PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2021/1181

Date: 8 December 2021

Queensland Government

Lumina Southport

Parklands PDA – 48 Village Boulevard. Southport QLD 4215

Engineering Services Report

Infinite Aged Care (Developments) Pty Ltd

September 2021

Document Verification

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Job Number 24792

Document Title Engineering Services Report

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Approval for Issue

Name	Signature	Date
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1 INTRODUCTION

1.1 GENERAL

ADG Engineers (Aust.) Pty Ltd has been engaged by Infinite Aged Care (Developments) Pty Ltd to prepare an Engineering Services Report (ESR) suitable for submission to City of Gold Coast (CoGC) in support of a Development Application associated with a proposed aged care, retail and commercial facility, herein described as 'the site'.

The proposed development, as described in the GJG Architects preliminary architectural plans attached in **Appendix A** is for a 142 resident aged care facility which also includes a commercial office space on the top floor, communal facilities on the ground floor and a café and hair salon on the ground floor that will be accessible to the residents and the general public.

The purpose of this ESR is to provide advice as to the proposed development with regard to earthworks, roadworks, stormwater drainage, sewerage and water supply, electricity, gas and communications.

1.1 Background Information

This report was compiled using information from the following sources:

- Architectural plans supplied by GJG Architects (**Appendix A**);
- Survey plan prepared by Focus On Surveying (**Appendix B**);
- CoGC Infrastructure Mapping (**Appendix C**);
- Council overlay mapping (**Appendix D**);
- 'Dial Before You Dig' (DBYD) As-Constructed information (**Appendix E**); and
- Google Maps aerial imagery.

2 THE SITE

2.1 LOCATION

The site is bound by Village Boulevard to the north-east and Innovation Drive to the north-west. The adjoining lot to the south-east (Lot 1 on SP275512) is occupied by a residential apartment complex whereas the lot to the south-west of the site (Lot 18 on SP275512) is partially bituminous and partially grass-covered land. Lot 18 on SP275512 is owned by Gold Coast Health and Hospital Service (GHHS). Further information of the site's location is provided below in **Figure 1**.



Figure 1 - Site location (As accessed from Nearmap – image date 06.11.2020)

2.2 PROPERTY DETAILS

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

Table 1– Property Detail

Title	Lot 1 on SP275512
Street Address	48 Village Boulevard, Southport 4215 QLD
Site Area	3311 m2

3 PLAN OF DEVELOPMENT

3.1 THE PROPOSAL

The proposed development, as described in the GJG Architects preliminary architectural plans attached in **Appendix A** is for a 142 resident aged care facility which also includes a commercial office space on the top floor, communal facilities on the ground floor and a café and hair salon on the ground floor that will be accessible to the residents and the general public.

4 CHARACTERISTICS OF THE LAND & SURROUNDING AREA

4.1 DESCRIPTION

The site is within the Parklands Priority Development Area (PDA) and hence, the site is currently zoned as 'Special purpose, Special development areas precinct' by Council. As it stands, the site is occupied by an existing bituminous carpark that appears to be locked and not in use. Further information regarding the existing features of the site can be seen in **Figure 1** above.

4.2 TOPOGRAPHY

A high point of RL11.02m AHD is located in the south-west corner of the site and a low point of 9.90m ADH is located in the north-east corner of the site, hence, the site falls from the south-west to the north-east at a gradient of approximately 1.6%.

Refer to the site survey in **Appendix B** for further information on the existing contours of the site.

4.3 ACCESSIBILITY

Current access to the subject site may be gained via Village Boulevard.

4.4 EASEMENTS

No existing easements have been identified within the proposed area of works.

5 EARTHWORKS

5.1 PROPOSED EARTHWORKS

Earthworks are required to facilitate the basement design of the proposed development as well as to accommodate the proposed filling to the adjacent lot. As identified in **Figure 2** below and ADG Engineering Drawing in **Appendix G**, ADG propose to fill Lot 18 on SP275512 to facilitate the diversion of the external catchment within Lot 18. The catchment will be diverted via a swale drain to a newly constructed field inlet pit and pipe that will connect to the existing pipe drainage network within Innovation Drive.

The diversion of runoff from Lot 18 will increase the peak flows within the stormwater pit and pipe network connected to the abovementioned gully pit in Innovation Drive. As such, advice has been sought from the original design consultant for the overall stormwater network (Cardno) regarding the impact of the additional flows on the downstream network. Cardno have advised that the additional flows from the catchment diversion will have no impact on the overall downstream drainage system. For further information regarding the external catchment diversion, refer to the Stormwater Advice Letter prepared by ADG Engineers (Ref: 24792 C L001).

During construction, earthworks operations shall comply with the relevant Australian Standards and Council's specification for earthworks procedures.

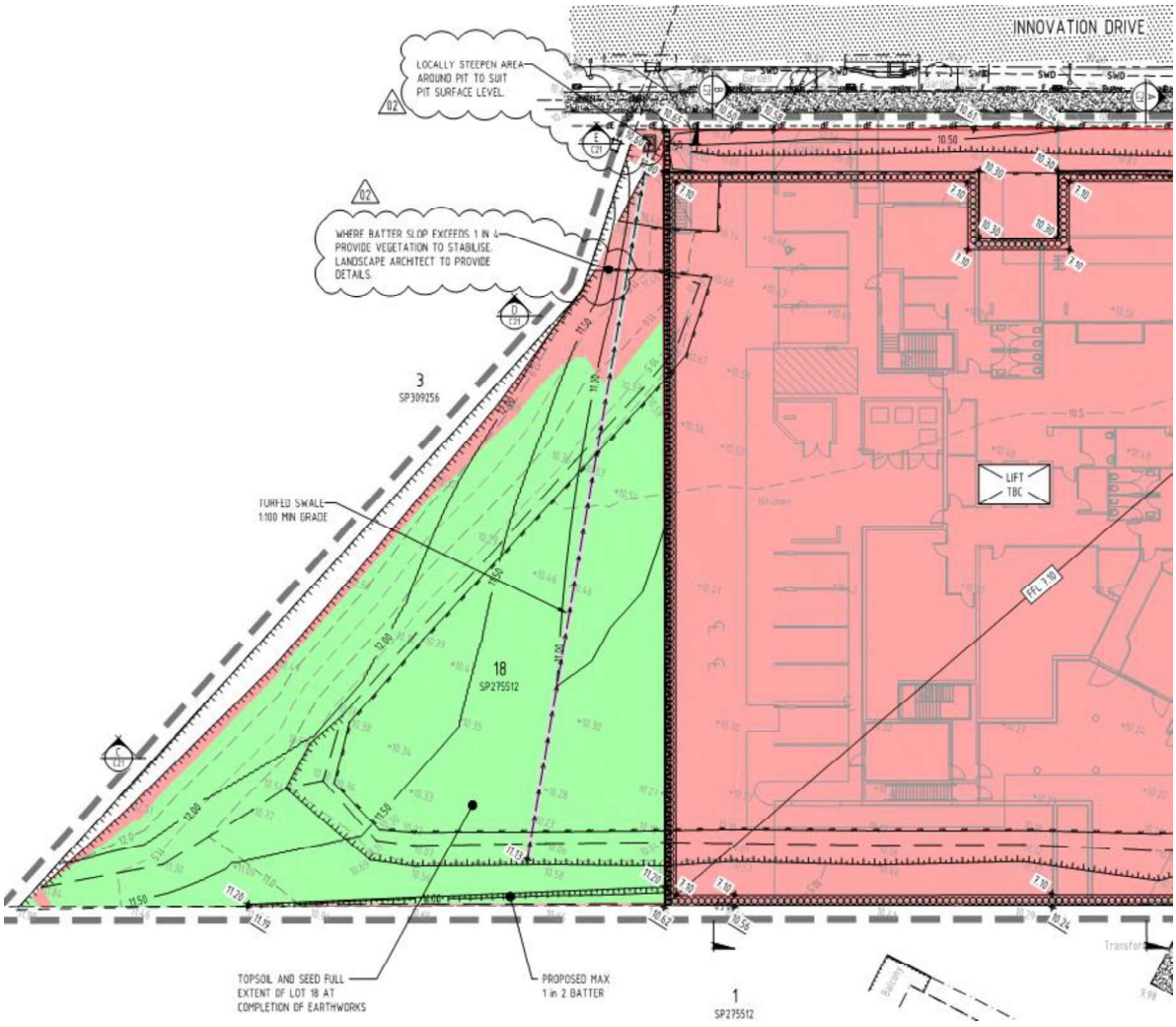


Figure 2 - Proposed filling of Lot 18 on SP275512

5.2 SLOPE STABILITY

Councils Areas of Unstable Soils and Areas of Potential Land Slip Hazard overlay map (OML1-09) has identified that the site is located within an area that has very low risk of instability. Refer to **Appendix D** for further details regarding the CoGC overlay mapping.

5.3 ACID SULFATE SOILS

Acid sulfate soils are soils which contain iron sulphides generally found in low-lying coastal areas below 20m AHD. The area of works is located below RL 20m AHD and a review of the Gold Coast Planning Scheme Acid Sulfate Soils overlay map (OMA1-9 in **Appendix D**) has identified the subject site is within an acid sulfate soils area. As such, a review of the GoGC City Plan Part 5.10 – Categories of development and assessment was made. The City Plan identifies that the acid sulfate soils overlay code does not apply to the proposed development as there is no earthworks excavations proposed below RL 5m AHD. **Figure 3** below illustrates the developments to which the acid sulfate soil overlay code applies to.

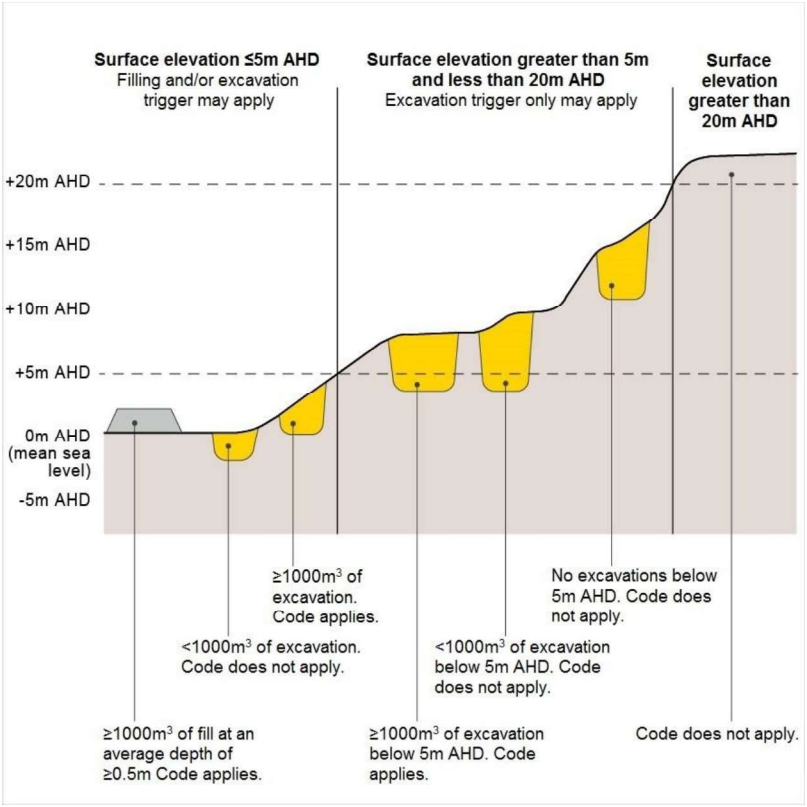


Figure 3 - Illustration showing developments to which the acid sulfate soil overlay code applies

6 ROADWORKS

6.1 EXISTING INFRASTRUCTURE

The site is bound by Village Boulevard to the north-east and Innovation Drive to the north-west. Both roads are two-lane, two-direction roads with a centre median. Village Boulevard has a parking lane and separate cycle lane, whereas Innovation Drive has a combined parking and cycle lane.

6.2 PROPOSED INFRASTRUCTURE

Access to the basement of the proposed development is identified in the GJG Architectural plans in **Appendix A** to be from Innovation Drive at the south-west of the site and will require the construction of a vehicular crossover. The vehicular crossing will be designed and constructed in accordance with the CoGC City Plan Table 9.4.2-1 to 9.4.2-4. This crossover clashes with an existing road gully pit within Innovation Drive. To accommodate this it is proposed to convert this gully pit into a maintenance hole and construct a new gully pit downstream of the driveway crossover. This is further discussed in Section 9.2.

Refer to the architectural drawings in **Appendix A** for further information.

7 WATER RETICULATION

7.1 EXISTING INFRASTRUCTURE

CoGC infrastructure mapping in conjunction with the site survey has identified the following water infrastructure within the vicinity of the site:

- A DN150 Polyvinylchloride (PVC) water reticulation main (asset number: 11100594045) that traverses the north-western boundary of the site on the development side of Innovation Drive; and
- A DN80 Ductile Iron (DI) water hydrant (asset number: 11100593966) located on the DN150 main at the northern corner of the site on the development side corner of Innovation Drive and Village Boulevard.

Refer to the site survey in **Appendix B** and the CoGC infrastructure mapping in **Appendix C** for further information regarding the existing water infrastructure.

7.2 PROPOSED INFRASTRUCTURE

It is proposed to construct a property service connection to the DN150 PVC water main as described in **Section 7.1** above to service the proposed development. ADG Engineers have through our internal building hydraulics specialists that the development will require a DN150 Fire service and a DN199 Domestic supply service. These services will each contain a Council owned master meter and be constructed in a stacked arrangement in accordance with CoGC Standards. The proposed location of the water meter assembly for the site is described in the GJG Architects drawing number 20-08-DA-4 in **Appendix A** and shown in **Figure 4** below.

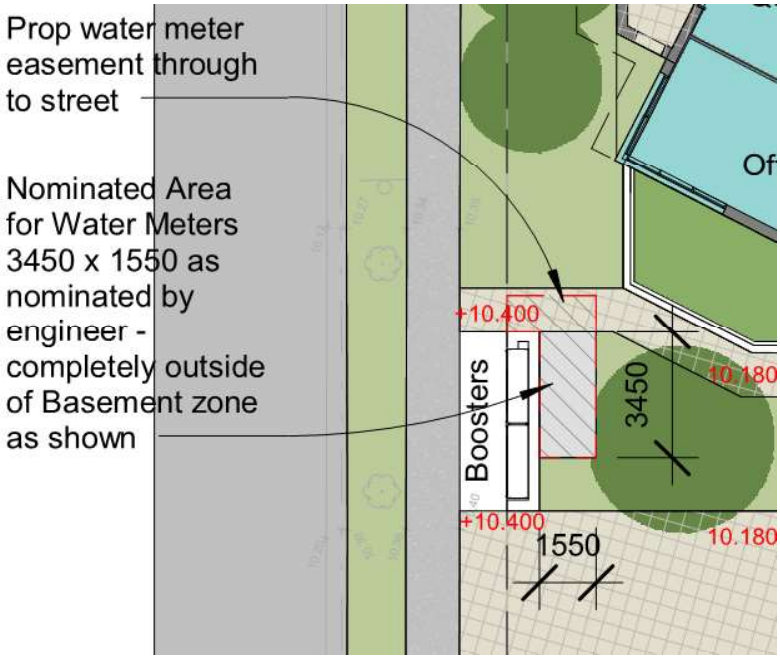


Figure 4 - Council Water Meter location and sizing

8 SEWERAGE RETICULATION

8.1 EXISTING INFRASTRUCTURE

A review of the CoGC infrastructure asset mapping and the detailed site survey has identified that there is the following sewer infrastructure relative to the site:

- A 1050mm sewer maintenance hole (asset number: 9000337378) located within the footpath at the eastern corner of the site on the development side of Village Boulevard;
- A DN150 PVC gravity sewer main (asset number: 9000337419) that traverses east from the abovementioned 1050mm maintenance hole along the development side of Village Boulevard; and
- A DN150 PVC sewer 'stub pipe' (asset number: 9000337477) that connects the site to the abovementioned 1050mm sewer maintenance hole.

Further information regarding the existing sewer infrastructure relative to the site can be found in the CoGC infrastructure assets mapping in **Appendix C** and the detailed survey in **Appendix B**.

8.2 PROPOSED INFRASTRUCTURE

ADG anticipates to propose to reuse the existing DN150 PVC property connection described in **Section 8.1** above for the development, however due to the increase in sewer demand as a result of the proposed development, a sewer network capacity assessment must be carried out, and a corresponding report must be prepared in support of the development application.

The sewer demand for the proposed development has been calculated in accordance with the CoGC Water and Sewage Land Use Category Demand Table. A summary of the calculated sewer demand Equivalent Person's (EP's) for the proposed development is presented in **Table 2** below.

Table 2 - Summary of Sewer Demand Calculations

Land Use Category	Conversion Rate	QTY	Calculated EP's
Aged Persons Accommodation – Self-contained Dwelling	1.31 EP/1 Bedroom Dwelling	142	186.02
Commercial Office	1.68 EP/100m^2 GFA	5.40	9.07
Café	4.29 EP/100m^2 GFA	1.69	7.25
		TOTAL:	**202.34**

9 STORMWATER DRAINAGE

The site is within the Parklands PDA which is subject to an overall stormwater masterplan prepared by DesignFlow Pty Ltd (dated August 2013) and an overall flooding and hydraulics report prepared by Hyder (dated 20.08.2013) for EDQ. The overall stormwater masterplan and flooding report detail precinct-wide stormwater quantity, quality and flooding management measures for the Parkwood PDA that consider the fully developed case for the PDA precinct. As such, it is proposed that no stormwater detention, quality or flooding mitigation measures will be required for the proposed development.

9.1 EXISTING DRAINAGE

CoGC infrastructure mapping in addition with the site survey has identified the following stormwater infrastructure relative to the site:

- A field inlet pit (asset number: 4000275841) located in the eastern corner of the site that currently collects flows from the bituminous surface within the site and conveys the flows through a series of pits and pipes that pass underneath Village Boulevard and Hospital Boulevard and eventuate in a series of basins located in the adjacent park on Lot 901 on SP275512 to the north-east of the subject site; and
- A field inlet pit (asset number: 4000275920) located within Lot 3 on SP309256, on the development side of Innovation Drive to the west of the site that collects flows from the bituminous/gravel surface between Stanley Lane and Lot 8 on SP275512 and conveys the flows to a network of stormwater pipes and pits within Innovation Drive that discharge into a system of Box Culverts to the north of the site which eventuate in the series of basins in Lot 901 mentioned above.
- A road gully pit (asset number: 4000275834) is located adjacent the western corner of the property within Innovation Drive.

Refer to the site survey in **Appendix B** and the CoGC infrastructure mapping in **Appendix C** for further information regarding the existing stormwater infrastructure.

9.2 PROPOSED DRAINAGE

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

- CoGC Stormwater Drainage Guidelines.
- Queensland Urban Drainage Manual (QUDM 2017).
- AS 3500.3 Plumbing and Drainage – Stormwater Drainage.

The existing road gully pit (asset number: 4000275834) adjacent the western corner of the property within Innovation Drive clashes with the proposed driveway crossover. To accommodate this and meet Council Land Development Guidelines, it is proposed to convert this road gully to a DN1050 maintenance hole and construct a new road gully pit downstream of the driveway crossover. These works are detailed in ADG Engineering Drawings in **Appendix G** and shown in **Figure 5** on the following page.

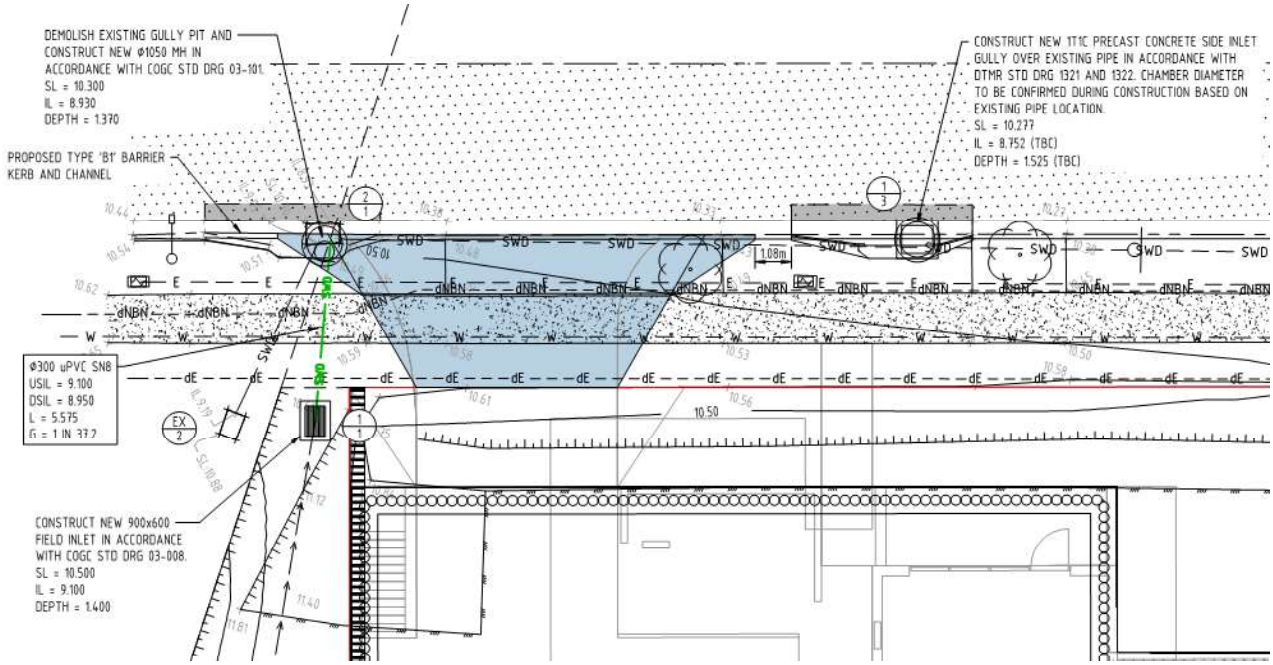


Figure 5 - Stormwater Works within Innovation Drive

Refer to the Stormwater Advice Letter (24792 C L001) prepared by ADG, which demonstrates the proposed stormwater management measures required for the site.

9.3 FLOODING CONSIDERATIONS

An overall flooding and hydraulics report prepared by Hyder (dated 20.08.2013) details precinct-wide flooding management measures for the Parkwood PDA that consider the fully developed case for the PDA precinct. As such, it is proposed that no flooding mitigation measures will be required for the proposed development.

In accordance with the CoGC City Plan Version 8, Section 5.10.11: Flood Overlay, the flood overlay code is not applicable to the site as the proposed development is not located in an area identified on the flood overlay map (OMF1-8 in **Appendix D**).

10 ELECTRICAL SUPPLY

The Energex map provided by DBYD identifies that there is currently the following electrical infrastructure relative to the site:

- Low (<33kV) voltage underground electrical infrastructure within Village Boulevard on both sides of the road;
- Low (<33kV) voltage underground electrical infrastructure within Innovation Drive on both sides of the road; and
- Multiple streetlights surrounding the site.

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

Refer to the DYBD Information in **Appendix E** for further details on the existing electrical infrastructure near the site.

11 COMMUNICATIONS

According to DBYD information there are the following existing communication services in close vicinity to the site:

- In-Service Cable/Duct/Trench NBN Cables running along the development side verge of Village Boulevard that terminate before the site adjacent to the adjoining lot to the south-east; and
- Telstra communications mains traversing through the site along the south-western boundary within a 100mm PVC conduit (P100).

It is proposed that 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 DYBD Information in **Appendix E** for further details on the existing telecommunication infrastructure near the site.

12 GAS

According to DBYD information and the detailed site survey, there are the following gas services in close vicinity to the site:

- A 63mm Polyethylene (PE) high pressure / Class 500 gas main running along Hospital Boulevard that comes near the site at the northern corner before crossing Village Boulevard.

The gas consultant will assess the extent of any upgrading and possible relocation works to the existing gas system if necessary.

Refer to the DYBD Information in **Appendix E** for further details on the existing gas infrastructure near the site.

13 CONCLUSION

The purpose of this ESR was to provide advice as to the proposed development with regard to earthworks, roadworks, stormwater drainage, sewerage and water supply, electricity, gas and communications. Information discussed in this report is inferred from site survey plans in conjunction with CoGC infrastructure mapping and DBYD records.

This report identifies preliminary development servicing options to the existing reticulation mains for water and sewer. The proposed connection for water is subject to the conditions attached to the development approval once received from CoGC and the proposed connection for sewer is subject to a sewer network capacity assessment based on the demand EP's calculated for the proposed development as well as the conditions attached to the development approval once received.

The site is within the Parklands PDA which is subject to an overall stormwater masterplan prepared by DesignFlow Pty Ltd (dated August 2013) and an overall flooding and hydraulics report prepared by Hyder (dated 20.08.2013) for EDQ. The overall stormwater masterplan and flooding report detail precinct-wide stormwater quantity, quality and flooding management measures for the Parkwood PDA that consider the fully developed case for the PDA precinct. As such, it is proposed that no stormwater detention, quality or flooding mitigation measures will be required for the proposed development.

Electrical, communications and gas infrastructure will be further investigated by the building services consultants during the detailed design phase.

Appendix A
GJG Architectural Drawings

Infin8 Lumina

142 Resident Aged Care Facility



GJG Architects

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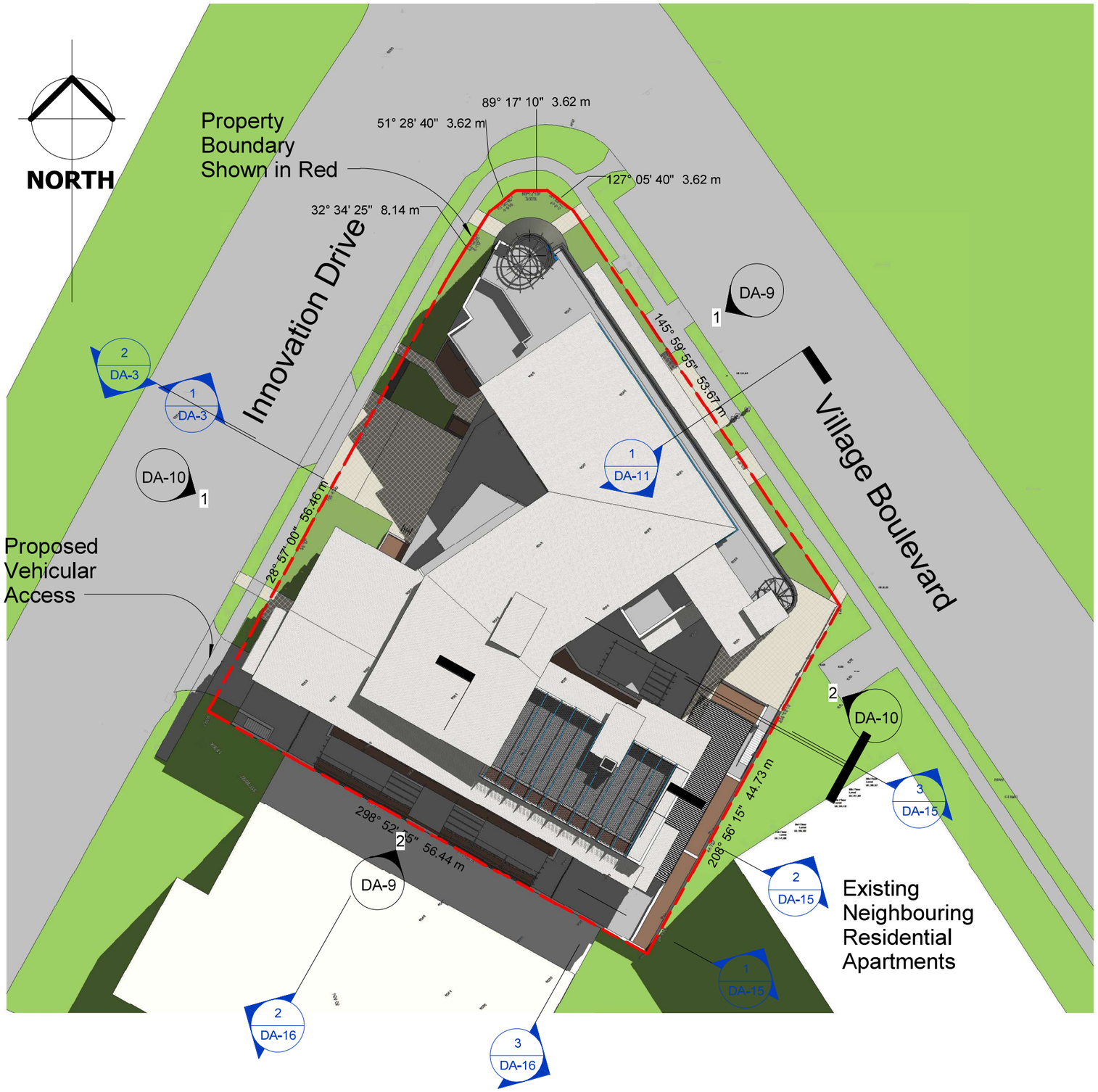
Project
Lumina Parklands Site

Client
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Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title	Drawing Number
Cover Sheet Scale @ A3 original	20-08-DA-1

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RPD
Lot 16 on SP275512

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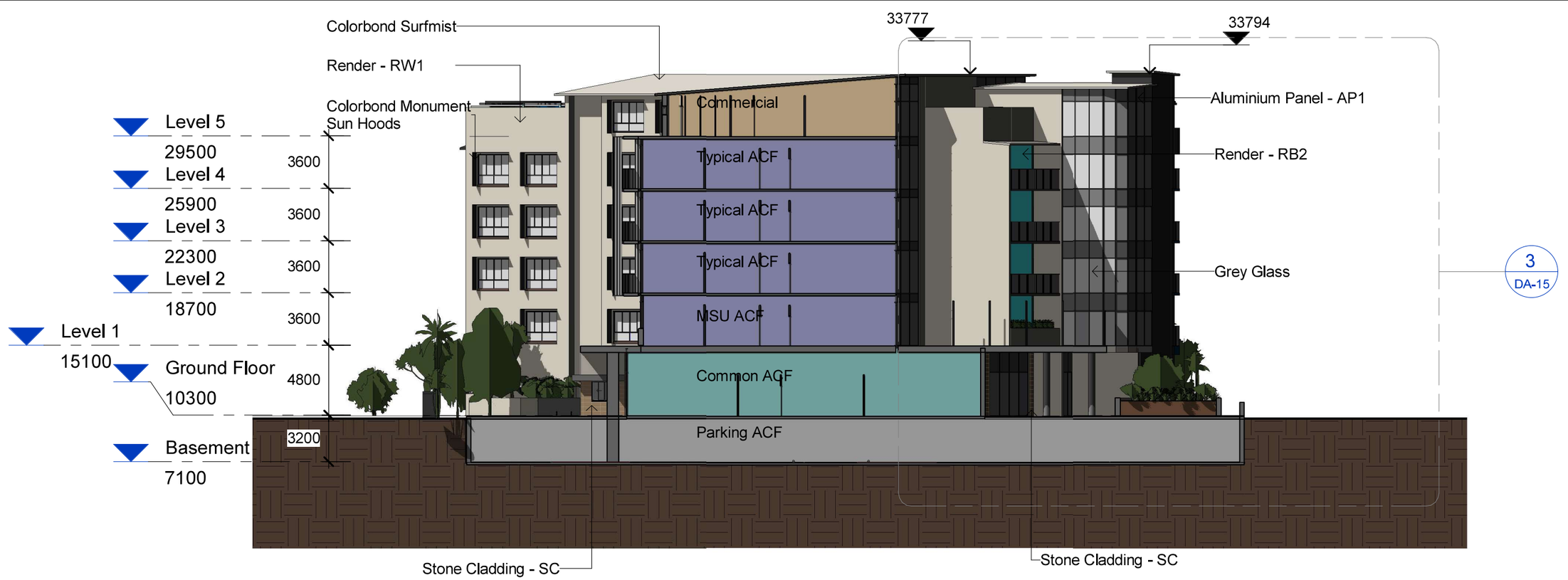
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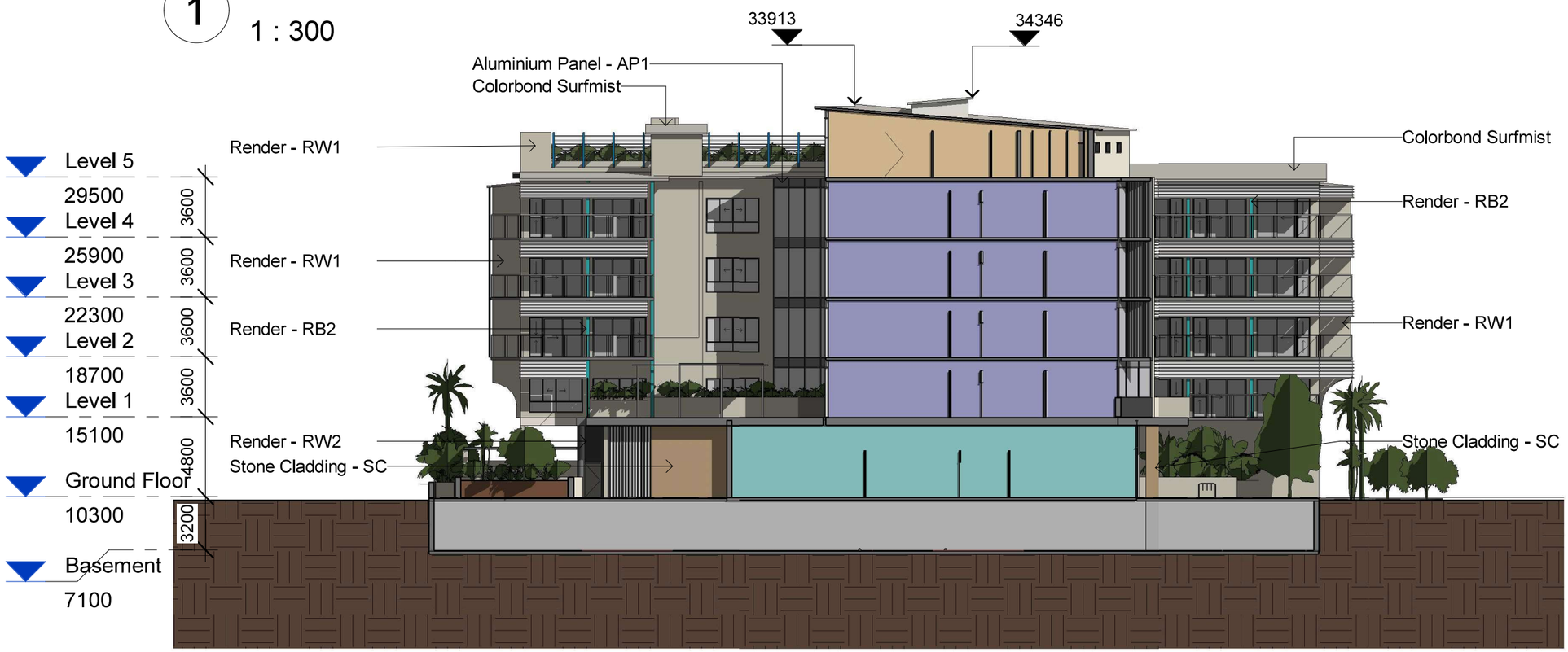
Drawing Title	Drawing Number
Site Plan Scale 1 : 500 @ A3 original	20-08-DA-2

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1 Section 1

1 : 300



2 Section 2

1 : 300

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1	19.02.21	Prelim Issue 1

Drawing Title	Drawing Number
Conceptual Sections Scale 1 : 300 @ A3 original	20-08-DA-3

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North

BOULEVARD

VILLAGE

DRIVE

INNOVATION

1 DA-11

Note on Seperate Commercial Lift
Generally this lift is for staff use only. Visitors to the top tenancy are generally considered to arrive through the main Aged Care Facility Entrance and use the main lift. In the event of a viral lockdown of the Aged Care Facility visitors to the Commercial tenancy will be directed via external notice around to this lift and foyer.

Prop water meter easement through to street

Nominated Area for Water Meters 3450 x 1550 as nominated by engineer - completely outside of Basement zone as shown

Seperate Commercial Lift and Foyer

Access hatches (Concrete) for removal of Transformer if necessary

Proposed Transformer position in Basement Below

Visitor Bike Racks

2000 x 3000 Sight Triangle

2000 x 3000 Sight Triangle

Pedestrian sight tringles to be kept clear of obstructions to visibility. Landscaping up to 500mm in height only is permitted in this area.

1 DA-3

2 DA-3

2 DA-4

1 DA-17

Cafe Terrace
Cafe
Quar/Meet
Off/Int
Stair
DT Office
Off/Int
Admin.
Recept
CM Office
Office
Office
Recept
Control Point
Lounge Foyer
FFL 10.300
Air Curtain Open Wall?
Hair Salon
Function/ Training
Store
Lift
Foyer
Theatre
Wellness
Glazing
Landscaped Podium Court
Nominal FSL 10.250 in this area
Exit Path
Consult
Ferm
Male
Consult.
AWC
Store
Foyer
Air Lock
Open Forecourt
Grated Drain
Staff F
Staff M
Lift Foyer
Lift
Lift
BOH
Kitchen
Serv.
Exit Path
Stair
Staff Only
Staff
FFL 10.300
Kitch
Lockers
Shr
Stair
Lockers
Store
Chute
Laundry
Stair
24 Bike Class 2 Secured Bike Enclosure
Bin
Loading (Waste/ Loading and MRV)
Circ.
Bollard
G1
G2
G3
Ambulance Bay
Store
Parking
G4
G5
G6
G7
G8
Ramp to Basement
Boosters
Driveway
EV Charging Bays
Nominal FSL 10.250 in this area
Fire Loading Mass
Stair
Boosters
3450
1550
2995
3000
2700
2700
6000
5400
6170
5945
3136
3100
+10.300
+10.300
+10.130
+10.120
+10.110
+10.280
+10.280
+10.280
+9.900
+10.400
+10.180+
+10.400
10.180+
10.280+
+10.430
10.180+
10.280+
+10.510
+10.580
10.200+
10.200+

Cafe Terrace
FSL 10.270

500 500 500
500 500 500 500
1100l Bin
1100l Bin
1100l Bin
1100l Bin
5720
3640

2 Bin Room
1 : 150

1 Ground Level
1 : 300

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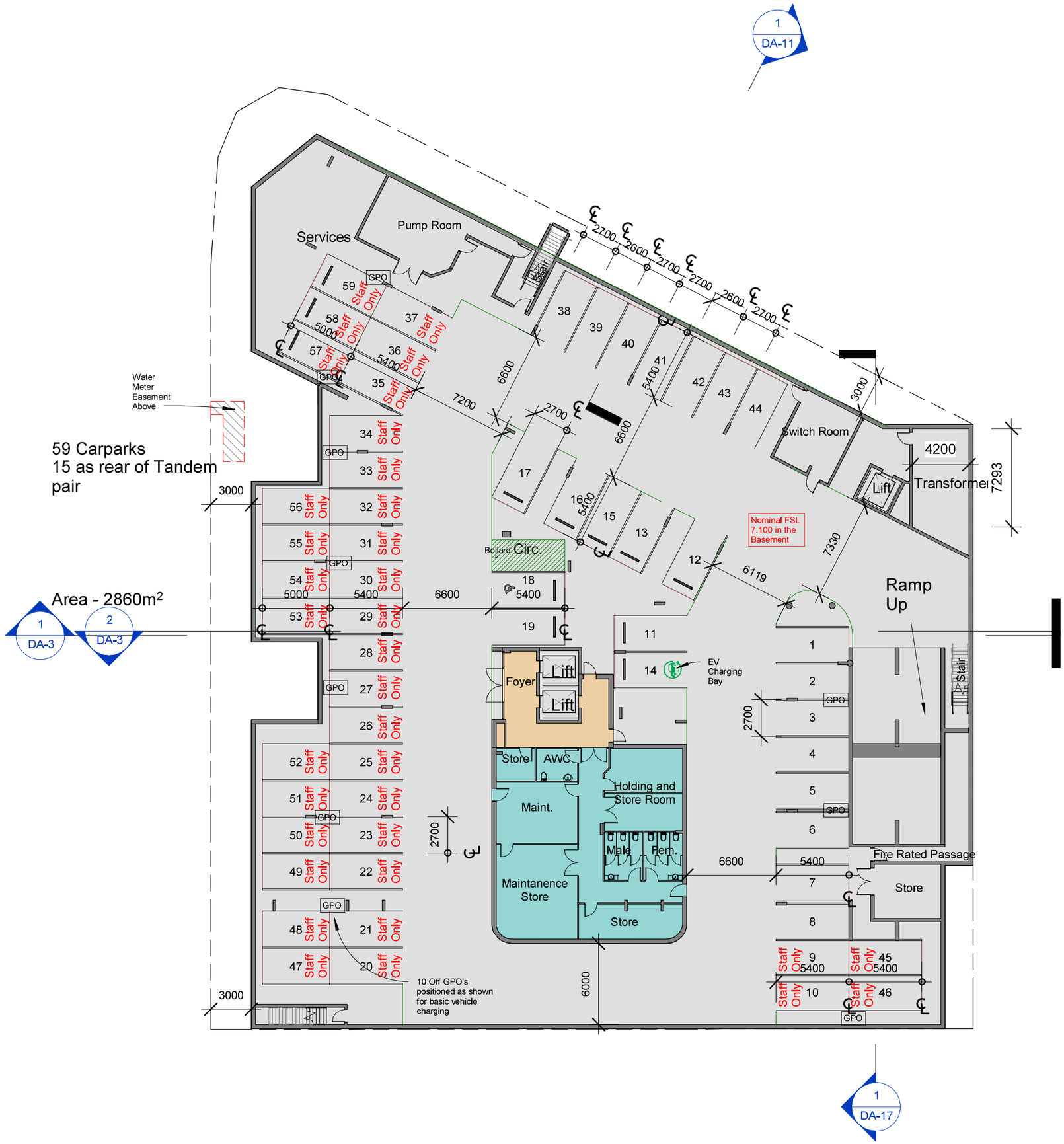
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3	8.03.21	Prelim Issue 2
2	1.03.21	Booster Pos Shown

Drawing Title	Drawing Number
Ground Floor Plan Scale As indicated @ A3 original	20-08-DA-4

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Drawing Title
Basement Floor Plan

Scale 1 : 300 @ A3 original

Drawing Number
20-08-DA-5

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North

34 Resident MSU (Memory Support Unit) dividable into 2 operational nodes.



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Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title
Level 1 - Floor Plan

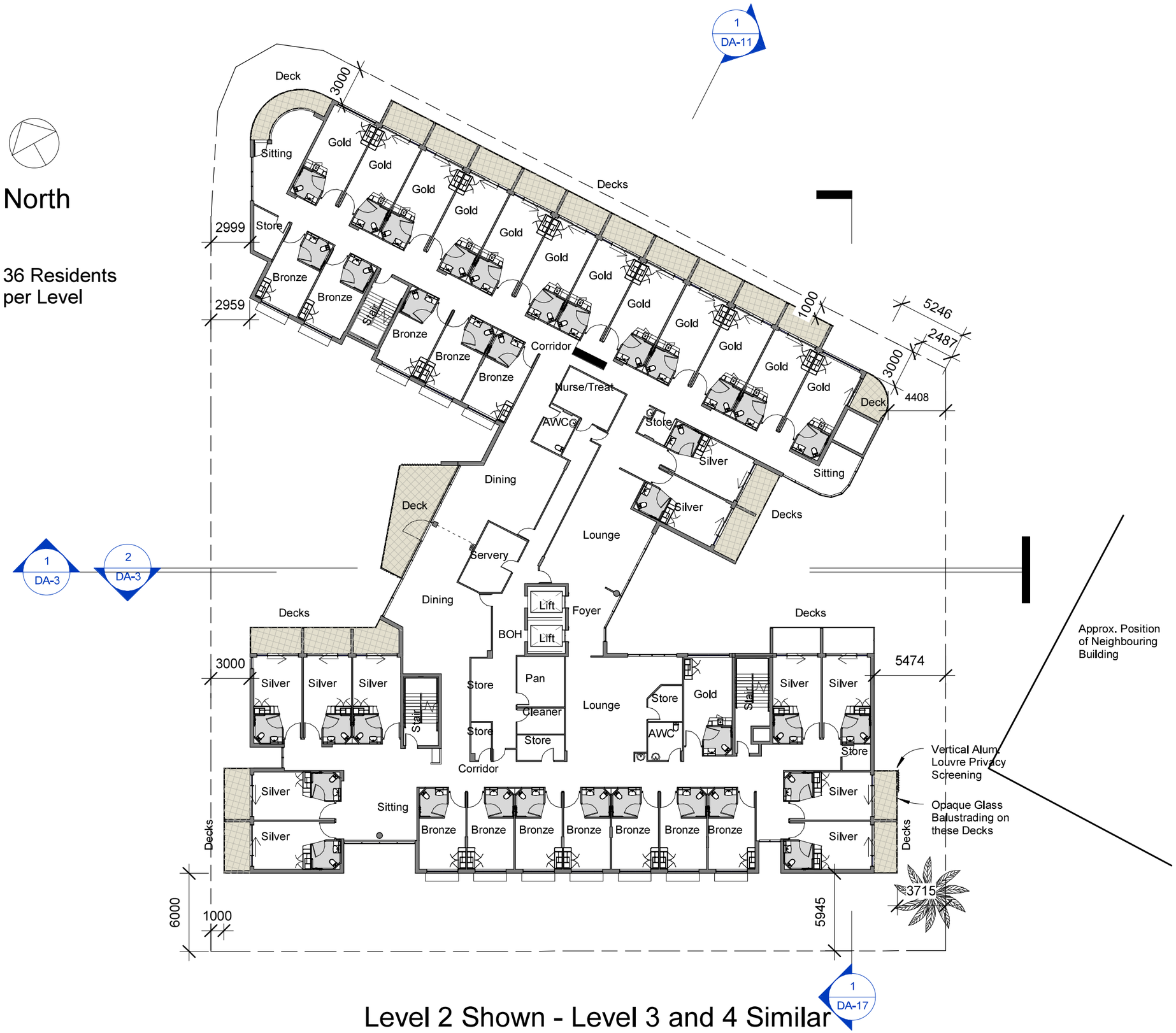
Scale 1 : 300 @ A3 original

Drawing Number
20-08-DA-6

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North

36 Residents
per Level



Level 2 Shown - Level 3 and 4 Similar

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Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
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5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

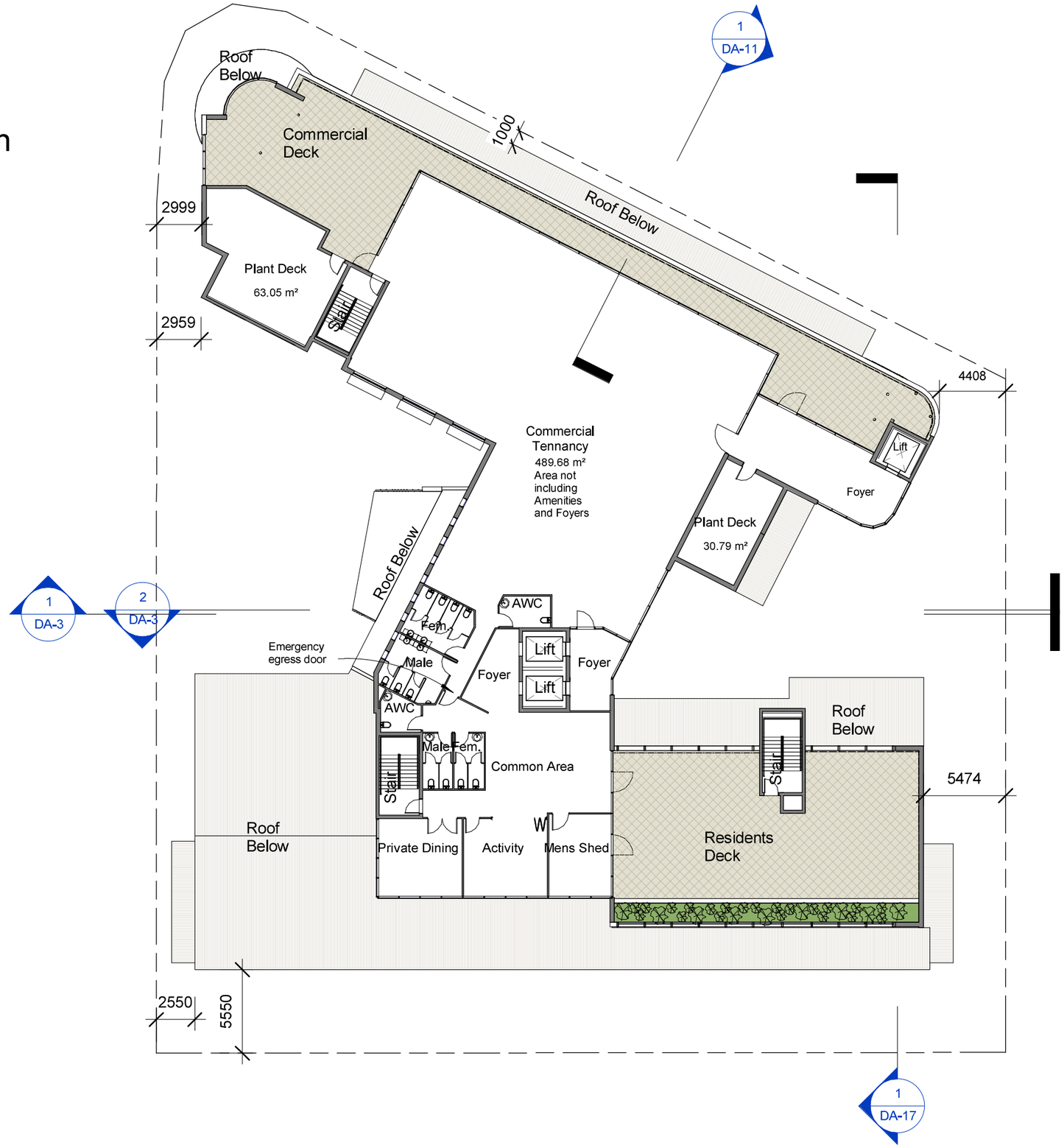
Drawing Title
Typical - L2-L4 Plan

Scale 1 : 300 @ A3 original

Drawing Number
20-08-DA-7

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North



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Client
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Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title
Level 5 - Floor Plan

Scale 1 : 300 @ A3 original

Drawing Number
20-08-DA-8

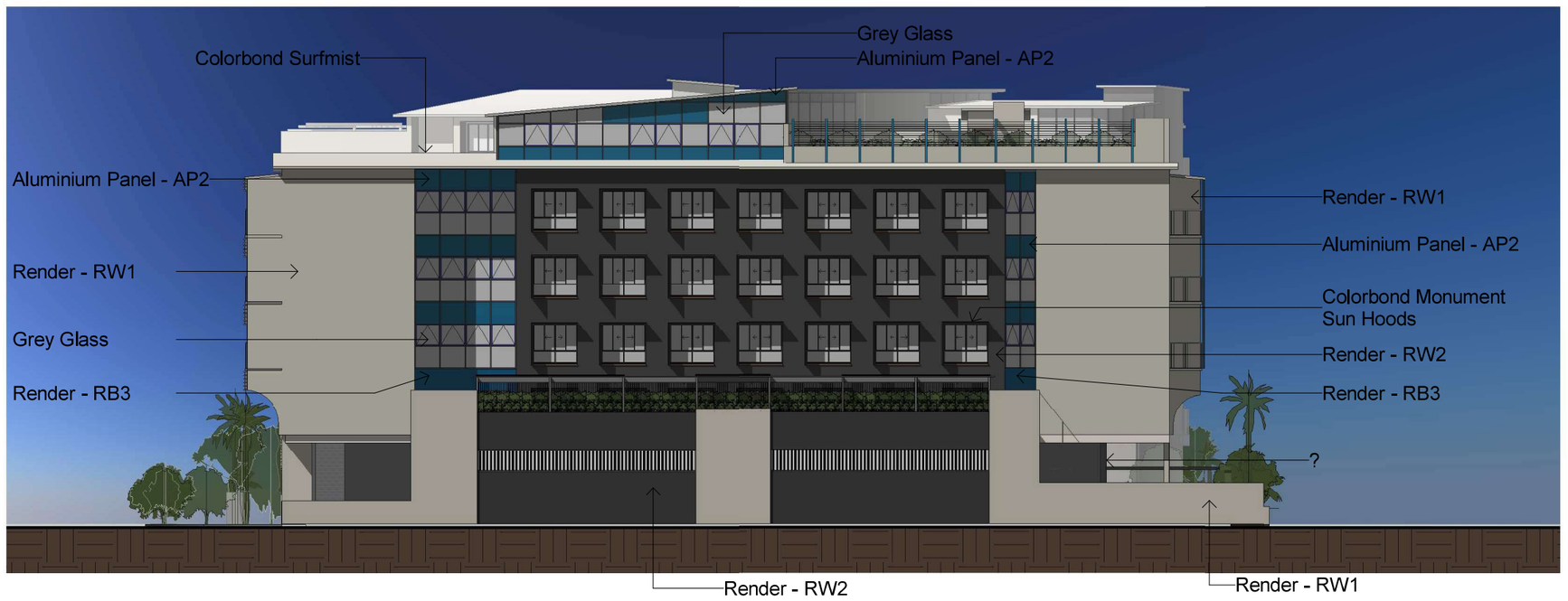
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1

Village Boulevard Elevation

1 : 300



2

SW Boundary Elevation

1 : 300

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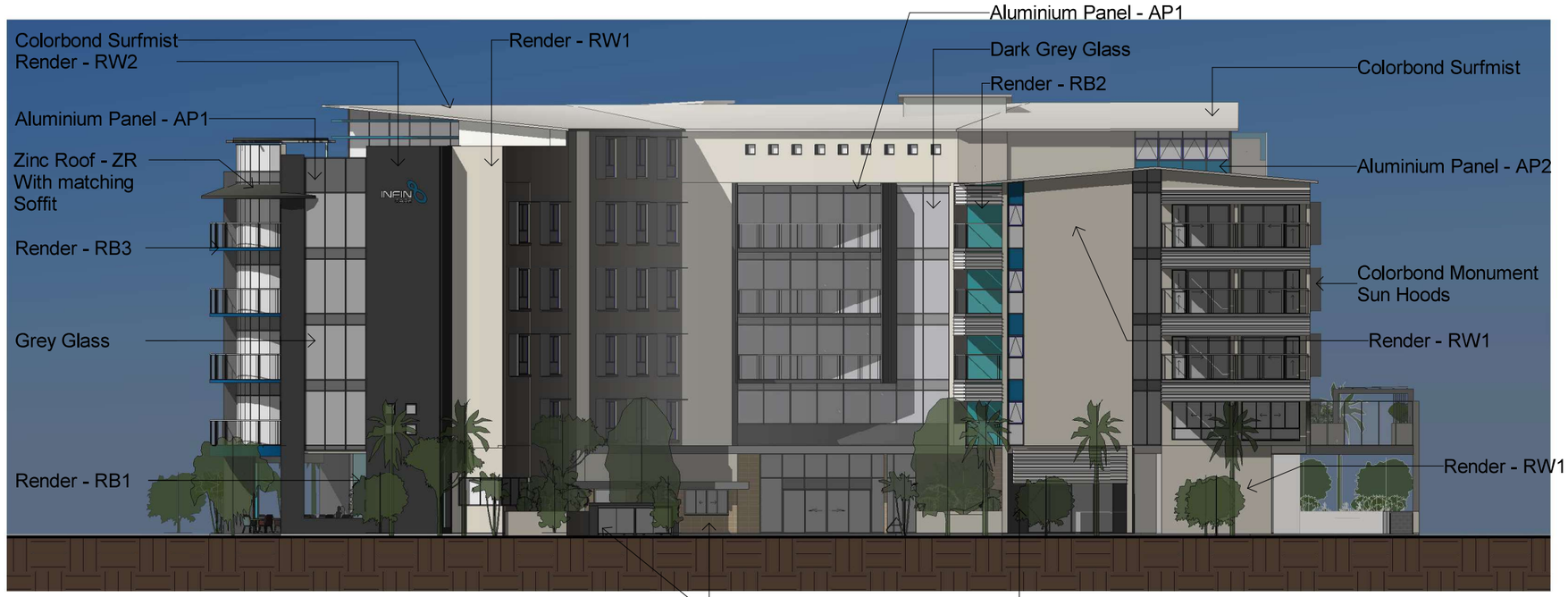
Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title	Drawing Number
Elevations 1 Scale 1 : 300 @ A3 original	20-08-DA-9

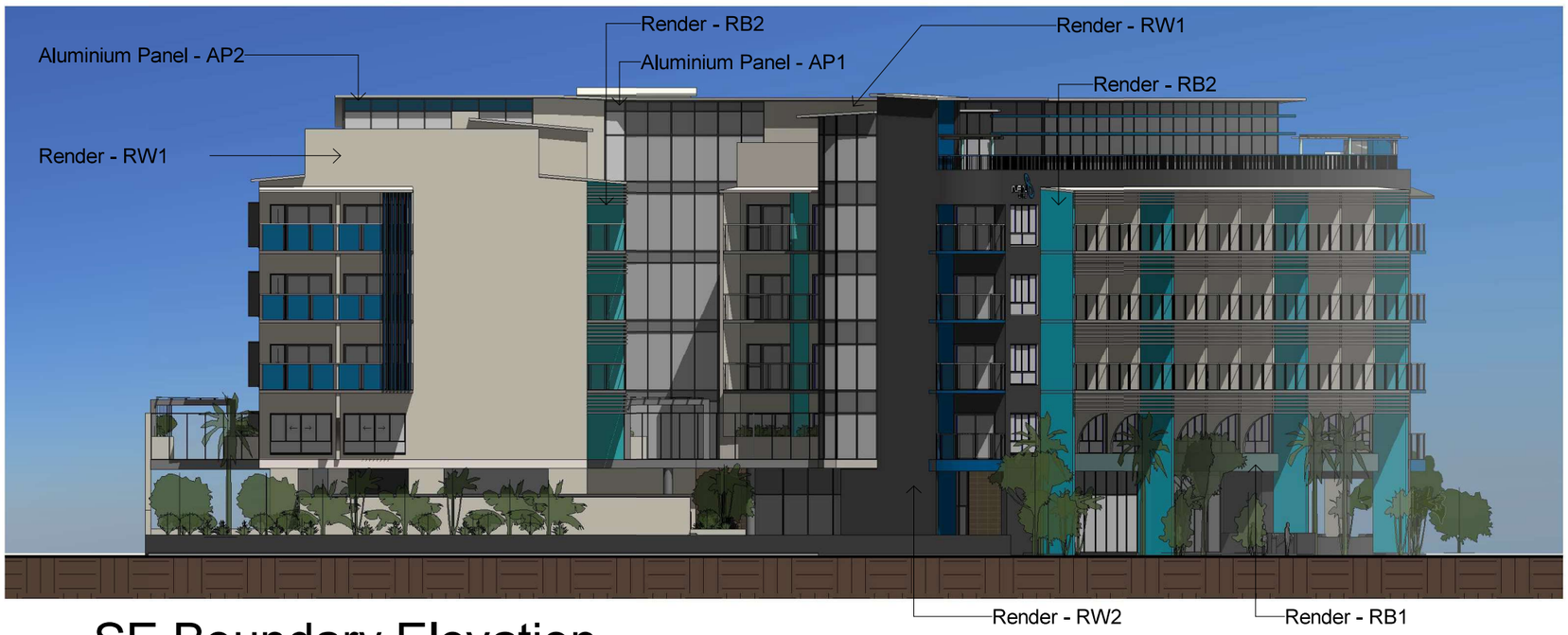
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1

Innovation Drive Elevation

1 : 300



2

SE Boundary Elevation

1 : 300

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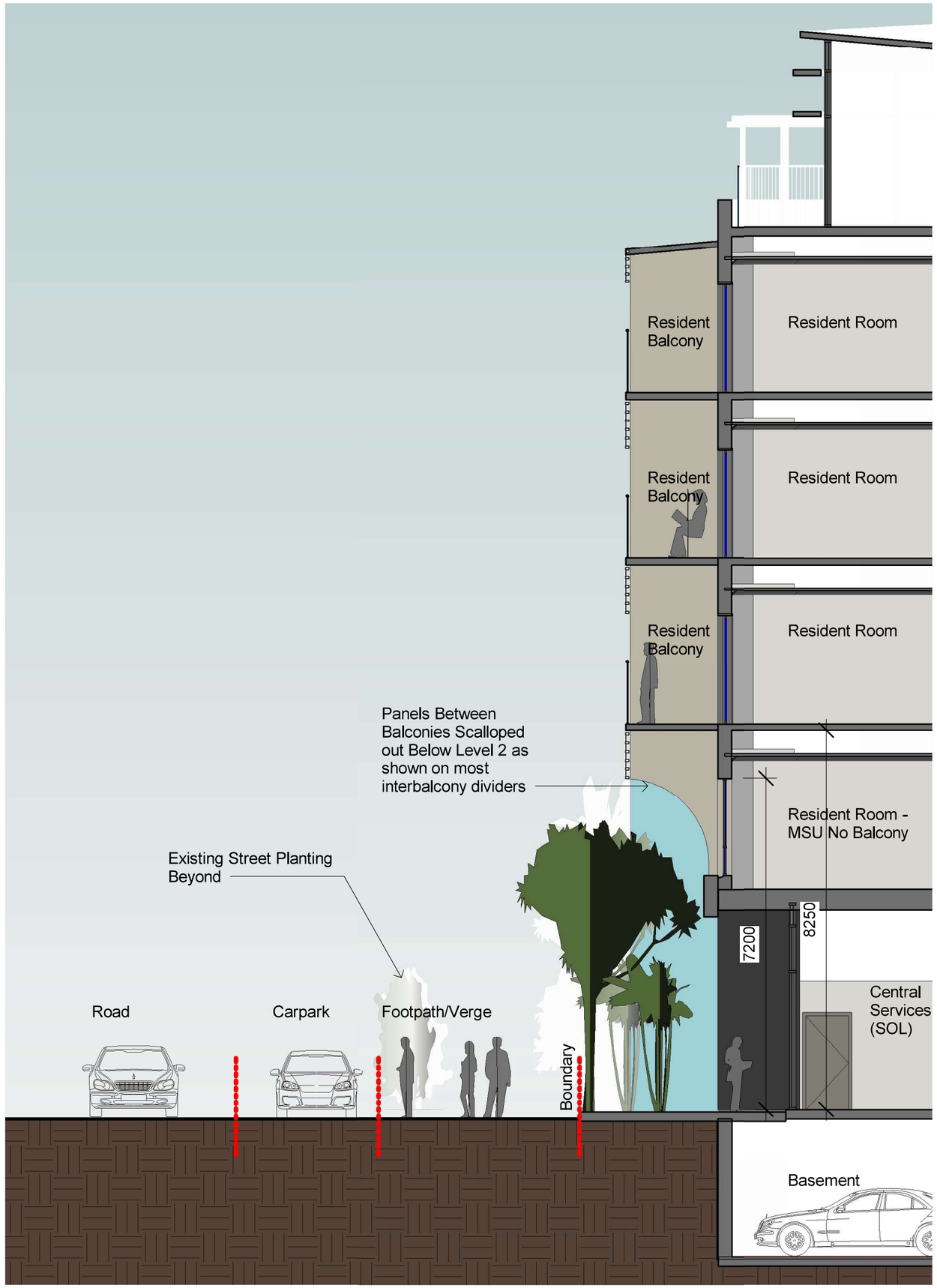
Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title	Drawing Number
Elevations 2 Scale 1 : 300 @ A3 original	20-08-DA-10

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Project
Lumina Parklands Site

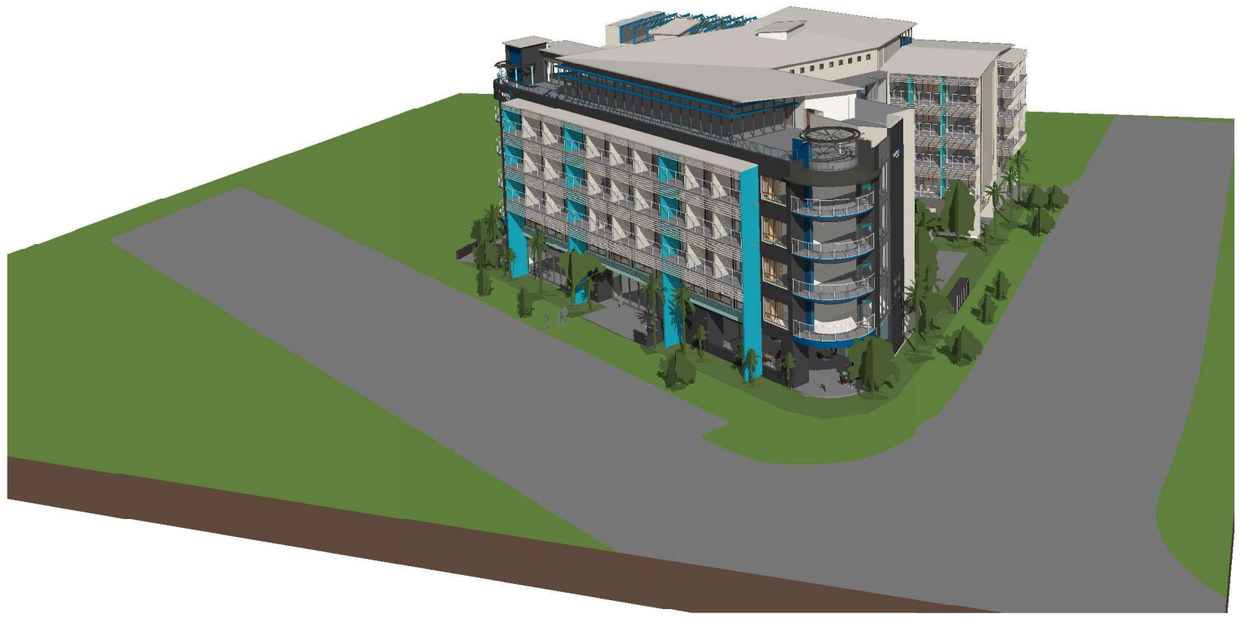
Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title
Street Planting/Footpath Section
Scale 1 : 100 @ A3 original

Drawing Number
20-08-DA-11

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1 Northern Corner



2 Eastern Corner



3 Western Corner Showing Basement

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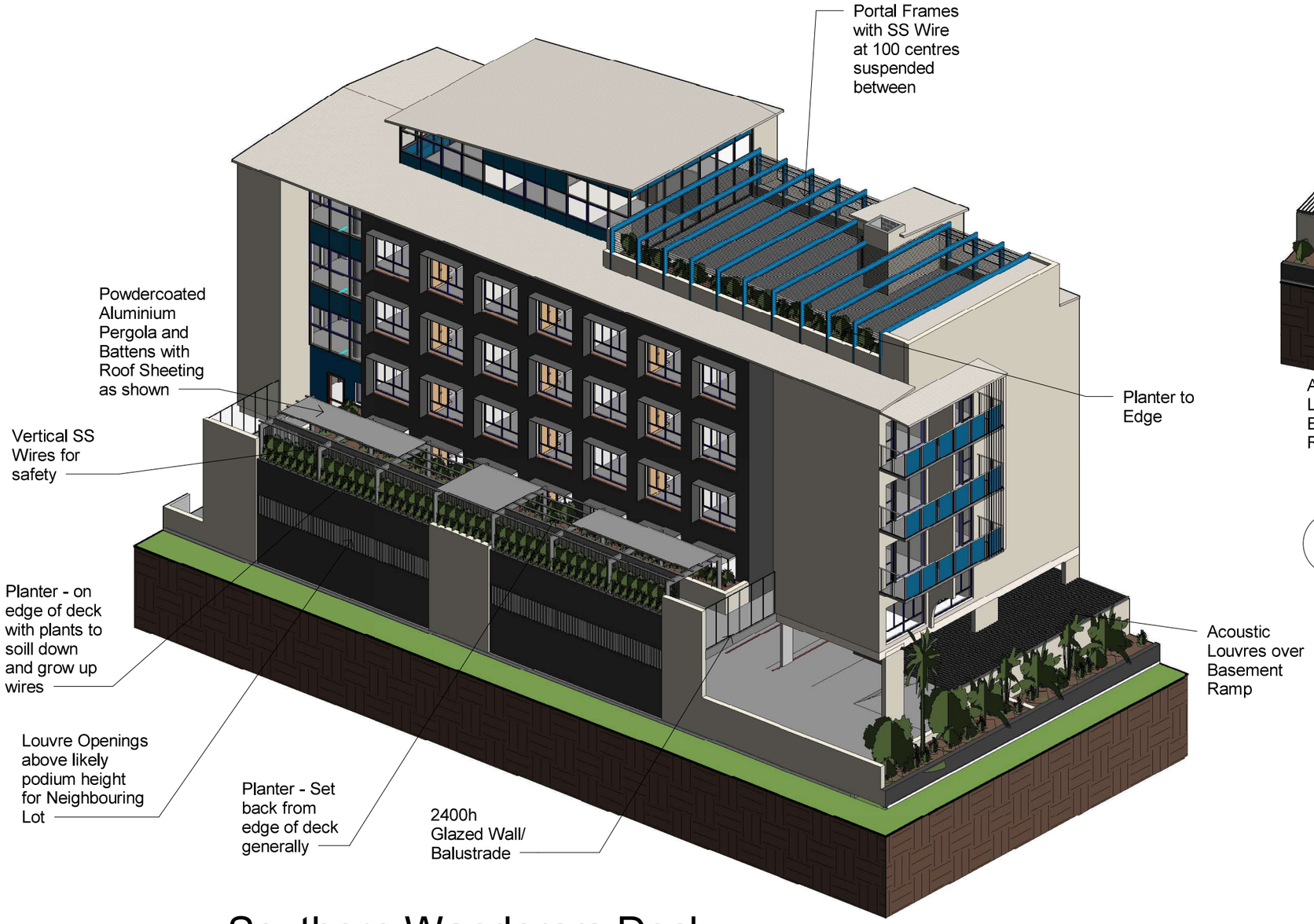
Project
Lumina Parklands Site

Client
Infin8

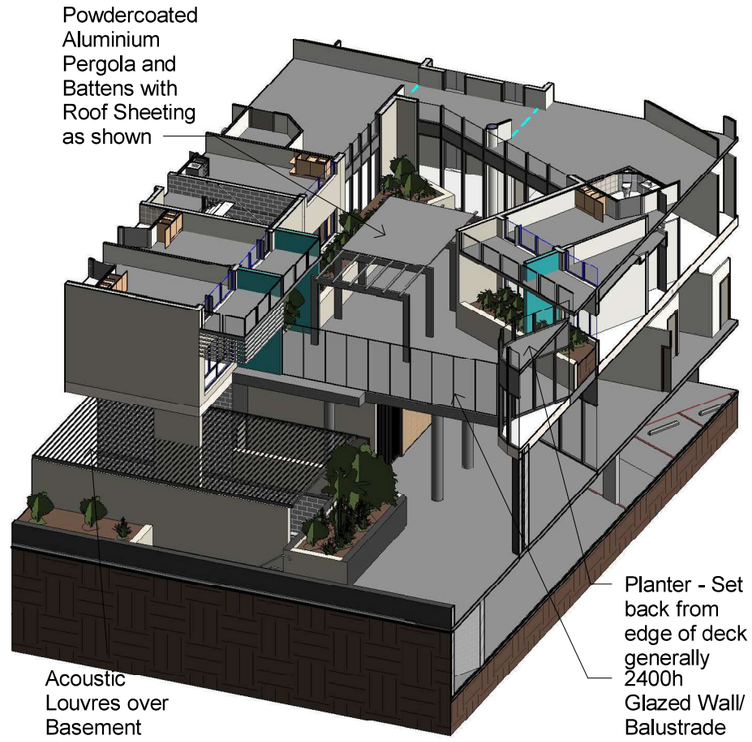
Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3
3	8.03.21	Prelim Issue 2
1	19.02.21	Prelim Issue 1

Drawing Title	Drawing Number
Massing Scale @ A3 original	20-08-DA-12

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1 Southern Wanderers Deck and Roof Deck



2 Central Wanderers Deck

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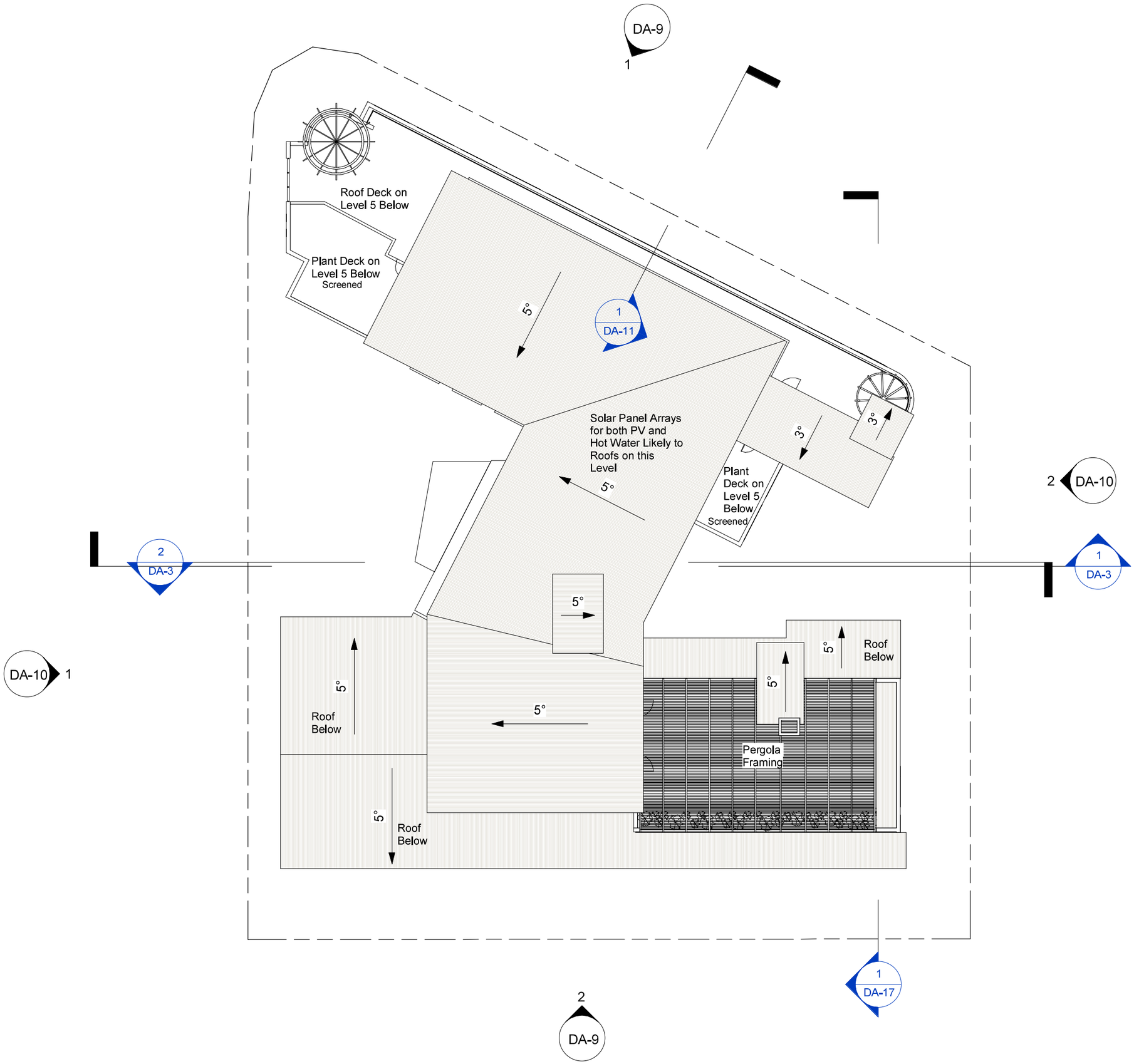
Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response
5	25.03.21	DA Submission Issue
4	12.03.21	Prelim Issue 3

Drawing Title	Drawing Number
Cover for Podium Decks (Wanderers) Scale @ A3 original	20-08-DA-13

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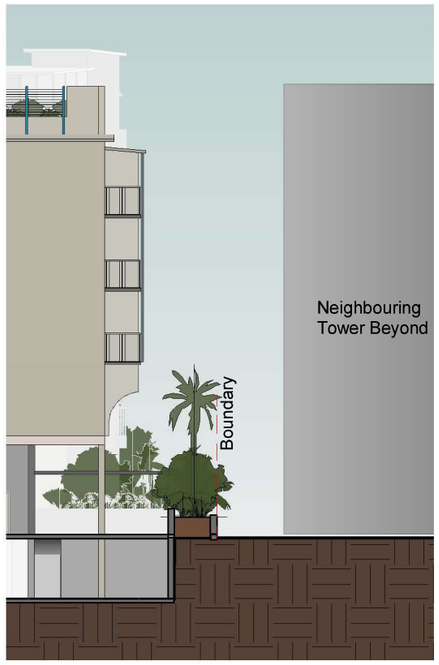
Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response

Drawing Title	Drawing Number
Roof Plan Scale 1 : 300 @ A3 original	20-08-DA-14

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1 SE Section 1

1 : 300



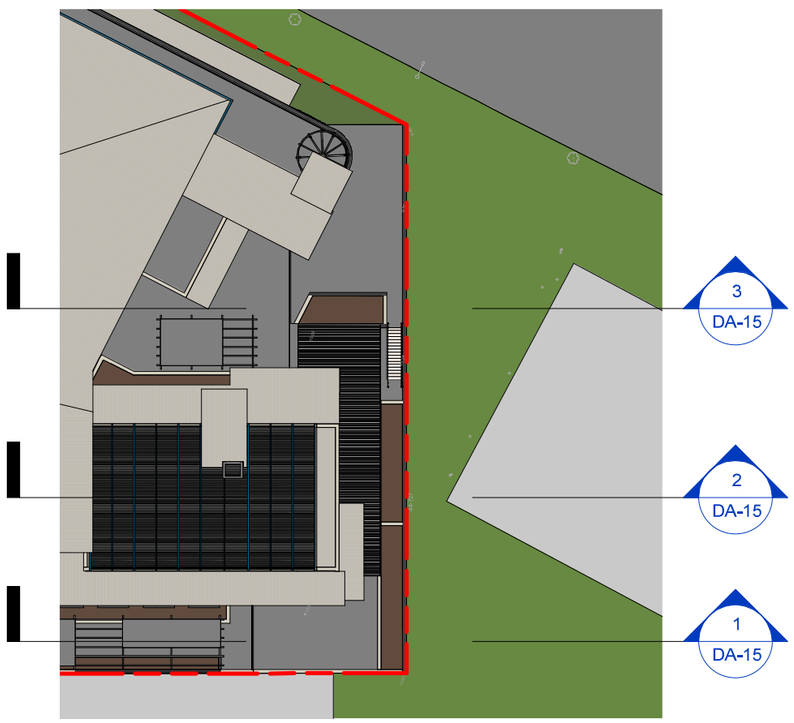
2 SE Section 2

1 : 300



3 SE Section 3

1 : 300



4 SE Boundary Section Key

1 : 500

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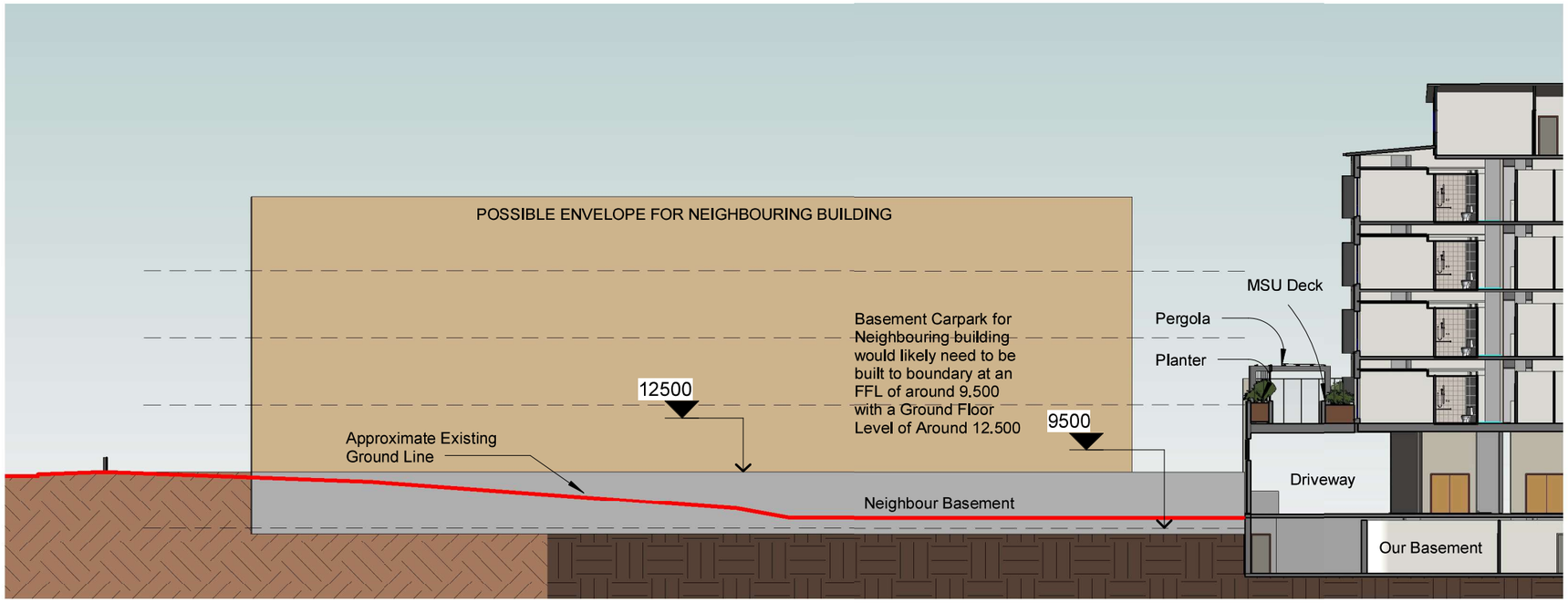
Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response

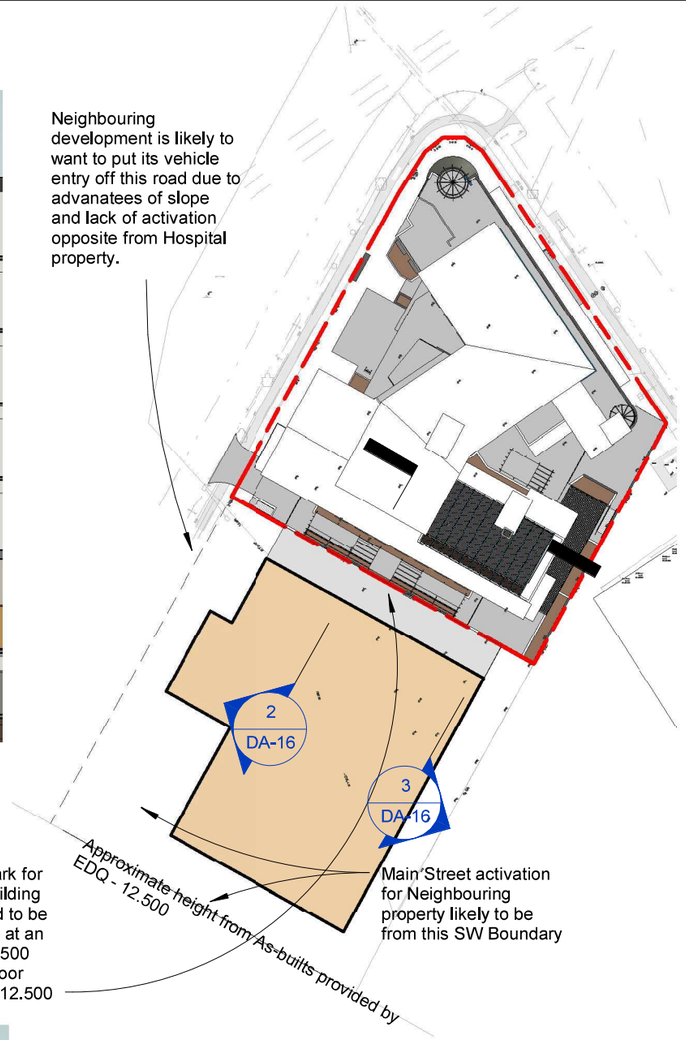
Drawing Title	Drawing Number
SE Boundary Sections Scale As indicated @ A3 original	20-08-DA-15

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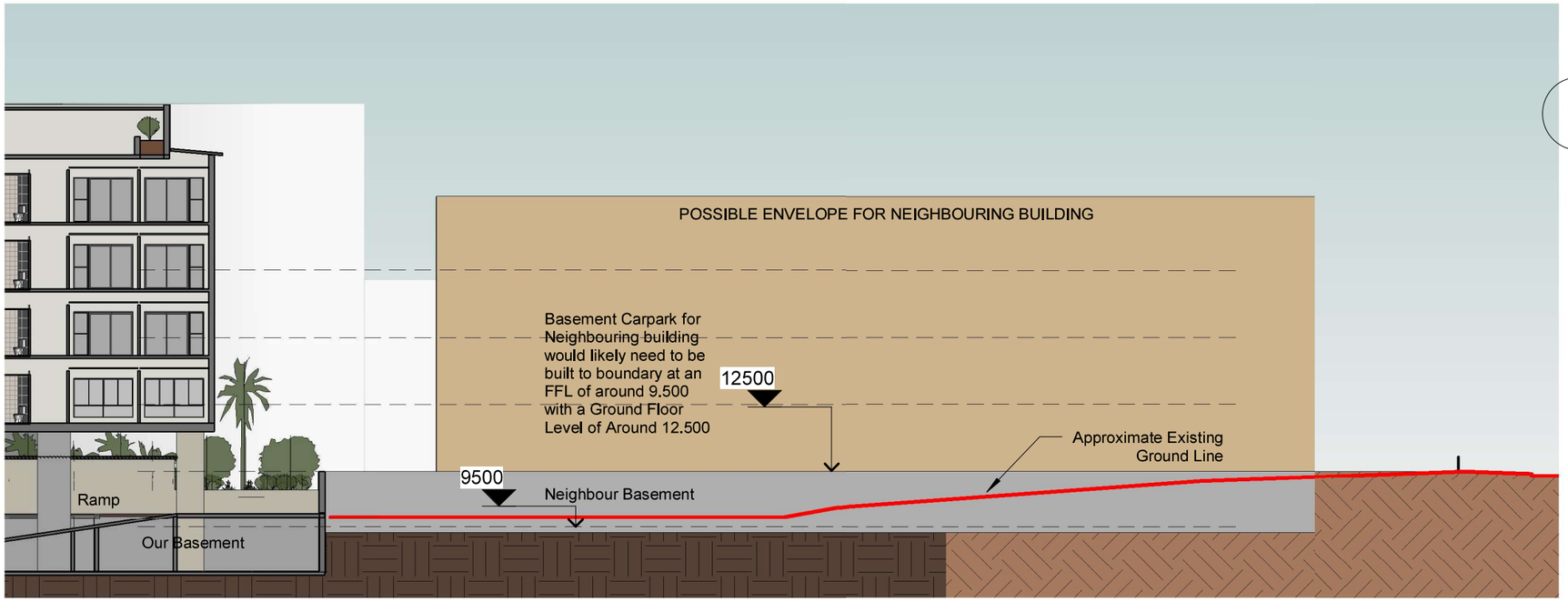
2 SW Boundary Section 1

1 : 300



1 SW Neighbour Development Potential

1 : 1000



3 SW Boundary Section 2

1 : 300

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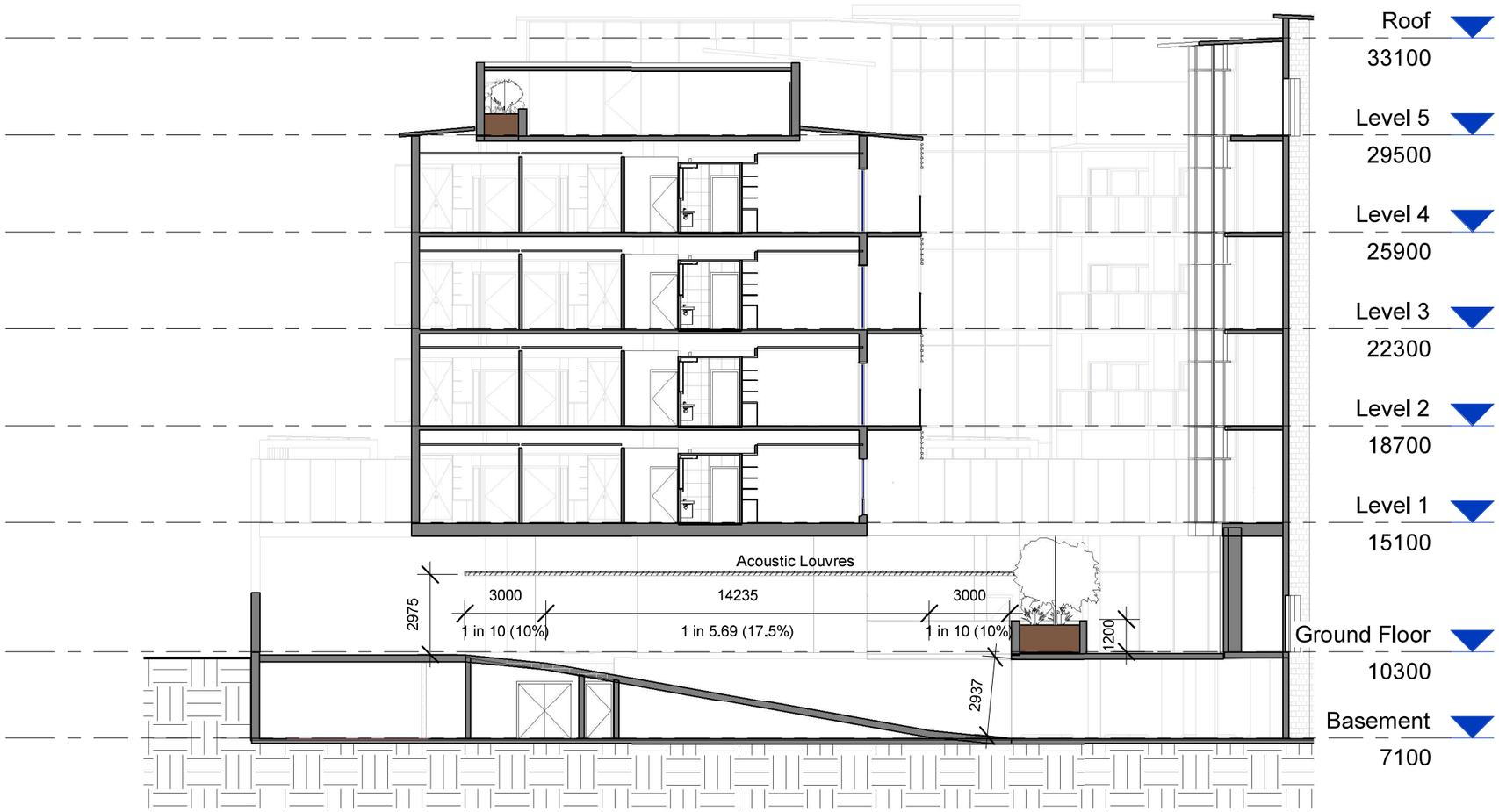
Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response

Drawing Title	Drawing Number
SW Boundary - Sections and Potential Neighbour Scale As indicated @ A3	20-08-DA-16

original
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Project
Lumina Parklands Site

Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses
6	27.07.21	General RFI Response

Drawing Title	Drawing Number
Carpark Ramp Section Scale 1 : 200 @ A3 original	20-08-DA-17

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Lumina Parklands Site

Client
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Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses

Drawing Title	Drawing Number
Photo Montage 1 Scale @ A3 original	20-08-DA-18

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Project
Lumina Parklands Site

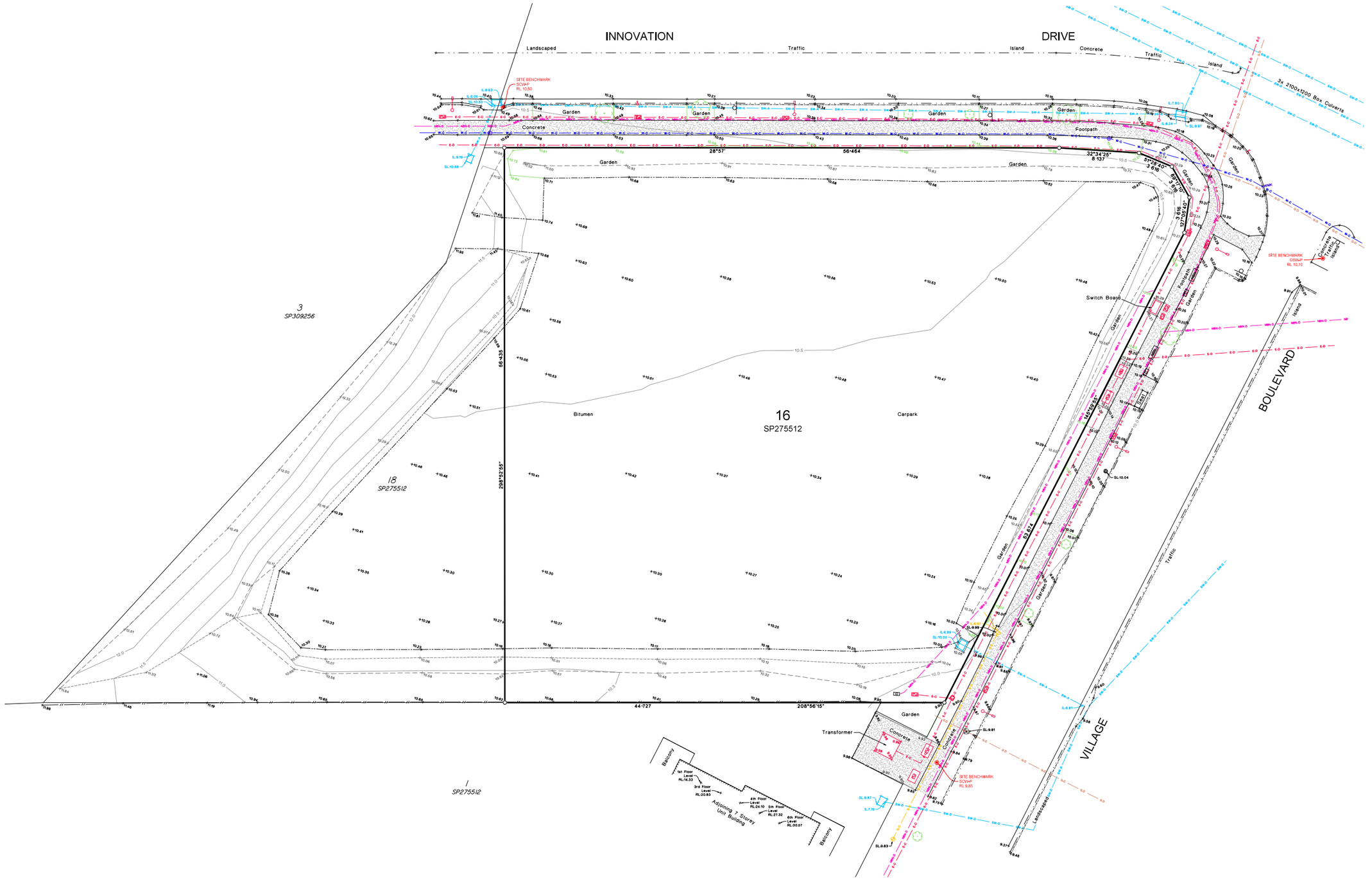
Client
Infin8

Issue	Date	Amendment
7	11.08.21	Prelim RFI Responses

Drawing Title	Drawing Number
Photo Montage 2 Scale @ A3 original	20-08-DA-19

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Appendix B
Detailed Site Survey



Client

Infin8care

Project

Detail Survey of 48 Village Boulevard, Southport

Described as Lot 16 on SP275512

Scale: 1:200 at A1

Datum: AHD vide PSM6869 — Locality: Southport
RL: 1.954 — LGA: Gold Coast C.C.
Contour Int: 0.5m — Cadfile: TDP-312.DET.01

Issue	Description	Drw	Date	Appd
A	INITIAL ISSUE	SSD	01.03.21	MP

Notes

The title boundaries shown hereon were not marked at the time of survey and have been compiled from previous survey.
Services shown hereon have been located where possible by field survey. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

LEGEND

BB	Bottom of bank	
BU	Building	
COMS	Communication Pit	
EBT	Edge of bitumen	
EBX	Electricity Box	
ECM	Electricity cable marker	
ECO	Edge of concrete	
ELP	Light Pole	
EMH	Electricity Pit	
ETG	Electricity transformer	
FHY	Fire Hydrant	
FL	Floor level	
FNX	Fence	
FX	Footpath	
GB	Garden	
GMH	Gas Manhole	
GMK	Gas Marker	
KCL	Kerb lip	
KIN	Kerb invert	
KTB	Kerb top back	
MHU	Manhole Unknown	
NBN	NBN Pit	
SGN	Traffic sign	
SMH	Sewer Manhole	
TB	Top of bank	
TEP	Telstra Pit	

SERVICES NOTE: Services have been compiled from council records and As Constructed drawings supplied by the client.

UNDERGROUND SERVICES - ALPHA CLASSIFICATION AS PER AUSTRALIAN STANDARD AS5488.

Sewer main	S-0
Stormwater drainage	SW-0
Water main	W-0
Telstra service	T-0
NBN service	NBN-0
Gas supply	G-0
Electricity supply	E-0

0 — 6 — 12 m

SCALE 1:200 (A1)

FOCUS ON SURVEYING
w www.focussurvey.com.au
e info@focussurvey.com.au ph 3338 5095
a Suite 6, 214 Waterworks Road, Ashgrove , QLD , 4060

Sheet No.	Surveyed By:	Date Surveyed:
1 of 1	RWB	23.02.2021

Dwg. No. **TDP-312.DET.01** — Issue **A**

Appendix C
City of Gold Coast Infrastructure Mapping

As Constructed Assets



18/03/2021, 11:12:06

1:1,128

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.07 km

LGA_Boundary

Water Fitting

T - Joint

Other

Water Hydrant

Potable Water Pipe

Sewer Connection

Sewer Maintenance Hole

Maintenance Hole

Sewer_Pipe_Non_Pressure

Drainage Pit

Inlet Gully

Manhole

Drainage Pipe

Stormwater End Structure

Stormwater GPT Complex

Easement

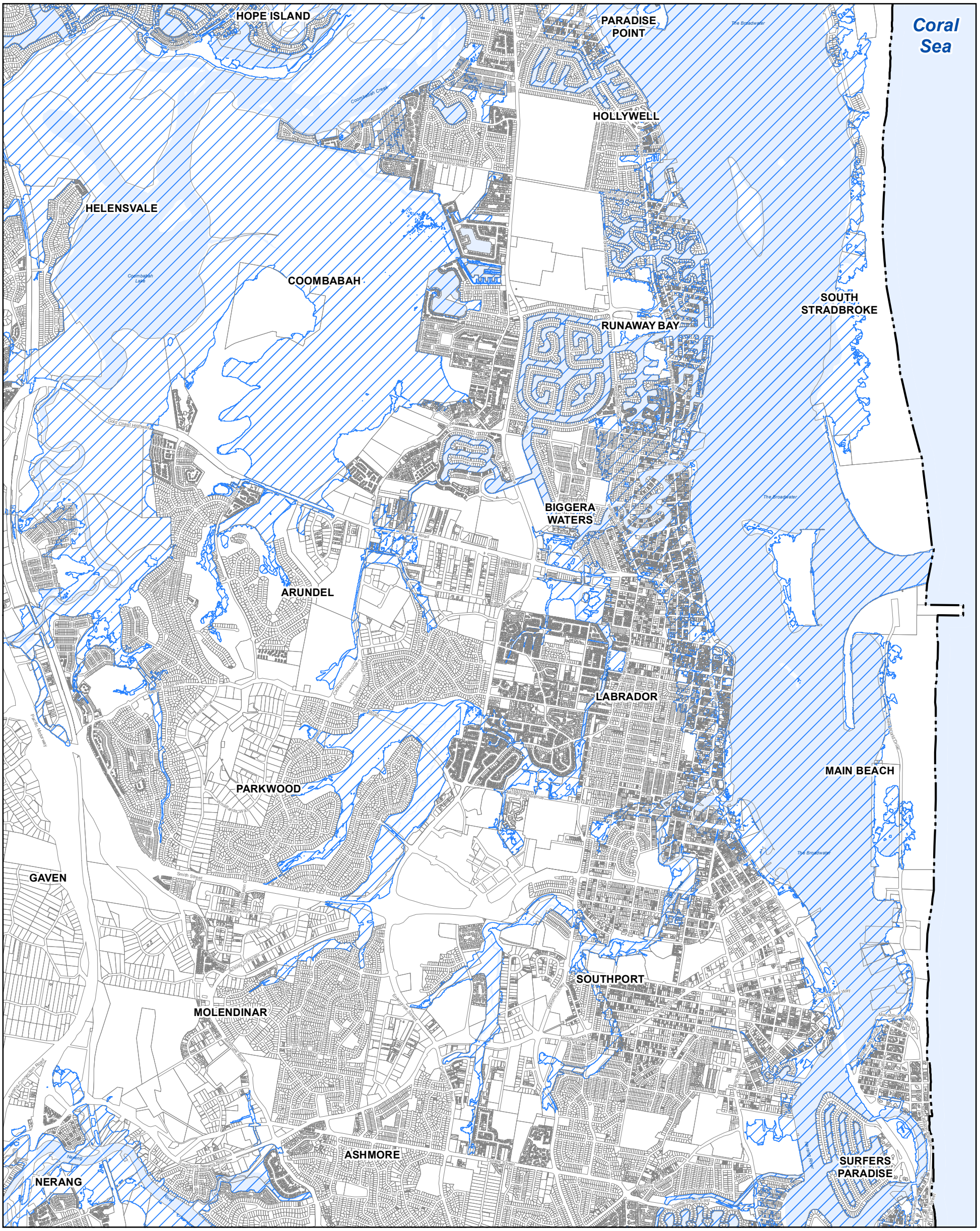
© State of Queensland (Department of Natural Resources, Mines and Energy) 2020, NPSR, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS

City of Gold Coast

This information is provided to assist in field investigations. Spot checks have been made to determine the accuracy of this plan. However, all locations, dimensions and depths shown are to be confirmed on site.

Appendix D
City of Gold Coast Overlay Mapping

Flood overlay map - map 8



Flood assessment required

Property boundaries

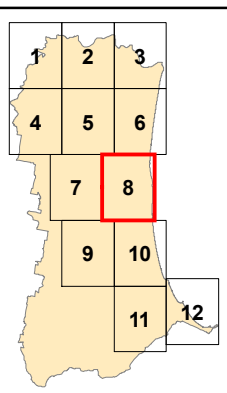
Local government area boundary

Waterway or waterbody

Note:

This flood map does not in itself indicate whether any property has or has not been affected by floods. That conclusion requires separate interpretation or measurement.

Areas of potential flood inundation shown on this map have been compiled from various sources and hydraulic reports available at the date of issue. Whilst some of the inundation areas are based on computer hydraulic modelling of standard floods used for planning purposes, the information used to calibrate such models is usually based on reported flood marks which are often widely spaced and may not have been recorded at a particular flood's peak level.



City Plan

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Map version - 7
22 Sep 2020
Data source:
Flood - CoGC
Waterways - CoGC
Cadastre (Jan 2020) - State

N

Projection:
MGA94
Zone 56

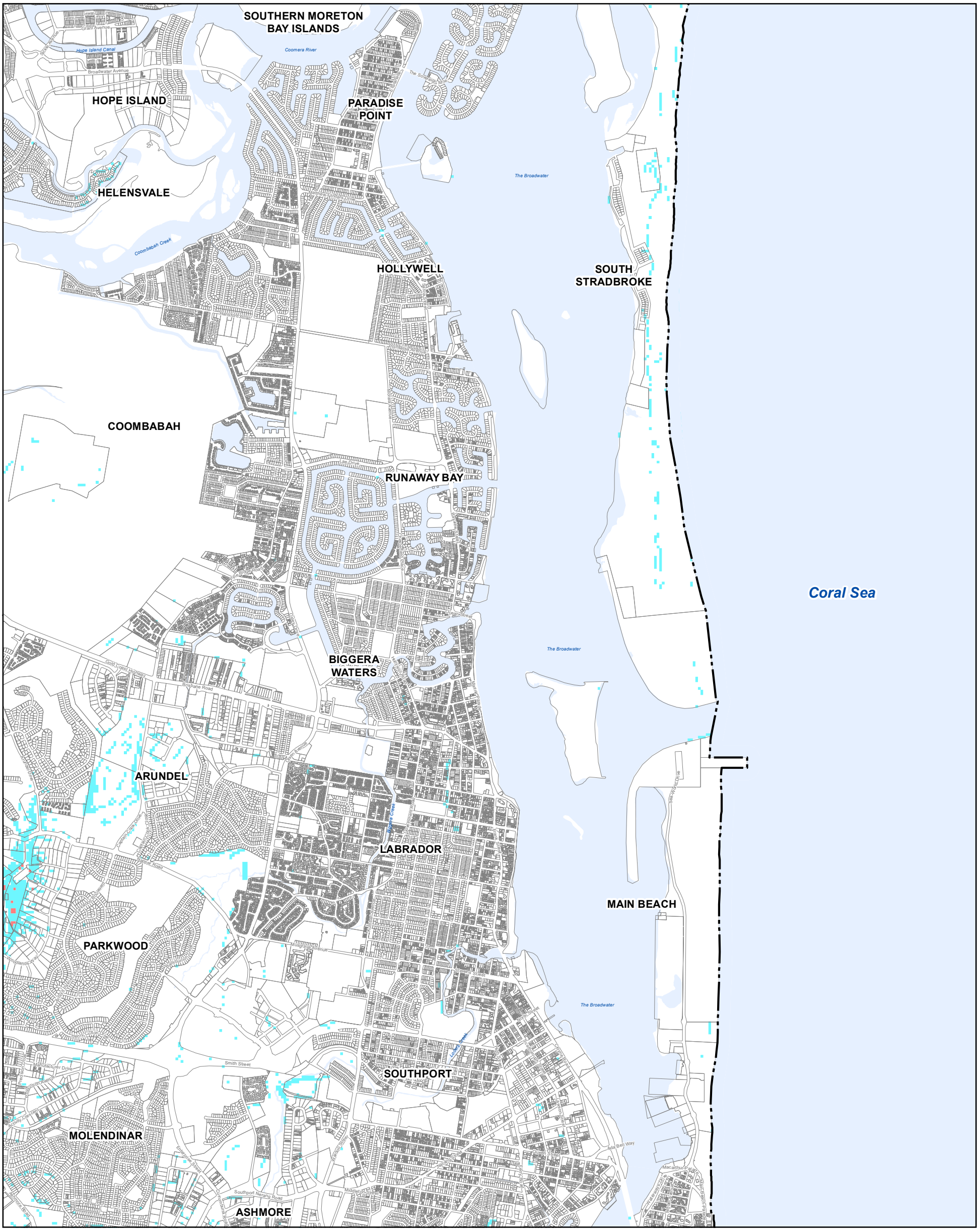
0 250 500 1,000 m

Approx scale @ A3 1:37,000

CITY OF GOLDCOAST.

OMF1-8

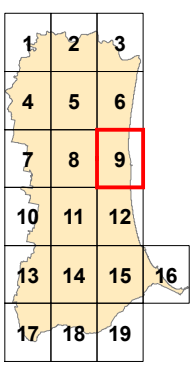
Landslide hazard overlay map - map 9



Landslide hazard moderate
Landslide hazard high
Landslide hazard very high

Property boundaries
Local government area boundary
Waterway or waterbody

Note:
Land instablility is based upon City of Gold Coast data to date.
For further information a GEOTECHNICAL STUDY should be undertaken.



City Plan

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Map version - 6
22 Sep 2020
Data source:
Landslide hazard - CoGC
Waterways - CoGC
Cadastre (Jan 2020) - State

N

Projection:
MGA94
Zone 56

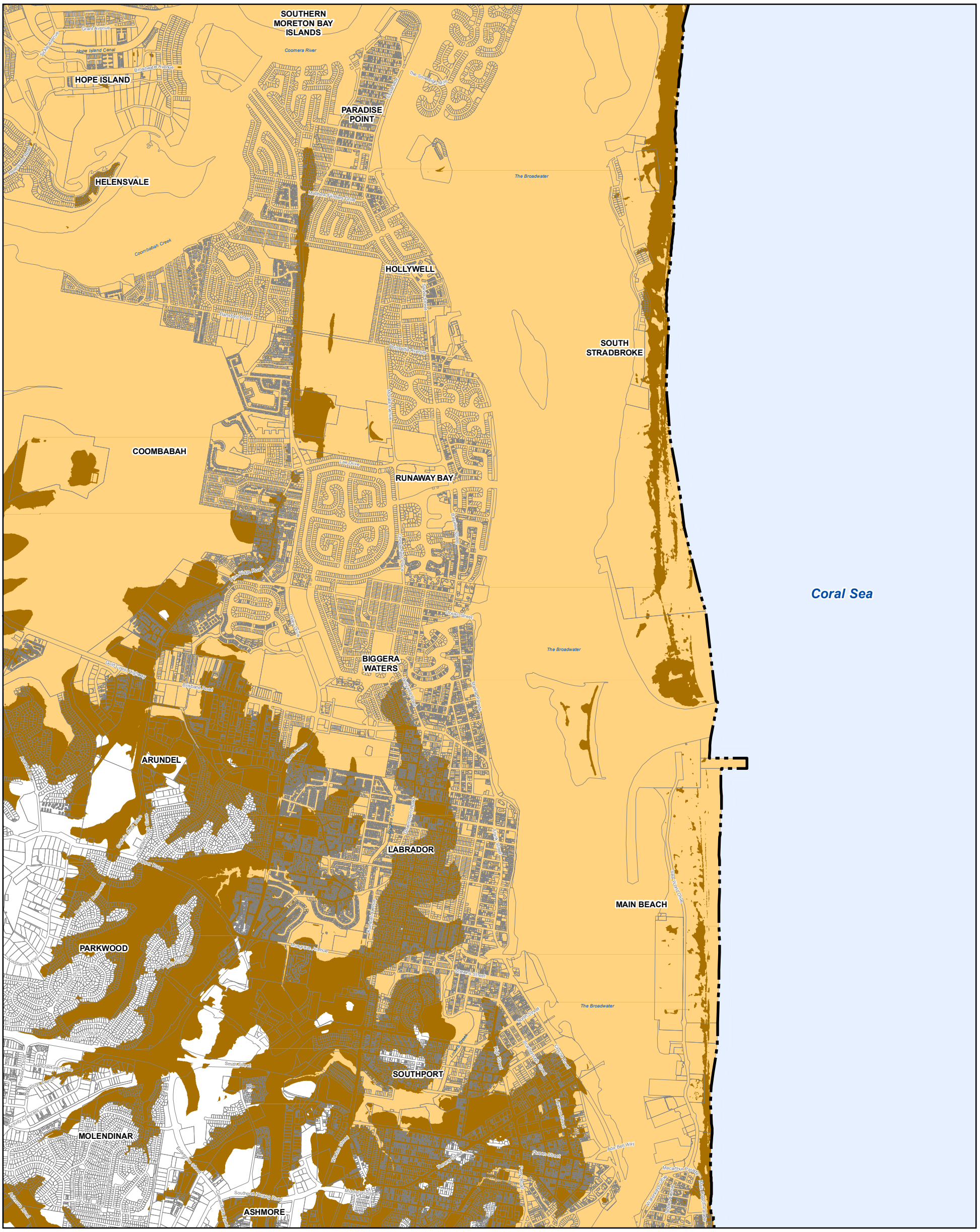
0 250 500 1,000 m

Approx scale @ A3 1:37,000

CITY OF GOLDCOAST.

OML1-9

Acid sulfate soils overlay map - map 9

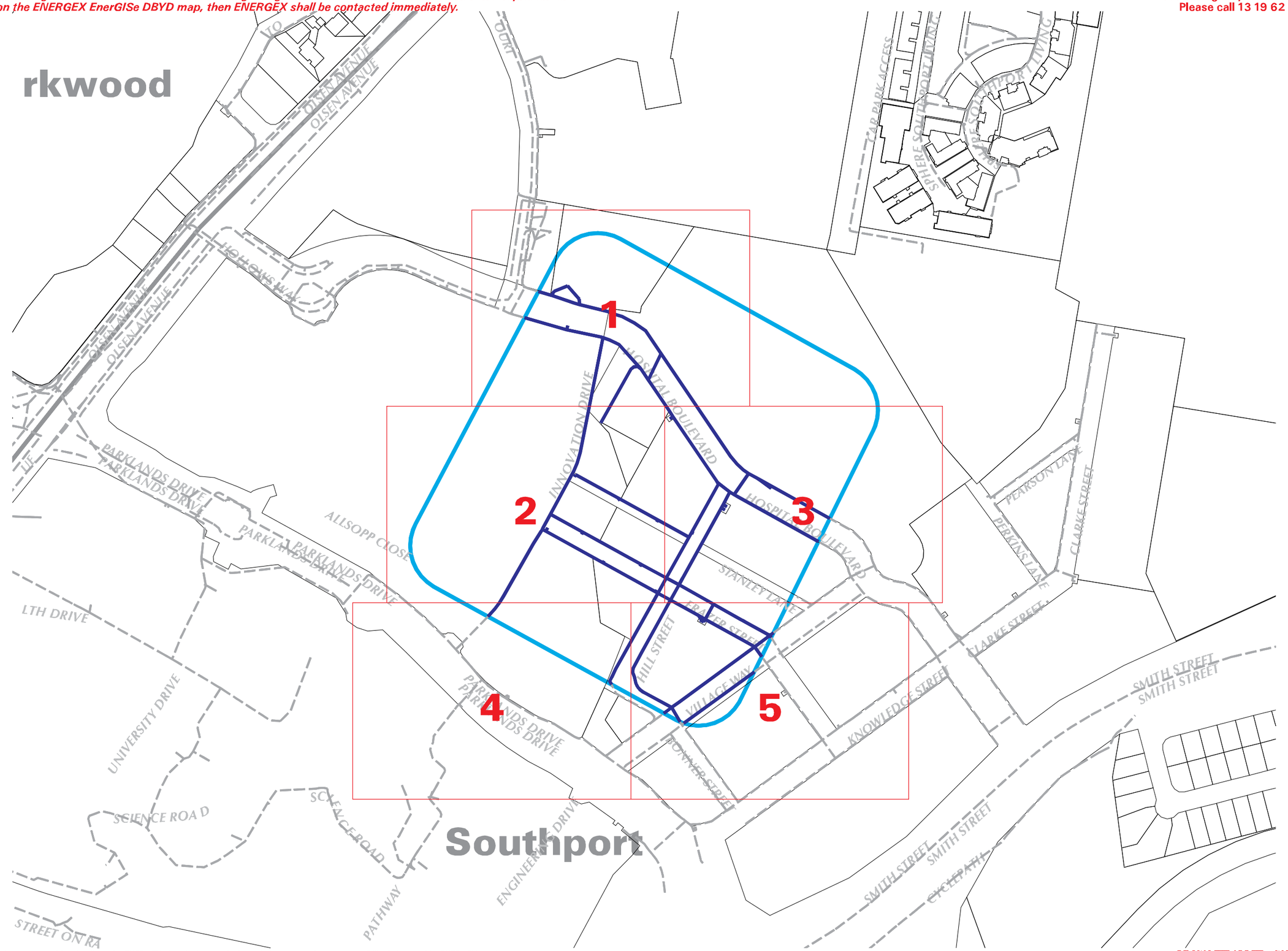

SOUTHERN MORETON BAY ISLANDS
HOPE ISLAND
PARADISE POINT
HELENSVALE
HOLLYWELL
SOUTH STRADBROKE
COOMBABAH
RUNAWAY BAY
Coral Sea
BIGGERA WATERS
ARUNDEL
LABRADOR
MAIN BEACH
PARKWOOD
SOUTHPORT
MOLENDINAR
ASHMORE
Coomera River
The Broadwater
Coombabah Creek
Hope Island Canal
Broadwater Avenue
Grant Avenue
Smith Avenue
Hollywell Road
Mattinga Esplanade
Kerrydale Road
Hollywell Avenue
Southern Link
Moolanda Avenue
Joe Drive
Bowman Street
Christopher Place
Pine Ridge Road
Peggy Court
Ocean Street
Gold Coast Highway
Brisbane Road
Olsen Avenue
Avenell Place
Evandale Court
Evandale Court West
Kerrydale Road
Bundall Road
Ashmore Road
Smith Street
Manufacturing Drive
Southport Nerang Road
Stewart Street
Scarborough Street
Queen Street
Lemon Street
Ada Bell Way
Macarthur Parade
Main Beach Parade
Sea World Drive
Waterways Drive
Pacific Parade
Marine Parade
Kirkwood Road
Kingsford Smith Drive
Ashmore Road
Mudgeeraba Creek
Biggera Creek
Nerang River
Nerang-Southport Road
Olsen Avenue
Ferry Street
Ferry Terminal
Ferry Street
Ferry Terminal
Ferry Street
Ferry Terminal
Ferry Terminal
Ferry Terminal

Appendix E
DBYD

PAPER SIZE A3

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

For Emergency Situations Please call 13 19 62



energex

EnerGISe
DBYD

Date: 16 Feb 21 Time: 13.49.05
Requested By: DBYD

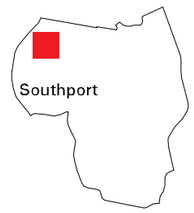
NOT TO SCALE

0 150m

Enquiry No: 106637886
KEY MAP

Enquiry Area

LOCALITY DIAGRAM



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

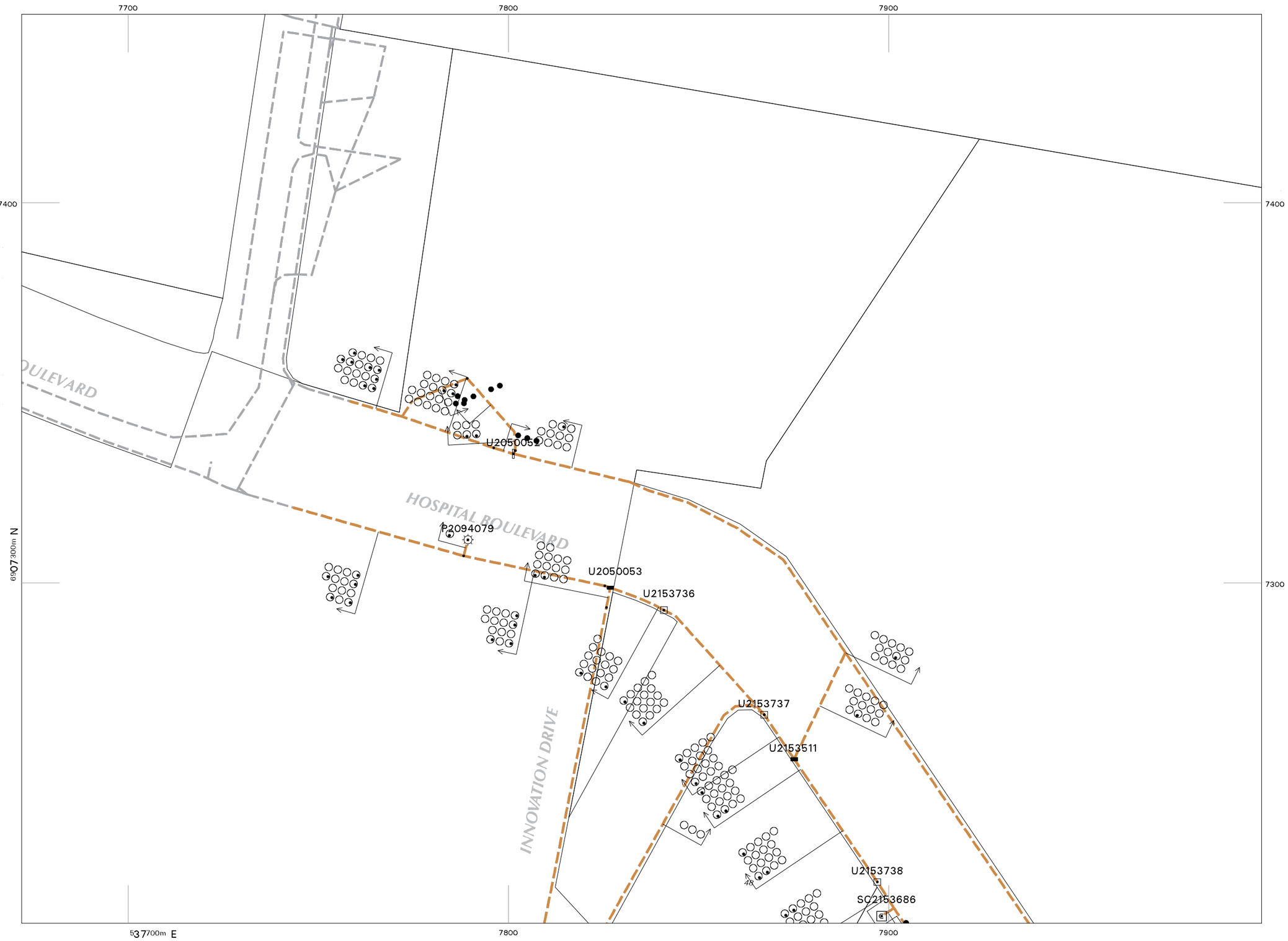
UNCONTROLLED COPY

PAPER SIZE A3

PAPER SIZE A3 Map has been designed to be reproduced in colour

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

For Emergency Situations Please call 13 19 62



energex

EnerGISe

DBYD

Date: 16 Feb 21 Time: 13.49.18
Requested By: DBYD

SCALE 1:1000

20 0 20m

Enquiry No: 106637886

STRIP No: 1

- *Ground Transformer*
- *Cubicle Transformer*
- *Ring Main Unit*
- *Metering Unit*
- *Link Pillar*
- *Service Pillar*
- *Junction Pillar*
- *Pit*
- *Cable Joint*
- *Cable Termination*
- *Cable Marker*
- *Street Light Pole*
- *Earth*
- *Planned Work labelled by Work Order*
- *Cable Voltage Less Than 33kV*
- *Cable Voltage 33kV or Higher*
- *Direct-Lay Cable*
- *Conduit*
- *Multi-Section Duct*
- *Trench*
- *Cable Tray*
- *Tunnel*

N W E S

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LOCALITY DIAGRAM

Southport

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

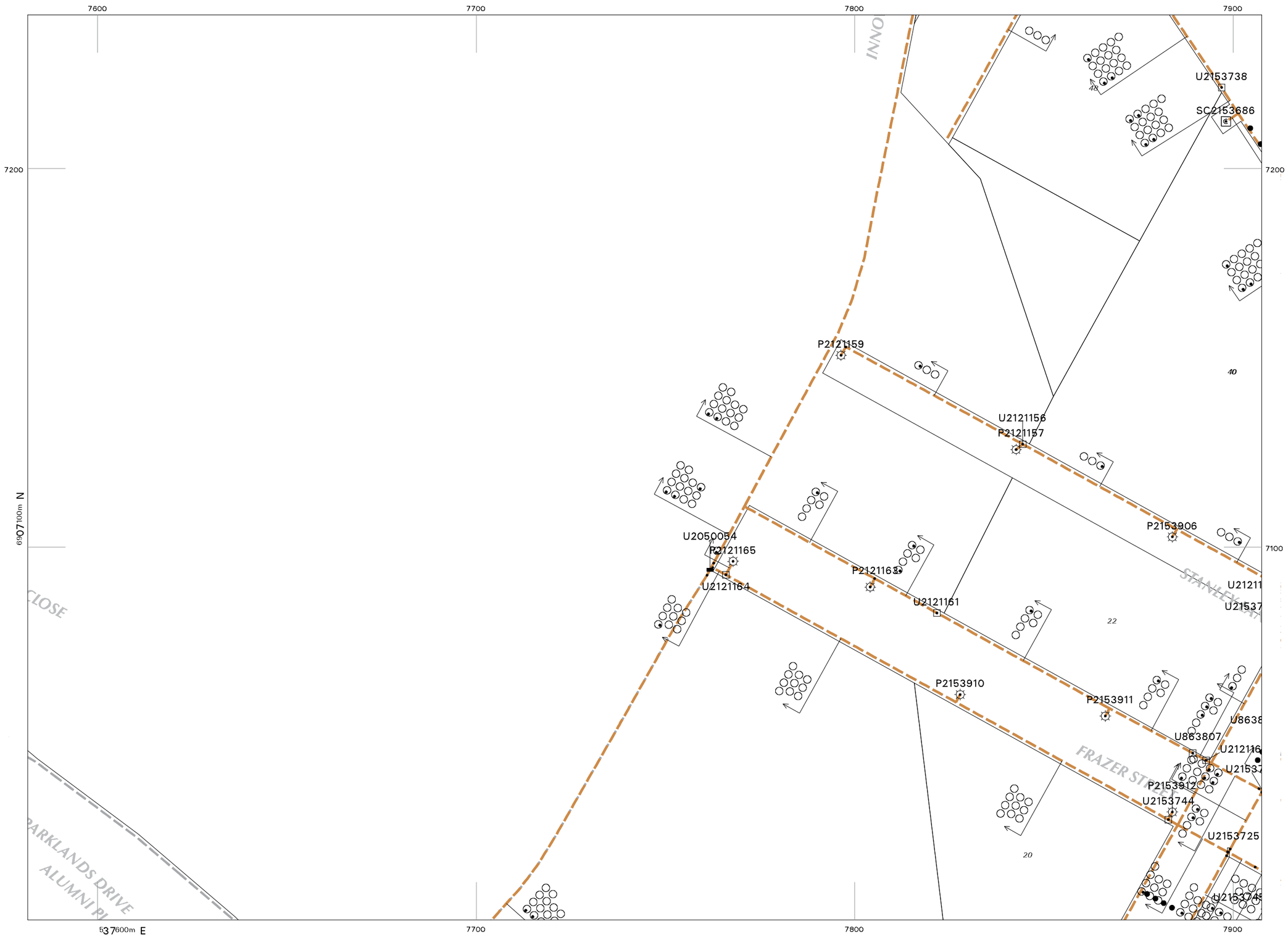
UNCONTROLLED COPY

PAPER SIZE A3 Map has been designed to be reproduced in colour

PAPER SIZE A3 Map has been designed to be reproduced in colour

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

For Emergency Situations Please call 13 19 62



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

UNCONTROLLED COPY

energex

EnerGISe

DBYD

Date: 16 Feb 21 Time: 13.49.52
Requested By: DBYD

SCALE 1:1000

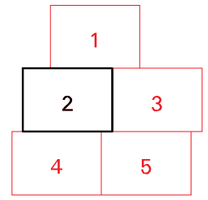
20 0 20m

Enquiry No: 106637886

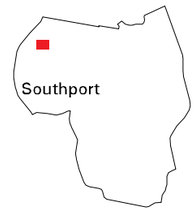
STRIP No: 2

- Ground Transformer
- Cubicle Transformer
- Ring Main Unit
- Metering Unit
- Link Pillar
- Service Pillar
- Junction Pillar
- Pit
- Cable Joint
- Cable Termination
- Cable Marker
- Street Light Pole
- Earth
- Planned Work labelled by Work Order
- Cable Voltage Less Than 33kV
- Cable Voltage 33kV or Higher
- Direct-Lay Cable
- Conduit
- Multi-Section Duct
- Trench
- Cable Tray
- Tunnel

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LOCALITY DIAGRAM

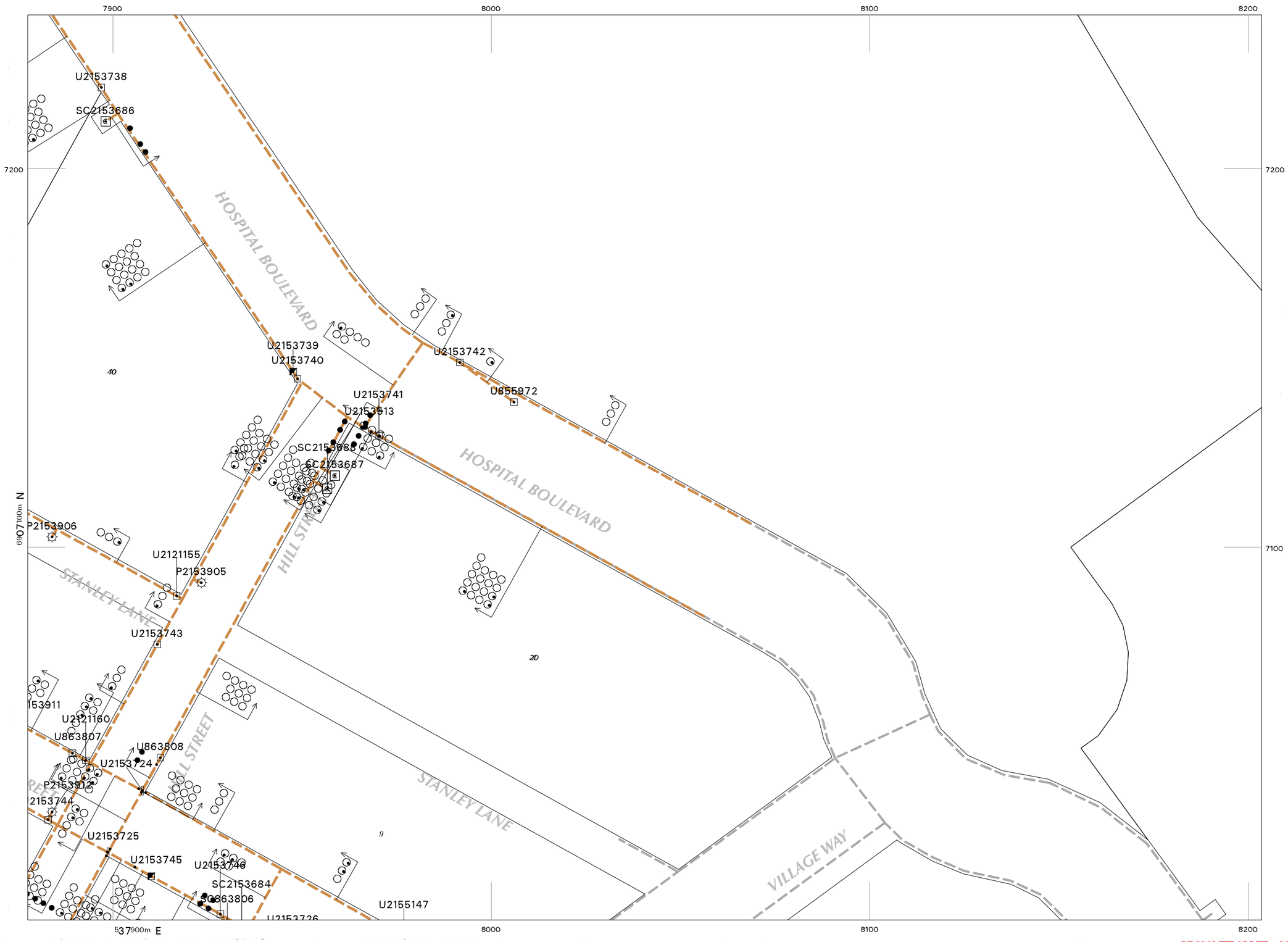


PAPER SIZE A3 Map has been designed to be reproduced in colour

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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 EnerGISe DBYD map, then ENERGEX shall be contacted immediatelv.

For Emergency Situations Please call 13 19 62



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

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energex

EnerGISe

DBYD

Date: 16 Feb 21 Time: 13.50.29
Requested By: DBYD

SCALE 1:1000

20 0 20m

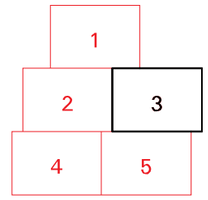
Enquiry No: 106637886

STRIP No: 3

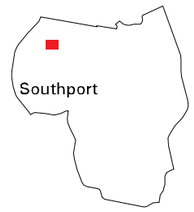
- *Ground Transformer*
- *Cubicle Transformer*
- *Ring Main Unit*
- *Metering Unit*
- *Link Pillar*
- *Service Pillar*
- *Junction Pillar*
- *Pit*
- *Cable Joint*
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- *Cable Marker*
- *Street Light Pole*
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- *Cable Voltage 33kV or Higher*
- *Direct-Lay Cable*
- *Conduit*
- *Multi-Section Duct*
- *Trench*
- *Cable Tray*
- *Tunnel*

N W E S

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LOCALITY DIAGRAM



PAPER SIZE A3 Map has been designed to be reproduced in colour

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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 EnerGISe DBYD map, then ENERGEX shall be contacted immediately.

For Emergency Situations Please call 13 19 62



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energex

EnerGISe

DBYD

Date: 16 Feb 21 Time: 13.51.15
Requested By: DBYD

SCALE 1:1000

20 0 20m

Enquiry No: 106637886

STRIP No: 4

- Ground Transformer
- Cubicle Transformer
- Ring Main Unit
- Metering Unit
- Link Pillar
- Service Pillar
- Junction Pillar
- Pit
- Cable Joint
- Cable Termination
- Cable Marker
- Street Light Pole
- Earth
- Planned Work labelled by Work Order
- Cable Voltage Less Than 33kV
- Cable Voltage 33kV or Higher
- Direct-Lay Cable
- Conduit
- Multi-Section Duct
- Trench
- Cable Tray
- Tunnel

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LOCALITY DIAGRAM

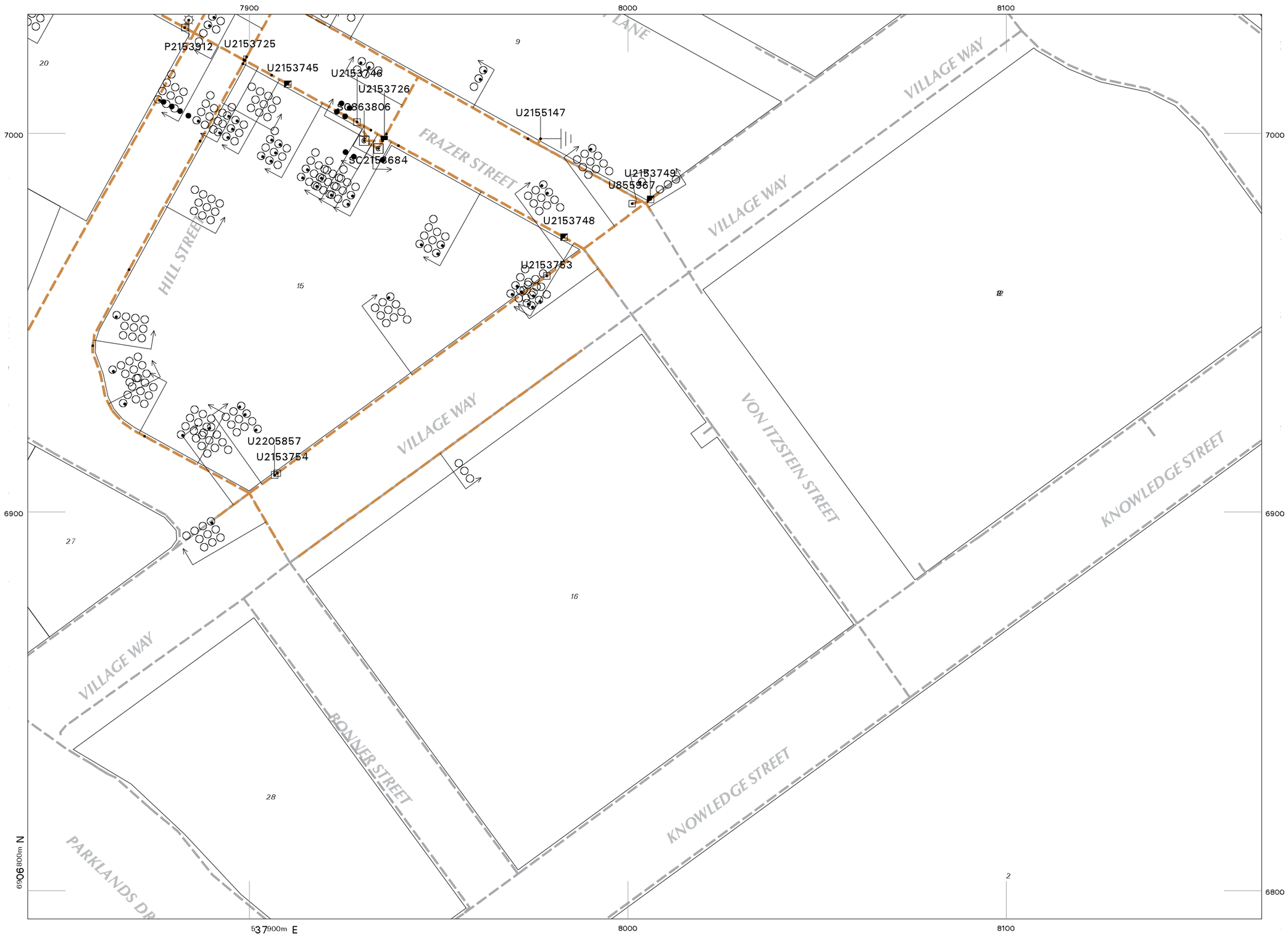


PAPER SIZE A3 Map has been designed to be reproduced in colour

PAPER SIZE A3 Map has been designed to be reproduced in colour

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

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energex

EnerGISe

DBYD

Date: 16 Feb 21 Time: 13.51.39
Requested By: DBYD

SCALE 1:1000

20 0 20m

Enquiry No: 106637886

STRIP No: 5

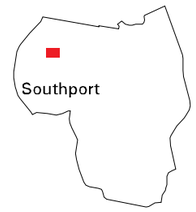
- Ground Transformer
- Cubicle Transformer
- Ring Main Unit
- Metering Unit
- Link Pillar
- Service Pillar
- Junction Pillar
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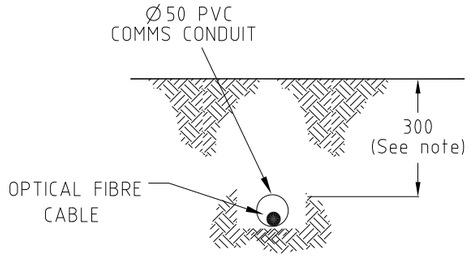
LOCALITY DIAGRAM



PAPER SIZE A3 Map has been designed to be reproduced in colour

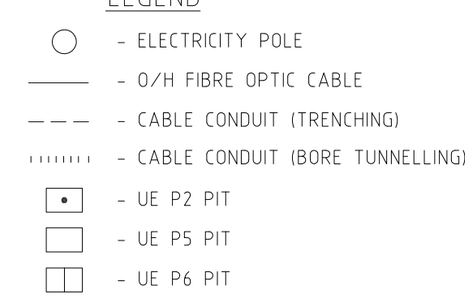
LEGEND

- ELECTRICITY POLE
- O/H FIBRE OPTIC CABLE
- CABLE CONDUIT (TRENCHING)
- CABLE CONDUIT (BORE TUNNELLING)
- UE P2 PIT
- UE P5 PIT
- UE P6 PIT
- UE P8 PIT
- UE P9 PIT
- BL - BUILDING LINE
- BOK - BACK OF KERB
- CL - CENTRELINE OF CONDUIT
- TP - TURNING POINT OF CONDUIT
- FENCE LINE, FL
- TELSTRA MANHOLE
- T - TELSTRA PIT
- C - CUSTOMER PIT
- OPTICAL FIBRE JOINT
- JOINT LOOP (m) - POLE / UNDERGROUND
- CABLE HEAD POLE
- 0.6m - CABLE DEPTH



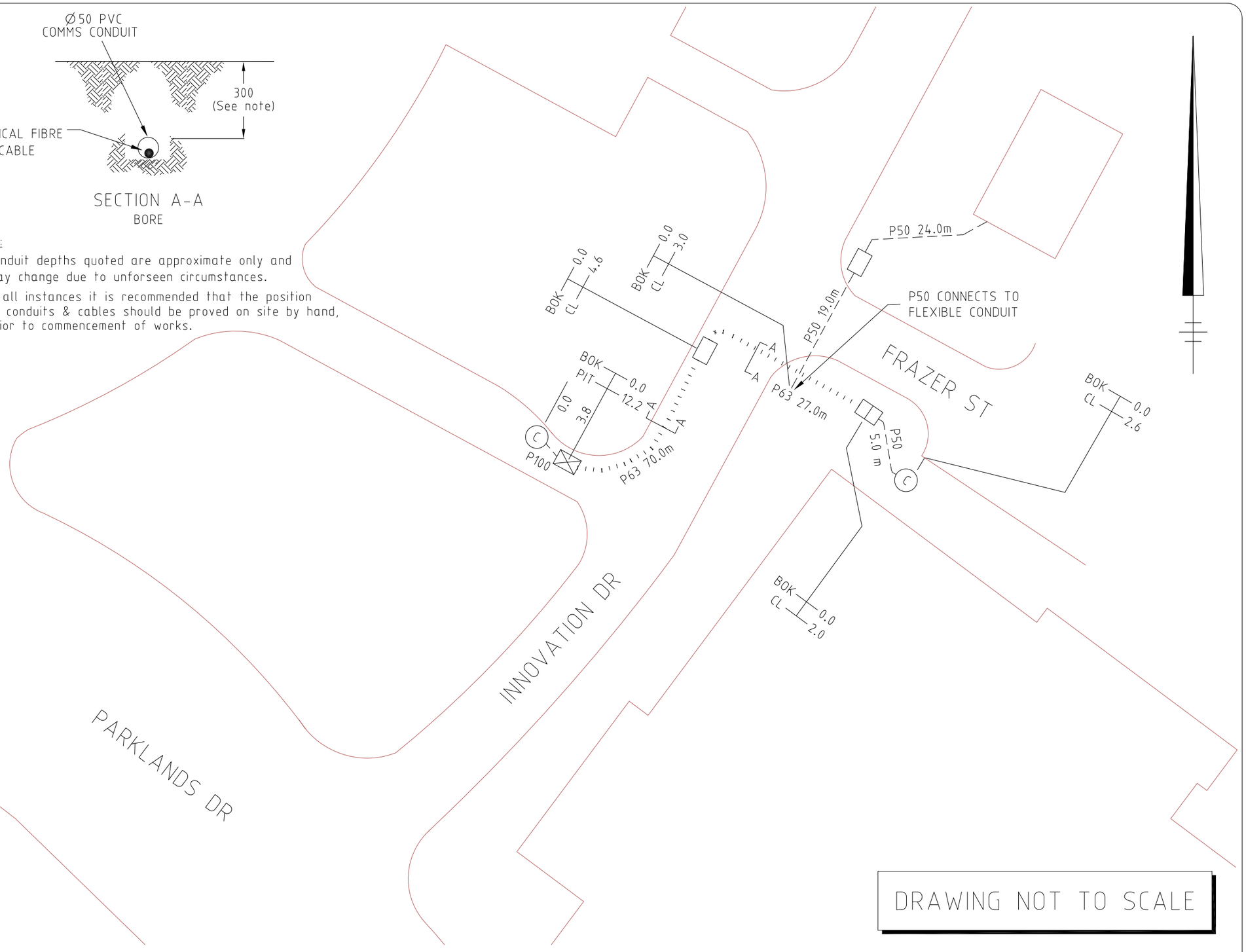
SECTION A-A
BORE

Note:
1. Conduit depths quoted are approximate only and may change due to unforseen circumstances.
2. In all instances it is recommended that the position of conduits & cables should be proved on site by hand, prior to commencement of works.



TYPICAL SECTION
TRENCH

Note:
1. Conduit depths quoted are approximate only and may change due to unforseen circumstances.
2. In all instances it is recommended that the position of conduits & cables should be proved on site by hand, prior to commencement of works.



DRAWING NOT TO SCALE

REVISION					
12.07.18	A	AS BUILT (CGAMB-121)	PD	BV	
DATE	REV.	REVISION DESCRIPTION	CHECKED	APP'D.	

CONTACT OFFICER PH:

PROJECT NUMBER WTPKB-110

PLAN No.

BRISWAY / UBD REF / STREET SMART
748-F12 G28-L9

G:\System\Uecomm\Uecomm-Brand_COLOUR.jpg

DRAWN DN 16/12/13

DESIGN CHECKED AW 16/12/13

APPROVED

DRG No. OFN5/BNE/4406-1 A

U/G OPTICAL FIBRE CABLE RUN
INNOVATION DRIVE
OFF PARKLANDS DVE
SOUTHPORT QLD 4215

A1

APA Group
PO Box 6014 Halifax Street
South Australia 5000

16/02/2021

Company: ADG Engineers
Mr Joshua Frew
Unit 804/30 Brighton Parade
Southport
QLD 4215

jfrew@adgce.com

Dear Mr Joshua Frew

Sequence Number: 106637892
Worksite Address: 48 Village Boulevard
Southport
QLD 4215

RE: REQUEST FOR APA GROUP (APA) UNDERGROUND DIAL BEFORE YOU DIG

Dear Sir/Madam

In response to the above enquiry we wish to confirm that APA **operates underground plant** (Mains and / or Services) at or in the vicinity of the above address.

Please check that the following map represents the area you requested - if the area is not correct please contact our Dial Before You Dig Officer - 1800 085 628. If works are proposed adjacent to any underground plant operated by APA please ensure compliance with the attached "DUTY OF CARE"

Please find enclosed the following information in support of the above: -

1. A location map of the **suburb** the service is in and an A4 location map showing the **status** of APA underground plant (Mains and / or Services) adjacent to the subject site

2. DUTY OF CARE statement which forms **an integral part** of any information supplied by APA

For GAS EMERGENCIES 24 HOURS - 1800 GAS LEAK (1800 427 532)

Please note that as work on APA underground plant is ongoing any information supplied on their status can only be considered current for **30 days from the date of this response**. Expired locations, i.e., over 30 days from the date of this response, require a new Dial Before You Dig request to validate location information.

Should you have any questions with **regards to the attached information** please contact our Dial Before You Dig officer - 1800 085 628.

For any excavation works, including vacuum excavations, an "Authority to Work" Permit may be required and a Site Watch may need to be scheduled.

A minimum of 5 business days' notice is required to process permit applications. Permit applications can be made by: -

Post: Permit Applications QLD, PO Box 885 Hamilton Central QLD 4007 or

Email: permitsqld@apa.com.au or Phone: (07) 3215 6644 though an application will most likely be required

Charges may apply for Site Watch requests. Your sequence number may be requested when making your booking, please have this available when you request either a mains location or site watch.

For other enquiries please contact your gas retailer

To find out who your retailer is call 1800 657 567

Warning: if there are high or transmission pressure gas mains present in the vicinity of your area of interest, an APA employee must be in attendance during any excavation within 3 metres of high or transmission pressure mains, and an "Authority to Work" permit must be issued prior to work commencing.

Please contact us for a permit to work request if you believe your work is within this zone, by completing the "Authority to Work" request form attached and sending to APA. 5 days' notice is required prior to the commencement of any excavation to assess and allocate resources. Contact phone numbers are shown at the end of the notice of location.

Please Note: For some DBYD enquiries, you might receive 2 responses from the APA Group. Please read both responses carefully as they will relate to different assets. It is your responsibility to action all requirements set out in APA Group responses.

Please take some time to review the entire response document and check the information supplied and please let us have any feedback by sending an email to *DBYDNetworksAPA@apa.com.au* or contacting us direct on 1800 085 628.

Yours faithfully

Dial Before You Dig Officer
APA Group

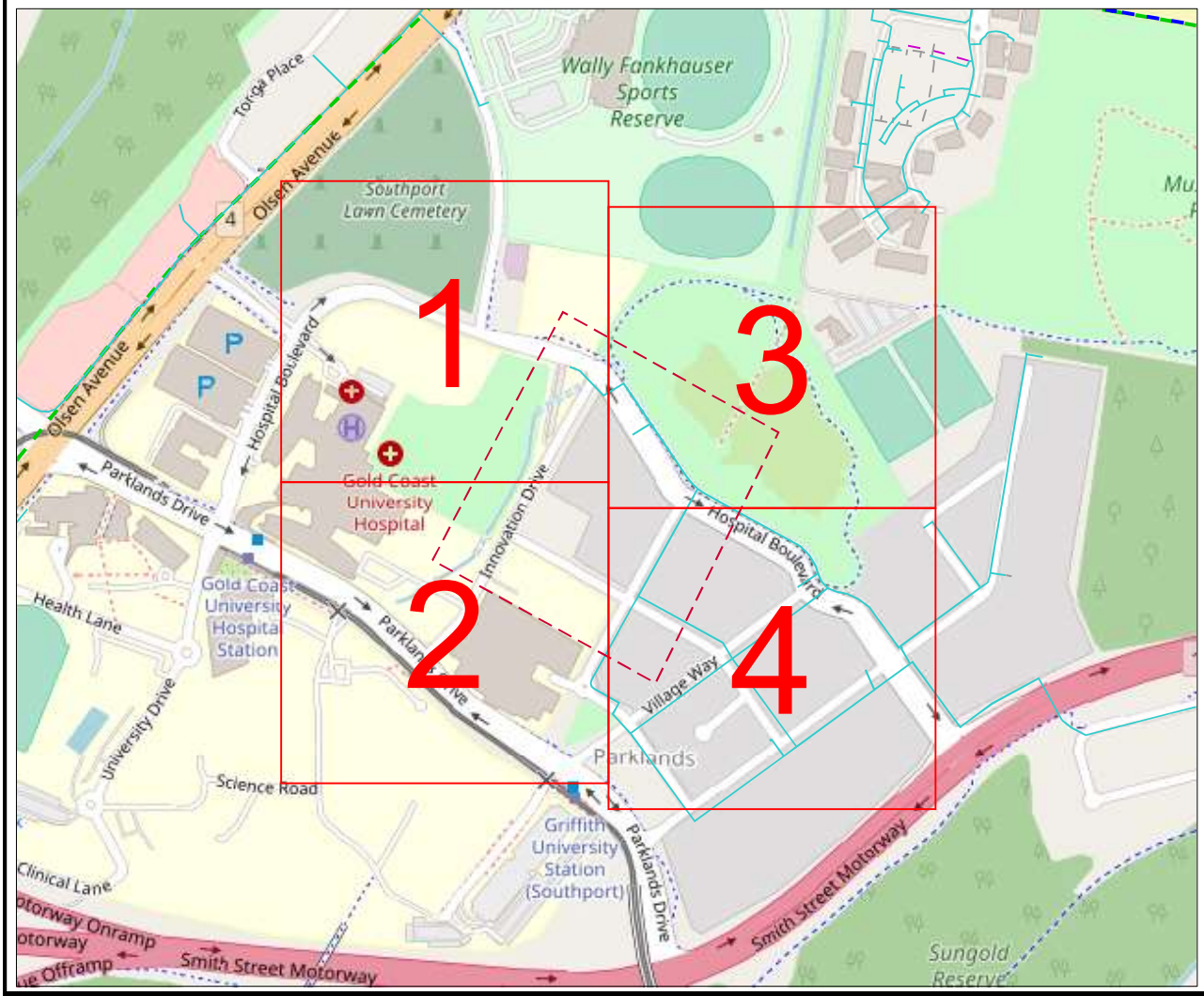
Email DBYDNetworksAPA@apa.com.au
Ph. 1800 085 628

DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step

operated by apa

16/02/2021 **SCALE: DO NOT SCALE** **REF NO:** 106637892

As work on APA underground plant is ongoing any drawing with an issue date of more than 30 days previous can no longer be considered valid. All persons planning civil works on any site are advised to contact APA to confirm location. All underground gas pipelines are the property of APA & are not to be accessed by unauthorised persons. All care is taken with preparation of the drawings & no responsibility is accepted for errors or omissions



Enquiry: 106637892

Papersize: A4 **Scale:** 1: 6000

0 0.07km

NORTH

Data Source

Pipeline Data Copyright APA Group, Property Parcels Copyright QLD Government, UBD Imagery – Copyright Sensis, DBYD Dig Location provided by DBYD.

operated by apa

This maps is created in colour and shall be printed in colour

Legend

Distribution Main	Gas Assets and Fittings	Pipe Materials
Class 900 Transmission	Gate Station	CI Cast Iron
Class 600 Transmission	Regulator Station	CU Copper
Class 300 Transmission	Block/ Emergency Valve	GAL Wrought Galvanised Iron
High Pressure Steel	Isolation Valve	PGAL Poly Coated Wrought Galvanised Iron
High Pressure PE Trunk	Test Point	ST Steel
High Pressure/ Class 500	Syphon	NY/ NY11 Nylon
Medium Pressure PE/ Nylon (1)	Anode	PE Polyethylene
Medium Pressure (Allgas)	Pipeline Marker	MDPE Medium Density Polyethylene
Low Pressure	Trace Wire Point	HDPE High Density Polyethylene
LPG	Reducer	DN Nominal Diameter
TLP	Pipe Connector/ Tee	OD Outside Diameter
Proposed/ Under Construction	Pipe Connector	
Idle Gas Pipe	End Cap	
Abandoned Gas Pipe		
Sleeve		

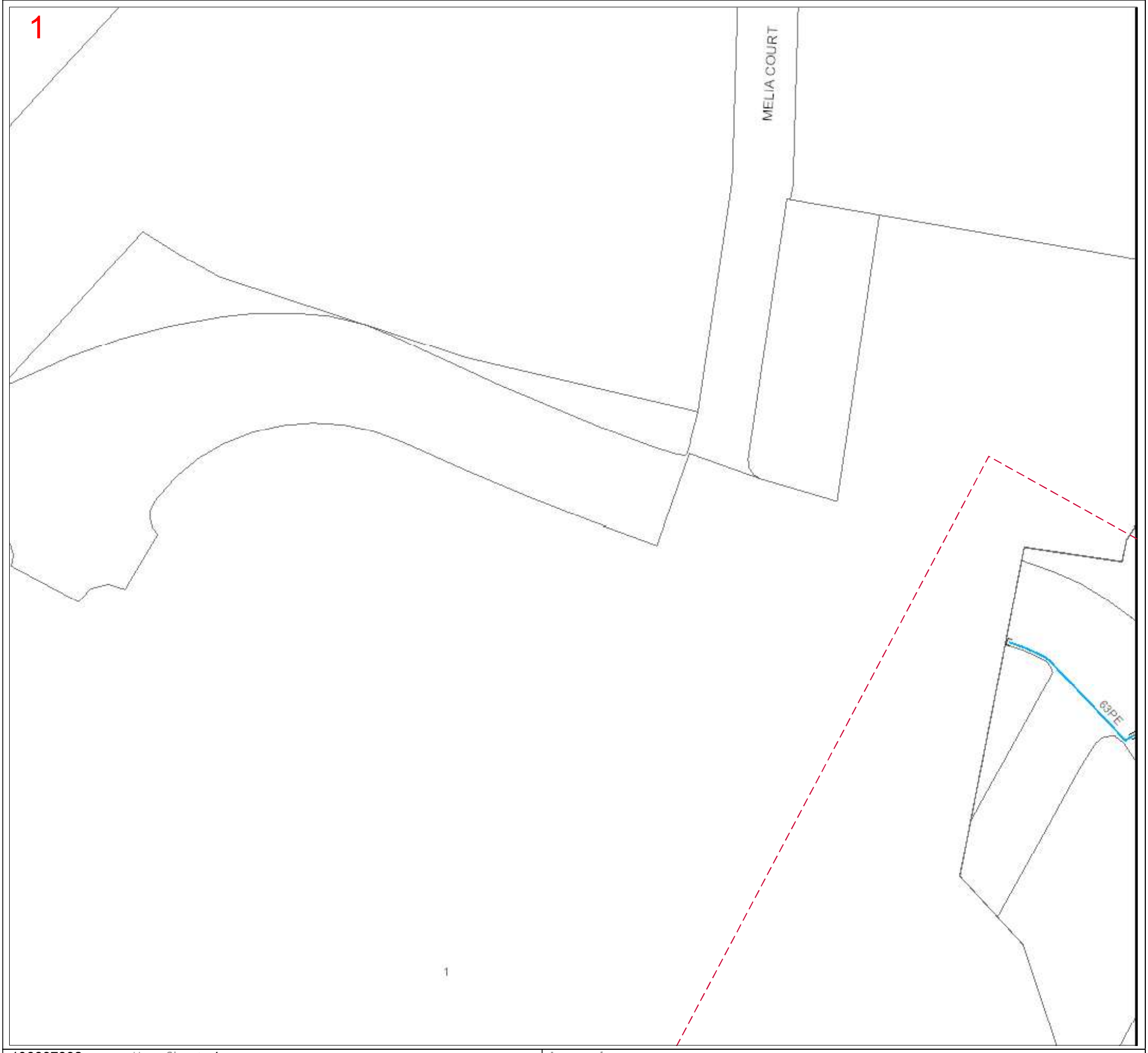
(1) Medium Pressure in AGN/ Nylon in Allgas

Examples: 40PE in DN80 CI — 40mm Polyethylene in an 80mm (Nominal Diameter) Cast Iron Sleeve

63PE INS — 63mm Polyethylene inserted in another pipe

Line/ Polygon Request

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106637892 Map Sheet: 1

Papersize: A3 Scale: 1: 1000

0 0.01km

NORTH

Map Key:

1	3
2	4

This maps is created in colour and shall be printed in colour

Legend

Distribution Main

- Class 900 Transmission
- Class 600 Transmission
- Class 300 Transmission
- High Pressure Steel
- High Pressure PE Trunk
- High Pressure/ Class 500 (1)
- Medium Pressure PE/ Nylon
- Medium Pressure (Allgas)
- Low Pressure
- LPG
- TLP
- Proposed/ Under Construction
- Idle Gas Pipe
- Abandoned Gas Pipe
- Sleeve

(1) Medium Pressure in AGN/ Nylon in Allgas

Gas Assets and Fittings

- Gate Station
- R Regulator Station
- V Block/ Emergency Valve
- V Isolation Valve
- CP T Test Point
- S Syphon
- A Anode
- M Pipeline Marker
- W Trace Wire Point
- Reducer
- Pipe Connector/ Tee
- Pipe Connector
- End Cap

Pipe Materials

CI	Cast Iron
CU	Copper
GAL	Wrought Galvanised Iron
PGAL	Poly Coated Wrought Galvanised Iron
ST	Steel
NY/ NY11	Nylon
PE	Polyethylene
MDPE	Medium Density Polyethylene
HDPE	High Density Polyethylene
DN	Nominal Diameter
OD	Outside Diameter

Examples:

40PE in DN80 CI — 40mm Polyethylene in an 80mm (Nominal Diameter) Cast Iron Sleeve

63PE INS — 63mm Polyethylene inserted in another pipe

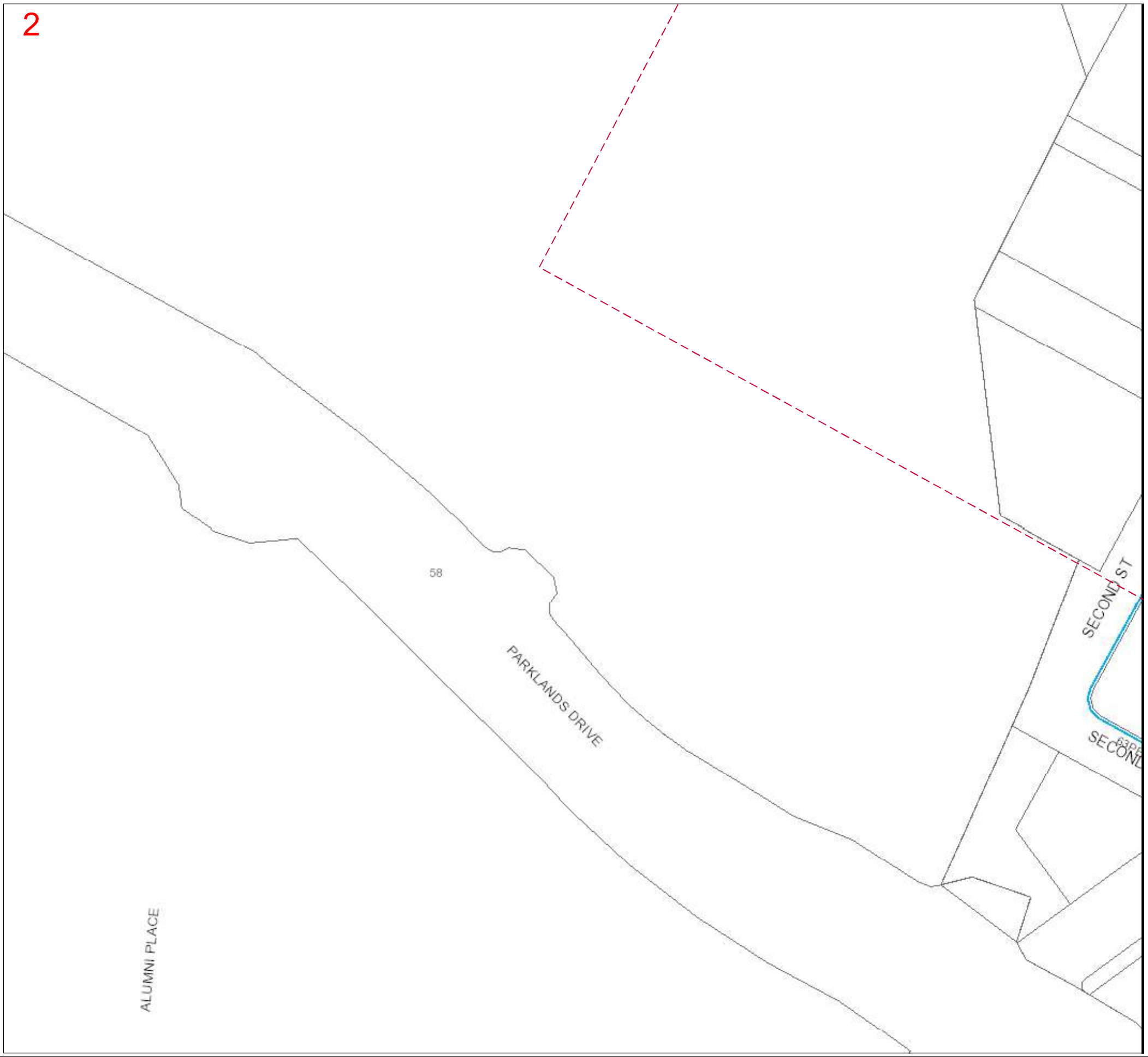
Line/ Polygon Request

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106637892 Map Sheet: 2

Papersize: A3 Scale: 1: 1000

0 0.01km

NORTH

Map Key:

1	3
2	4

This maps is created in colour and shall be printed in colour

Legend

Distribution Main

- Class 900 Transmission
- Class 600 Transmission
- Class 300 Transmission
- High Pressure Steel
- High Pressure PE Trunk
- High Pressure/ Class 500
- Medium Pressure PE/ Nylon (1)
- Medium Pressure (Allgas)
- Low Pressure
- LPG
- TLP
- Proposed/ Under Construction
- Idle Gas Pipe
- Abandoned Gas Pipe
- Sleeve

(1) Medium Pressure in AGN/ Nylon in Allgas

Gas Assets and Fittings

- Gate Station
- R Regulator Station
- V Block/ Emergency Valve
- V Isolation Valve
- CP T Test Point
- S Syphon
- A Anode
- M Pipeline Marker
- W Trace Wire Point
- Reducer
- Pipe Connector/ Tee
- Pipe Connector
- End Cap

Pipe Materials

CI	Cast Iron
CU	Copper
GAL	Wrought Galvanised Iron
PGAL	Poly Coated Wrought Galvanised Iron
ST	Steel
NY/ NY11	Nylon
PE	Polyethylene
MDPE	Medium Density Polyethylene
HDPE	High Density Polyethylene
DN	Nominal Diameter
OD	Outside Diameter

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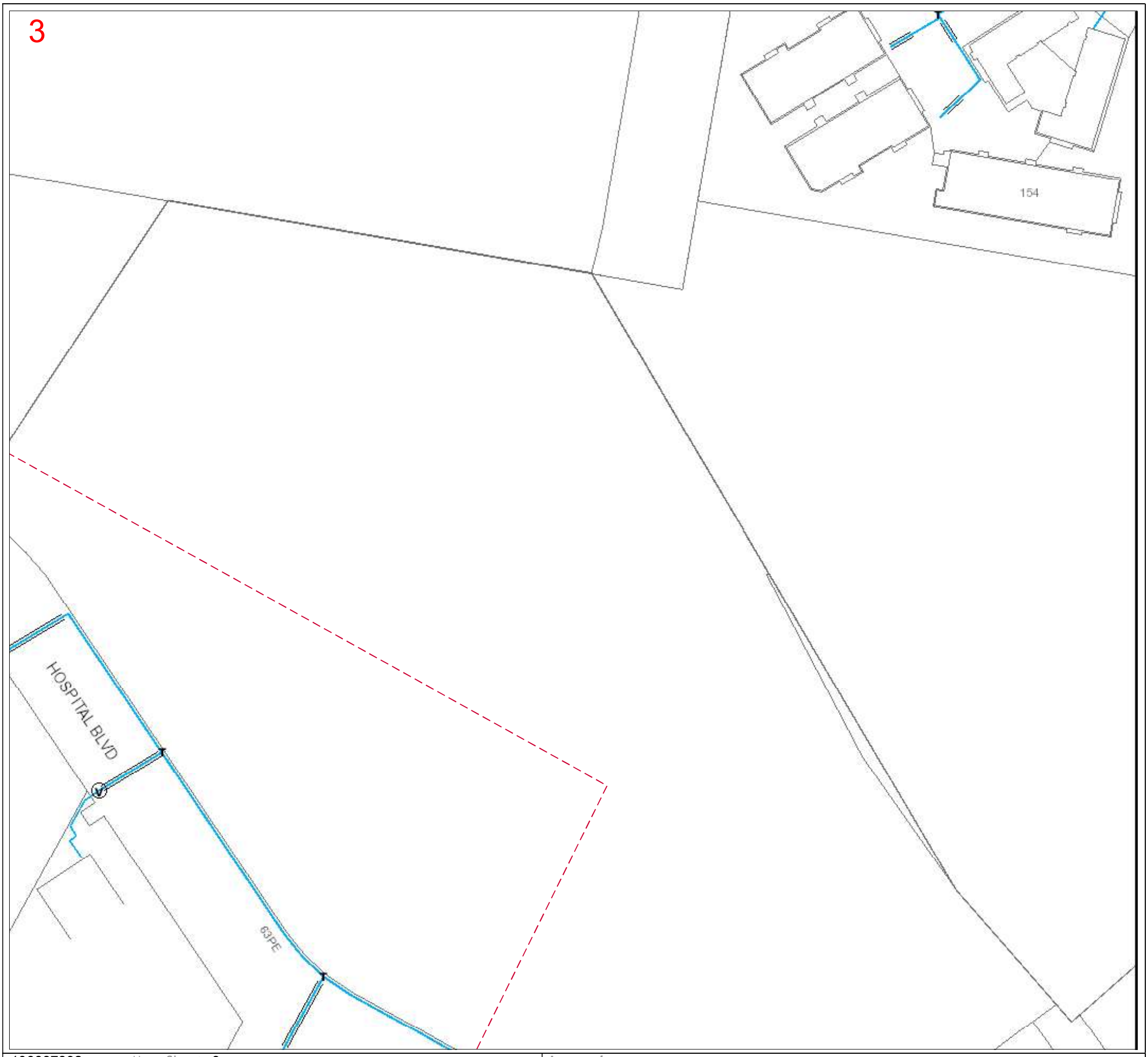
Line/ Polygon Request

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106637892 Map Sheet: 3

Papersize: A3 Scale: 1: 1000

0 0.01km

NORTH

Map Key:

1	3
2	4

This maps is created in colour and shall be printed in colour

Legend

Distribution Main

- Class 900 Transmission
- Class 600 Transmission
- Class 300 Transmission
- High Pressure Steel
- High Pressure PE Trunk
- High Pressure/ Class 500 (1)
- Medium Pressure PE/ Nylon
- Medium Pressure (Allgas)
- Low Pressure
- LPG
- TLP
- Proposed/ Under Construction
- Idle Gas Pipe
- Abandoned Gas Pipe
- Sleeve

(1) Medium Pressure in AGN/ Nylon in Allgas

Gas Assets and Fittings

- Gate Station
- R Regulator Station
- V Block/ Emergency Valve
- V Isolation Valve
- CP T Test Point
- S Syphon
- A Anode
- M Pipeline Marker
- W Trace Wire Point
- Reducer
- T Pipe Connector/ Tee
- = Pipe Connector
- End Cap

Pipe Materials

CI	Cast Iron
CU	Copper
GAL	Wrought Galvanised Iron
PGAL	Poly Coated Wrought Galvanised Iron
ST	Steel
NY/ NY11	Nylon
PE	Polyethylene
MDPE	Medium Density Polyethylene
HDPE	High Density Polyethylene
DN	Nominal Diameter
OD	Outside Diameter

Examples:

40PE in DN80 CI — 40mm Polyethylene in an 80mm (Nominal Diameter) Cast Iron Sleeve

63PE INS — 63mm Polyethylene inserted in another pipe

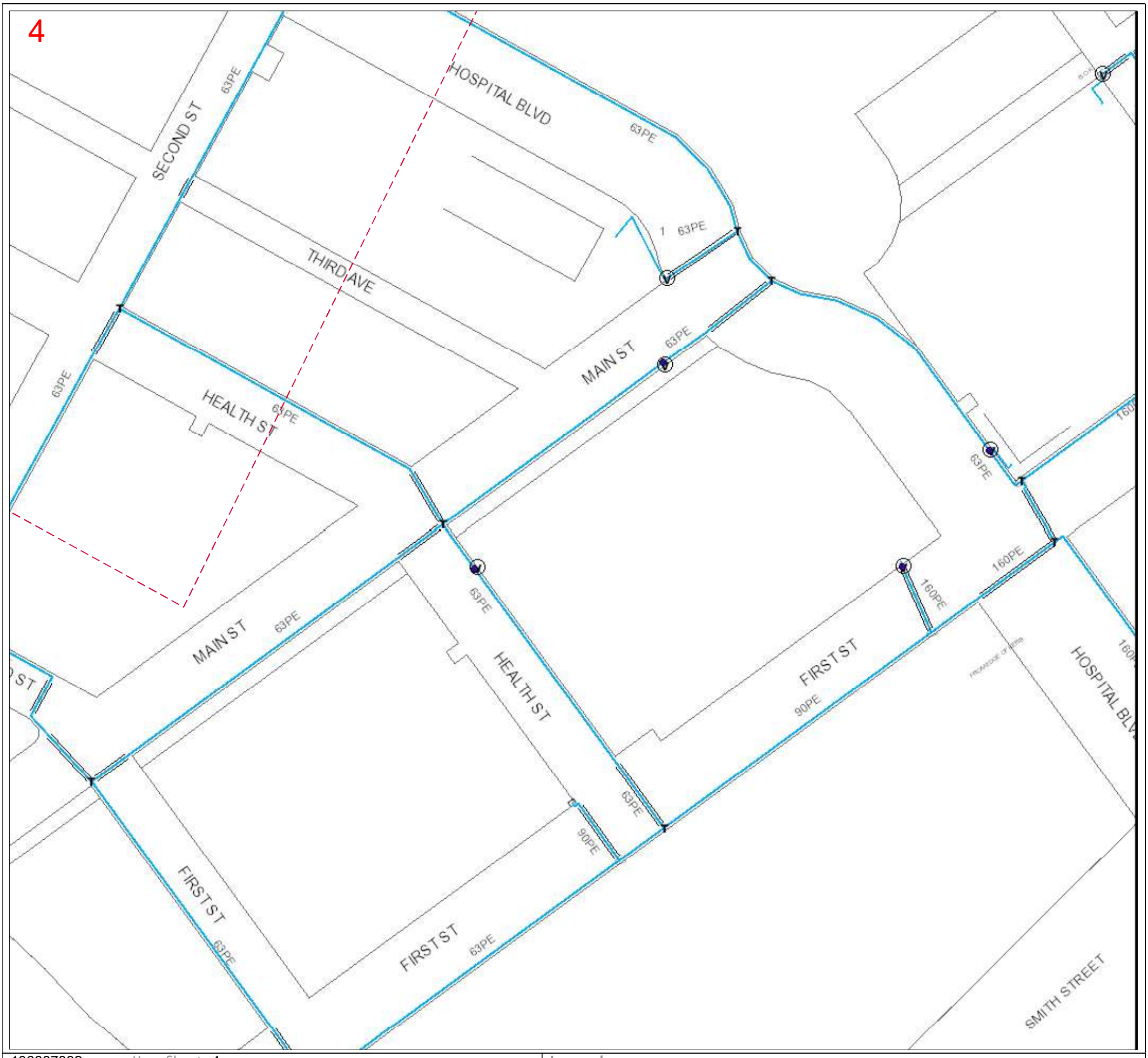
Line/ Polygon Request

operated by apa

Data Source

Pipeline Data Copyright APA Group, Property Parcels Copyright QLD Government, UBD Imagery – Copyright Sensis, DBYD Dig Location provided by DBYD.

APA Group does not guarantee the accuracy or completeness of the map and does not make any warranty about the data. APA Group is not under any liability to the user for any loss or damage (including consequential loss or damage) which the user may suffer resulting from the use of this map.



106637892 Map Sheet: 4

Papersize: A3 Scale: 1: 1000

0 0.01km

NORTH

Map Key:

1	3
2	4

This maps is created in colour and shall be printed in colour

Legend

Distribution Main

- Class 900 Transmission
- Class 600 Transmission
- Class 300 Transmission
- High Pressure Steel
- High Pressure PE Trunk
- High Pressure/ Class 500
- Medium Pressure PE/ Nylon (1)
- Medium Pressure (Allgas)
- Low Pressure
- LPG
- TLP
- Proposed/ Under Construction
- Idle Gas Pipe
- Abandoned Gas Pipe
- Sleeve

(1) Medium Pressure in AGN/ Nylon in Allgas

Gas Assets and Fittings

- Gate Station
- R Regulator Station
- V Block/ Emergency Valve
- V Isolation Valve
- CP T Test Point
- S Syphon
- A Anode
- M Pipeline Marker
- W Trace Wire Point
- Reducer
- Pipe Connector/ Tee
- Pipe Connector
- End Cap

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operated by apa

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Working Around Gas Assets: Duty of Care and Responsibilities

It is illegal to interfere or tamper with gas infrastructure.
Offenders who interfere or tamper with gas infrastructure may be prosecuted under relevant legislation and there are very serious penalties for such offences

"Gas infrastructure" or "infrastructure" in this document refers to any infrastructure or property owned or operated by APA Group including, but not limited to natural gas mains, services and regulator/meter stations or regulator pits.

1. Planning Your Work

a. The constructor must:

i. Request plans of APA Group infrastructure for a particular location at a reasonable time before construction begins (at least 5 business days);
ii. Design for minimal impact and ensure protection of APA Group infrastructure, this includes networks managed by APA on behalf of Australian Gas Networks and Allgas; and
iii. Contact APA Group if their infrastructure is in any way affected by planned construction activities.

2. Before You Start Work

a. Please Note: **You will be responsible to pay for the repair of any damage by you to gas assets.**

b. You must obtain **Dial Before You Dig** (DBYD) documentation before any on-site construction or excavation commences. This document is to be read in conjunction with the Dial Before You Dig plans and other relevant documentation.
APA Group will provide free site plans if an APA Group infrastructure location request is made to APA on **1800 085 628**

c. If DBYD documents indicate you will be working within 3m of a high pressure or transmission gas pipeline, you must complete and submit the **Authority to Work Request** provided with your DBYD documentation **five (5) business days** prior to commencing the work. Requests under five (5) business days will incur extra charges.

d. APA Group shall assess your Authority to Work Request and will inform you if a Site Watch is required. A Site Watch involves the presence of an APA representative at site to advise on locating and working around the asset. Where on-site location advice is provided, the constructor is responsible for all hand digging (potholing) to visually locate and expose APA Group infrastructure. Vacuum excavations may only be used if permission is granted by APA and if it is used on high pressure mains Site Watch will be required. **Site Watch services are charged at an hourly rate.**

e. The principal contractor for the site must provide APA Group with a written construction methodology for all works impacting or encroaching on APA infrastructure. All construction methodology documents will be reviewed by APA Group prior to the commencement of site works. Construction methodology documents must be submitted as part of an Authority to Work Request (send to permitsqld@apa.com.au).

f. Site Plans

i. Plans and/or details provided by APA Group through DBYD or otherwise are current for one (1) month from the date of dispatch and should be disposed of by shredding or any other secure disposal method after use.
ii. APA Group retains copyright in all plans and details provided in connection with any request.
iii. APA Group plans or other details are provided for the use of the applicant, its servants, employees, contractors and agents, and must not be used for any unauthorised purpose.
iv. APA Group plans are pipe indication diagrams only and indicate the presence of plant in the general vicinity of the geographical area shown. Exact ground cover and alignments cannot be given with any certainty as such levels can change over time.
v. APA Group, its servants, employees, or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and/or details so supplied to the applicant/constructor, its servants, employees, contractors and/or agents, and the applicant/constructor agrees to indemnify APA Group against any claim or demand for any such loss or damage.
vi. The constructor is responsible for all infrastructure damage occasioned to APA Group infrastructure.
vii. APA Group reserves all rights to recover compensation for loss or damage caused by interference or damage, including consequential loss and damages to its property and gas infrastructure.
viii. All care is taken in the preparation of location drawings and plans, but NO responsibility is accepted by APA Group for errors or omissions.

3. Working in the Vicinity of a Gas Pipeline

a. **Excavation** near Gas Mains and Services

PLEASE NOTE: Unless otherwise approved, mechanical excavation is not permitted above, or within 600mm of either side of APA Group infrastructure.

i. **Location of Gas Mains and Services:** Examining the DBYD documentation and other plans is not sufficient as reference points may change from the time of installation and recording on documentation. You MUST use appropriately qualified plant locators to accurately locate and prove the position of all assets and then validate these positions prior to commencing work. For all work to be done within 3.0 metres of APA Group infrastructure, the constructor is required to hand dig (pothole) and expose the plant, hence proving its exact location before work can commence. Vacuum excavation can cause failure of some types of gas mains and therefore APA Group must be contacted prior to any vacuum excavation.
Please note that new APA Group gas mains generally have a plastic warning tape or lightweight plastic board buried above the pipe but this is not the case for older mains or when pipe is laid by means of boring or located in conduit.

ii. **IMPORTANT NOTE:** Not all gas services (i.e. pipe from gas main to a gas meter in an individual property) are captured on APA Plans. Gas services shown on plans are indicative only and do not pinpoint the exact location of APA's asset. A gas service may also cross a road to reach a property. To confirm the presence of a gas service, please contact the APA DBYD number below for further information.

iii. **Installation of Utilities Parallel to Gas Mains and Services**: If construction work is being undertaken parallel to APA Group gas mains, then hand digging (potholing) at least every 4 m is required to establish the location of all gas mains. Nominal locations must be confirmed before work can commence. A minimum clearance of 600mm must be maintained from gas mains unless otherwise approved by APA. If an excavation exceeds the depth of the gas mains and it is likely that the covers or bedding material around the pipes will move, approval must be sought from APA Group's Capital Works team.

iv. **Installation of Utilities Across Gas Mains and Services:** A minimum clearance of 300mm above and below and APA Group gas mains must be maintained unless otherwise approved by APA. If the width or depth of the excavation is such that the gas mains will be exposed or unsupported, then APA Group must be contacted to determine whether the gas mains should be taken out of service, or whether they need to be protected or supported. Protective cover strips when removed must be replaced under APA Group supervision.

v. **Exposed Gas mains and Services:** Exposure of APA infrastructure shall be limited to potholing for location purposes. Any other exposure of pipe is not permitted unless expressly approved by APA Group. Exposed gas pipes must be protected by the constructor against the effects of heat by shielding or covering with a suitable material. Heating of exposed plastic pipes is dangerous. If depth of cover is compromised in any way due to works, please contact APA immediately.

vi. **Heavy machinery Operation over Gas Mains and Services:** Where heavy "Crawler" or "Vibration" type machinery is operated over the top of gas mains, a minimum cover of 750mm to the gas mains must be maintained using load bearing protection whilst the machinery is in operation.

vii. **Directional Drilling Near Gas Mains and Services:** When drilling parallel to gas mains, trial holes must be carefully hand dug at least every 4m to prove the actual location of the conduits/pipes before using drilling machinery. Where it is required to drill across the line of gas mains, the actual location of the gas mains must first be proven by the constructor by hand digging. A trench must be excavated one metre from the side of the gas mains where the auger will approach to ensure a minimum clearance of 600mm for gas mains can be maintained unless otherwise approved by APA.

viii. **Explosives:** Clearances must be obtained from APA Group's Networks Engineering Manager for use of explosives in the vicinity of gas mains. Please contact the APA Group.

b. **Damage Reporting**: All damage to conduits and pipes and any other gas infrastructure and property must be reported to APA Group no matter how insignificant the damage appears to be. Even very minor damage to protective coverings can lead to eventual failure through corrosion. All work in the vicinity of damaged infrastructure should cease and the area should be vacated until a clearance to continue work has been obtained from an APA Group officer. Please contact the Emergency number below to report damage.

c. **Solutions and Assistance**: If it is determined that APA Group infrastructure is likely to be impacted or encroached upon by planned construction, APA Group must be contacted to arrange for possible engineering solutions. If APA Group relocation or protection works are part of the agreed solution, then payment to APA Group for the cost of this work will be the responsibility of the principal contractor. APA Group will provide an estimated quotation for work on receipt of the order number before work will proceed.

d. **Reinstatement**: APA assets affected by third party works as highlighted above are to be reinstated as per APA requirements, potentially including but not limited to; warning tape/marker board, soft bedding/backfill materials, trench dimensions, depth of cover, trace wire for PE mains, compaction requirements, concrete protection, and surface re-instatement.

4. Contacting APA

GAS EMERGENCIES 24 HRS	GAS PLANT RELOCATIONS APA CAPITAL WORKS	APA GROUP GAS ASSET LOCATIONS TEAM (PERMITS OFFICE)	DIAL BEFORE YOU DIG SUPPORT
1800 GAS LEAK (1800 427 532)	PH: 07 3215 6709 FAX: 07 3215 6699 capitalworksqldnetworks@apa.com.au	PH: 07 3215 6644 FAX: 07 3215 6699 permitsqld@apa.com.au	PH: 1800 085 628

HIGH PRESSURE GAS DISTRIBUTION MAINS "AUTHORITY TO WORK" REQUEST

N.B. THIS IS NOT A PERMIT TO WORK

SITE ADDRESS: ……

SUBURB: ……UBD MAP REF:……

DBYD Sequence Number:…… Date of DBYD Enquiry…..

(Note: Only valid enquiries will be accepted and the currency of DBYD requests will affect your permit period. APA Group's DBYD requests are valid for 30 days only. Enquiries may need to be renewed and a new application may be required)

COMMENTS:……

……

BROAD DESCRIPTION OF WORK (please provide any approvals from APA Group related to these works)

……

……

……

WORK TO BE CARRIED OUT:

Class 1.	Location	
	Works crossing a high pressure gas mains	☐
Class 2.	Location	
	Works within 3 metres of a high pressure gas mains	☐
Class 3.	Location	
	Works involving large excavations that would cause ground movement, vibrations or blasting beyond 3m of a high pressure gas mains	☐
Class 4.	Location	
	Works within 1m of gas service or connection to industrial gas meter	☐

DETAILS OF WORK INVOLVED (Tick Applicable)

Excavation	☐	Change to surface level	☐
Service crossing (Gas CONNECTION)	☐	Boring	☐
Proving (Dial Before You Dig)	☐	Blasting	☐
Earthworks	☐	Road Construction/Change?	☐
Vacuum Excavation	☐	Other (give details)	☐

……

Relevant drawings, Block Plans etc, attached Yes ☐ No ☐

PROPOSED DATES AND TIMES	**From:**		**To:**	
Excavation	…… / …… / 20…	..... am/pm	…… / ……/ 20…	..... am/pm
Backfill	…… / …… / 20…	..... am/pm	…… / ……/ 20…	..... am/pm

Insurance Cover – Current Level None ☐ $5M ☐ $10M ☐ $20M ☐ Other☐ _

NOTES

1. This Authority to Work applies only to work in the vicinity of the Gas Mains. It does not authorise work near or on the Gas Mains itself.
2. A minimum of 5 business days must be allowed between receipt by APA Group of this Request and a response. However, more time for notification may be necessary.
3. For Class 1 and Class 2 classifications, this application must be accompanied by a detailed sequence of events, outlining all aspects of work involved and work is not permitted until an Authority to Work is issued.
4. For class 1 and 2 Dial Before You Dig, APA Group will arrange for an inspector to be on site as necessary during the work. An inspector must be present at all times for works involving excavation within 1m of the Gas Mains. APA Group will advise the requirement for an inspector for other works within 3m of the Gas Mains.
5. The applicant is responsible for any damage resulting from the work and all consequential damages and losses arising from such damage and therefore must insure against every liability of the contractor in respect of or arising out of any loss of life, loss of or damage to property of person (both real and personal), arising out of or in any way connected to this permit.

Such insurance must be arranged for an indemnity of not less than $20 Million unless otherwise agreed.

Permit Requested By:(print name)……Signature: ……Date …/…./….

Company:…… Postal Address:……..

Phone No:…… Fax number…… Email……

Requestors PO Number…….. Site Contact Details: Name……

Site Contact Number……

Principal Contractors Details(if required)……

Principal Contractors Contact details:……

Please be advised;
Under the Work Health and Safety Act 2011, each work place has an obligation to comply to Workplace Health and Safety Regulations and Codes of Practice.

APA Group brings to your attention Work Health and Safety Regulations 2011, Chapter 4: Hazardous Work. Failure to comply to the above regulation may result in APA Group reporting the non-compliance to Workplace Health and Safety.

Office use only
Received: Date …/…./…. Site Watch required? **Yes/No** (please circle)

Pipeline Officer:
(print name)……...Signature: ……Date: …/…/….

Further information can be requested via:
Post: **Permit Applications QLD**
PO Box 885 Hamilton Central QLD 4007
Phone: (07) 3215 6644 though an application will most likely be required
Email: permitsqld@apa.com.au

Indicative Plans

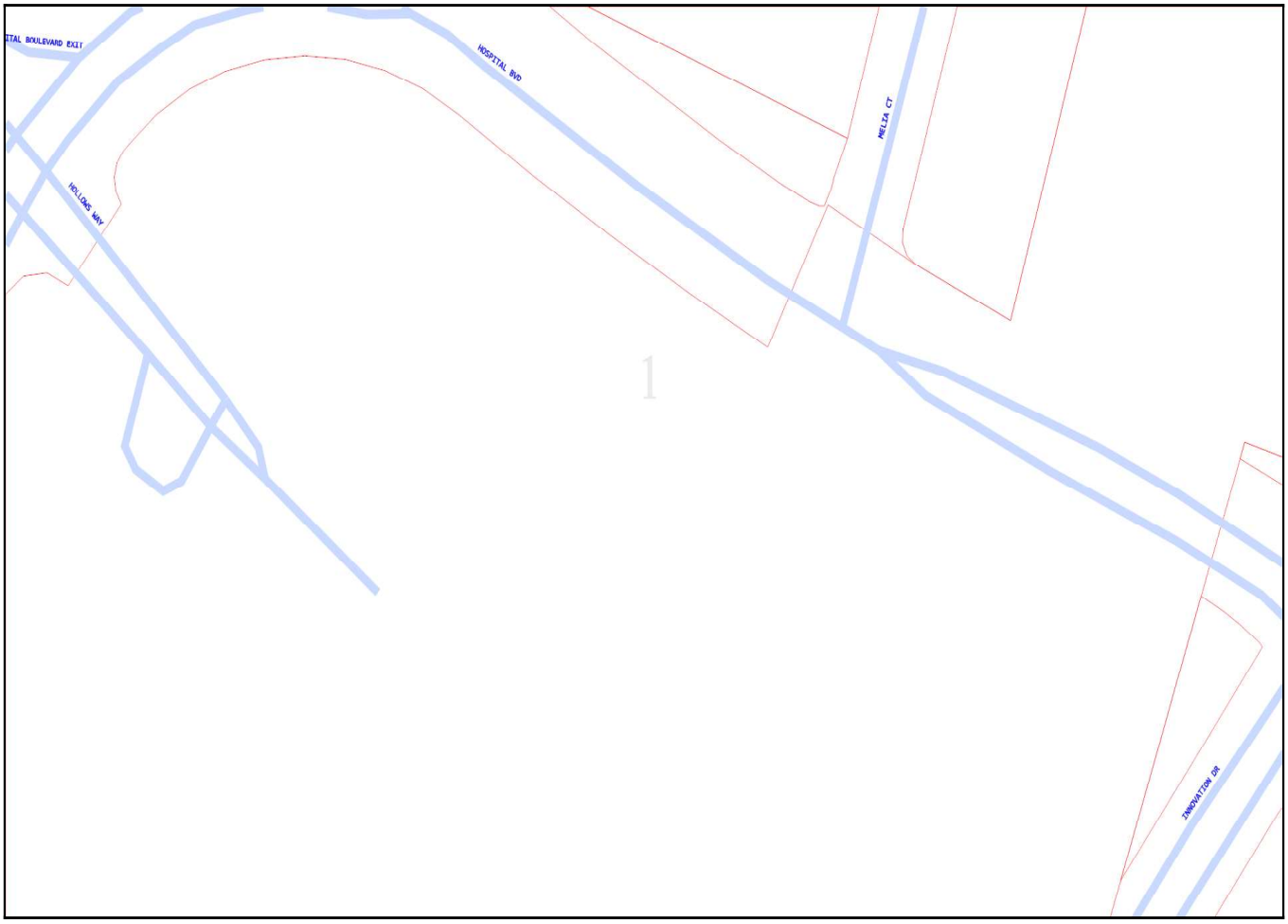
Issue Date:	16/02/2021
Location:	48 Village Boulevard , Southport , QLD , 4215

1	4
2	5
3	6

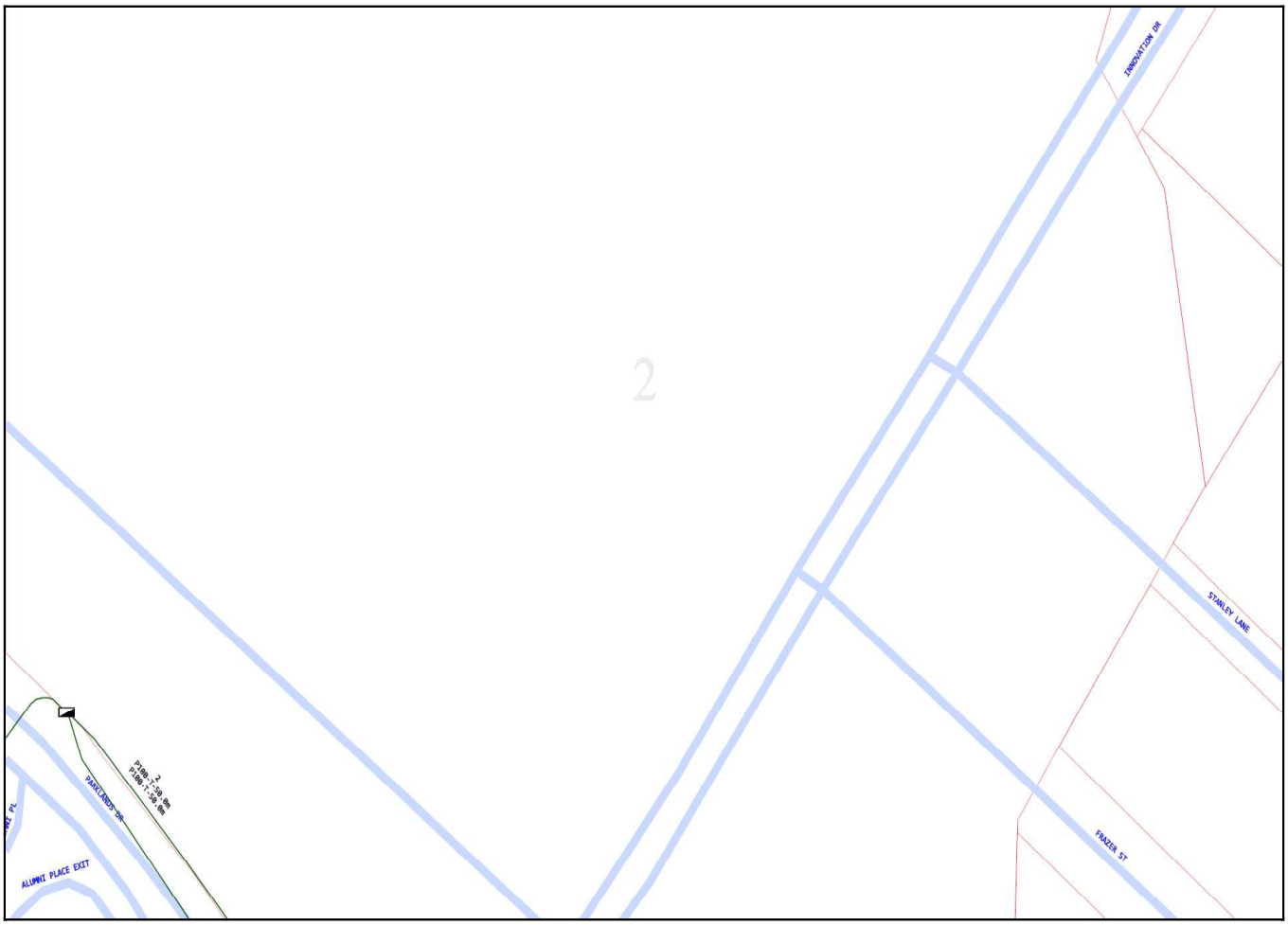
LEGEND

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

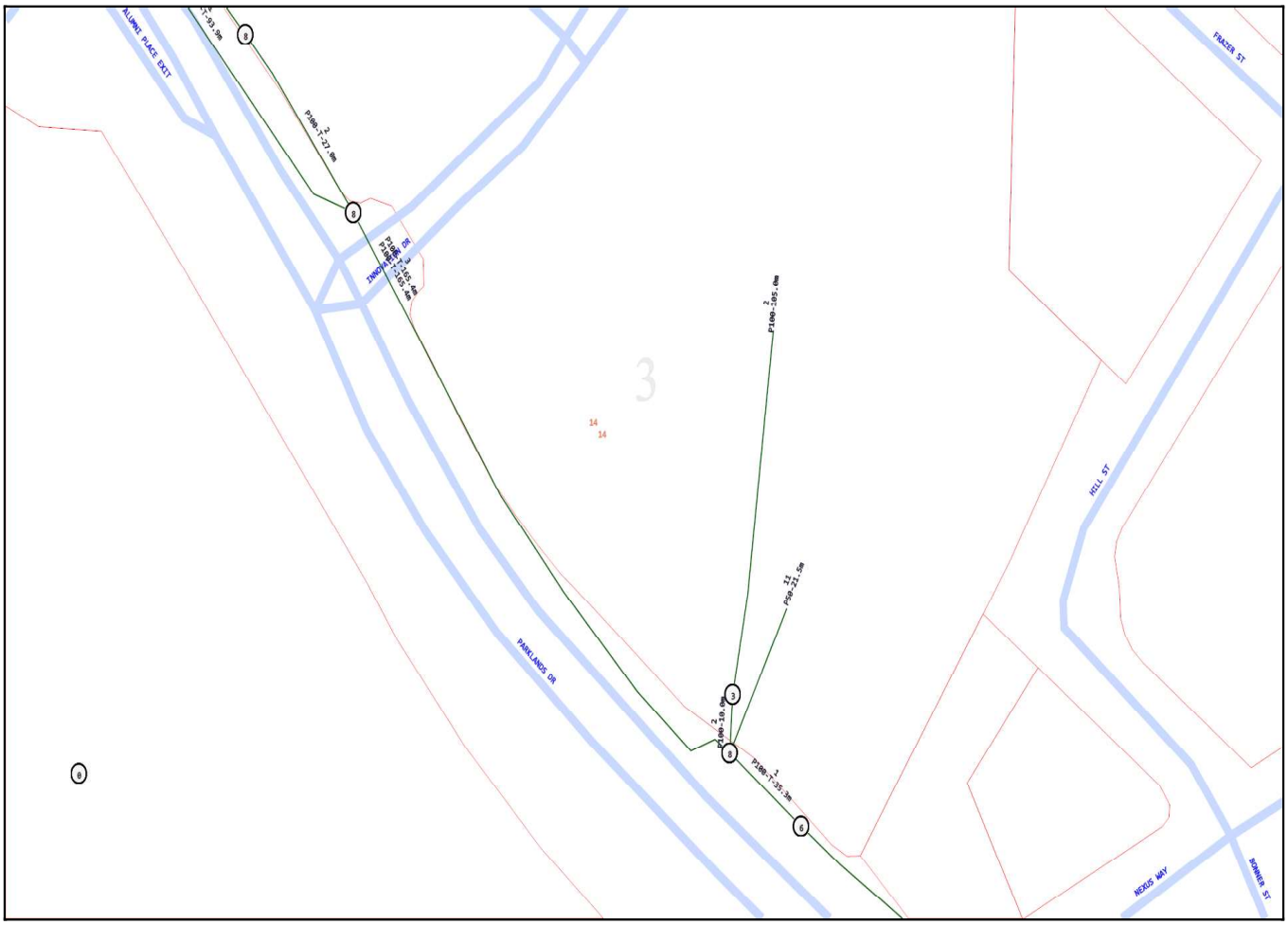
© 2015 nbn co limited | ABN 86 136 533 741
Email info@nbn.com.au Web nbn.com.au



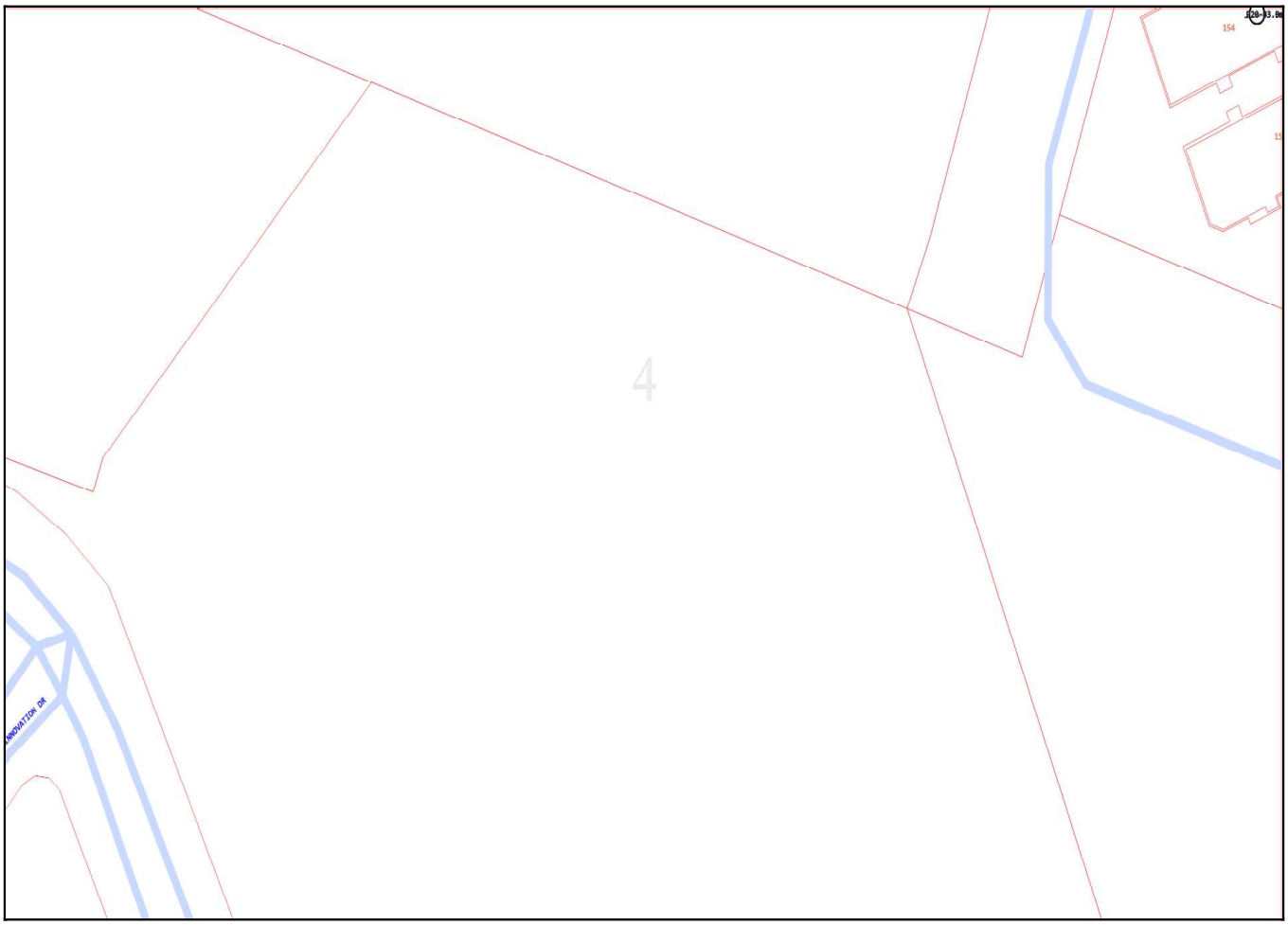
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Email info@nbn.com.au Web nbn.com.au



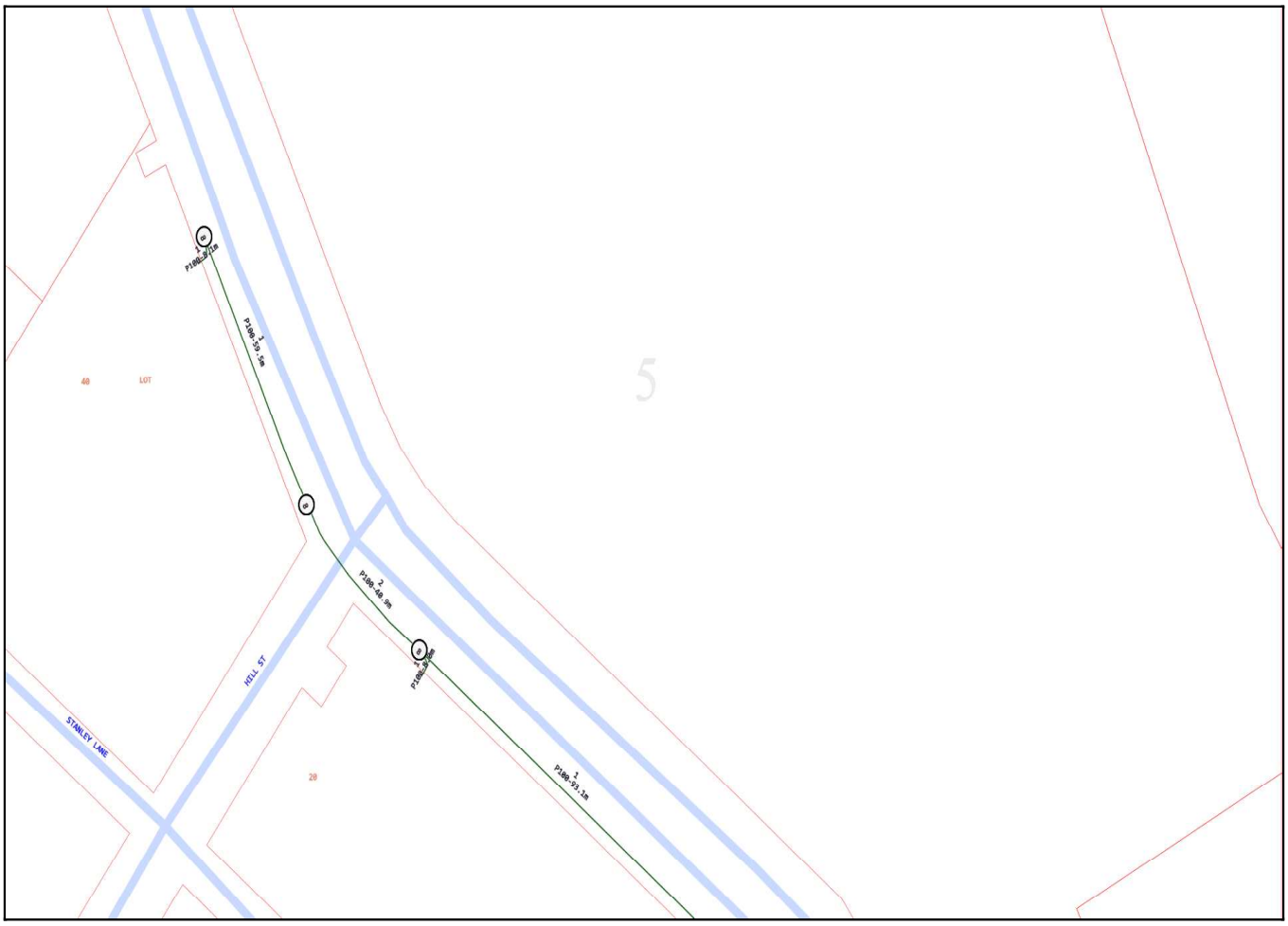
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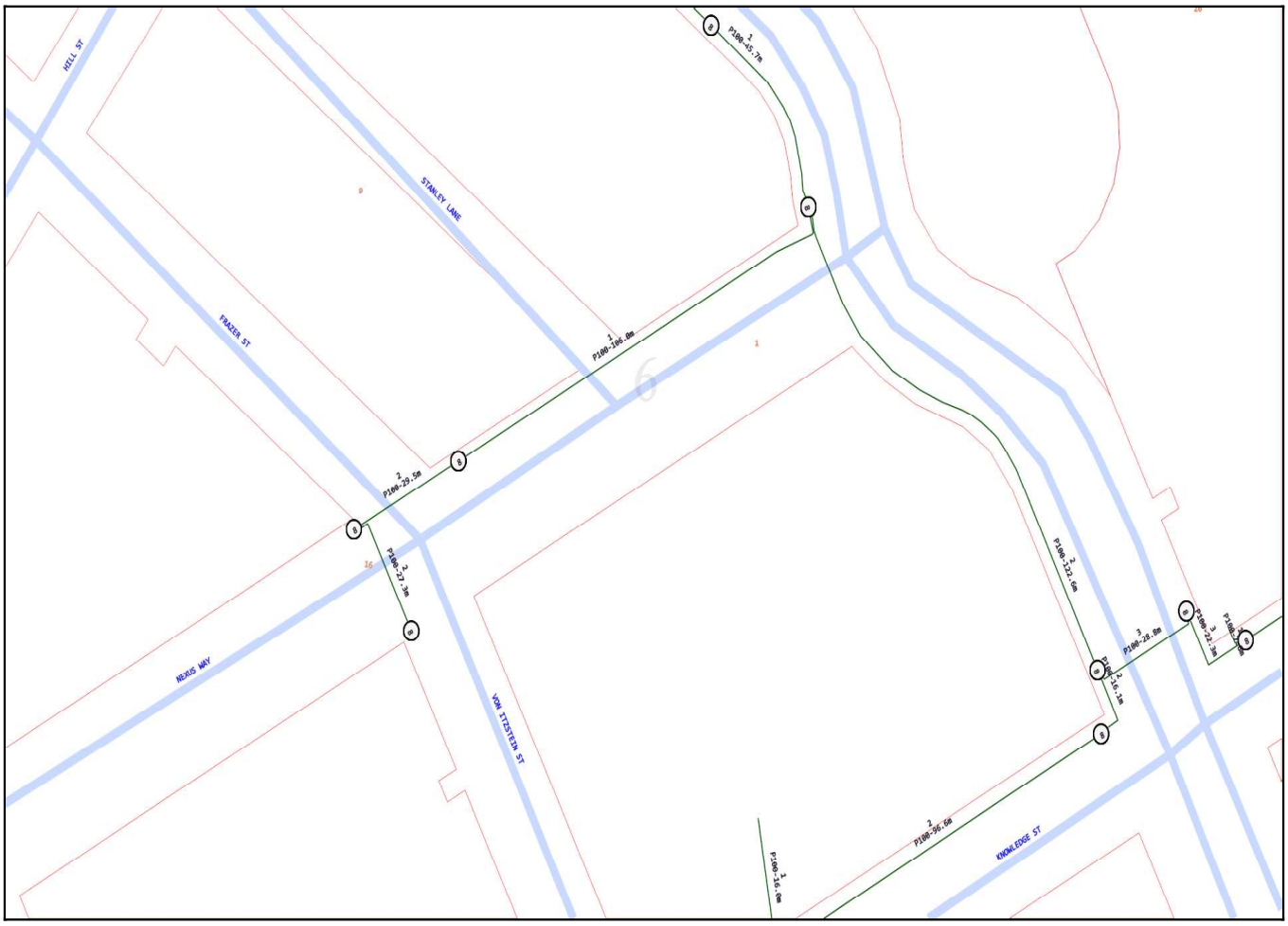
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Level 11, 100 Arthur Street, North Sydney NSW 2060
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Email info@nbn.com.au Web nbn.com.au



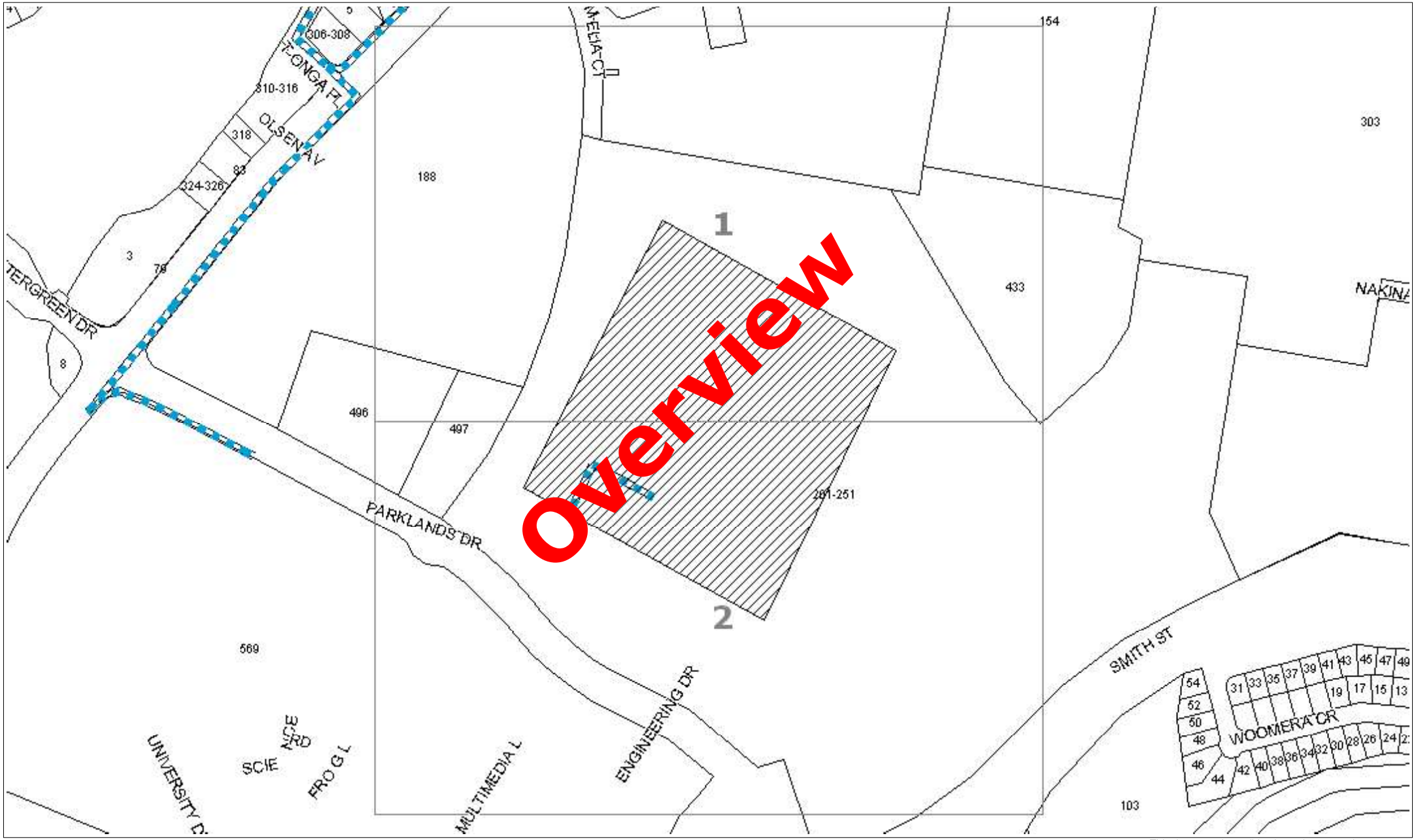
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Emergency Contacts

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

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Uecomm

Cable Uecomm Underground

Scale: #INSERT MAP SCALE#

Printed On: 16/02/2021

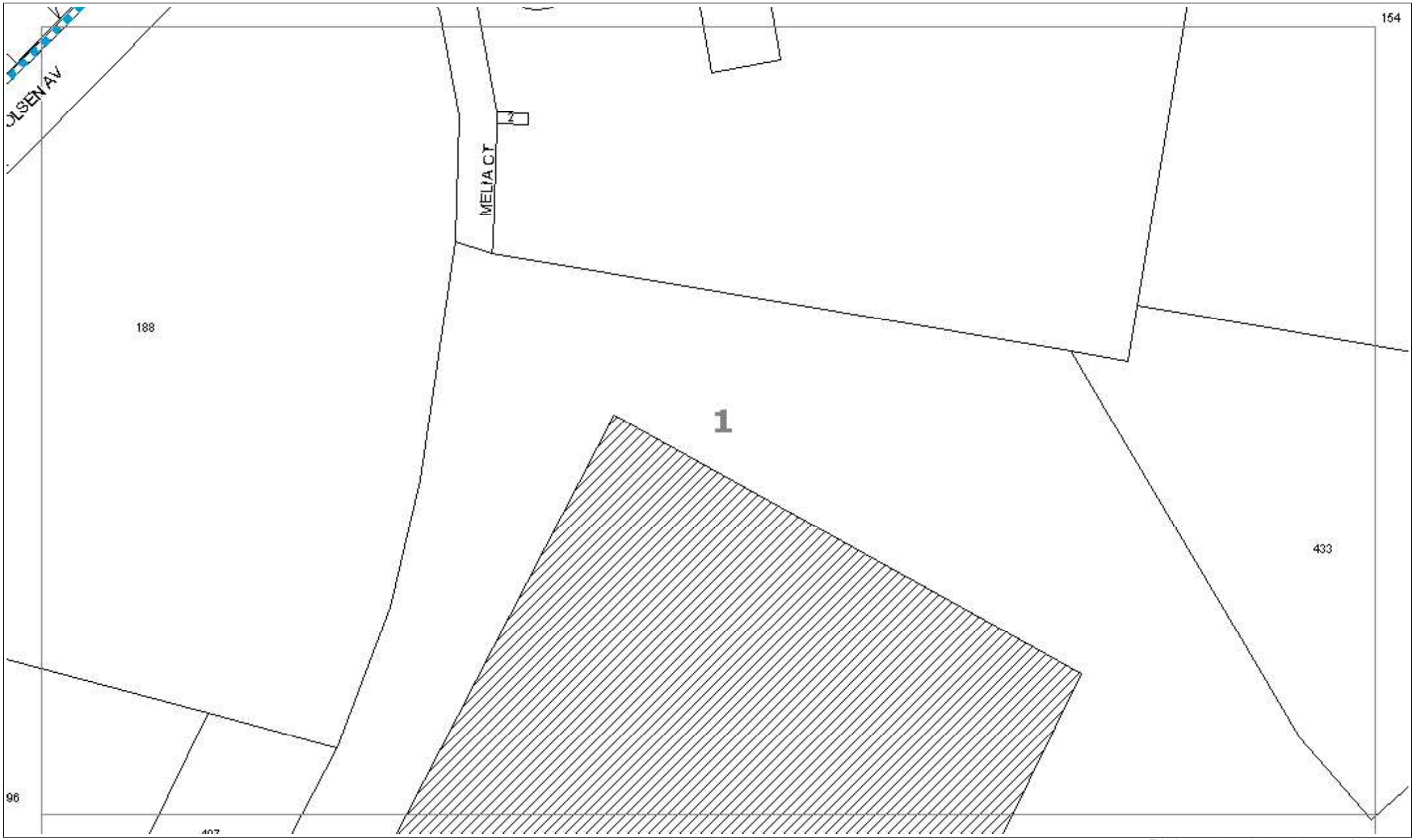
Sequence Number: 106637890

Location: 48 Village Boulevard

Job Location: Line, Point, Area

Undergound Asset: Uecomm

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Uecomm

Cable Uecomm Underground

Scale: #INSERT MAP SCALE#

Printed On: 16/02/2021

Sequence Number: 106637890

Location: 48 Village Boulevard

Job Location

Line

Point

Area

Undergound Asset

Uecomm

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Uecomm

Cable Uecomm Underground

Scale: #INSERT MAP SCALE#

Printed On: 16/02/2021

Sequence Number: 106637890

Location: 48 Village Boulevard

Job Location

Line

Point

Area

Undergound Asset

Uecomm

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Cable Plan



Telstra

For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 16/02/2021 14:50:36

Sequence Number: 106637888

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

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

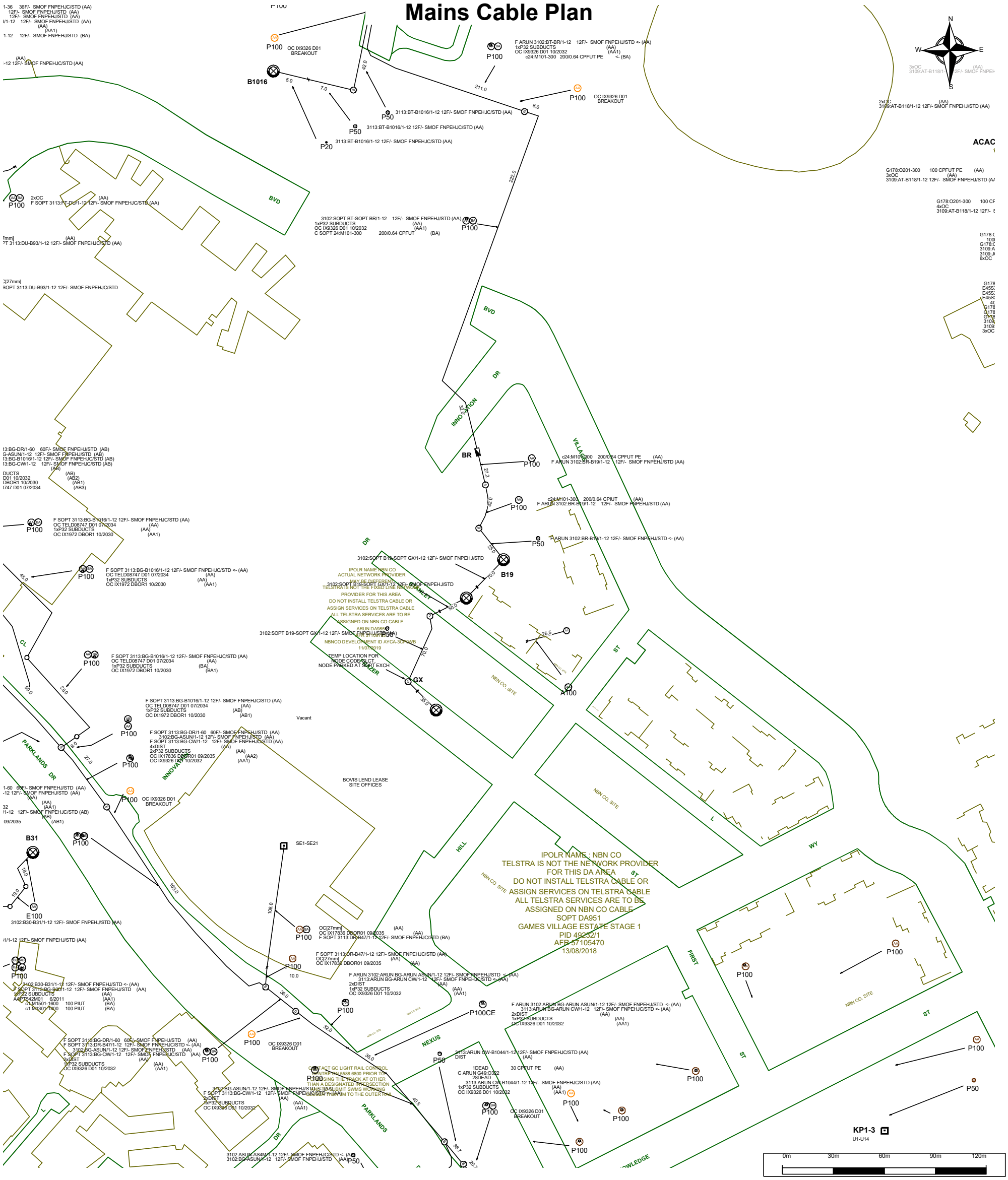
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan



Telstra

For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 16/02/2021 14:50:39

Sequence Number: 106637888

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

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

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Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

LEGEND

IT'S HOW WE CONNECT

For more info contact a Telstra Accredited Locater or Telstra Plan Services 1800 653 935

Exchange
(major cable present)

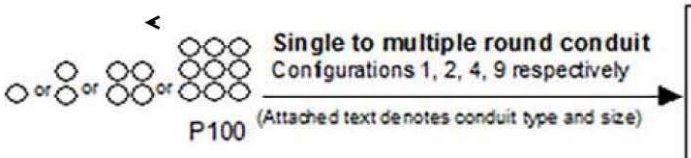
Footway access chamber
(can vary from 1-lid to 12-lid)

or **Pillar/cabinet**
(above the ground / free standing)

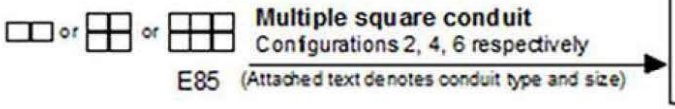
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V electricity.

OC **other carrier**





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



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

Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit

Cable jointing pit
(number indicating pit type)

Elevated cable joint
(above ground joint on buried cable)

Telstra Plant in shared utility trench

Aerial Cable
(above ground)

Aerial Cable
(attached to joint use pole e.g. power)

Direct buried cable

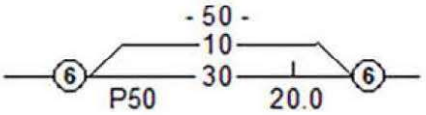
M **Marker post installed**

TR **Buried transponder**

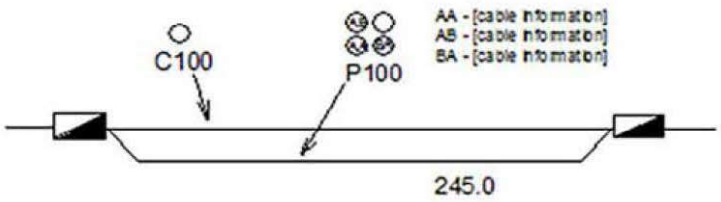
MT **Marker, transponder**

SMOF **Optical fibre cable direct buried**

Some examples of how to read Telstra plans:



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



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

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 asset is protected during construction works. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Appendix F
Codes

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

9.4.1 Change to ground level and creation of new waterways code

9.4.1.1 Application

This code applies to assessing operational work (change to ground level) and bulk earthworks undertaken as part of an operational work (works for infrastructure) application where indicated within **Part 5 Tables of assessment**.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

Supporting information is prepared by a suitably-qualified person in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 8 – Engineering drawings, documents and reports and/or SC6.10 City Plan policy – Geotechnical stability assessment guidelines**.

9.4.1.2 Purpose

(1) The purpose of the Change to ground level and creation of new waterways code is to protect the environment from impacts of earthworks and the creation or expansion of waterways.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) Ground level changes are undertaken with geotechnically and ecologically sound practices.

Note: For guidance on how to meet this overall outcome refer to SC6.10 City Plan policy – Geotechnical stability assessment guideline.

(b) Development does not increase the risk of flood damage to life or property.

(c) Development does not increase the rate or volume of run-off during a flood.

(d) Soil disturbance and development of land containing potential and actual acid sulfate soils does not result in environmental damage.

(e) Construction phase erosion and sediment controls are implemented to minimise erosion and ensure total suspended solids in receiving waters meet the water quality objectives (*Environmental Protection (Water) Policy 2009*).

(f) Changes to existing ground levels, including the creation of new waterways do not adversely affect the amenity and landscape values.

(g) The environment and public safety are protected from impacts arising from the creation or expansion of non-tidal artificial waterways, such as urban lakes.

(h) Development does not adversely affect the quality of stormwater discharging from the development site.

(i) The drainage capacity of the Woongoolba Flood Mitigation Scheme Area for rainfall events up to 1 in 10 year, 72 hours is maintained (contained within the Scheme drains within a 4 day period) and this capacity is not eroded due to cumulative impact of development.

9.4.1.2 Specific benchmarks for assessment

Table 9.4.1-1: Change to ground level and creation of new waterways code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Finished surface levels			
PO1 The finished surface level is free draining and free from localised flooding.	**AO1** Development is free draining and the surface gradient of the fill and/or excavated area is between 0.5% to 1.5%. OR For steep surface gradients, integration with the surrounding topography must be achieved so that the finished profile does not interrupt or materially change the surface water.	Complies with AO1 – Earthworks design will ensure that the site and its surrounds will remain free draining and the proposed earthworks will integrate with the surrounding topography.	
Stormwater drainage			
PO2 Development does not cause adverse stormwater drainage impacts on or off the site.	**AO2.1** The change to ground level maintains flood conveyance through the site for flood events up to a 1 in 100 (Q100) year Average Recurrence Interval (ARI) storm event using the drainage strategy in accordance with **SC6.11 City Plan policy –Land development guidelines, Section 4 – Stormwater**	Complies with AO2.1 – Flooding and Hydraulics Report by Hyder (dated August 2013) for the entire PDA details precinct-wide flooding mitigations measures.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	drainage and water sensitive urban design standards.		
	AO2.2 The change in ground level does not involve fill below the designated flood level, unless approved as part of a development approval for material change of use or reconfiguration of a lot.	Complies with AO2.2 – Development will not require fill below the DFL.	
	AO2.3 The change in ground level does not result in an alteration of overland flows onto other properties or create an increase in flood damage to other properties.	Complies with AO2.3 – Overland flows from the upstream catchment will be diverted to a field inlet pit for which the capacity of the adjoining network has been deemed sufficient to accept the additional flows.	
Woongoolba Flood Mitigation Scheme Catchment Area			
PO3 In the Woongoolba Flood Mitigation Scheme Catchment Area, shown on the **Water catchments and dual reticulation overlay map**, peak outflow and its timing for Q2, Q5 and Q10 for rainfall events up to 72 hours does not change as a result of development.	**AO3** No acceptable outcome provided.	Not Applicable.	
Stormwater quantity			
PO4 Development ensures that there is no impact on local drainage systems, so that no damage is caused to any property upstream or downstream of the site.	**AO4** A site stormwater quantity management plan is prepared by a suitably qualified professional and demonstrates: (a) achievable stormwater quantity control measures for discharge during both the construction and operational phases of development designed in accordance with the *Queensland Urban Drainage Manual (QUDM)* unless subject to	Complies with AO4 – There is an overall stormwater masterplan by DesignFlow Pty Ltd for the entire PDA the considers the fully developed case for the PDA and specifies precinct-wide stormwater quantity measures.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	specific requirements of **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design**; and (b) on-site detention systems are designed to restrict peak outflows for Q2, Q5, Q10, Q20 Q50 and Q100 to pre-development conditions. OR A Site Stormwater Quantity Management Plan is consistent with that approved in a related development approval.		
Erosion and sediment control			
PO5 All construction and operational work is designed and managed with specific regard to the density, scale, layout and staging of development. All reasonable and practicable measures are taken to protect the environmental values of waters and the functionality of stormwater infrastructure from the impacts of erosion, turbidity and sedimentation, on and downstream of the development site.	**AO5.1** An **assessment** is undertaken in accordance with the criteria in **Table 9.4.1-2: Erosion hazard assessment**.	Complies with AO5.1 – Assessment has been carried out and a preliminary score of 6 has been identified.	
	AO5.2 **Where the Erosion hazard assessment has a risk score <u>less than or equal to 10</u>:** a deemed-to-comply report is prepared by a suitably qualified person for Council's approval, including conceptual location and design drawings of each treatment measure in plan and section views, in accordance with the criteria within the guidelines entitled: *Urban Stormwater Quality Planning Guidelines by the Department of Environment and Heritage Protection*.	AO5.2 is to be complied with during detailed design by the implementation of a deemed-to-comply report.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	OR **Where the Erosion hazard assessment has a risk score <u>greater than 10</u>:** an Erosion and Sediment Control Plan (ESCP) is prepared by a suitably qualified person for Council's approval in accordance with the: *Best Practice Erosion and Sediment Control International Erosion Control Association (ICEA) 2008, Australasia Chapter 2008* detailing the stormwater (quality and flow) treatment measure during the construction phase of development, demonstrating how the minimum design objectives in **Table 9.4.1-3 Summary of design objectives for management of stormwater quality – construction phase** are achieved including: (a) measures to ensure that the release of sediment-laden stormwater for the nominated design storm are minimised when the design storm is exceeded; (b) detailed design, installation, construction, monitoring and maintenance requirements of all approved proprietary products in accordance with local conditions and manufacturers recommendations; (c) detailing how the ESCP accompanying the Operational work (change to ground level) aligns with the Reconfiguration of lot staging.		
	AO5.3	Not Applicable.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	Where development is on a lot less than 850m², provide an ESCP in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design** and **Section 8 – Engineering drawings, documents and reports**.		
	AO5.4 Where development is on a lot equal to or more than 850m², provide an ESCP in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design** and **Section 8 – Engineering drawings, documents and reports**.	AO5.4 is to be complied with at detailed design stage.	
Hydraulic considerations			
PO6 Any change to the level of the land does not have adverse flooding and drainage impacts.	**AO6** An Hydraulic report is prepared by a suitably qualified professional to accord with the Council's hydraulic requirements, demonstrating that the change to the level of the land does not: (a) cause ponding on the site or nearby land; (b) increase flooding which adversely affects the safety or use of any land upstream and downstream; (c) adversely affect the flow of water in any overland flow path, or otherwise.	Complies with AO6 – A flooding and hydraulic report by Hyder (dated August 2013) has been prepared for the Parkwood PDA which considers the fully developed case and provides hydraulic measure to accommodate for the developments.	
Geotechnical fill			
PO7 Material used as fill has the ability to	**AO7** The fill material type, composition and	AO7 is to be complies with during construction and is subject to further geotechnical investigations.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
adequately support future development of the land.	source is geotechnically suitable and adequately compacted to support future development, in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 3 – Change to ground level standards**.		
Geotechnical stability			
PO8 All earthworks are carried out in a location which is not at risk from geotechnical instability.	**AO8** The site is free of compressible soils (e.g. soft clays underneath the site). OR Where the site is underlain by compressible soils, a Geotechnical stability assessment report is prepared by a suitably qualified professional demonstrating the treatment of compressible soils achieves a stable ground able to support future structures.	AO8 is to be complied with during the construction stage and is subject to further geotechnical investigations.	
Batters and retaining wall			
PO9 Batters and retaining walls do not create a negative visual impact on the area.	**AO9** Batters and retaining walls are in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 3 – Change to ground level standards**.	AO8 is to be complied with during detailed design.	
Local amenity, noise and emissions			
PO10 Change to ground level or bulk earthwork activities do not impact on the amenity of the area.	**AO10.1** Development work, which has the potential to generate dust is controlled by: (a) daily water spraying of exposed areas; (b) sealed roads; (c) protective covering of exposed	AO10.1 is to be complies with during construction.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	areas; and (d) installing wind barriers.		
	AO10.2 All earthworks on the site is undertaken within the following days and hours: **Day** — **Hours** Monday to Friday — between 6:30am and 6:30pm Saturday — between 6:30am and 6:30pm	AO10.2 is to be complied with during construction.	
Managing contamination risk			
PO11 Any filling or excavation material does not result in the contamination of land.	**AO11** All fill material is solid clean earth or clean inert material, free of organic, putrescible or refuse matter.	AO11 is to be complied with during construction.	
Haulage activity and amenity			
PO12 Haulage activities do not impact on the amenity of the area.	**AO12.1** Where transportation of fill material to or from the site is involved, the following applies: (a) loads are covered; (b) spilled or wheel-tracked material is immediately cleaned from external roads; and (c) heavy vehicle traffic is controlled.	AO12.2 is to be complied with during construction.	
	AO12.2 All waste material, including vegetation from the site is disposed of in an approved location.	AO12.2 is to be complied with during construction.	
	AO12.3 All haulage routes are approved: (a) for declared main roads – by the Department of Transport and Main	AO12.3 is to be complied with during construction.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	Roads; (b) for all other roads – by the Council.		
	AO12.4 All haulage to and from the site is conducted within the following days and hours: **Day** — **Hours** Monday to Friday — between 6am and 6pm Saturday — between 7am and 6pm	AO12.4 is to be complied with during construction.	
Created new waterways			
PO13 The waterway contributes to the amenity of the development and the surrounding area.	**AO13.1** Created waterways within an Operational work (change to ground level) application are designed and managed for any of the following end-uses: (a) amenity, aesthetics, landscaping or recreation; (b) flood management; (c) stormwater harvesting within an integrated water-cycle management plan; and (d) aquatic habitat.	Not applicable.	
	AO13.2 The end-use of the created waterway is designed and operated to protect water environmental values.	Not applicable.	
PO14 The created waterway location is compatible with the land-use constraints of the site protecting water environmental values in existing natural waterways.	**AO14.1** The created waterway within the Operational work (change to ground level) application achieves the following: (a) environmental values in downstream waterways are	Not applicable.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	protected; (b) groundwater recharge areas are not affected; (c) the waterway location incorporates low-lying areas of a catchment connected to an existing waterway; and (d) any existing areas of ponded water are included.		
	AO14.2 Created waterways: (a) are located outside natural wetlands, waterways and associated buffer areas; (b) avoid soil or sediment disturbance; and (c) avoid alteration of the natural hydrologic regime in acid sulfate soil and nutrient hazard areas.	Not applicable.	
PO15 The created waterway's location is compatible with existing tidal waterways.	**AO15** Where the created waterway is adjacent or connected to a tidal waterway by a weir, lock, pumping system or similar: (a) there is sufficient flushing or a tidal range of >0.3m; OR (b) any tidal flow alteration does not adversely impact on the tidal waterway; OR (c) there is no introduction of salt water into freshwater environments.	Not applicable.	
PO16 Created waterways are designed and	**AO16.1** The created waterway within the	Not applicable.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
managed to support the legislated environmental values and water quality objectives within *Environmental Protection (Water) Policy 2009* of connected receiving water environments.	Operational work (change to ground level) application is designed, constructed and managed by a suitably qualified Registered Professional Engineer Queensland (RPEQ) with specific artificial waterway experience.		
	AO16.2 The created waterway within the Operational work (change to ground level) application is supported by a Water Quality Management Plan, prepared by a suitably qualified professional, demonstrating the following: (a) water quality of the created waterway is the same or higher standard as the existing water quality; (b) long-term maintenance of the water quality standard is achieved; and (c) breeding potential of biting insects is minimised.	Not applicable.	
	AO16.3 The created waterway does not have deep, isolated holes that stratify and increase the possibility of algal blooms occurring.	Not applicable.	
	AO16.4 Pumping from a created waterway to maintain water quality is avoided.	Not applicable.	
	AO16.5 The created waterway is designed with a suitable outlet to ensure that flooding is possible, if required.	Not applicable.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	AO16.6 Stormwater is treated before any stormwater enters a created waterway.	Not applicable.	
PO17 Operational work does not cause geotechnical bank instability, erosion, bed scour or revetment wall collapse to existing or newly created waterway.	**AO17** Edge treatments certified by a suitably qualified person are in place during and post-construction phase to strengthen the embankment and protect from damage.	Not applicable.	
PO18 The waterway is managed and operated to achieve the water quality objectives *(Environmental Protection (Water) Policy 2009)* in natural waterways.	**AO18.1** Monitoring and maintenance programs manage the waterway to achieve the water quality objectives downstream.	Not applicable.	
	AO18.2 Aquatic weeds are managed to achieve a low percentage (less than 10%) coverage of the water surface area. Pests and vectors are managed by avoiding stagnant water areas, providing for native fish predators, and, if necessary, other best practices for monitoring and treating pests.	Not applicable.	
	AO18.3 The created waterway is managed and operated under agreement by an appropriate entity for the life of the waterway. A Waterway Management Plan is incorporated within the Community Management Statement for the principal body corporate that: (a) identifies the waterway; (b) states the period of responsibility of the entity; (c) states a process for transfer of responsibility for the waterway;	Not applicable.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	(d) states required actions for monitoring water quality of the waterway and receiving waters; (e) states required actions for maintaining the waterway to achieve the policy outcomes of the *Environmental Protection (Water) Policy 2009* and approval conditions; and (f) identifies funding sources for the above matters including bonds, headworks charges or levies.		
Access to new waterways			
PO19 Created waterways are designed to provide maintenance access to revetment walls and cleaning of the waterway.	**AO19** Access is provided to the waterways by: (a) dedication of land to the Crown; or (b) existing access arrangements.	Not applicable.	
PO20 Created waterways to be transferred to public ownership are supported by infrastructure to ensure public safety.	**AO20** Created waterways are designed to create a safe public asset by including: (a) warning signs; and (b) fenced areas restricting access to steep-sided embankments or large drops.	Not applicable.	

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

9.4.5 Healthy waters code

9.4.5.1 Application

This code applies to assessing material change of use or reconfiguring a lot for development where indicated within **Part 5 Tables of assessment** unless either of the following circumstances apply:

(1) No increase in impervious area is required onsite for the development.

(2) A stormwater quality and quantity management plan previously approved by the Council has been fully implemented within the existing development layout.

Note: Where a development proposal meets either (1) and (2) above, this code is not applicable.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

9.4.5.2 Purpose

(1) The purpose of the Healthy waters code is to protect the quality of the city's waters from the impacts of development.

(2) The purpose of the code will be achieved through the following overall outcomes:

- (a) Urban stormwater quality management, wastewater management, and management of waters are based on the following principles:
  - (i) Development and construction activities are conducted to achieve the water quality objectives, as specified in the *Environmental Protection (Water) Policy 2009*.
  - (ii) The ongoing management of urban stormwater quality reflect the regional climate and the site's landscape characteristics.
  - (iii) Development is undertaken in accordance with best practice environmental management.

(iv) Development avoids adverse impacts on the City of Gold Coast's waters or, where this is not feasible, adverse impacts are minimised.

(b) Water resource catchments are protected from contamination by chemicals.

(c) The drainage capacity of the Woongoolba Flood Mitigation Scheme Area for rainfall events up to 1 in 10 year 72 hours is maintained (contained within the Scheme drains within a 4 day period) and this capacity is not be eroded due to cumulative impact of development.

9.4.5.3 Specific benchmarks for assessment

Table 9.4.5-2: Healthy waters code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
Stormwater quality			
PO1 Development appropriately manages stormwater quality to: (a) protect natural ecosystems; (b) integrate stormwater treatment into the urban landscape; (c) protect water quality; (d) reduce runoff and peak flows; and (e) meet the water quality objectives and environmental values for Queensland waters. **Note: Water quality objectives and environmental values for Queensland waters are contained within *Schedule 1* of the *Environmental Protection (Water) Policy 2009*. Water quality objectives are locally specific and vary between and within river catchments.**	**AO1.1** Where development is: (a) for a dwelling house, dual occupancy or multiple dwelling on a lot less than 5000m²; or (b) light industry or business activity on a lot less than 2500m², it complies with the 'Deemed to comply' requirements detailed in the **Stormwater quality management guidelines** in **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design standards**.	Complies with AO1.1 – A stormwater masterplan by DesignFlow Pty Ltd was prepared in August 2013 which details precinct-wide stormwater quality and quantity measure for the fully developed PDA.	
	AO1.2 Where development is: (a) for a dwelling house, dual occupancy or multiple dwelling on a lot equal to or more than 5000m² but less than 1.25 ha; or (b) light industry or business activity on a lot equal to or more than 2500m² but less than 1.25 ha; (c) it complies with the 'Deemed to comply' requirements detailed in	Not applicable.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	the **Stormwater quality management guidelines** in **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design standards**.		
	AO1.3 Where development is not listed in AO1 a Stormwater Quality Management Plan is prepared by a suitably-qualified person in accordance with the **Stormwater quality management guidelines** in **SC6.11 City Plan policy – Land development guidelines, Section 8 – Engineering drawings, documents and reports**.	Not applicable.	
Stormwater quantity			
PO2 Stormwater quantity management outcomes demonstrate no adverse impact on stormwater flooding or the drainage of properties external to the subject site.	**AO2** A stormwater quantity management plan is prepared by a suitably qualified person and demonstrates: (a) achievable stormwater quantity control measures for discharge during both the construction and operational phases of development designed in accordance with the *Queensland Urban Drainage Manual (QUDM)* unless subject to specific requirements of **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design standards**; (b) on-site detention systems that are designed to restrict peak outflows for Q2, Q5, Q10, Q20 Q50 and	Complies with AO2 – A flooding and hydraulics report prepared by Hyder in August 2013 specifies flooding and stormwater quantity measures for the entire PDA considering the fully developed case.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	Q100 to pre-development conditions.		
Woongoolba Flood Mitigation Scheme Catchment Area			
PO3 In the Woongoolba Flood Mitigation Scheme Catchment Area, shown on the **Water catchments and dual reticulation overlay map**, peak outflow and its timing for Q2, Q5 and Q10 for rainfall events up to 72 hours does not change as a result of development.	**AO3** No acceptable outcome provided.	Not applicable.	
Protection of natural flows (discharge)			
PO4 Construction and operational activities avoid or minimise adverse impacts of altered stormwater quality and quantity.	**AO4** Development achieves the Frequent Flow Management and Waterway Stability Management design objectives as stated within *Chapter 2 – Section 2.4.2 of the Urban Stormwater Quality Planning Guidelines 2010*. **Note: A site Stormwater Quality and Quantity Management Report prepared by a suitably qualified person is Council's preferred method required to be submitted to Council to address this Acceptable outcome.** **The intent in the above guidelines (*Urban Stormwater Quality Planning Guidelines 2010*) can be achieved by adopting Water Sensitive Urban Design (WSUD) concepts within the development.**	Complies with AO4 – The reports by Hyder and DesignFlow dated August 2013 detail the measures put in place for the overall PDA in regard to protection of natural flows.	
Wastewater management			
PO5 Development does not discharge wastewater to receiving waters or areas	**AO5** Where the development involves the discharge of wastewater, a Wastewater	Complies with AO5 – Development will not discharge wastewater to any existing waters or areas external to the site.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
external to the site unless demonstrated to be the best-practice environmental management for that site and takes into consideration: (a) the applicable water quality objectives for the receiving waters; and (b) the potential adverse impact on ecosystem health of receiving waters.	Management Plan (WWMP) is prepared, demonstrating compliance with the performance outcome, by a suitably qualified person and submitted to the Council, detailing all of the following: (a) wastewater type; (b) climatic conditions; (c) water quality objectives; (d) best-practice environmental management; (e) waste management hierarchy; and (f) the WWMP provides for the management of wastewater in accordance with a wastewater management hierarchy that: (i) avoids wastewater discharge to waterways; or (ii) if wastewater discharge to the environment cannot practicably be avoided wastewater discharge to waterways is minimised through re-use, recycling, recovery and treatment for disposal to sewer, surface water and groundwater.		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Erosion and sediment control (ESC)			
PO6 Development does not cause erosion or allow sediments to leave the site.	**AO6** An **Erosion hazard assessment** completed in accordance with the criteria in **Table 9.4.5-3** is undertaken to establish the level of risk for soil erosion and sediment pollution to the environment. **Where the Erosion hazard assessment has a risk score less than or equal to 10:** A deemed to comply report is prepared by a suitably qualified person for Council approval, including conceptual location and design drawings of each treatment measure in plan and section views, in accordance with the *Best Practice Erosion and Sediment Control: International Erosion Control Association, (IECA) 2008, Australasia Chapter 2008.* **Where the Erosion hazard assessment has a risk score greater than 10:** A conceptual erosion and sediment control plan (ESCP) is prepared by a suitably qualified person for Council approval in accordance with the *Best Practice Erosion and Sediment Control: International Erosion Control Association, (IECA) 2008, Australasia Chapter 2008*.	AO6 is to be be complied with during detailed design by means of a deemed-to-comply report.	

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

9.4.15 Works for infrastructure code

9.4.15.1 Application

This code applies to assessing operational work for development where indicated in **Part 5 Tables of assessment – Operational work**.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

9.4.15.2 Purpose

(1) The purpose of the Works for infrastructure code is to ensure that all works for infrastructure is designed and constructed with the City's best land development practices.

(2) The purpose of the code will be achieved through the following overall outcomes:

- (a) The design, construction, operation and maintenance of infrastructure is cost effective over its lifecycle, whilst providing an appropriate level of service;
- (b) Environmental and property impacts are avoided along with the potential for stormwater and ground water to enter the city's wastewater system;
- (c) The integrity of existing infrastructure is not compromised;
- (d) Movement networks are designed and constructed to be functional, safe and achieve good connectivity; and
- (e) A high standard of public health and safety is maintained.

9.4.15.3 Specific benchmarks for assessment

Table 9.4.15-1: Works for infrastructure code – for assessable development only

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
Movement network design and construction			
PO1 The movement network is designed and constructed to be functional, safe and achieve good connectivity.	**AO1** The movement network is designed and constructed in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 2 – Transport network standards**.	AO1 is to be complied with at detailed design stage and is subject to advice from the relevant consultant.	
Stormwater drainage design and management			
PO2 Stormwater drainage is designed and constructed to: (a) integrate hydrologic and hydraulic elements; (b) demonstrate a feasible and functional drainage system; and (c) not cause adverse stormwater drainage impacts.	**AO2.1** The stormwater drainage system is designed and constructed in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 4 – Stormwater drainage and water sensitive urban design**.	AO2.1 is to be complied with at detailed design and construction stage.	
	AO2.2 The stormwater drainage system connects to a lawful point of discharge.	Complies with AO2.2 – Lawful point of discharge will remain the same as pre-construction case.	
Street lighting			
PO3 Street lighting is designed and constructed to enhance pedestrian and traffic safety.	**AO3** Street lighting is designed and constructed in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 2 – Transport network standards**.	AO3 is to be complied with during detailed design and construction subject to advice from the relevant consultant.	
Water supply reticulation design			
PO4 Water supply reticulation is designed and	**AO4** Water supply reticulation is designed	AO4 is to be complied with at detailed design stage and is subject to the conditions attached to the CoGC	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets either the performance outcome or overall outcome**	Internal use
constructed to convey drinking water to all properties with adequate quality, pressure and volume of flow for household and fire fighting purposes.	and constructed in accordance with the *South East Queensland Water Supply and Sewerage Design and Construction Code* as applicable to the City of Gold Coast.	development approval.	
Sewerage reticulation design			
PO5 Sewerage reticulation is designed and constructed to ensure adequate quality and minimise inflow, infiltration, health and environmental risks.	**AO5** Sewerage reticulation is designed and constructed in accordance with the *South East Queensland Water Supply and Sewerage Design and Construction Code* as applicable to the City of Gold Coast.	AO5 is to be complied with at detailed design stage and is subject to the conditions attached to the CoGC development approval.	
Open space and recreational facilities design			
PO6 Open-space areas and recreational facilities are designed and constructed to an appropriate standard, having regard to their intended recreational use and environmental values.	**AO6** Open-space areas and recreation facilities are designed and constructed in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 5 – Public open space standards**.	Not applicable.	
Underground service conduits			
PO7 Underground service conduits are designed and constructed in accordance with State/Federal guidelines to meet service provider's requirements.	**AO7** No acceptable outcome provided.	AO7 is to be complied with at detailed design stage and is to be advised by the relevant consultant.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Assets – general provisions			
PO8 Asset design, construction and maintenance achieves: (a) delivery of high quality assets that are not a financial or resource burden, beyond reasonable expectations, to the community or the Council as the asset custodian; (b) cost effective ongoing operation and maintenance of assets; (c) no unreasonable financial or economic burden in the ongoing, long-term operation of the asset; (d) maintenance of public health and safety; (e) maintenance of health and safety for person/s maintaining and managing assets; and (f) minimise adverse impacts to the environment (including the amenity of the local area) in the short and long term needs of users.	**AO8.1** Design, construction, maintenance and transfer of assets are undertaken in accordance with **SC6.11 City Plan policy – Land development guidelines**.	AO8.1 is to be complied with during detailed design and construction.	
	AO8.2 Life-cycle cost analysis of assets is undertaken in accordance with **SC6.11 City Plan policy – Land development guidelines**.	AO8.2 is to be complied with during detailed design.	
	AO8.3 Expected asset life, maintenance activities (including frequency) and resources are estimated and included in a maintenance and management plan in accordance with **SC6.11 City Plan policy – Land development guidelines**.	AO8.3 is to be complied with during detailed design.	

Appendix G
ADG Engineering Drawings

PROPOSED DEVELOPMENT

48 VILLAGE BOULEVARD, SOUTPORT, QLD 4215

CIVIL WORKS

NOTE:

THE FOLLOWING INSPECTIONS MUST BE COMPLETED BY ADG ENGINEERS BEFORE ENGINEERING CERTIFICATION WILL BE ISSUED. THE CONTRACTOR IS TO PROVIDE A MINIMUM OF 72 HOURS NOTICE TO ADG FOR REQUIRED INSPECTIONS. SHOULD THE CONTRACTOR FAIL TO REQUEST AN INSPECTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS TO ALLOW FOR THE WORKS TO BE INSPECTED TO THE SATISFACTION OF ADG. ANY INSPECTIONS THAT FAIL ARE TO BE RE-INSPECTED WITH ALL REINSPECTION COSTS TO BE PAID BY THE CONTRACTOR.

a) PRESTART
b) EARTHWORKS - FINAL STRIPPING OF TOPSOIL, INSTALLATION OF SEDIMENT AND EROSION CONTROL MEASURES
c) UNSUITABLE GROUND
d) STORMWATER PIPE LAID ON BEDDING PRIOR TO BACKFILL
e) STORMWATER TRENCH BACKFILLED PRIOR TO PAVEMENT PLACEMENT
f) STORMWATER STRUCTURE BASE SLABS
g) PRACTICAL COMPLETION
h) ON MAINTENANCE
i) OFF MAINTENANCE
j) ANY OTHER INSPECTION AS SPECIFIED BY THE RELEVANT AUTHORITY (REFER DEVELOPMENT APPROVAL)

GENERAL NOTES:

G1. ALL DIMENSIONS SHOWN ARE IN METERS UNLESS OTHERWISE SHOWN.

G2. ALL SETOUT ON SITE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO ALLOW FOR ALL MEANS NECESSARY TO ACCURATELY SETOUT THE WORKS.

G3. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND WHERE FURTHER DETAILS ARE REQUIRED THE CONTRACTOR SHALL REFER TO GOLD COAST CITY COUNCIL (GCCC) DEVELOPMENT GUIDELINES, LOCAL WATER AUTHORITY GUIDELINES, ASSOCIATED STANDARD DRAWINGS AND SPECIFICATIONS U.N.O.

G4. SHOULD ANY OF THE CONSTRUCTED WORKS BE CONSTRUCTED OUTSIDE OF THE TOLERANCES SPECIFIED WITHIN THE PROJECT SPECIFICATION AND LOCAL AUTHORITY REQUIREMENTS, THE CONTRACTOR WILL RECTIFY AT THEIR COST INCLUSIVE OF ANY ADDITIONAL COSTS INCURRED BY ADG.

G5. EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. NO RESPONSIBILITY IS TAKEN BY ADG OR THE PRINCIPAL FOR THE ACCURACY AND COMPLETENESS OF THIS INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CONTRACTOR TO LOCATE AND PROTECT SERVICES AS REQUIRED DURING PROPOSED WORKS.

G6. THE CONTRACTOR IS TO CHECK THROUGH LOCATING, POTHOLING AND SURVEY ALL CRITICAL CONNECTION POINTS FOR ALL CIVIL WORKS SHOWN ON THE DRAWINGS INCLUDING ANY POTENTIAL EXISTING SERVICES CLASHES PRIOR TO COMMENCEMENT OF CIVIL WORKS. CONTRACTOR TO IMMEDIATELY REPORT ANY DISCREPANCIES TO ADG AND AWAIT FORMAL DIRECTION PRIOR TO COMMENCING CIVIL WORKS.

G7. ON COMPLETION OF SERVICES INSTALLATION, ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL LEVEL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS, GRASSED AREAS AND ROAD PAVEMENTS.

G8. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO AUTHORITY/COUNCIL'S INFRASTRUCTURE. SUCH REPAIR OR REINSTATEMENT TO BE CARRIED OUT IMMEDIATELY TO THE SATISFACTION OF INFRASTRUCTURE OWNER/MANAGER / AUTHORITY/COUNCIL.

G9. CONTRACTOR TO UNDERTAKE ALL WORKS IN ACCORDANCE WITH ALL WORKPLACE HEALTH AND SAFETY REQUIREMENTS.

G10. WHERE ANY EXCAVATION OR CONSTRUCTION WORKS ARE TO BE IN CLOSE PROXIMITY TO NEIGHBOURING LOT BOUNDARIES OR INFRASTRUCTURE, CONTRACTOR TO ALLOW IN SCOPE OF WORKS TO PROVIDE ALL MEASURES NECESSARY TO ENSURE THE INTEGRITY OF EXISTING BOUNDARIES AND INFRASTRUCTURE. THIS MAY INCLUDE THE USE OF LOW VIBRATION EQUIPMENT, TRENCH SHORING ETC AS REQUIRED.

G11. PRIOR TO THE CONTRACTOR COMMENCING ANY WORKS DETAILED ON THESE DRAWINGS, THE CONTRACTOR IS TO NOTIFY ADG ENGINEERS (AUST.) Pty. Ltd. AND RECEIVE WRITTEN CONFIRMATION THAT WORKS CAN COMMENCE

G12. CONTRACTOR TO PROVIDE AS CONSTRUCTED DRAWINGS FOR ALL CONSTRUCTED WORKS IN ACCORDANCE WITH LOCAL GOVERNMENT REQUIREMENTS. UNLESS OTHERWISE ADVISED BY ADG ENGINEERS (AUST.) Pty. Ltd. CONTRACTOR TO NOTE COUNCILS ADAC REQUIREMENTS.

G13. CONTRACTOR TO UNDERTAKE ALL WORKS IN ACCORDANCE WITH RELEVANT APPROVALS.

G14. CONTRACTOR TO ALLOW TO LIAISE/CO-ORDINATE WITH ELECTRICAL, LANDSCAPE AND OTHER SERVICE CONTRACTORS THROUGHOUT CIVIL CONSTRUCTION.

G15. CONTRACTOR TO ORGANISE ALL DEMOLITION PERMITS PRIOR TO ANY DEMOLITION WORKS COMMENCING ON SITE.

G16. CONTRACTOR TO ALLOW TO DEMOLISH ALL EXISTING STRUCTURES, ROADS AND SERVICES WITHIN LIMIT OF WORKS AND REMOVE FROM SITE U.N.O.

G17. CONTRACTOR TO UNDERTAKE DILAPIDATION REPORT FOR ADJOINING PROPERTIES AND COUNCIL ROADS AND VERGES PRIOR TO COMMENCEMENT OF ANY WORKS ON SITE.

G18. CONTRACTOR TO UNDERTAKE POST CONSTRUCTION DILAPIDATION REPORT AND COUNCIL ROADS AND VERGES AT PRACTICAL COMPLETION.

G19. CONTRACTOR TO CLEAR AND GRUB ALL VEGETATION ON SITE AS IDENTIFIED IN THE APPROVED VEGETATION MANAGEMENT PLAN. CONTRACTOR TO ENSURE ALL TREE ROOTS AND STUMPS ARE COMPLETELY REMOVED AND BACKFILLED TO LEVEL 1 SUPERVISION. CONTRACTOR TO ALLOW TO MULCH ALL CLEARED VEGETATION AND STOCKPILE ON SITE OR REMOVE FROM SITE AS DIRECTED.

G20. DRAWINGS TO BE READ IN CONJUNCTION WITH THE FOLLOWING CONSULTANTS/CONTRACTORS DRAWINGS:

SURVEYOR - FOCUS SURVEYING

ARCHITECT - GJG ARCHITECTS

G21. CONTRACTOR TO PREPARE AND HAVE APPROVED BY RELEVANT AUTHORITY: ROAD OPENING PERMIT AND TRAFFIC MANAGEMENT PLAN FOR ALL WORKS WITHIN COUNCIL ROAD RESERVES. CONTRACTOR TO ALLOW FOR ALL COSTS ASSOCIATED WITH IMPLEMENTATION OF THE TMP.

G22. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE FOLLOWING LOCAL AUTHORITY APPROVALS: T.B.A

G23. CONTRACTOR TO UNDERTAKE ALL WORKS IN ACCORDANCE WITH OPW APPROVALS BY COUNCIL.

G24. NO WORKS ARE TO BE UNDERTAKEN ON LAND OUTSIDE OF THE SITE BOUNDARY WITHOUT FORMAL APPROVAL BY THE OWNER/CUSTODIAN OF THAT LAND INCLUDING BUT NOT LIMITED TO PRIVATE PROPERTY, ROAD RESERVE, PARKS/OPEN SPACE, EASEMENTS.

G25. THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION DRAWINGS AND APPROVALS ON SITE AT ALL TIMES.

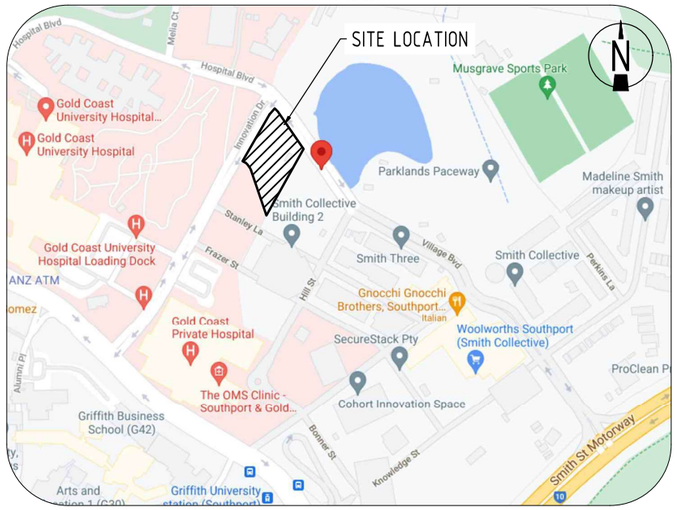
G26. ALL WATER AND SEWER RETICULATION WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT SEQ WATER SUPPLY AND SEWERAGE DESIGN AND CONSTRUCTION CODE.

G27. CONTRACTOR TO INSTALL INFORMATION SIGNAGE IN ACCORDANCE WITH LOCAL AUTHORITY STANDARDS PRIOR TO COMMENCEMENT OF WORKS.

G28. CONTRACTOR TO PREPARE CONSTRUCTION MANAGEMENT PLAN IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS AND HAVE APPROVED BY LOCAL AUTHORITY WHERE REQUIRED.

LOCALITY PLAN

NOT TO SCALE



PROPERTY DESCRIPTION

LOT: 16 ON SP275512

LOT: 18 ON SP275512

DRAWING SCHEDULE

DRAWING No.	DRAWING TITLE
C01	DRAWING SCHEDULE NOTES AND LOCALITY PLAN
C02	EXISTING FEATURES LAYOUT PLAN
C10	EROSION AND SEDIMENT CONTROL LAYOUT PLAN
C11	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C20	EARTHWORKS LAYOUT PLAN
C21	EARTHWORKS SITE SECTIONS
C30	ROADWORK AND DRAINAGE LAYOUT PLAN

ADG CIVIL SERVICES

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
02	08.09.21	ISSUED FOR APPROVAL	LDV	DS
01	05.05.21	ISSUED FOR APPROVAL	MD	DS

PLOT DATE: 9/8/2021 8:02 AM FILENAME: J:\24000\24792\CIVIL\DWG\24792_C01_DRAWING SCHEDULE NOTES AND LOCALITY PLAN.DWG

RPEQ CERTIFICATION

PROJECT NUMBER: 24792
PROJECT NAME: 48 VILLAGE BOULEVARD
DATE: 08.09.21
CERTIFIED BY: MICHAEL LEPELAAR
RPEQ NUMBER: 11171
SIGNATURE:

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Client: INFINITE AGED CARE (DEVELOPMENTS) PTY LTD

Project Name: 48 VILLAGE BOULEVARD SOUTHPORT QLD 4215

Discipline: CIVIL | Status: APPROVAL

Designed By: LDV | Checked By: DS | Approved By: ML

Project No.: 24792 | Drawn By: MD | Scale at A1: NTS

Title: DRAWING SCHEDULE NOTES AND LOCALITY PLAN

Drawing No.: C01 | Revision: 02

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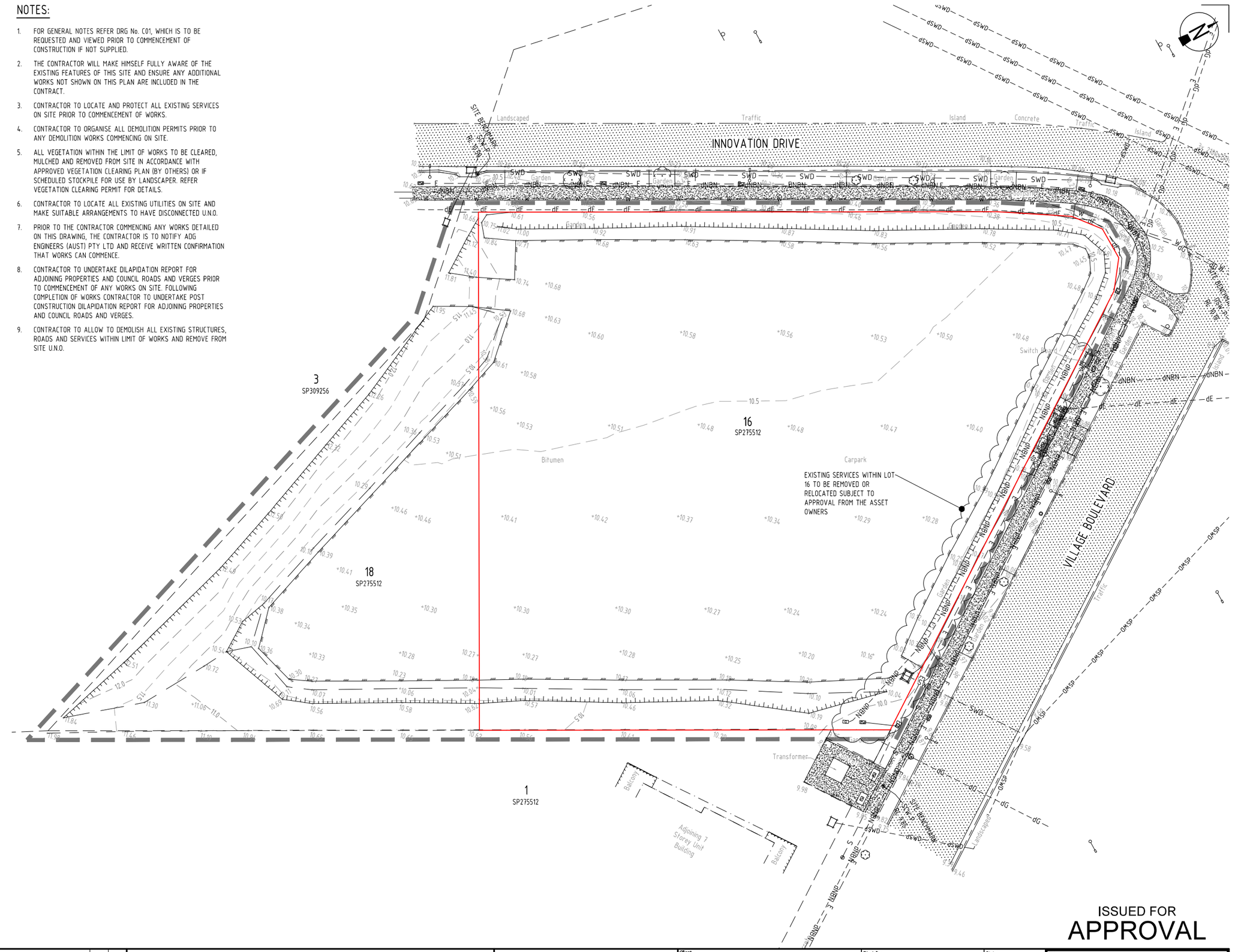
FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

LEGEND

- EXISTING SURFACE CONTOURS
- LIMIT OF WORKS
- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE / EDGE OF ROAD
- EXISTING EDGE OF BITUMEN
- EXISTING ROAD CENTERLINE
- EXISTING EDGE OF BUILDING
- EXISTING EDGE OF BUILDING EAVE
- EXISTING STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE (RECORDS)
- EXISTING SEWER
- EXISTING SEWER (RECORDS)
- EXISTING WATER
- EXISTING WATER (RECORDS)
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING UNDERGROUND ELECTRICITY (RECORDS)
- EXISTING OVERHEAD ELECTRICITY
- EXISTING GAS
- EXISTING GAS (RECORDS)
- EXISTING NBN
- EXISTING NBN (RECORDS)
- EXISTING TELECOMMUNICATIONS
- EXISTING TELECOMMUNICATIONS (RECORDS)
- EXISTING COMMUNICATIONS
- EXISTING BATTER
- EXISTING FENCE
- EXISTING TREE TO BE PROTECTED AND RETAINED
- EXISTING TREE TO BE REMOVED
- EXISTING ROAD
- EXISTING FOOTPATH

NOTES:

1. FOR GENERAL NOTES REFER DRG No. C01, WHICH IS TO BE REQUESTED AND VIEWED PRIOR TO COMMENCEMENT OF CONSTRUCTION IF NOT SUPPLIED.
2. THE CONTRACTOR WILL MAKE HIMSELF FULLY AWARE OF THE EXISTING FEATURES OF THIS SITE AND ENSURE ANY ADDITIONAL WORKS NOT SHOWN ON THIS PLAN ARE INCLUDED IN THE CONTRACT.
3. CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS.
4. CONTRACTOR TO ORGANISE ALL DEMOLITION PERMITS PRIOR TO ANY DEMOLITION WORKS COMMENCING ON SITE.
5. ALL VEGETATION WITHIN THE LIMIT OF WORKS TO BE CLEARED, MULCHED AND REMOVED FROM SITE IN ACCORDANCE WITH APPROVED VEGETATION CLEARING PLAN (BY OTHERS) OR IF SCHEDULED STOCKPILE FOR USE BY LANDSCAPER. REFER VEGETATION CLEARING PERMIT FOR DETAILS.
6. CONTRACTOR TO LOCATE ALL EXISTING UTILITIES ON SITE AND MAKE SUITABLE ARRANGEMENTS TO HAVE DISCONNECTED U.N.O.
7. PRIOR TO THE CONTRACTOR COMMENCING ANY WORKS DETAILED ON THIS DRAWING, THE CONTRACTOR IS TO NOTIFY ADG ENGINEERS (AUST) PTY LTD AND RECEIVE WRITTEN CONFIRMATION THAT WORKS CAN COMMENCE.
8. CONTRACTOR TO UNDERTAKE DILAPIDATION REPORT FOR ADJOINING PROPERTIES AND COUNCIL ROADS AND VERGES PRIOR TO COMMENCEMENT OF ANY WORKS ON SITE. FOLLOWING COMPLETION OF WORKS CONTRACTOR TO UNDERTAKE POST CONSTRUCTION DILAPIDATION REPORT FOR ADJOINING PROPERTIES AND COUNCIL ROADS AND VERGES.
9. CONTRACTOR TO ALLOW TO DEMOLISH ALL EXISTING STRUCTURES, ROADS AND SERVICES WITHIN LIMIT OF WORKS AND REMOVE FROM SITE U.N.O.



NOTE

EXCEPT WHERE NOTED ON PLAN AND ASSOCIATED DESIGN DRAWINGS, ALL IN-GROUND SERVICES WITHIN THE PROPERTY BOUNDARY INCLUDING BUT NOT LIMITED TO: STORMWATER DRAINAGE, SEWERAGE, WATER, GAS, ELECTRICAL AND COMMUNICATIONS TO BE SAFELY DISCONNECTED, REMOVED FROM SITE AND CAPPED OFF AT SITE BOUNDARY. CONTRACTOR TO ARRANGE ALL NECESSARY APPLICATIONS AND PERMITS WITH THE RELEVANT AUTHORITIES. SERVICES TO BE CAPPED IN ACCORDANCE WITH RELEVANT SERVICE PROVIDER SPECIFICATIONS AND STANDARD DETAILS U.N.O.

CAUTION

THE LOCATION AND DEPTH OF EXISTING SERVICES AS SHOWN IS BASED ON INFORMATION OBTAINED FROM FOCUS SURVEYS DATED 01/03/21 AND COUNCIL RECORDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE ACTUAL LOCATION AND DEPTH OF EXISTING SERVICES PRIOR TO CARRYING OUT ANY EXCAVATION, TRENCHING OR TUNNELING WORKS.

WARNING ⚠

EXISTING FIBRE OPTIC, ELECTRICAL AND TELECOM CABLES MAY EXIST IN THE VICINITY OF REQUIRED WORKS. FOR ALL WORK WITHIN 2.5m OF MAJOR OPTIC CABLES, THE CONTRACTOR IS REQUIRED TO HAND DIG (POTHOLE) AND EXPOSE THE CABLE/CONDUIT. BEFORE WORK CAN COMMENCE, ON SITE LOCATION SHOULD BE SOUGHT FROM AN ACCREDITED PLANT LOCATOR.

DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
01	05,05,21	ISSUED FOR APPROVAL	MD	DS

RPEQ CERTIFICATION

PROJECT NUMBER:	24792
PROJECT NAME:	48 VILLAGE BOULEVARD
DATE:	05.05.21
CERTIFIED BY:	MICHAEL LEPELAAR
RPEQ NUMBER:	11171
SIGNATURE:	

0 2 4 6 8 10m
SCALE 1:200
AT ORIGINAL SIZE (A1)

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Client: INFINITE AGED CARE (DEVELOPMENTS) PTY LTD	Discipline: CIVIL	Status: APPROVAL
Project Name: 48 VILLAGE BOULEVARD SOUTHPORT QLD 4215	Designed By: LDV / Checked By: DS / Approved By: ML	
	Project No.: 24792 / Drawn By: MD / Scale at A1: 1:200	

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Title: EXISTING FEATURES LAYOUT PLAN
Drawing No.: C02
Revision: 01

PLOT DATE: 5/5/2021 5:13 PM FILENAME: J:\24000\24792\CVL\DWG\24792_C02_EXISTING FEATURES LAYOUT PLAN.DWG

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

LEGEND

- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING SURFACE CONTOURS
- FINISHED SURFACE CONTOURS
- EXISTING NOMINAL KERB LINE
- EXISTING STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE DBYD
- PROPOSED NOMINAL KERB LINE
- PROPOSED BATTER
- PROPOSED STORMWATER DRAINAGE
- PROPOSED DRAIN
- FIELD INLET SEDIMENT BARRIER
- GULLY PIT SEDIMENT BARRIER
- PROPOSED SUMP PIT
- PROPOSED FIELD INLET
- FLOW DIRECTION
- SEDIMENT FENCE (INDICATIVE LOCATION)
- CHECK DAM
- PROPOSED SWALE (TURFED)
- LIMIT OF WORKS
- CONSTRUCTION ENTRY/EXIT SHAKEDOWN AREA
- EXISTING ROAD
- EXISTING FOOTPATH

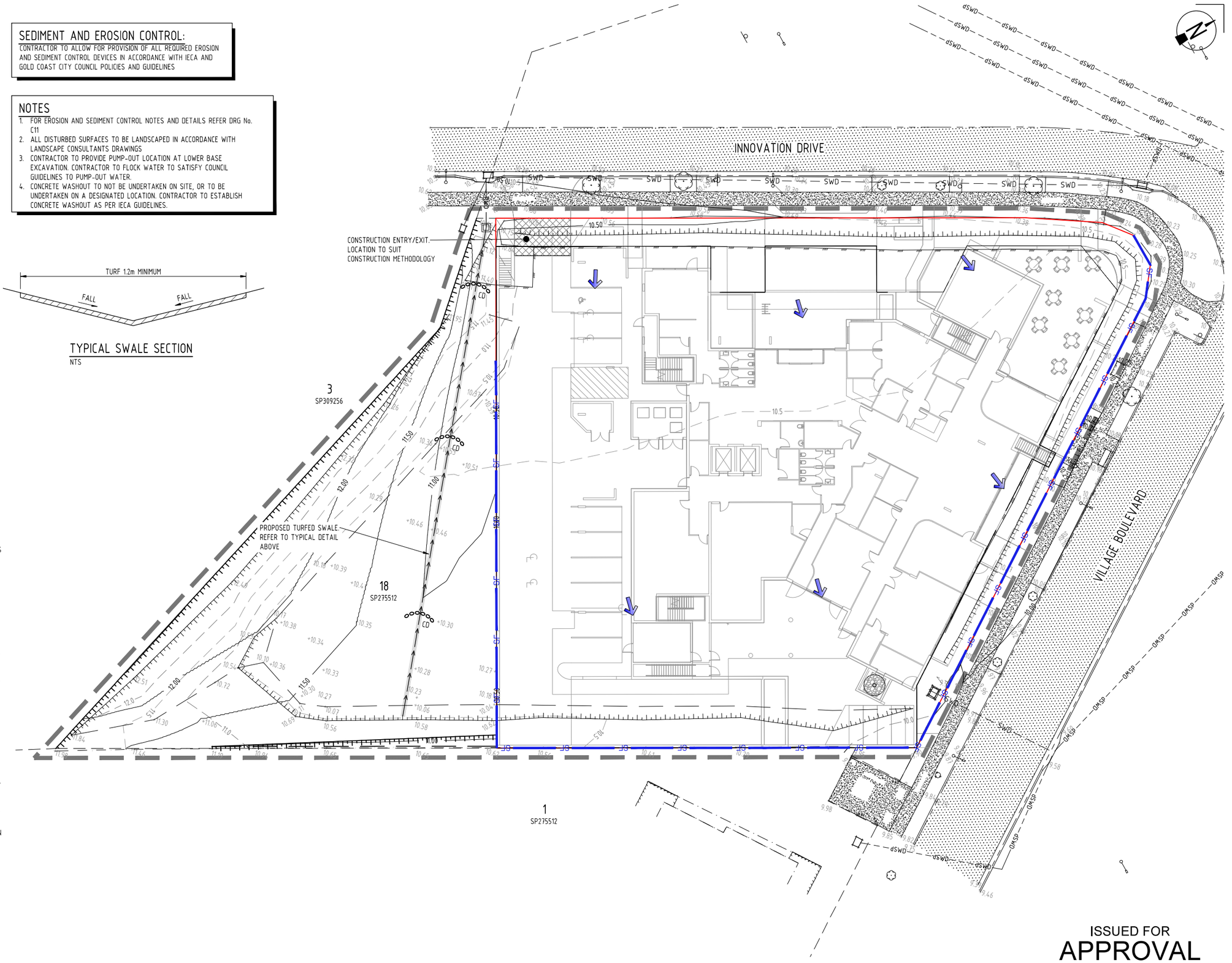
SEDIMENT AND EROSION CONTROL:

CONTRACTOR TO ALLOW FOR PROVISION OF ALL REQUIRED EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH IECA AND GOLD COAST CITY COUNCIL POLICIES AND GUIDELINES

NOTES

1. FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS REFER DRG No. C11
2. ALL DISTURBED SURFACES TO BE LANDSCAPED IN ACCORDANCE WITH LANDSCAPE CONSULTANTS DRAWINGS
3. CONTRACTOR TO PROVIDE PUMP-OUT LOCATION AT LOWER BASE EXCAVATION. CONTRACTOR TO FLOCK WATER TO SATISFY COUNCIL GUIDELINES TO PUMP-OUT WATER.
4. CONCRETE WASHOUT TO NOT BE UNDERTAKEN ON SITE, OR TO BE UNDERTAKEN ON A DESIGNATED LOCATION. CONTRACTOR TO ESTABLISH CONCRETE WASHOUT AS PER IECA GUIDELINES.

TYPICAL SWALE SECTION
NTS



GENERAL NOTE:

1. FOR GENERAL NOTES REFER DRG No. C01, WHICH IS TO BE REQUESTED AND VIEWED PRIOR TO COMMENCEMENT OF CONSTRUCTION IF NOT SUPPLIED.

SEDIMENT RELEASE GUIDELINES:

1. ALL RELEASES OF STORMWATER CAPTURED ONSITE, UNLESS OTHERWISE NOTED IN THIS STANDARD, MUST NOT EXCEED THE FOLLOWING LIMITS:
   a. 50mg/L OF TOTAL SUSPENDED SOLIDS (TSS) AS A MAXIMUM CONCENTRATION;
   b. TURBIDITY (NTU) VALUE LESS THAN 10% ABOVE BACKGROUND;
   c. pH VALUE MUST BE IN THE RANGE 6.5 TO 8.5 EXCEPT WHERE, AND TO THE EXTENT THAT, THE NATURAL RECEIVING WATERS LIE OUTSIDE THIS RANGE.

2. THE CONCENTRATION OF TSS RELEASED BY DEWATERING MAY ONLY EXCEED 50mg/L WHERE IT CAN BE DEMONSTRATED AND SUPPORTED THROUGH DOCUMENTATION THAT:
   a. FURTHER SIGNIFICANT RAINFALL IS FORECAST TO OCCUR BEFORE THE TSS CONCENTRATION IS LIKELY TO BE REDUCED TO 50mg/L;
   b. RELEASING A HIGHER CONCENTRATION OF TOTAL SUSPENDED SOLIDS WILL RESULT IN A BETTER ENVIRONMENTAL OUTCOME BY PROVIDING STORAGE FOR THE CAPTURE AND TREATMENT OF RUN-OFF FROM THE IMMINENT RAINFALL AND RUN-OFF.
   c. ALL REASONABLE AND PRACTICABLE STEPS HAVE BEEN TAKEN TO TREAT THE WATER WITHIN BEST-PRACTICE TIME FRAMES;
   d. FLOCCULENT HAS BEEN APPROPRIATELY APPLIED AND THE CONCENTRATION OF TSS IN THE CAPTURED WATER HAS ALREADY SIGNIFICANTLY DECREASED.

3. FOR ALL OTHER STORMWATER RELEASES, FLOWS AND DISCHARGES FROM THE SITE, THE RELEASE LIMIT PRESCRIBED IN (1a) ABOVE MUST NOT BE EXCEEDED UNLESS THE DEVELOPMENT IS IN FULL COMPLIANCE WITH THIS STANDARD.

NOTE: IT IS RECOMMENDED THAT A SITE-SPECIFIC RELATIONSHIP BETWEEN TURBIDITY AND SUSPENDED SOLIDS IS DETERMINED FOR EACH SEDIMENT BASIN. ONCE A CORRELATION BETWEEN SUSPENDED SOLIDS AND TURBIDITY HAS BEEN ESTABLISHED FOR A SEDIMENT BASIN, TESTING STORMWATER FOR COMPLIANCE WITH RELEASE LIMITS, PRIOR TO RELEASE, CAN BE DONE ON SITE WITH A TURBIDITY TUBE OR CALIBRATED TURBIDITY METER. THIS HAS THE ADVANTAGE OF PROVIDING IMMEDIATE ASSESSMENT TO JUSTIFY A RELEASE RATHER THAN WAITING FOR LABORATORY RESULTS TO CONFIRM CONCENTRATION LEVELS AND COMPLIANCE. NOTE THAT POST-RELEASE TSS VALIDATION IS APPROPRIATE TO DEMONSTRATE THAT THE NTU/TSS CORRELATION IS BEING MAINTAINED.

NOTE: BACKGROUND REFERS TO RECEIVING WATER QUALITY IMMEDIATELY UPSTREAM OF THE SITE LOCATION RELEASE POINT AT THE TIME OF RELEASE. WHERE THERE IS NO IMMEDIATE UPSTREAM RECEIVING WATER AT THE LOCATION AND TIME OF RELEASE, THEN THE TURBIDITY RELEASE LIMIT (NTU) WILL BE EQUAL TO THE RELEASE LIMIT FOR 50mg/L TOTAL SUSPENDED SOLIDS (TSS) BASED UPON THE ONSITE CORRELATION BETWEEN TSS AND NTU.

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
01	05,05,21	ISSUED FOR APPROVAL	MD	DS

RPEQ CERTIFICATION
PROJECT NUMBER: 24792
PROJECT NAME: 48 VILLAGE BOULEVARD
DATE: 05.05.21
CERTIFIED BY: MICHAEL LEPELAAR
RPEQ NUMBER: 11171
SIGNATURE:

0 2 4 6 8 10m
SCALE 1:200
AT ORIGINAL SIZE (A1)

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BRISBANE / DARWIN / GOLD COAST / MELBOURNE / PERTH / SUNSHINE COAST / SYDNEY / TOOWOOMBA

Client: INFINITE AGED CARE (DEVELOPMENTS) PTY LTD	Discipline: CIVIL		Status: APPROVAL
Project Name: 48 VILLAGE BOULEVARD SOUTHPORT QLD 4215	Designed By: LDV	Checked By: DS	Approved By: ML
	Project No.: 24792	Drawn By: MD	Scale at A1: 1:200

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Title: EROSION AND SEDIMENT CONTROL LAYOUT PLAN
Drawing No.: C10
Revision: 01

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

PLOT DATE: 5/5/2021 5:13 PM FILENAME: J:\24000\24792\CVL\DWG\24792_C10_EROSION AND SEDIMENT CONTROL LAYOUT PLAN.DWG

NOTES:

SEDIMENT CONTROL

1. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE IN ACCORDANCE WITH INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) AUSTRALIA GUIDELINES AND THE SPECIFICATIONS.
2. EROSION AND SEDIMENT CONTROL DETAILS SHOWN ARE MINIMUM REQUIREMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY THROUGHOUT CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL SEDIMENT CONTROL DEVICES IN A FUNCTIONAL ORDER AND REPLACE ALL BLOCKED SEDIMENT DEVICES AS REQUIRED UNTIL SUCCESSFUL OFF MAINTENANCE OF WORKS.
4. CONSTRUCTION OF ALL SEDIMENT MANAGEMENT DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT. SHALL BE COMPLETED AND EFFECTIVE PRIOR TO:
   a. STRIPPING OF TOPSOIL AND GRASS.
   b. BULK EARTHWORKS TO THE SITE.
   c. SERVICES INSTALLATION.
   d. PAVEMENT CONSTRUCTION.
5. ALL SEDIMENT MANAGEMENT MEASURES ARE TO REMAIN IN PLACE UNTIL INSTRUCTION IS RECEIVED IN WRITING FROM THE SUPERINTENDENT TO REMOVE ALL OR PART OF THE SILT CONTROL APPLICATIONS.
6. THE BULK EARTHWORKS AND SEDIMENT CONTROL LAYOUT PLAN SHALL BE READ IN CONJUNCTION WITH THE APPROVED DRAWINGS.
7. PRIOR TO COMMENCEMENT OF CONSTRUCTION APPROVAL IS TO BE OBTAINED FROM THE SUPERINTENDENT FOR THE LOCATION OF THE SITE ACCESS POINT AND WASH DOWN AREA WHICH ARE TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
8. IF EROSION AND SEDIMENT CONTROL DEVICES HAVE BEEN FOUND TO BE DIFFERENT OR FAILED IN SERVICE, CORRECTIVE ACTION IS TO BE UNDERTAKEN IMMEDIATELY WHICH MAY INCLUDE AMENDMENTS' ADDITIONS TO THE ORIGINAL APPROVED EROSION CONTROL PLANS. SUCH AMENDMENTS ARE TO BE APPROVED BY SUPERINTENDENT, IF DEEMED NECESSARY AND RELEVANT.

OVERALL

9.
   a. TEMPORARY DRAINAGE CONTROL FLOW SHOULD BE DIVERTED AROUND THE WORK SITE WHERE POSSIBLE.
   b. ALL DRAINAGE, EROSION AND SEDIMENT CONTROLS TO BE INSTALLED AND BE OPERATIONAL BEFORE COMMENCING UP-SLOPE EARTHWORKS.
   c. IN AREAS WHERE RUNOFF TURBIDITY IS TO BE CONTROLLED, EXPOSED SURFACES TO BE EITHER MULCHED, COVERED WITH EROSION CONTROL BLANKETS OR TURFED IF EARTHWORKS ARE EXPECTED TO BE DELAYED FOR MORE THAN 14 DAYS.

SEDIMENT FENCE

10. FOR SEDIMENT FENCE STANDARD DETAIL AND SPECIFICATION REFER TO INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWINGS SF-01 AND SF-02 SEDIMENT FENCE.

TEMPORARY CONSTRUCTION ENTRY/EXIT

11. FOR CONSTRUCTION ENTRY / EXIT STANDARD DETAIL AND SPECIFICATION REFER TO INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWINGS EXIT-01 AND EXIT-02 CONSTRUCTION EXIT - ROCK PAD (CONSTRUCTION SITES ONLY), EXIT-03 - ROCK PADS FOR BUILDING SITES AND EXIT-04 AND EXIT-05 CONSTRUCTION EXIT - VIBRATION GRID.

KERB INLET

12. FOR KERB INLET STANDARD DETAIL AND SPECIFICATION REFER TO INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWING ESC-03 KERB INLET SEDIMENT TRAPS.

CHECK DAMS

13. FOR CHECK DAM STANDARD DETAIL AND SPECIFICATION REFER TO INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWING RCD-01 CHECK DAMS.

REVEGETATION

14. FOR REVEGETATION STANDARD SPECIFICATION REFER TO INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWING R-01 REVEGETATION GENERAL.

FIELD INLET

15. FOR FIELD INLET STANDARD DETAIL AND SPECIFICATION REFER TO INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWING ESC-02 GRATED STORMWATER (FIELD) INLET SEDIMENT TRAP.

OPERATION AND MAINTENANCE

16. IN ACCORDANCE WITH GCCC ESC GUIDELINES, ALL ESC MEASURES SHALL BE INSPECTED:
   - AT LEAST DAILY (WHEN WORK IS OCCURRING ON SITE) OR WEEKLY (WHEN WORK IS NOT OCCURRING ON SITE)
   - WITHIN 24 HOURS OF EXPECTED RAIN; AND
   - WITHIN 18 HOURS OF A RAINFALL EVENT (I.E. AN EVENT OF SUFFICIENT INTENSITY AND DURATION TO MOBILISE SEDIMENT ON SITE).
17. IN ACCORDANCE WITH GCCC ESC GUIDELINES, MAINTENANCE OF ESC MEASURES SHALL OCCUR IN ACCORDANCE WITH THE FOLLOWING TABLE:

MAINTENANCE SCHEDULE

ESC MEASURE	MAINTENANCE TRIGGER	TIMEFRAME FOR COMPLETION OF MAINTENANCE
SEDIMENT BASINS	WHEN SETTLED SEDIMENT EXCEEDS THE VOLUME OF THE SEDIMENT STORAGE ZONE (SEE COUNCIL'S SEDIMENT BASIN DESIGN GUIDELINES)	WITHIN 7 DAYS OF THE INSPECTION
OTHER ESC MEASURES	THE CAPACITY OF ESC MEASURES FALLS BELOW 75%	BY THE END OF THE DAY

GENERAL

18. CIVIL CONTRACTOR IS TO PROVIDE AN UPDATED PROGRAM OF ESC MAINTENANCE AND CONTROL OF ALL STAGES OF WORK FOR APPROVAL BY THE SUPERINTENDENT.

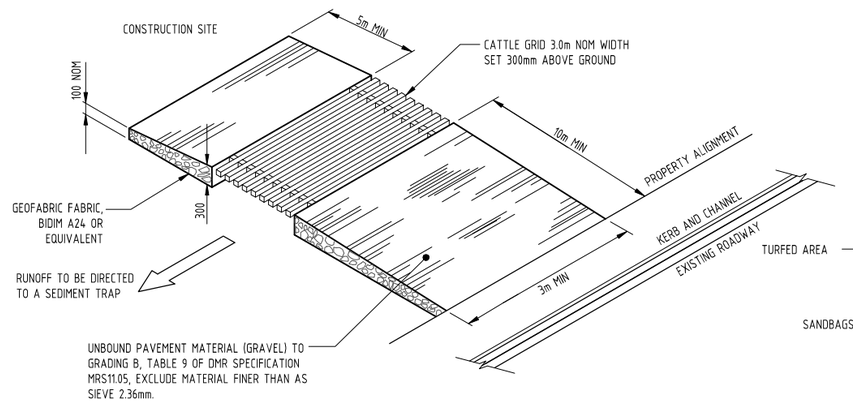
PUMP-OUT NOTES:
COLLECTED STORMWATER IS TREATED WITH AN APPROPRIATE FLOCCULATING AGENT PRIOR TO PUMP OUT BY LICENSED CONTRACTOR AFTER EVERY RAIN EVENT. SEDIMENT TO BE CLEANED OUT ON REGULAR BASIS.

IECA STANDARD DRAWINGS REGISTER

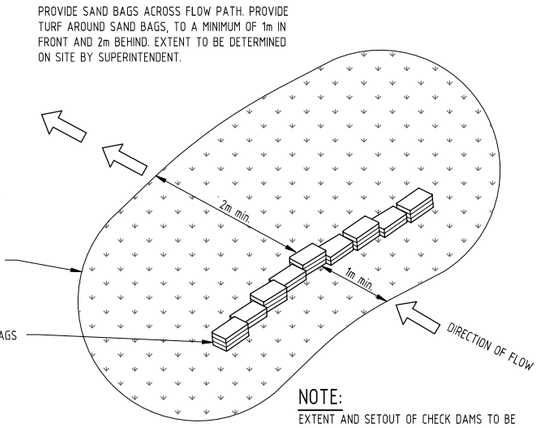
DRAWING NUMBER	DRAWING DESCRIPTION
EXIT-01	CONSTRUCTION EXIT - ROCK PAD
EXIT-02	CONSTRUCTION EXIT - ROCK PAD
EXIT-03	ROCK PADS FOR BUILDING SITES
CD-01	CATCH DRAINS
CD-02	CATCH DRAINS (EARTH LINED)
RCD-01	CHECK DAMS
FF-01	FILTER FENCE
SF-01	SEDIMENT FENCE
SF-02	SEDIMENT FENCE
ESC-02	GRATED STORMWATER (FIELD) INLET SEDIMENT TRAP
ESC-03	KERB INLET SEDIMENT TRAPS
R-01	REVEGETATION - GENERAL
SP-01	SUMP PITS
LOG-01	GEO LOGS (COIR LOGS)

*DRAWINGS TO BE READ IN CONJUNCTION WITH INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA (IECA) BEST PRACTICES STANDARD DRAWINGS AND SPECIFICATIONS.

NOTE
1. FOR EROSION AND SEDIMENT CONTROL LAYOUT PLAN REFER DRG No. C10
2. CONTRACTOR TO PROVIDE FINAL ESC DESIGN TO SUIT PROPOSED CONSTRUCTION METHODOLOGY

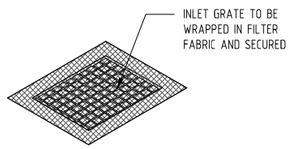


TEMPORARY CONSTRUCTION ENTRY/EXIT
NTS

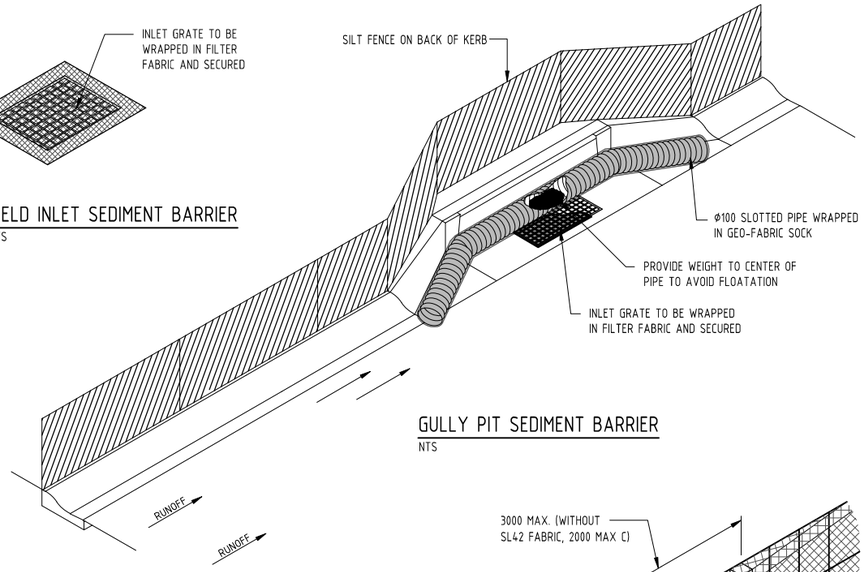


NOTE:
EXTENT AND SETOUT OF CHECK DAMS TO BE PROPOSED ON SITE BY CONTRACTOR TO THE SATISFACTION OF THE SUPERINTENDENT

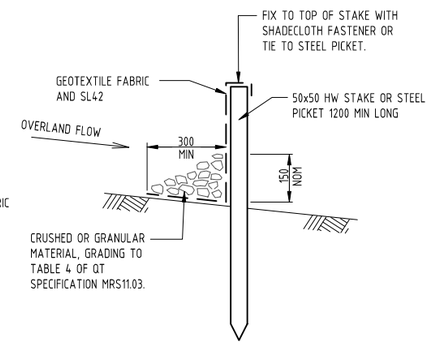
SAND BAG CHECK DAM
NTS



FIELD INLET SEDIMENT BARRIER
NTS

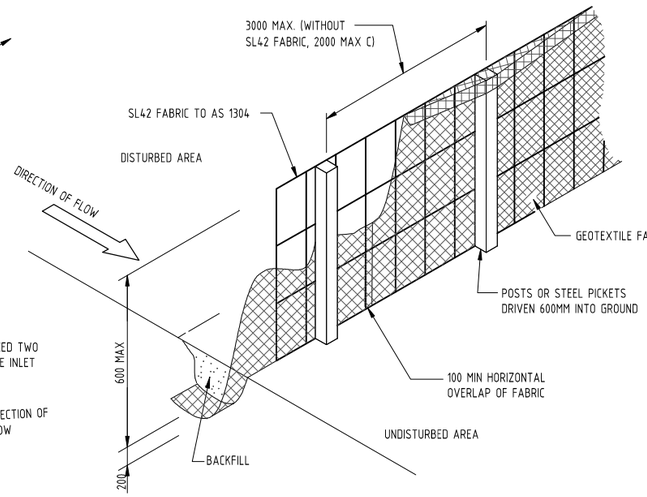


GULLY PIT SEDIMENT BARRIER
NTS

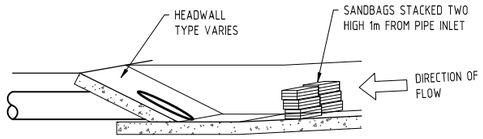


SEDIMENT FENCE - ALTERNATIVE 1
NTS

SEDIMENT FENCE - ALTERNATIVE 2
NTS



SEDIMENT FENCE DETAIL
NTS



HEADWALL INLET SEDIMENT PROTECTION
NTS

ISSUED FOR APPROVAL

Rev	Date	Description	By	Chk
01	05.05.21	ISSUED FOR APPROVAL	MD	DS

RPEQ CERTIFICATION
PROJECT NUMBER: 24792
PROJECT NAME: 48 VILLAGE BOULEVARD
DATE: 05.05.21
CERTIFIED BY: MICHAEL LEPELAAR
RPEQ NUMBER: 11171
SIGNATURE:

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BRISBANE / DARWIN / GOLD COAST / MELBOURNE / PERTH / SUNSHINE COAST / SYDNEY / TOOWOOMBA

Client	INFINITE AGED CARE (DEVELOPMENTS) PTY LTD
Project Name	48 VILLAGE BOULEVARD SOUTHPORT QLD 4215
Discipline	CIVIL
Designed By	LDV
Checked By	DS
Approved By	ML
Project No.	24792
Drawn By	MD
Scale at A1	
Status	APPROVAL
Title	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
Drawing No.	C11
Revision	01

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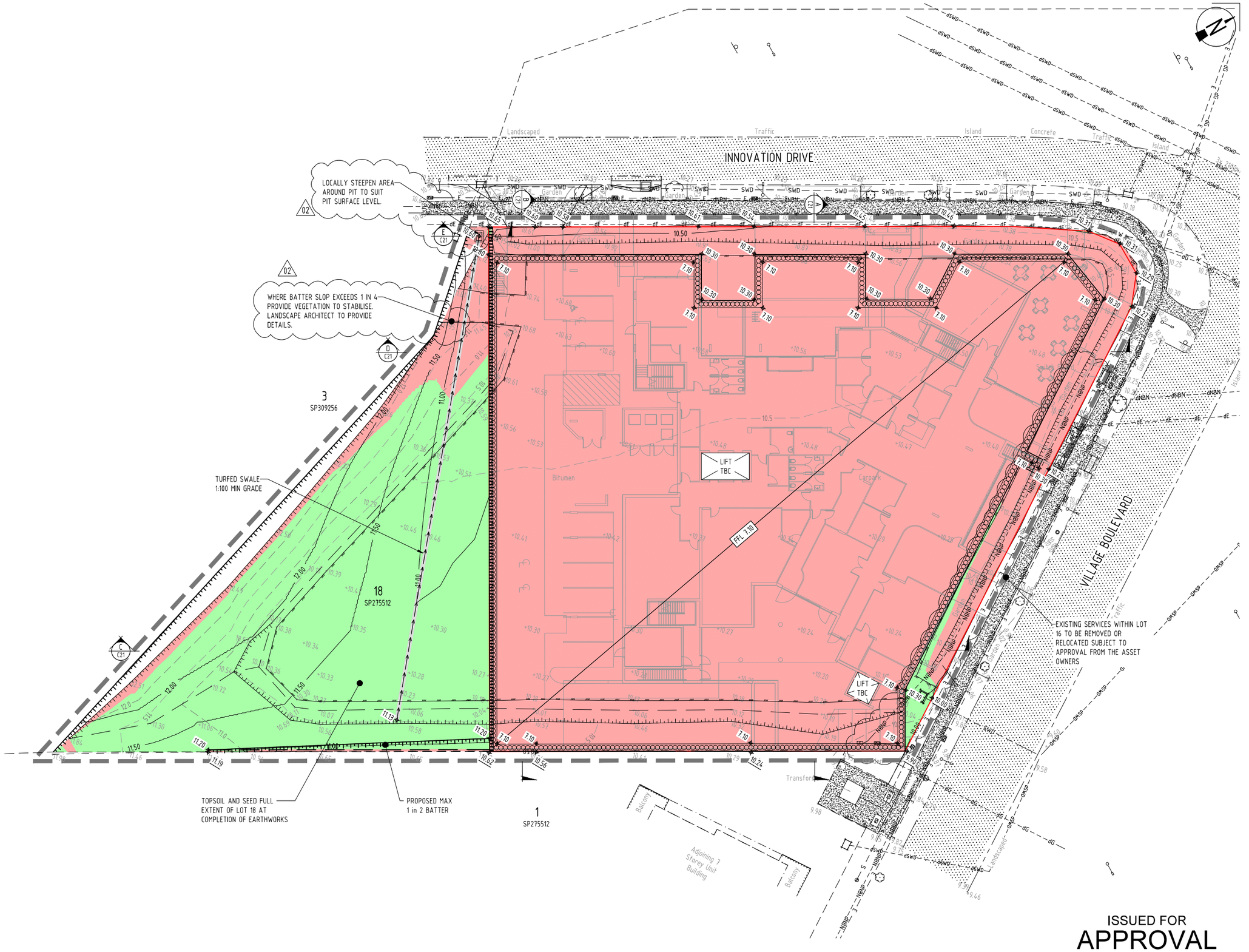
Do not scale drawings. If in doubt, ask!

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

PLOT DATE: 5/5/2021 5:13 PM FILENAME: J:\24000\24792\CVL\DWG\24792_C11_EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.DWG

LEGEND

- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING SURFACE CONTOURS (10.50)
- EARTHWORKS CONTOURS (10.30)
- EXISTING SURFACE LEVEL (10.42)
- FINISHED SURFACE LEVEL (7.10)
- EXISTING NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN LINE
- EXISTING ROAD CENTERLINE
- EXISTING EDGE OF BUILDING
- EXISTING EDGE OF BUILDING EAVE
- GRADE CHANGE
- EXISTING STORMWATER DRAINAGE (SWD)
- EXISTING STORMWATER DRAINAGE (RECORDS) (dSWD)
- EXISTING SEWER (S)
- EXISTING SEWER (RECORDS) (dS)
- EXISTING WATER (W)
- EXISTING WATER (RECORDS) (dW)
- EXISTING UNDERGROUND ELECTRICITY (E)
- EXISTING UNDERGROUND ELECTRICITY (RECORDS) (dE)
- EXISTING OVERHEAD ELECTRICITY (OE)
- EXISTING GAS (G)
- EXISTING GAS (RECORDS) (dG)
- EXISTING NBN (NBN)
- EXISTING NBN (RECORDS) (dNBN)
- EXISTING TELECOMMUNICATIONS (T)
- EXISTING TELECOMMUNICATIONS (RECORDS) (dT)
- EXISTING FIBER OPTIC (RECORDS) (dOF)
- EXISTING COMMUNICATIONS (C)
- EXISTING BATTER
- EXISTING FENCE
- PROPOSED SHORING SYSTEM REFER TO SPECIALISTS DRAWINGS FOR DETAILS
- PROPOSED RETAINING WALL
- PROPOSED BATTER
- LIMIT OF WORKS
- BUILDING OUTLINE
- PROPOSED SWALE (TURFED)
- PROPOSED EARTHWORKS PAD
- EXISTING ROAD
- PROPOSED EARTHWORKS CUT
- PROPOSED EARTHWORKS FILL



NOTE

FOR NOTES AND SITE SECTIONS REFER DRG No. C21

BASEMENT EXCAVATION

CUT TO SPOIL: NO STOCKPILE OF SOILS IS ALLOWED FOR. ALL EXCAVATION IS TO BE TAKEN OFF SITE AND DISPOSED IMMEDIATELY U.N.O.

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
02	08.09.21	ISSUED FOR APPROVAL	LDV	DS
01	05.05.21	ISSUED FOR APPROVAL	MD	DS

RPEQ CERTIFICATION
PROJECT NUMBER: 24792
PROJECT NAME: 48 VILLAGE BOULEVARD
DATE: 08.09.21
CERTIFIED BY: MICHAEL LEPELAAR
RPEQ NUMBER: 11171
SIGNATURE:

0 2 4 6 8 10m
SCALE 1:200
AT ORIGINAL SIZE (A1)

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Client: INFINITE AGED CARE (DEVELOPMENTS) PTY LTD
Project Name: 48 VILLAGE BOULEVARD SOUTHPORT QLD 4215
Discipline: CIVIL
Status: APPROVAL
Designed By: LDV
Checked By: DS
Approved By: ML
Project No.: 24792
Drawn By: MD
Scale at A1: 1:200

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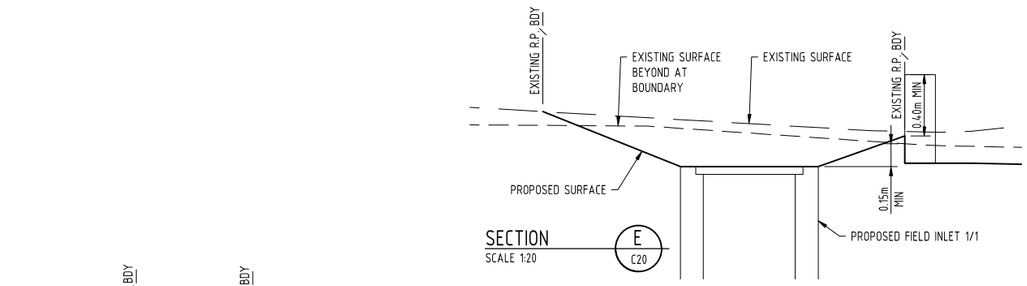
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Drawing No.: C20
Revision: 02

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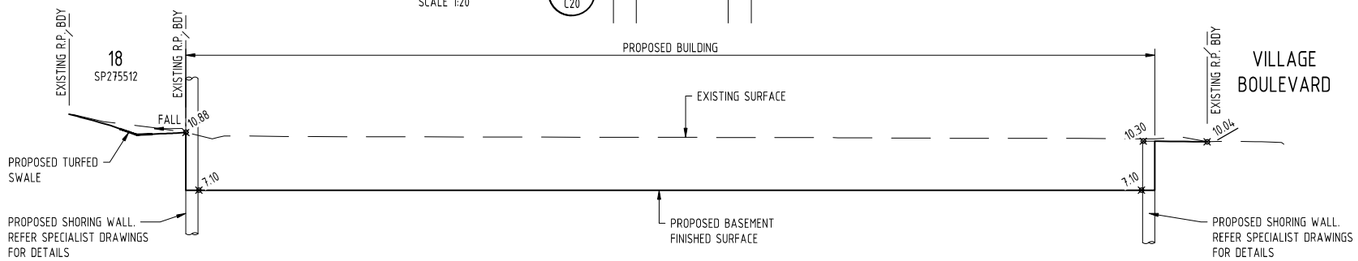
PLOT DATE: 9/8/2021 8:02 AM FILENAME: J:\24000\24792\CVL\DWG\24792_C20_EARTHWORKS LAYOUT PLAN.DWG

EARTHWORKS NOTES

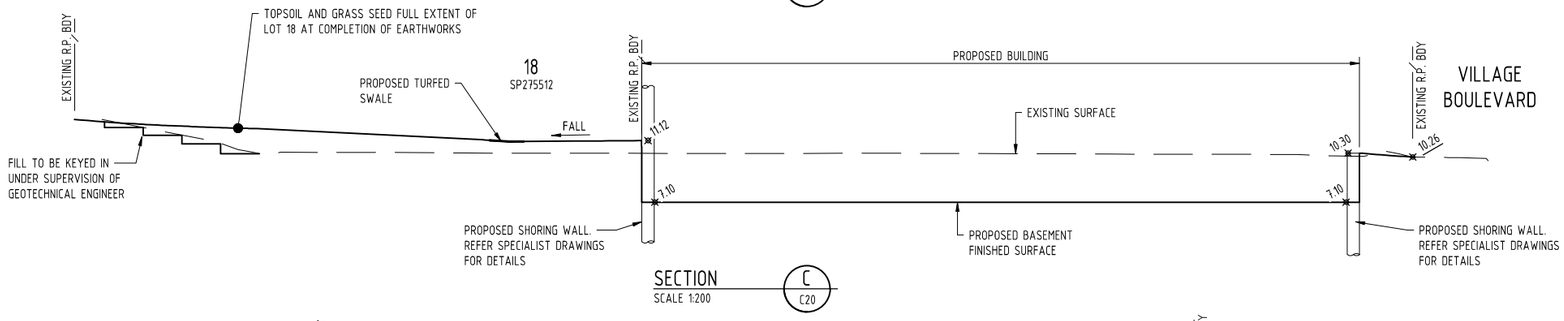
1. FOR GENERAL NOTES REFER DRG No. C01, WHICH IS TO BE REQUESTED AND VIEWED PRIOR TO COMMENCEMENT OF CONSTRUCTION IF NOT SUPPLIED.
2. GRASS AND TOPSOIL SHALL BE STRIPPED TO A MINIMUM DEPTH OF 100MM OVER THE EXTENT OF THE WORKS UNLESS DIRECTED OTHERWISE AND STOCKPILED FOR FUTURE USE AS NON-STRUCTURAL FILL IF REQUIRED, OR REMOVE FROM SITE.
3. CONTRACTOR TO ALLOW FOR ALL COSTS ASSOCIATED WITH ROCK EXCAVATION WITHIN CONTRACT RATES.
4. COMPACT THE EXPOSED SUBGRADE OR LOOSE TOP LEVEL MATERIAL TO A MINIMUM 98% STANDARD MAXIMUM DRY DENSITY TO AS1289 5.1.1. ANY 'SOFT SPOTS' IDENTIFIED BY THE PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH A COMPACTED IMPORTED GENERAL FILL MATERIAL TO THE ABOVE COMPACTION REQUIREMENTS.
5. IMPORTED GENERAL FILL MATERIAL SHALL BE SUPPLIED AND COMPACTED WHERE NECESSARY TO OBTAIN SUBGRADE/PLATFORM LEVEL. IMPORTED GENERAL FILL MATERIAL SHALL BE CLEAN GRADED MATERIAL FREE OF ORGANIC MATTER AND STONES GREATER THAN 150mm AND CAPABLE OF BEING COMPACTED INTO COHERENT FILLING TO THE SPECIFIED STANDARD. THE MATERIAL SHALL HAVE A LINEAR SHRINKAGE NOT GREATER THAN 1.5% AND A MINIMUM C.B.R. OF 10%.
6. ANY PROPOSED RETAINING WALL WORKS MUST BE WHOLLY WITHIN THE PROPERTY BOUNDARY OF THE SUBJECT SITE, INCLUDING REAR OF RETAINING WALL DRAINAGE INFRASTRUCTURE FOR RETAINING WALLS IN CUT.
7. REFER ARCHITECT/LANDSCAPE ARCHITECT DRAWINGS FOR CONFIRMATION OF RETAINING WALL COLOUR AND FINISH.
8. ALL RETAINING WALL STRUCTURAL DESIGN AND CONSTRUCTION CERTIFICATION BY MANUFACTURER / INSTALLER.
9. ALL EARTHWORKS OPERATIONS SHALL BE CARRIED OUT WITH 'LEVEL 1' SOIL ENGINEERING SUPERVISION IN ACCORDANCE WITH APPENDIX B OF AS 3798. THE NOMINATED GEOTECHNICAL TESTING AUTHORITY SHALL PROVIDE CERTIFICATION THAT ALL GENERAL EARTHWORKS OPERATIONS HAVE BEEN CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AND THE CONTROLLED FILL IS SUITABLE FOR PURPOSE WITH A MINIMUM 150KPA BEARING CAPACITY UNDER THE PLATFORM/STRUCTURES.
10. ALL EARTHWORKS FILL AND EXCAVATED AREAS SHALL BE COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY (AS 1289 5.1.1) IN LAYERS NOT EXCEEDING 150MM COMPACTED THICKNESS.
11. THE NOMINATED GEOTECHNICAL TESTING AUTHORITY SHALL PROVIDE CERTIFICATION THAT ALL GENERAL EARTHWORKS OPERATIONS HAVE BEEN CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS.
12. CONTRACTOR TO UNDERTAKE ALL EARTHWORKS TESTING TO COMPLY WITH THE PROJECT SPECIFICATION AND LOCAL AUTHORITY REQUIREMENTS.
13. FINISHED SURFACES TO ALL DISTURBED AREAS ARE TO BE TREATED IN ACCORDANCE WITH LANDSCAPE DRAWINGS.
14. FINISHED EARTHWORKS SURFACES TO BE STABILISED.
15. ALL EARTHWORKS TO BE CARRIED OUT AT +/- 2% OPTIMUM MOISTURE CONTENT.
16. ALL NEW WORKS TO MATCH NEATLY INTO EXISTING
17. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH APPROVED MANAGEMENT PLANS.
18. CONTRACTOR TO ENSURE SUITABLE EROSION CONTROL MEASURES ARE INSTALLED INCLUDING BUT NOT LIMITED TO SHAKE DOWNS, SILT FENCE ETC.
19. ADEQUATE SAFETY FENCING/BARRIERS TO BE APPLIED TO ALL BATTERS OR RETAINING WALLS (TEMPORARY OR PERMANENT) AS PER RELEVANT AUSTRALIAN STANDARDS AND LEGISLATION.
20. DUST CONTROL MEASURES ARE TO INCLUDE SPRAYING WATER ON UNPAVED ROADS, ACCESS TRACKS AND STOCKPILES AT A SUFFICIENT LEVEL TO SUPPRESS DUST GENERATION. ADDITIONALLY CONTRACTORS ARE TO COVER OR ENCLOSE STOCKPILES WHERE REASONABLY PRACTICAL TO RESTRICT DUST MOVEMENT.
21. PRIOR TO THE CONTRACTOR COMMENCING ANY WORKS DETAILED ON THIS DRAWING, THE CONTRACTOR IS TO NOTIFY ADG ENGINEERS (AUST) PTY LTD AND RECEIVE WRITTEN CONFIRMATION THAT WORKS CAN COMMENCE
22. ALL BATTERS TO BE KEYED/STEPPED INTO EXISTING MATERIAL AS DIRECTED BY GEOTECHNICAL ENGINEER. CONTRACTOR TO ALLOW FOR ALL KEYING/STEPPING AS REQUIRED.
23. ALL TEMPORARY AND FINAL BATTER SLOPES ARE TO BE INSPECTED AND APPROVED BY GEOTECHNICAL ENGINEER. CERTIFICATION OF LONG TERM STABILITY TO BE PROVIDED BY GEOTECHNICAL ENGINEER PRIOR TO PRACTICAL COMPLETION.
24. CONTRACTOR'S RPEQ GEOTECHNICAL ENGINEER IS TO CONFIRM THAT ALL CONSTRUCTED CUT/FILL BATTERS AND RETAINING STRUCTURES ON THE SITE HAVE ACHIEVED ADEQUATE STABILITY WITH A LONG-TERM FACTOR OF SAFETY GREATER THAN OR EQUAL TO 1.5 AGAINST GEOTECHNICAL FAILURES.
25. EARTHWORKS LEVELS SHOWN ARE FINISHED SURFACE LEVELS INCLUSIVE OF TOPSOIL LAYER, CARPARK LEVELS ETC. REFER STRUCTURAL ENGINEERING DRAWINGS FOR BUILDING SLAB THICKNESSES AND HYDRAULIC DRAWINGS FOR SUB-FLOOR DRAINAGE FOR DETERMINATION OF REQUIRED BULK EARTHWORKS SURFACE.
26. EARTHWORKS LEVELS SHOWN ARE FINISHED SURFACE LEVELS INCLUSIVE OF 100mm TOPSOIL LAYER.
27. REFER ARCHITECTURAL DRAWINGS FOR BUILDING SETOUT.



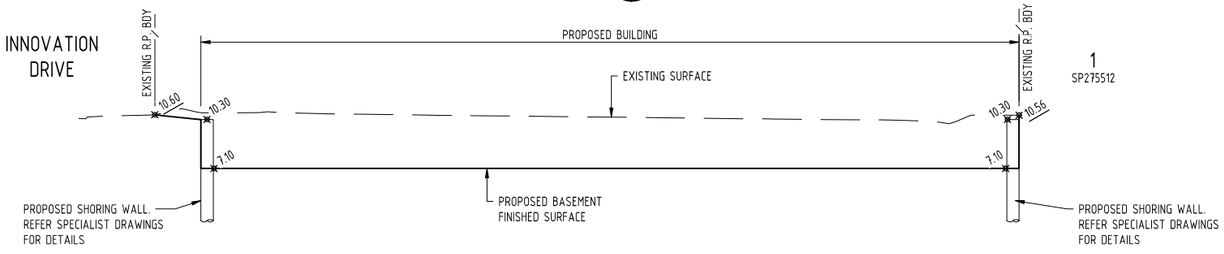
SECTION E
SCALE 1:20
C20



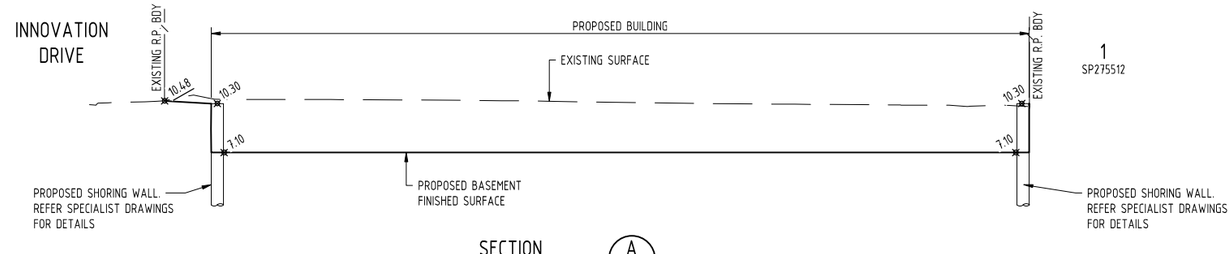
SECTION D
SCALE 1:200
C20



SECTION C
SCALE 1:200
C20



SECTION B
SCALE 1:200
C20



SECTION A
SCALE 1:200
C20

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
02	08.09.21	ISSUED FOR APPROVAL	LDV	DS
01	05.05.21	ISSUED FOR APPROVAL	MD	DS

RPEQ CERTIFICATION
PROJECT NUMBER: 24792
PROJECT NAME: 48 VILLAGE BOULEVARD
DATE: 08.09.21
CERTIFIED BY: MICHAEL LEPELAAR
RPEQ NUMBER: 11171
SIGNATURE:

0 0.5 1m
SCALE 1:20
AT ORIGINAL SIZE (A1)

0 2 4 6 8 10m
SCALE 1:200
AT ORIGINAL SIZE (A1)

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BRISBANE / DARWIN / GOLD COAST / MELBOURNE / PERTH / SUNSHINE COAST / SYDNEY / TOOWOOMBA

Client	INFINITE AGED CARE (DEVELOPMENTS) PTY LTD
Project Name	48 VILLAGE BOULEVARD SOUTHPORT QLD 4215
Discipline	CIVIL
Status	APPROVAL
Designed By	LDV
Checked By	DS
Approved By	ML
Project No.	24792
Drawn By	MD
Scale at A1	1:200

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Title: EARTHWORKS NOTES AND SITE SECTIONS
Drawing No.: C21
Revision: 02

PLOT DATE: 9/8/2021 5:40 PM FILENAME: J:\24000\24792\CVL\DWG\24792_C21_EARTHWORKS NOTES AND SITE SECTIONS.DWG

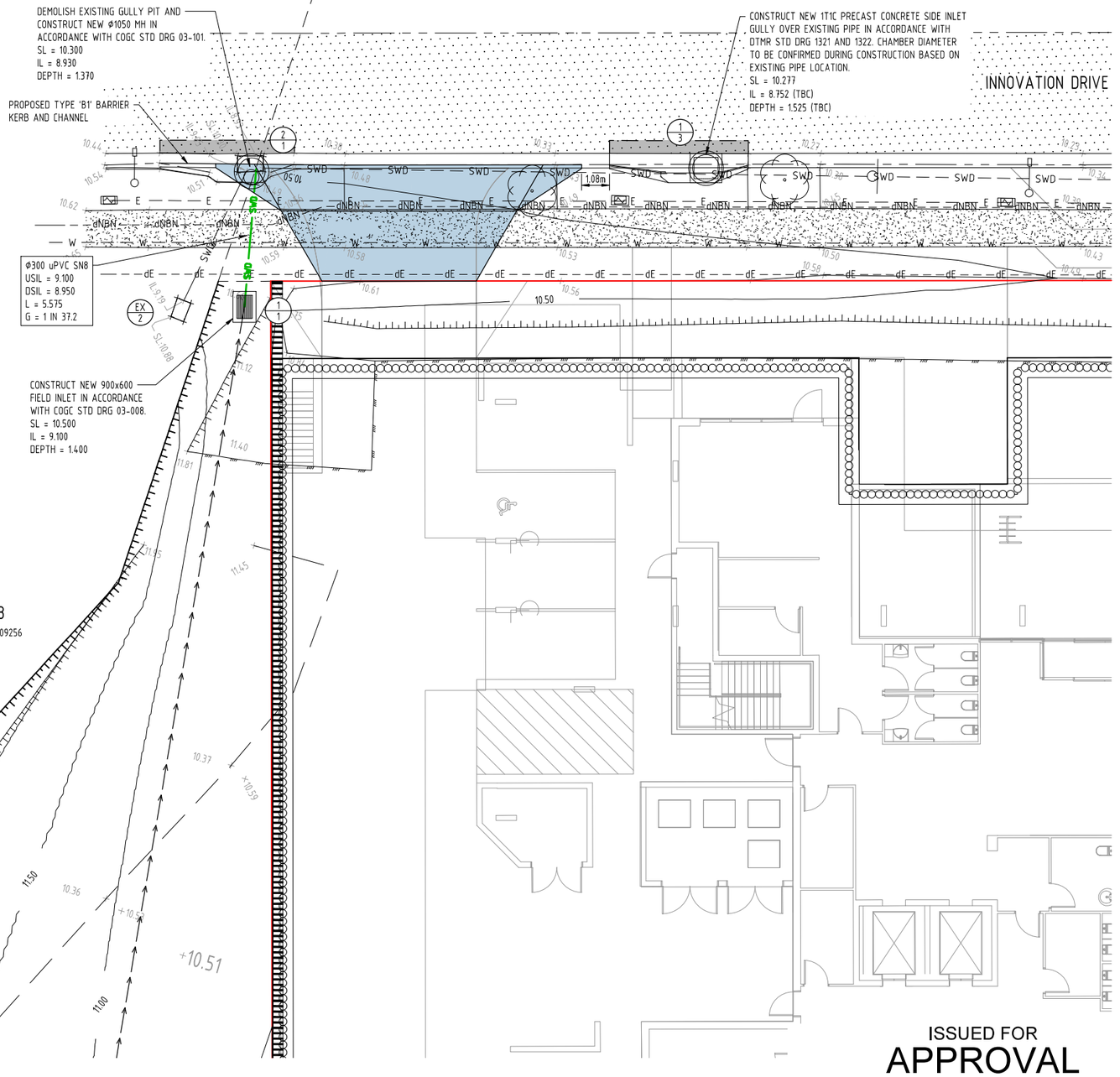
FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

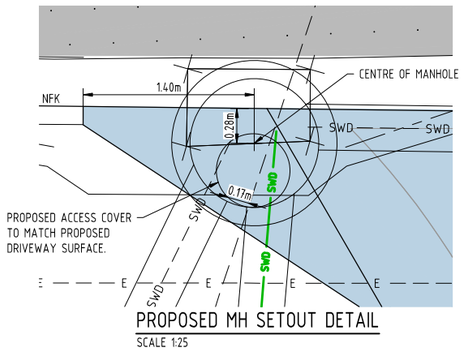
LEGEND

- 12.0 — FINISHED SURFACE CONTOURS
- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN LINE
- EXISTING ROAD CENTERLINE
- EXISTING EDGE OF BUILDING
- EXISTING EDGE OF BUILDING EAVE
- GRADE CHANGE
- SWD — EXISTING STORMWATER DRAINAGE
- dSWD — EXISTING STORMWATER DRAINAGE (RECORDS)
- S — EXISTING SEWER
- dS — EXISTING SEWER (RECORDS)
- W — EXISTING WATER
- dW — EXISTING WATER (RECORDS)
- E — EXISTING UNDERGROUND ELECTRICITY
- dE — EXISTING UNDERGROUND ELECTRICITY (RECORDS)
- OE — EXISTING OVERHEAD ELECTRICITY
- G — EXISTING GAS
- dG — EXISTING GAS (RECORDS)
- NBN — EXISTING NBN
- dNBN — EXISTING NBN (RECORDS)
- T — EXISTING TELECOMMUNICATIONS
- dT — EXISTING TELECOMMUNICATIONS (RECORDS)
- dOF — EXISTING FIBER OPTIC (RECORDS)
- C — EXISTING COMMUNICATIONS
- EXISTING BATTER
- EXISTING FENCE
- PROPOSED SHORING SYSTEM REFER TO SPECIALISTS DRAWINGS FOR DETAILS
- PROPOSED RETAINING WALL
- LIMIT OF WORKS
- PROPOSED TURF SWALE TYPE AND SIZE VARIES
- SWD — PROPOSED STORMWATER DRAINAGE
- S — PROPOSED SEWER
- W — PROPOSED WATER MAIN
- B1 — PROPOSED 'TYPE B1' KERB AND CHANNEL IN ACCORDANCE WITH IPWEAQ STD DRG RS-080
- 1/1 — DRAINAGE STRUCTURE LABEL
- EXISTING ROAD
- PROPOSED ROAD PAVEMENT REINSTATEMENT IN ACCORDANCE WITH IPWEAQ STD DRG RS-170.
- PROPOSED TYPE 'GENERAL WIDE FLARED' DRIVEWAY CROSSOVER IN ACCORDANCE WITH IPWEAQ STD DRG. RS-051.

ROADWORKS AND DRAINAGE NOTES

1. FOR GENERAL NOTES REFER DRG No. C01, WHICH IS TO BE REQUESTED AND VIEWED PRIOR TO COMMENCEMENT OF CONSTRUCTION IF NOT SUPPLIED.
2. REFER HYDRAULIC DRAWINGS FOR BASEMENT, ROOF AND UPPER LEVEL TERRACES DRAINAGE.
3. ALL ROADWORKS AND DRAINAGE (EXTERNAL TO SITE BOUNDARIES AND/OR COUNCIL OWNED DRAINAGE PIPES INTERNAL TO THE SITE BOUNDARIES) CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH CITY OF GOLD COAST COUNCIL DEVELOPMENT GUIDELINES, DRAWINGS AND SPECIFICATIONS.
4. ALL DRAINAGE CONSTRUCTION (PRIVATELY OWNED DRAINAGE LINES INTERNAL TO THE SITE BOUNDARIES) CONSTRUCTED AND TESTED TO BE IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
5. ALL STORMWATER PIPES ARE TO BE MANUFACTURED TO RELEVANT AUSTRALIAN STANDARDS INCLUDING BUT NOT LIMITED TO AS4058 AND AS1992.
6. STORMWATER DRAINAGE AND STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ONLY. CONTRACTOR TO CONSIDER CONSTRUCTION LOADINGS AND ENSURE NO EXCESSIVE LOADS ARE PLACED ON STORMWATER DRAINAGE OR STRUCTURES.
7. CONTRACTOR TO CONFIRM LOCATION AND LEVEL OF EXISTING STORMWATER DRAINAGE WHERE CONNECTING ON TO EXISTING.
8. CONTRACTOR TO NOTIFY THE SUPERINTENDENT OF ANY UNSUITABLE FOUNDING MATERIAL WITHIN DRAINAGE TRENCH OR STORMWATER STRUCTURES AND AWAIT DIRECTION PRIOR TO LAYING OF PIPES.
9. TRENCH BACKFILL UNDER PAVEMENT TO BE COMPACTED TO 100% STANDARD DRY DENSITY (AS1289 5.1.1) IN LAYERS NOT EXCEEDING 150mm OF CBR 15 MATERIAL OR APPROVED EQUIVALENT. TRENCH BACKFILL IN ROADS TO BE MINIMUM CBR15 MATERIAL UP TO ROAD SUBGRADE LEVEL.
10. ALL STORMWATER GRATES/LIDS WITHIN TRAFFICABLE AREAS TO BE CLASS "D" IN ACCORDANCE WITH AS3996.
11. ALL GRATES AND LIDS SHALL SIT FLAT WITH ITS SURROUND AND NOT BE LOOSE OR MOVE UNDER WHEEL LOADS.
12. ALL STORMWATER STRUCTURES TO BE CONSTRUCTED IN ACCORDANCE WITH PROJECT SPECIFICATION, AND LOCAL AUTHORITY GUIDELINES AND SPECIFICATIONS. WHERE STRUCTURES EXCEED MAXIMUM DEPTH AS IDENTIFIED WITHIN STANDARD DRAWINGS THE CONTRACTOR WILL ENSURE AN ADEQUATE STRUCTURAL DESIGN IS UNDERTAKEN FOR THE SUBJECT STRUCTURE TO BE CONSTRUCTED TO.
13. CONTRACTOR TO ENSURE ALL MANHOLE STRUCTURES COMPLY WITH THE MAXIMUM DEPTH SPECIFIED IN THE PROJECT SPECIFICATION OR LOCAL AUTHORITY FROM FINISHED SURFACE LEVEL TO UNDERSIDE OF ROOF SLAB. ANY NON CONFORMANCE IS TO BE RECTIFIED AT THE CONTRACTORS EXPENSE.
14. ALL FOOTPATHS TO BE CONSTRUCTED IN ACCORDANCE WITH ARCHITECTURAL/LANDSCAPING DRAWINGS AND RELEVANT AUTHORITY STANDARD DRAWINGS AND SPECIFICATIONS. FOOTPATHS TO BE CONSTRUCTED WITH MAXIMUM 2% CROSSFALL. SHOULD CONSTRUCTED FOOTPATHS EXCEED 2.5% CROSSFALL, THE CONTRACTOR WILL BE REQUIRED TO RECTIFY BY REMOVING AND REPLACING AT THEIR COST.
15. THE CONTRACTOR IS TO CONFIRM THE LOCATION OF SERVICE CONDUITS WITH THE SUPERINTENDENT PRIOR TO LAYING STORMWATER DRAINAGE. ALL TRENCH EXCAVATION AND CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT 2011.
16. REMOVE ANY REDUNDANT DRAINAGE OUTLETS FROM THE KERB AND CHANNEL INCLUDING ANY ASSOCIATED PIPEWORK ACROSS THE FOOTWAY AND REINSTATE THE KERB AND CHANNEL AND THE FOOTWAY AREA IN ACCORDANCE WITH COUNCIL GUIDELINES.
17. ALL STORMWATER PITS TO BE LINEMARKED "FLOWS TO CREEK".
18. CONTRACTOR TO UNDERTAKE ROADWORKS TESTING IN ACCORDANCE WITH COGC GUIDELINES, DRAWINGS AND SPECIFICATIONS.
19. CONTRACTOR TO UNDERTAKE AND PROVIDE CCTV OF ALL STORMWATER LINES AT ON MAINTENANCE AND OFF MAINTENANCE. SHOULD THE CCTV IDENTIFY DAMAGE OR CRACKING WITHIN THE STORMWATER PIPES, THE CONTRACTOR WILL RECTIFY THE DAMAGE WITHIN THE PIPES BY MEANS DIRECTED BY THE SUPERINTENDENT WHICH MAY INCLUDE BUT NOT BE LIMITED TO PIPE RELINING OR PIPE REPLACEMENT.





PROPOSED MH SETOUT DETAIL
SCALE 1:25

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
01	08.09.21	ISSUED FOR APPROVAL	LDV	DS

RPEQ CERTIFICATION
PROJECT NUMBER: 24792
PROJECT NAME: 48 VILLAGE BOULEVARD
DATE: 08.09.21
CERTIFIED BY: MICHAEL LEPELAAR
RPEQ NUMBER: 11171
SIGNATURE:

0 1 2 3 4 5m
SCALE 1:100
AT ORIGINAL SIZE (A1)

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Client: INFINITE AGED CARE (DEVELOPMENTS) PTY LTD	Discipline: CIVIL		Status: APPROVAL
Project Name: LUMINA SOUTHPORT 48 VILLAGE BOULEVARD SOUTHPORT, QLD 4215	Designed By: LDV	Checked By: DS	Approved By: ML
	Project No.: 24792	Drawn By: LDV	Scale at A1: 1:100

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Title: ROADWORK AND DRAINAGE LAYOUT PLAN

Drawing No.: C30 Revision: 01

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

PLOT DATE: 9/8/2021 8:02 AM FILENAME: J:\24000\24792\CVL\DWG\24792_C30_ROADWORK AND DRAINAGE LAYOUT PLAN.DWG

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AS/NZS 4801 Safety Management
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