policy.</p> <p><b>A08.4</b>                  Development ensures that the design of modifications to the existing design of new stormwater channels, creeks</p>	<p><b>N/A</b>                  No proposed modification to overland flow path.</p>

	and major drains is in compliance with the standards in the Infrastructure design planning scheme policy.	
<p><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.</p>	<p><b>AO9</b>                  No acceptable outcome is prescribed.</p>	<p><b>Development will comply.</b></p>
<p><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.</p>	<p><b>AO10</b>                  No acceptable outcome is prescribed.</p>	<p><b>Complies</b>                  Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.</p>
<p><b>PO11</b>                  Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to the:</p> <ol style="list-style-type: none"> <li>existing capacity of stormwater infrastructure within and external to the site, and any planned stormwater infrastructure upgrades;</li> <li>safe management of stormwater discharge from existing and future up-slope development;</li> <li>implication for adjacent and down-slope development.</li> </ol>	<p><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.</p> <p><b>AO11.2</b>                  Development ensures that existing stormwater infrastructure that is undersized is upgraded in compliance with the Infrastructure design planning scheme policy.</p>	<p><b>Development will comply</b>                  Lots to be provided with external catchment diversions where required upon development.</p>
<p><b>PO12</b>                  Development provides stormwater infrastructure which:</p> <ol style="list-style-type: none"> <li>remains fit for purpose for the life of the development and maintains full functionality in the design flood event;</li> <li>can be safely accessed and maintained cost effectively;</li> <li>ensures no structural damage to existing stormwater infrastructure.</li> </ol>	<p><b>AO12.1</b>                  The stormwater management system is designed in compliance with the Infrastructure design planning scheme policy.</p> <p><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.</p>	<p><b>Complies</b>                  Stormwater management system designed in accordance with Infrastructure design planning scheme policy. Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.</p>

<p><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 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 Infrastructure design planning scheme policy outlines the appropriate measures to be taken into account to achieve the performance outcome.</p>	<p><b>AO13</b>                  No acceptable outcome is prescribed.</p>	<p>Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development.</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>Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development.</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>Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development.</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> </ul>		

<p>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;                  c. operational work for an urban purpose which involves disturbing greater than 2,500m<sup>2</sup> of land.</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.                  Note—Prescribed water contaminants are defined in the <i>Environmental Protection Act 1994</i>.                  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 Infrastructure design planning scheme policy.</p>	<p><b>Complies</b>                  Stormwater management system designed in accordance with Infrastructure design planning scheme policy. Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.</p>
<p><b>PO17</b>                  Development ensures that:                  a. the discharge of wastewater to a waterway or external to the site is avoided; or                  b. if the discharge cannot practicably be avoided, the development minimises wastewater discharge through re-use, recycling, recovery and treatment.                  Note—The preparation of a wastewater management plan can assist in demonstrating achievement of this performance outcome.                  Editor's note—This code does not deal with sewerage which is the subject of the Wastewater code.</p>	<p><b>AO17</b>                  No acceptable outcome is prescribed.</p>	<p>N/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 long term infrastructure for the stormwater network in the Long term infrastructure plans;                  b. the existing and planned infrastructure for the stormwater network in the Local government infrastructure plan;                  c. the provision of long term, existing and planned</p>	<p><b>AO18</b>                  Development protects stormwater infrastructure in compliance with the following:                  a. for long term infrastructure for the stormwater network, the Long term infrastructure plans;                  b. for existing and planned infrastructure for the stormwater network, the Local government infrastructure plan;                  c. the standards for stormwater drainage in the</p>	<p><b>Complies</b>                  Refer to Engineering Services Report by ADG Engineers (Report Ref: 27292 C ESR) for further information.</p>

<p>infrastructure for the stormwater network which:</p> <ul style="list-style-type: none"> <li>i. is required to service the development or an existing and future urban development in the planning scheme area; or</li> <li>ii. is in the interests of rational development or the efficient and orderly planning of the general area in which the site is situated.</li> </ul> <p>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>Infrastructure design planning scheme policy.</p>	
<p><b>PO19</b>                  Development provides for the payment of extra trunk infrastructure costs for the following:</p> <ul style="list-style-type: none"> <li>a. for development completely or partly outside the priority infrastructure area in the Local government infrastructure plan;</li> <li>b. for development completely inside the priority infrastructure area in the Local government infrastructure plan involving:                         <ul style="list-style-type: none"> <li>i. trunk infrastructure that is to be provided earlier than planned in the Local government infrastructure plan;</li> <li>ii. long term infrastructure for the stormwater network which is made necessary by development that is not assumed future urban development;</li> <li>iii. other infrastructure for the stormwater network associated with development that is not assumed future urban development which is made necessary by the development.</li> </ul> </li> </ul> <p>Editor's note—The payment of extra trunk infrastructure costs for development completely inside the priority infrastructure area in the Local government infrastructure plan 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 <i>Planning Act</i></p>	<p><b>AO19</b>                  No acceptable outcome is prescribed.</p>	<p><b>N/A</b></p>

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**Table 9.4.9.3.B—Categories of flood planning levels**

Flooding type <sup>(1)</sup>	Minimum design floor or pavement levels (m AHD) <sup>(2)</sup> (refer to Table 9.4.9.3.C for assignment of these categories)				
	Category A	Category B	Category C	Category D	Category E
Waterway <sup>(A)</sup> or open channel	1% AEP flood level + 500mm	1% AEP flood level + 300mm	1% AEP flood level	1% AEP flood level	5% AEP flood level
Overland flow flooding <sup>(B)</sup>	2% AEP flood level +500mm	2% AEP flood level +300mm	2% AEP flood level	2% AEP flood level	5% AEP flood level

Notes—

(1) Where the site is subject to more than one type of flooding that is overland flow flooding, creek or waterway flooding or river flooding, the minimum flood immunity level is the highest level determined from these sources.

(2) Where flood levels are not available from Council's Floodwise Property Report such as overland flow flooding, the applicant will need to engage a suitably qualified Registered Professional Engineer Queensland with expertise in undertaking flood studies to estimate the relevant flood level.

Note <sup>(A)</sup> A waterway, including any indicated on the planning scheme maps, is defined as any element of a river, creek, stream, gully or drainage channel, including the bed and banks, typically with a catchment area greater than 30ha.

Note <sup>(B)</sup> Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. Localised overland flow paths generally traverse along roadways, and in the older established areas, through private properties within existing low points and gullies. A localised overland flow path is not characterised by well-defined bed and banks and the contributing catchment is generally less than 30ha.

Note—A flood event with an AEP of 1% is the equivalent of a 100 year ARI flood event.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Note—A flood event with an AEP of 5% is the equivalent of a 20 year ARI flood event.

Note—The flood immunity level in some older inner-city areas is often controlled by local ponding.

**Table 9.4.9.3.C—Flood planning level categories for development types**

BCA building classification <sup>(1)</sup>	Development types and design levels, assigned design floor or pavement levels	Category Refer to Table 8.2.11.3.L
Class 1—4	Habitable room	Category A

	Non-habitable room including patio and courtyard	Category B
	Non-habitable part of a Class 2 or Class 3 building excluding the essential services <sup>(2)</sup> control room	Category B
	Parking located in the building undercroft of a multiple dwelling	Category C
	Carport <sup>(4)</sup> , unroofed car park; vehicular manoeuvring area	Category D
	Essential electrical services <sup>(2)</sup> of a Class 2 or Class 3 building only	Category A <sup>(6)</sup>
	Basement parking entry <sup>(3)</sup>	Category C + 300mm
Class 5, Class 6, or Class 8	Building floor level	Category C
	Garage or car park located in the building undercroft <sup>(3)</sup>	Category C
	Carport <sup>(4)</sup> or unroofed car park	Category D
	Vehicular access and manoeuvring areas	Category D
	Basement parking entry <sup>(3)</sup>	Category C
	Essential electrical services <sup>(2)</sup>	Class 8 — Category C <sup>(6)</sup> Class 5 & 6 — Category A <sup>(6)</sup>
Class 7a	Refer to the relevant building class specified in this table	
Class 7b	Building floor level	Category C
	Vehicular access and manoeuvring area	Category D
	Essential electrical services <sup>(2)</sup>	Category C
Class 9	Building floor level	Category A

	Building floor level for habitable rooms in Class 9a or 9c where for a residential care facility	0.2% AEP flood
	Garage or car park located in the building undercroft <sup>(3)</sup>	Category C
	Carport <sup>(4)</sup> or unroofed car park	Category D
	Vehicular access and manoeuvring areas	Category D
	Essential electrical services <sup>(2)</sup>	Category A
Class 10a	Car parking facility	Refer to the relevant building class specified in this table
	Shed <sup>(5)</sup> or the like	Category D
Class 10b	Swimming pool	Category E
	Associated mechanical and electrical pool equipment	Category C
	Other structures	Flood immunity standard does not apply

Notes—

(1) Refer to the Building Code of Australia for definitions of building classifications.

(2) Essential services include any room used for fire control panel, telephone PABX, sensitive substation equipment including transformers, low voltage switch gear, high-voltage switch gear, battery chargers, protection control and communication equipment, low voltage cables, high-voltage cables and lift controls.

(3) Basement car parks must be suitably waterproofed and all air vents, air-conditioning ducts, pedestrian access and entry and exit ramps at the car park entrance have flood immunity in accordance with this table.

(4) A shelter for a motor vehicle, which has a roof and one or more open sides, and which can be built against the side of a building.

(5) A slight or rough structure built for shelter and storage; or a large strongly built structure, often open at the sides or end.

(6) Where essential services are proposed in a basement below the specified flood planning level, the flood immunity of all air vents, air-conditioning ducts, pedestrian access, lift shafts and entry/exit ramps at the basement entrance and any other openings into that basement must conform to Category A for Residential development, and the relevant basement entry level of all other uses. This will require a waterproof basement design to prevent floodwaters entering the basement to ensure flood immunity.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Note—A flood event with an AEP of 0.2% is the equivalent of a 500 year ARI flood event.

Note—Where a building has a combination of uses that includes a component of class 2, 3 or 9, the essential services for that building shall comply with the requirements of the building class with the greatest flood immunity requirement.

Note—Use classes for residential development also include basement storage.

**Table 9.4.9.3.D—Flood planning levels for a new road**

Flooding type <sup>(1)</sup>	Minimum design levels at the crown of the road (m AHD) <sup>(2)</sup>	
	Residential development	Industrial or commercial development
Waterway <sup>(A)</sup> or open channel	1% AEP flood level	2% AEP flood level
Overland flow flooding <sup>(B)</sup>	2% AEP flood level	2% AEP flood level

Notes—

<sup>(1)</sup> Where the site is subject to more than 1 type of flooding, the minimum flood planning level is the highest level determined from these sources. It should be noted that the flooding planning level in some older areas is often controlled by local ponding.

<sup>(2)</sup> Where flood levels are not available from Council's Floodwise Property Report, such as overland flow flooding, the applicant will need to engage a suitably qualified Registered Professional Engineer Queensland with expertise in undertaking flood studies to estimate the relevant flood level.

Note <sup>(A)</sup> A waterway including any indicated on the planning scheme maps is defined as any element of a river, creek, stream, gully or drainage channel, including the bed and banks typically with a catchment area greater than 30ha.

Note <sup>(B)</sup> Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. Localised overland flow paths generally traverse along roadways, and in the older established areas, through private properties within existing low points and gullies. A localised overland flow path is not characterised by well-defined bed and banks and the contributing catchment is generally less than 30ha.

Note—A flood event with an AEP of 1% is the equivalent of a 100 year ARI flood event.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Note—A flood event with an AEP of 5% is the equivalent of a 20 year ARI flood event.

**Table 9.4.9.3.E—Flood planning levels for essential community infrastructure**

Type of essential community infrastructure	Minimum design levels
Emergency services	0.2% AEP flood
Emergency services, where for an emergency shelter	0.5% AEP flood
Emergency services, where for police facilities	0.5% AEP flood
Hospital and health care service, where associated with a hospital	0.2% AEP flood

Community facility where involving storage of valuable records or items of historic or cultural significance (e.g. galleries and libraries)	0.5% AEP flood
State-controlled roads Major or minor electricity infrastructure not otherwise listed in this table Utility installation where for rail transport services Air service Telecommunications facility	No specific recommended level but development proponents should ensure that the infrastructure is optimally located and designed to achieve suitable levels of service, having regard to the processes and policies of the administering government agency.
Power stations (as defined in the <i>Electricity Act 1994</i> ) or renewable energy facility.	0.2% AEP flood
Major electricity infrastructure where a major switch yard	0.2% AEP flood
Substations	0.5% AEP flood
Utility installation where for a sewage treatment plant	DFE
Utility installation where for a water treatment plant	0.5% AEP flood

Note—A flood event with an AEP of 0.2% is the equivalent of a 500 year ARI flood event.

Note—A flood event with an AEP of 0.5% is the equivalent of a 200 year ARI flood event.

**Table 9.4.9.3.F—Flood planning levels for reconfiguring a lot**

Flooding type <sup>(1)</sup>	Minimum lot levels (m AHD) <sup>(2)</sup>	
	Residential	Other than residential
Waterway <sup>(A)</sup> or open channel	1% AEP flood level + 300mm	1% AEP flood level
Overland flow flooding <sup>(B)</sup>	1% AEP flood level + 300mm	2% AEP flood level

Notes—

<sup>(1)</sup> Where the site is subject to more than one type of flooding, the minimum flood immunity level is the highest level determined from these sources.

<sup>(2)</sup> Where flood levels are not available from Council's Floodwise Property Report such as overland flow flooding, the applicant will need to engage a suitably qualified Registered Professional Engineer Queensland with expertise in undertaking flood studies to estimate the relevant flood level.

Note <sup>(A)</sup> A waterway including any indicated on the planning scheme maps is defined as any element of a river, creek, stream, gully or drainage channel, including the bed and banks typically with a catchment area greater than 30ha.

Note <sup>(B)</sup> Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded or when the overland flow path is blocked. Localised overland flow paths generally traverse along roadways, and in the older established areas, through private properties within existing low points and gullies. A localised overland flow path is not characterised by well-defined bed and banks and the contributing catchment is generally less than 30ha.

Note—A flood event with an AEP of 1% is the equivalent of a 100 year ARI flood event.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

# Appendix H

## BCC Erosion Hazard Assessment Form



# Erosion Hazard Assessment - June 2014

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

## What is an Erosion Hazard Assessment?

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

## When is the EHA required?

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

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

## Privacy Statement

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

## Assessment Details

1 Please turn over and complete the erosion hazard assessment.

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

**A 'low' risk site**

*Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at <http://www.waterbydesign.com.au/factsheets>*

**A 'medium' risk site**

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

**A 'high' risk site**

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

## 3 Site Information and Certification

Application number (if known)

Site address

202 Gardner Road, Rochedale

Postcode 4123

I certify that:

- I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.
- I am a person with suitable qualifications and/or experience in erosion and sediment control.
- The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.
- The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.
- I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *Print name*

Michael Lepelaar

Certifier's signature

Date

11 / 09 / 2024

**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?

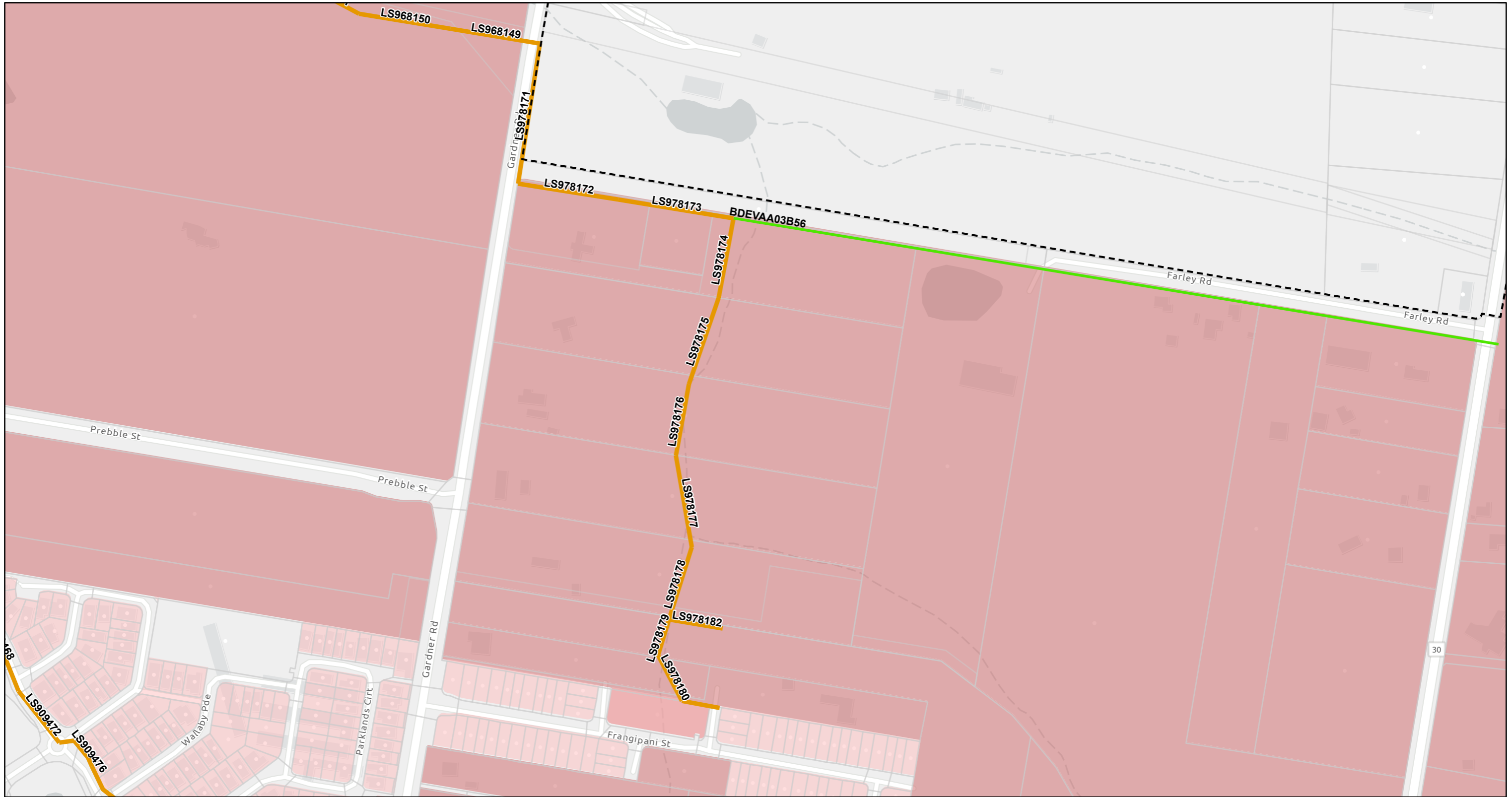
<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

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

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

# Appendix I Netserv Plan Extract

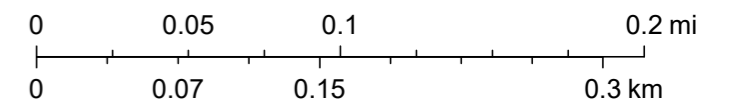
# Urban Utilities - Water Netserv Plan - Wastewater



11/14/2023, 11:52:04 AM

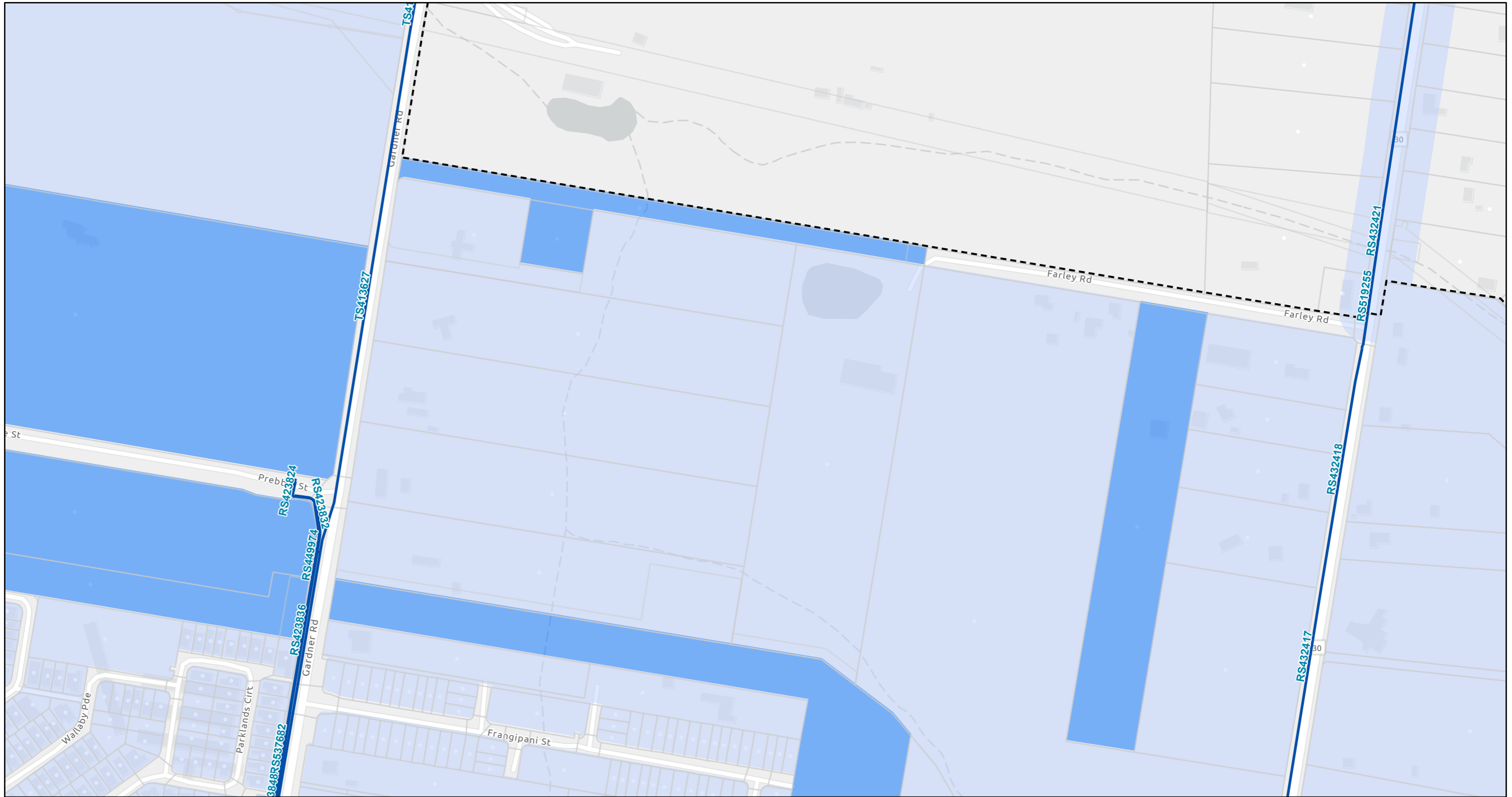
- Priority Infrastructure Area
- Property Boundary (DCDB)
- Future Wastewater Pipe
- Wastewater Connection Area
- Future Wastewater Trunk Main
- Wastewater Future Connection Area
- Existing Wastewater Trunk Main

1:4,514



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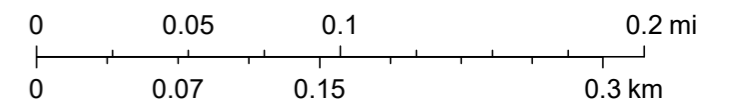
# Urban Utilities - Water Netserv Plan - Drinking Water



11/14/2023, 11:52:30 AM

- Priority Infrastructure Area
- Existing Water Trunk Main
- Property Boundary (DCDB)
- Water Connection Area
- Water Future Connection Area

1:4,514



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