Site Based Stormwater Management Plan (SBSMP)

Prepared for: JGL Properties c/o Bennett and Associates Pty Ltd

Attention: Bill Bennet

Date: 16/08/2022

Prepared by: Heath Siely

Ref: 301050318-BRI-C-SBSMP

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PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2022/1331

Date: 1 June 2023

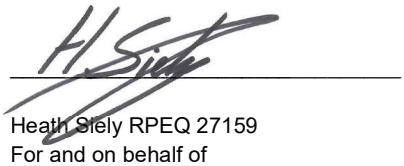
Queensland Government

Stantec

Revision

Revision	Date	Comment	Prepared By	Approved By
A	16/08/2022	SBSMP – DA Issue	HS	HS

Site Address: Proposed Lots 6, 10, 21 & 22 on Drawing No:18-0765P-02 Version N Sheet 2 of 2 dated 12 November 2021, Part of 70 Park Road, Yeronga
Real Property Description: Part of Lot 3 on SP300888
Proposed Development: 37 residential dwelling houses
Client: JGL Properties
Local Authority: Economic Development Queensland PDA Area within Brisbane City Council
Authority Reference #: N/A
Stantec Reference: 301050318-BRI-C



Heath Siely RPEQ 27159
For and on behalf of
Stantec Pty Ltd

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1. Introduction

Stantec have been commissioned by JGL Properties to prepare this Site Based Stormwater Management Plan (SBSMP) for the proposed residential development. The development is proposed to be situated over part of 70 Park Road, Yeronga. The Parent Lot's Real Property Description is Lot 3 on SP300888, noting that the parent lot is subject to a Reconfiguration of Lot to create separately titled lots. The lots created for the JGL development is described by the metes and bounds as proposed Lots 6, 10, 21 & 22 on Drawing No:18-0765P-02 Version N Sheet 2 of 2 dated 12 November 2021 (Refer Appendix A).

This SBSMP outlines the stormwater servicing strategy to support the Development Application for the proposed residential development being lodged with Economic Development Queensland (EDQ). The SBSMP will help guide the ultimate stormwater management design undertaken during the detailed design process for the Project.

This SBSMP has been informed by a variety of resources outlined below:

- Yeronga Priority Development Area Development Scheme (dated August 2019);
- Economic Development Queensland PDA Guideline No. 13 for *Engineering standards* (dated September 2017);
- Economic Development Queensland PDA Guideline No. 15 for *Protection from flood and storm tide inundation* (dated May 2015);
- EDQ Compliance Assessment documentation for Parkside Yeronga PDA:
  - Parkside Yeronga Site Based Stormwater Management Plan, prepared by Stantec (reference 301048272-RE-02_D, dated 8/07/2022);
  - Parkside Yeronga Flood Assessment, prepared by Water Technology (reference 22020120_Yeronga_PDA_R01-V02, dated 8/07/2022);
- BCC City Plan and associated interactive mapping showing zones and overlays;
- BCC Interactive Flood Awareness Map;
- Brisbane City Council Flood Check Property Reports; and
- Brisbane River Catchment Flood Study, as referenced in the Preliminary Approval documentation for Parkside Yeronga PDA.

The Parkside Yeronga Subdivision documentation has been attached in Appendix C.

The proposed development is to be assessed against the Yeronga Priority Development Area Development Scheme August 2019, unless amended by the Preliminary Approval Framework under Economic Development Queensland (EDQ) Development Application Ref: DEV2021/1221. The Preliminary Approval Framework (DEV2021/1221) is currently under assessment by EDQ and the Public Notification Stage has been completed. It is anticipated that the Preliminary Approval will be approved generally in the form publicly advertised.

1.1 Purpose

The purpose of this SBSMP is to evaluate the quantity and quality of stormwater associated with the proposed development so as to demonstrate to EDQ that an appropriate stormwater management strategy can be accommodated upon completion of the proposed facility.

The SBSMP specifically addresses the following items for both the construction and operational phases of the development:

- Flooding or overland flow impacts are appropriately addressed and/or mitigated within the proposed development,
- If required, an appropriate stormwater quality management strategy can be implemented/ has been designed that meets Water Sensitive Urban Design (WSUD) best management practices, state and local government planning and guideline requirements,
- If required, an appropriate stormwater quantity management strategy can be implemented/ has been designed to that ensure that the developed site's stormwater runoff meets Council requirements, and
- Maintenance of any water quality treatment devices incorporated within the stormwater strategy.

2. Existing Site Characteristics

2.1 Property Details

Address:	Proposed Lot 6 on Drawing No:18-0765P-02 Version N Sheet 2 of 2 dated 12 November 2021, Part of 70 Park Road, Yeronga
Real Property Description:	Part of Lot 3 SP300888 (noting a subdivision is proposed)
Proposed Lots in Subdivision:	Future Lots 6, 10, 21 & 22
Total Site Area:	3.12300 Ha (Parent Lot)
Subject Application Area:	0.8297 Ha (combined total of proposed Lots 6, 10, 21 & 22)

The proposed future development Lots are included within parent Lot 3 (on SP300888), which forms The Parkside Yeronga Priority Development Area (PDA). There is an approved Development Approval for the PDA site for a Material Change of Use and Reconfiguration of a Lot Applications. The proposed residential dwellings developed by JGL are to be located on Lots 6,10 21 & 22 – refer to Figure 1 below.

Based on the approved Parkside Yeronga PDA Masterplan, the future land uses surrounding the Lots 6, 10, 21 & 22 generally incorporate Public Open Space and Stormwater Infrastructure to the North (Lots 4 & 5), future Retirement Facility and Aged Care Living (Lot 7) Park Road, Commercial / Health Care & Community Centre (Stage 1) and the Yeronga State School to the East (outside of the parent Lot).



Figure 1 – Site Location Aerial (Source: Nearmap, dated 24 January 2022)

2.2 Existing Site Conditions

The proposed site originally formed part of the Yeronga TAFE site until it closed in 2010. All former TAFE buildings and driveways were cleared by late-2019, leaving the parent lot in its current form as vacant land. Based on Nearmap imagery, the ground surface is generally stabilised by a combination of existing vegetation which has remained post-demolition activities, grass cover spreading over the site and a polymer surface binder. The contour levels used within the Lot 6, 10, 21 & 22 areas to inform the engineering strategy within this report has been based on the Yeronga PDA Compliance Assessment Response Supporting Civil Drawings established by Stantec dated 8/07/2022 – refer to Appendix C.

2.3 Proposed Development

Given the separately titled lots for the JGL developments will be created under the Parkside Yeronga PDA, this DA application seeks approval for;

- Material Change of Use for Dwelling Houses (37 individual dwellings); and
- Reconfiguration of a Lot - Future 4 Lots into 40 Lots involving;
    - Stage 1 (Lot 21) - 12 Standard Format Lots
    - Stage 2 (Lot 22) - Community Management scheme comprising 5 Standard Format Lots plus common property;
    - Stage 3 (Lot 10) - Community Management scheme 14 Standard Format Lots plus common property; and
    - Stage 4 (Lot 6) - Community Management scheme 6 Standard Format Lots plus common property.

The proposed development layout can be seen in Appendix A.

Under the proposed Parkside Yeronga PDA Development Scheme, the proposed use of a residential (multi dwelling) development is deemed to be preferred land uses for Lots 6, 10, 21 & 22.

2.4 Topography

The Parkside Yeronga PDA Compliance Assessment response - Supporting Civil Drawings (Refer Appendix C) will form the basis of assumption of the 'existing' surface levels of the areas within and immediately adjacent to Lots 6, 10, 21 & 22 only.

STAGE 1 – LOT 21

The cut and fill profile noted within the concept plans generally reflect the proposed finished floor level of each dwelling, the driveway levels, a retaining solution between dwellings 4 & 5 and 12 & 13 and a resultant batter to the property boundary. Until such time as the Parkside Yeronga PDA earthworks levels and property boundary positions have been finalised, design refinement is expected within Lot 21.

STAGE 2 – LOT 22

The cut and fill profile noted within the concept plans reflect the proposed finished floor level of each dwelling, shared driveway levels and a resultant batter to the property boundary. Until such time as the Parkside Yeronga PDA earthworks levels and property boundary positions have been finalised and the proposed adjacent development in Lot 3 becomes further defined, design refinement is expected to occur within Lot 22.

STAGE 3 – LOT 10

The cut and fill profile noted within the concept plans reflect the proposed finished floor level of each dwelling, shared driveway levels, a retaining solution along the eastern boundary (which interfaces with the overland flow channel) and a resultant batter to the property boundary. Until such time as the Parkside Yeronga PDA earthworks levels and property boundary positions have been finalised and the proposed adjacent developments in Lots 7 & 11 becomes further defined, design refinement is expected to occur within Lot 10.

STAGE 4 – LOT 6

The cut and fill profile noted within the concept plans generally reflect the proposed finished floor level of each dwelling, the driveway levels and a (tiered) earth retaining solution along the Northern, Eastern, and Western boundaries. Any retaining walls proposed as part of the development will be contained fully within the Lot and owned and maintained by Lot 6. The tiering configuration of the retaining walls along the Northern boundary are shown within the architectural plans refer to Appendix A, and generally achieve a 1H:1V tiered ratio. Until such time as the Parkside Yeronga PDA earthworks levels and property boundary positions have been finalised and the adjacent development in Lots 7 becomes further defined, design refinement is expected in Lot 6.

3. Requirements

There is a requirement that stormwater strategies prepared for development purposes provide for the achievement of best practice water quality performance objectives. This requires the use of stormwater treatment measures that improve the quality and reduce the flow of water discharged to waterways. Pollution reduction targets, as detailed in the State Planning Policy (July 2017) are outlined in Table 1 below.

The table also outlines the proposed stormwater quantity design level of serviceability that will be provided within the stormwater drainage system as per guidance within the Yeronga PDA Development Scheme, BCC City Plan, the relevant Australian Standard (AS3500.3), and the Queensland Urban Drainage Manual (2016).

Table 1 – Stormwater Quality and Quantity Targets

Pollutant	Pollution Reduction Target
Total Suspended Solids (TSS)	80%
Total Phosphorous (TP)	60%
Total Nitrogen (TN)	45%
Total Gross Pollutants >5mm (GP)	90%
Quantity Design Storm	**AEP**
Minor Design storm	5% AEP
Major Design storm	1% AEP
Stormwater Detention	1% AEP

4. Flooding / Overland Flow Impacts

4.1 Known Existing Flooding/ Overland Flow Paths

BCC Interactive Mapping 2014, BCC Interactive Flood Awareness Map (refer Figure 2 for an extract of the mapping) and Floodwise property searches indicate that the subject site is currently affected by inundation associated with Brisbane River flooding and overland flow paths. However, it should be noted that the extent of this mapping reflects the site levels defined as the existing case, being the operational Yeronga TAFE facility, and not the levels proposed at the completion of the PDA subdivision bulk earthworks.

Refer to Appendix B for the BCC Floodwise Property Report.

It is noted that the 1% AEP flood event level is defined as RL8.3mAHD. The overlay mapping (shown in Figure 2 below) relating to the flooding affecting the Yeronga PDA site is defined as Flood Planning Area 5 in the BCC Interactive Mapping and the 0.2% AEP (1 in 500 year event) in the BCC Flood Awareness mapping. As referenced in Section 2.3, the proposed development usage for the JGL lots is residential (multiple dwellings), which is a compatible land use type under Flood Planning Area 5, as defined in Table 8.2.11.3.C within the BCC City Plan 2014.

The Parkside Yeronga SBSMP contained within the EDQ Compliance Assessment response documentation, nominates that the 0.2% AEP river flooding approximately correlates to RL11mAHD. The proposed Parkside Yeronga PDA development is proposed to be filled above this height during the subdivision development stage, with flood storage maintained at the Northern area by completing compensatory cut/fill activities.

Given the proposed subdivision earthworks levels, the proposed development levels of Lots 6, 10 21 & 22 and the connectivity of the underground stormwater drainage are cognisant of the 0.2% AEP flood event levels, it is not expected that flooding defined under Flood Planning Area 5, will impact the site.

As discussed in the SBSMP contained within the Parkside Yeronga PDA Compliance Assessment response, the existing overland flow path shown in the BCC Interactive Mapping will be addressed at the PDA subdivision level, with the construction of an overland flow channel running along the Eastern side of the parent lot boundary (and subsequent Eastern boundary of proposed Lot 6, 7 & 10) and the upgrading the underground stormwater pipe network from Villa Street through to the rail corridor culvert.

The design of this overland flow channel is such that its formation caters for all events up to and including the 1% AEP storm with a minimum of 300mm freeboard, including sensitivity analysis regarding the extent of upstream blockage of pits within Villa Street. As such, Lots 6 & 10 will not be impacted by this overland flow. It should be noted that the development floor levels will be well above the indicative 1% AEP water surface level within the channel.

As noted in the Parkside Yeronga PDA SBSMP, there is a trapped sag in Villa Street which adjoins the Yeronga PDA parent Lot. Upgrades to the existing pit and pipe network within Villa Street are proposed as part of the wider subdivision, however once the pipe capacity has been reached and / or the inlets become blocked, overflow during major storm events is expected to discharge through Lot 10. As part of the PDA subdivision works, surface flows from Villa Street will be directed to the open drainage channel to the East via a swale / bund arrangement. The Yeronga PDA Flood Assessment identifies that approx. 0.6 m3/s will overflow from Villa Street into Lot 10 during the median peak 1% AEP storm events.

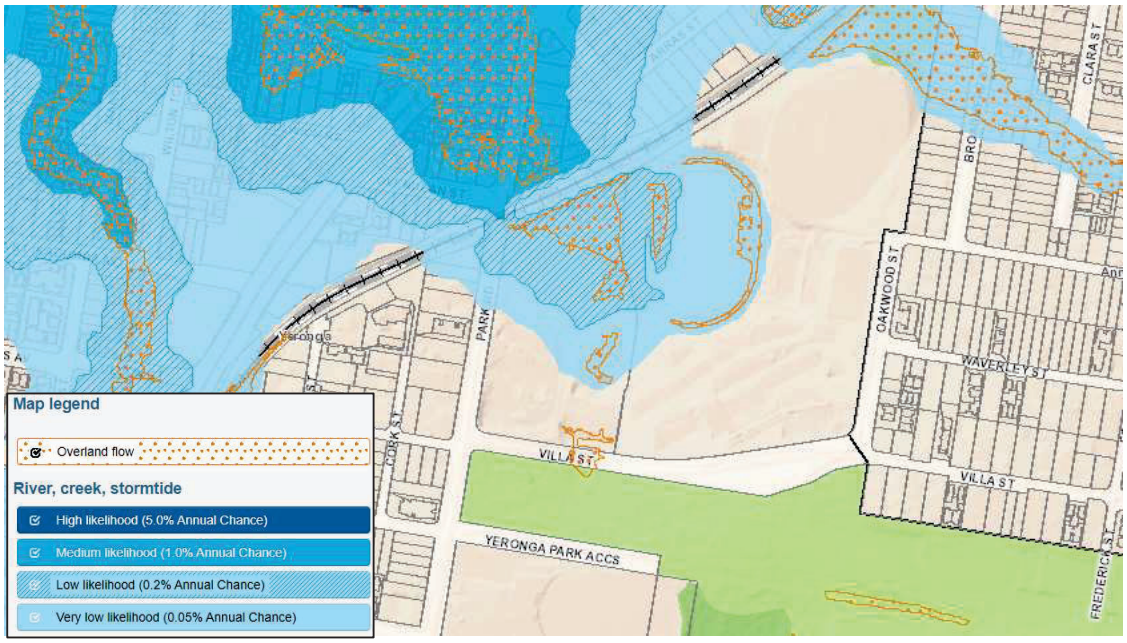


Figure 2 – Flood Mapping (Source: BCC Flood Awareness Interactive Mapping)

4.2 Waterways

The BCC Interactive Mapping included in the City Plan 2014 identifies that there are no defined waterways within or adjacent to the site.

4.3 External Catchment

The surrounding area has been investigated to determine the likely impact of external stormwater catchments on the proposed site. The surface contours included in the Yeronga PDA Approved Masterplan documentation indicate that there are upstream catchments affecting proposed Lot 10.

An upstream catchment impacting on proposed Lot 10 is created by the trapped sag point in Villa Street overflowing from the South in a Northerly direction. As part of the overall PDA subdivision works, a temporary diversion channel has been proposed to divert the external catchment towards the proposed overland flow channel running along the Eastern parent lot boundary.

As part of the proposed development of Lot 10, a drainage culvert will be constructed along the Southern boundary to divert the overflow from the trapped sag point in Villa Street to the proposed overland flow channel along the Eastern boundary of the parent lot. The culvert is proposed to be incorporated as part of the built form of the Lot 10 development and designed with the following;

- Capacity of 0.6 m3/s plus 300 mm freeboard;
- Primary inlet arrangement - side wall inlets along the culvert (Southern Side only);
- Secondary inlet arrangement – field inlet with dome structure between proposed dwellings (enclosed by built form of the dwellings to the East and West and a small scale retaining wall to the North)
- Headwall arrangement for controlled discharge into the overland flow channel
- 3 m wide maintenance easement in favour of Brisbane City Council;
  - Access to the culvert inlet (including site inlets) will be provided via Villa Street
  - Access to the culvert outlet will be provided via the overland flow path

The external catchments impacting Lots 6, 10, 21 & 22 during the staged construction phase will need to be taken into consideration during the Erosion and Sediment Control design stage.

5. Stormwater Quantity

5.1 Stormwater Discharge / Lawful Point of Discharge

It is a requirement that every development must have a lawful point of stormwater discharge. A lawful point of discharge to service the future Lots 6, 10 ,21 & 22 will be constructed as part of the Parkside Yeronga PDA subdivision. According to the conceptual stormwater drainage plan prepared for the PDA development application, a stormwater connection will be provided for each future Lot and will ultimately discharge to the North (towards future Lots 4 & 5).

A site-based stormwater management plan (SBSMP) was prepared by Stantec for the purpose of supporting the Parkside Yeronga PDA development application and Compliance Assessment response. As discussed in the SBSMP, the percentage of impervious area in the post development phase (being a fully developed PDA site) is not greater than the pre-development condition, being the Yeronga TAFE; this ultimately translates to a non-worsening of stormwater flows discharging from the site. Consequently, no stormwater detention mitigation is proposed at a future lot development level e.g. Lots 6, 10, 21 & 22 or within the wider PDA.

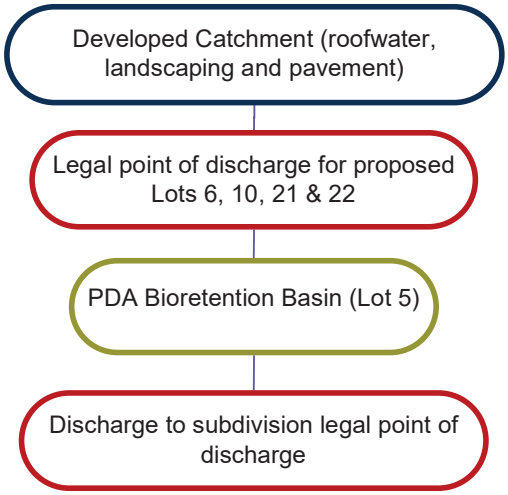
Refer to Appendix C for the approved Parkside Yeronga PDA development application documents.

6. Stormwater Quality

A SBSMP was prepared by Stantec for the purpose of supporting the development approval application for the Parkside Yeronga PDA. As discussed in the SBSMP, a subdivision wide bio-retention basin (located in Lot 5) is proposed to treat runoff from the proposed lots and roads. Given that the subdivision wide bioretention basin caters for the treatment of stormwater runoff from a fully developed Lot 6, 10, 21 & 22, no individual Lot treatment measures are proposed.

The stormwater treatment train schematic is shown in Figure 3.

Figure 3 – Typical Treatment Train Proposed



6.1 Maintenance Tasks & Responsibilities

To ensure that the proposed stormwater quality treatment train maintains it treatment effectiveness, maintenance is imperative to be undertaken including monitoring and rectification as required. The maintenance requirements are included in Table 2. This maintenance regime will be the responsibility of the local Council.

Table 2 – Summary of SQID Maintenance Responsibility

Stormwater Quality Improvement Devices	Ongoing Maintenance Responsibility
Subdivision Bioretention Systems	Council will be the owner of the bioretention basin constructed as part of the Parkside Yeronga PDA. It is the Contractor's responsibility during construction of the proposed JGL residential developments in Lots 6, 10, 21 & 22 to ensure that sediment does not enter into the drainage network constructed under the PDA development. If sediment does end up in the bioretention basin as a result of the JGL construction works, the Contractor is to appropriately reinstate the bioretention basin to the satisfaction of BCC.

6.2 Acid Sulfate Soils

Acid Sulfate Soils are typically encountered in Holocene sediment and below 5m AHD. The proposed development site is located within the BCC overlay for Potential and Actual Acid Sulfate Soils.

The Parkside Yeronga PDA SBSMP indicates that acid sulfate soils testing was completed on site, with acidic soils encountered. The acidic soils were not considered to be acid sulfate soils, and as such, no Acid Sulfate Soils Management Plan is proposed.



Figure 4 – BCC Overlay for ASS (Source: BCC Interactive Mapping)

6.3 Erosion and Sediment Control (ESC) – Construction

An Erosion Hazard Assessment has been performed for the proposed development and is attached in **Error! Reference source not found.**D.

The site was assessed to be a medium Erosion and Sediment Control risk. The medium risk was triggered by:

- Land disturbance greater than 1000m²
- The presence of a slope greater than 5% that is longer than 3m

Soil testing has not been undertaken for the development. As such, it is recommended that testing be completed to determine the Emersion Class of the soil during the detailed design phase to inform the proposed erosion and sediment control methodology.

A Conceptual Erosion and Sediment Control (ESC) Management Plan will be required at construction to demonstrate that the proposed development can accommodate the necessary devices to mitigate the sediment and erosion risks associated with the construction phase of the development, and to appropriately mitigate the upstream catchments impacting on the site during the construction phase. The plan will be prepared with reference to the International Erosion Control Association (IECA) Best Practice Erosion and Sediment Control. Prior to works commencement on-site, the ESC Plans will be reviewed, amended, and endorsed by a Certified Professional in Erosion and Sediment Control (CPESC).

7. Conclusion

This Site Based Stormwater Management Plan has been prepared for the proposed residential development on future Lots 6, 10, 21 & 22 which are part of the Parkside Yeronga PDA site at 70 Park Road, Yeronga.

This report has confirmed that the stormwater water quality objectives for the future Lots will be met by the establishment of the bio-retention basin proposed to be constructed as part of the PDA subdivision works.

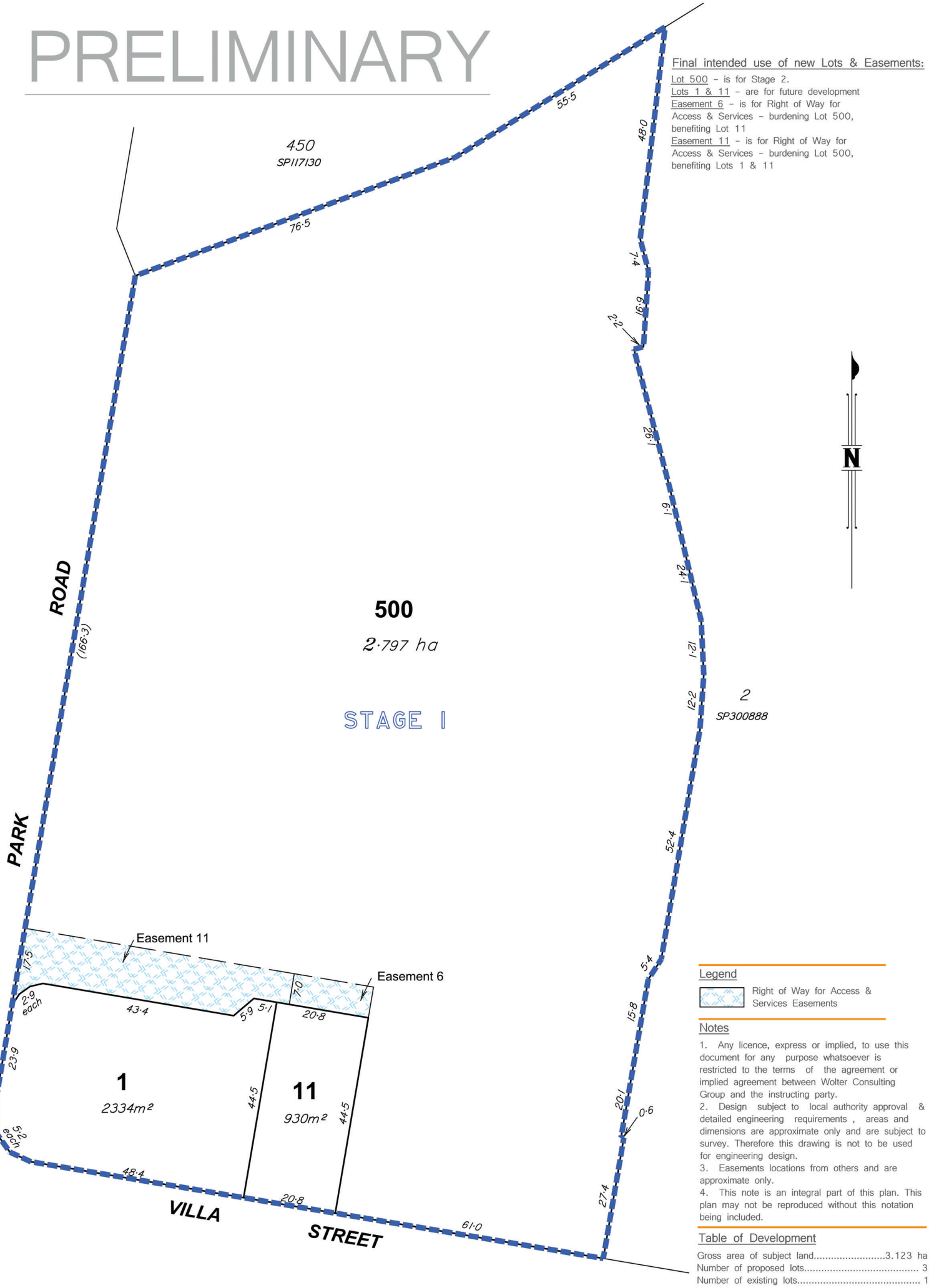
The report has also demonstrated that runoff from the future Lots will not create worsening downstream of the site, since the overall PDA site post development impervious area will not increase the percent impervious area compared to the predevelopment scenario. As such, no stormwater detention mitigation is proposed at a future lot development level e.g. Lots 6, 10, 21 & 22 or within the wider Parkside Yeronga PDA subdivision.

Appendix A Proposed Development Layout

Documents included in this Appendix include:

- Proposed Plan of Reconfiguration (Drawing No:18-0765P-02 Version N Sheet 2 of 2 dated 12 November 2021);
- Architectural drawings prepared by Arkhefield; and
- Concept civil engineering drawings prepared by Stantec.

PRELIMINARY



Final intended use of new Lots & Easements:

Lot 500 - is for Stage 2.
Lots 1 & 11 - are for future development
Easement 6 - is for Right of Way for Access & Services - burdening Lot 500, benefiting Lot 11
Easement 11 - is for Right of Way for Access & Services - burdening Lots 1 & 11

Legend

Right of Way for Access & Services Easements

Notes

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2. Design subject to local authority approval & detailed engineering requirements , areas and dimensions are approximate only and are subject to survey. Therefore this drawing is not to be used for engineering design.
3. Easements locations from others and are approximate only.
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Table of Development

Gross area of subject land.....3.123 ha
Number of proposed lots..... 3
Number of existing lots..... 1

WOLTER consulting group
Planning Urban Design Landscape Environment Surveying
Brisbane: Level 2, 1 Breakfast Ck Road, Newstead, QLD 4006 Phone: (07) 3666 5200

Scale 1:750 @ A3
Lengths are in Metres.
10 0 10 20 30

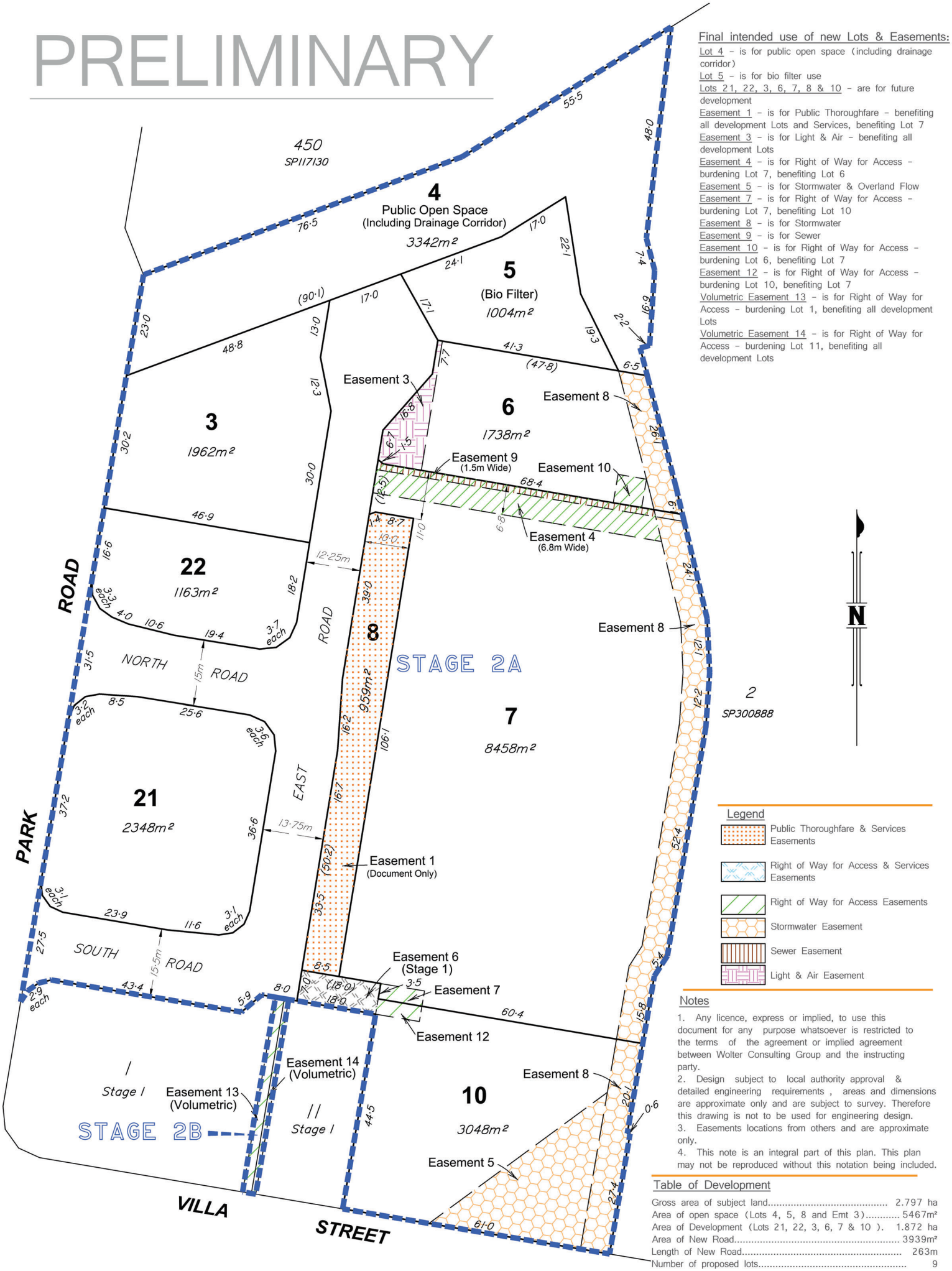
Plan of Reconfiguration - Stage 1

70 Park Road, Yeronga Tafe Site

Description Lot 3 on SP300888
Local Authority Brisbane City

DRAWING NO. 18-0765P-02
VERSION N
DATE DRAWN 12-11-2021
SHEET NO. 1 of 2

PRELIMINARY



Final intended use of new Lots & Easements:

Lot 4 – is for public open space (including drainage corridor)
Lot 5 – is for bio filter use
Lots 21, 22, 3, 6, 7, 8 & 10 – are for future development
Easement 1 – is for Public Thoroughfare – benefiting all development Lots and Services, benefiting Lot 7
Easement 3 – is for Light & Air – benefiting all development Lots
Easement 4 – is for Right of Way for Access – burdening Lot 7, benefiting Lot 6
Easement 5 – is for Stormwater & Overland Flow
Easement 7 – is for Right of Way for Access – burdening Lot 7, benefiting Lot 10
Easement 8 – is for Stormwater
Easement 9 – is for Sewer
Easement 10 – is for Right of Way for Access – burdening Lot 6, benefiting Lot 7
Easement 12 – is for Right of Way for Access – burdening Lot 10, benefiting Lot 7
Volumetric Easement 13 – is for Right of Way for Access – burdening Lot 1, benefiting all development Lots
Volumetric Easement 14 – is for Right of Way for Access – burdening Lot 11, benefiting all development Lots

Legend

- Public Thoroughfare & Services Easements
- Right of Way for Access & Services Easements
- Right of Way for Access Easements
- Stormwater Easement
- Sewer Easement
- Light & Air Easement

Notes

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3. Easements locations from others and are approximate only.
4. This note is an integral part of this plan. This plan may not be reproduced without this notation being included.

Table of Development

Gross area of subject land	2.797 ha
Area of open space (Lots 4, 5, 8 and Emt 3)	5467m²
Area of Development (Lots 21, 22, 3, 6, 7 & 10).	1.872 ha
Area of New Road	3939m²
Length of New Road	263m
Number of proposed lots	9
Number of existing lots	1

WOLTER consulting group
Planning Urban Design Landscape Environment Surveying
Brisbane: Level 2, 1 Breakfast Ck Road, Newstead, QLD 4006 Phone: (07) 3666 5200

Scale 1:750 @ A3
Lengths are in Metres.
10 0 10 20 30

Plan of Reconfiguration – Stages 2A & 2B

70 Park Road, Yeronga Tafe Site

Description: Part of Lot 3 on SP300888
Local Authority: Brisbane City

DRAWING NO. 18-0765P-02
VERSION N
DATE DRAWN 12-11-2021
SHEET NO. 2 of 2

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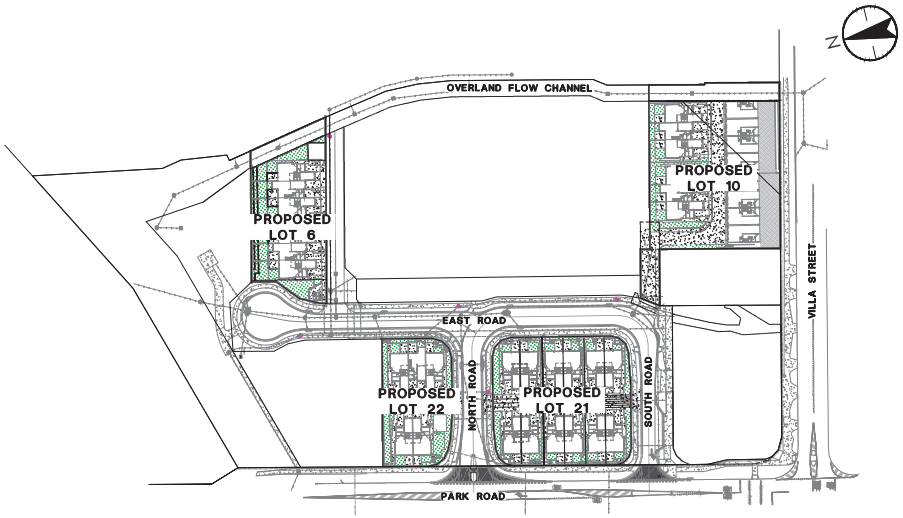
JGL PROPERTIES

PARKSIDE YERONGA - JGL

STAGE 1(LOT 21), STAGE 2 (LOT 22), STAGE 3 (LOT 10), STAGE 4 (LOT 6)



OVERALL SITE PLAN

SCALE 1:25 (A1) 0 0.5 1.0

SCALE 1:50 (A3) 0 0.5 1.0

Authorised	H.SELY RPEQ No. 27159	Drawn	K.JL	Dsgn.	K.JL	Chkd.	HS	YYYY.MM.DD	2022.08.16



SITE LOCALITY PLAN

SOURCE: NearMap 2021
NOT TO SCALE

DRAWING INDEX	
DWG No.	DESCRIPTION
301050257-BRI-C-DA01	COVER PAGE
301050257-BRI-C-DA02	COMBINED SERVICES LAYOUT PLAN STAGE 1 - LOT 21
301050257-BRI-C-DA03	EARTHWORKS SHADING PLAN STAGE 1 - LOT 21
301050257-BRI-C-DA04	COMBINED SERVICES LAYOUT PLAN STAGE 2 - LOT 22
301050257-BRI-C-DA05	EARTHWORKS SHADING PLAN STAGE 2 - LOT 22
301050257-BRI-C-DA06	COMBINED SERVICES LAYOUT PLAN STAGE 3 - LOT 10
301050257-BRI-C-DA07	EARTHWORKS SHADING PLAN STAGE 3 - LOT 10
301050257-BRI-C-DA08	COMBINED SERVICES LAYOUT PLAN STAGE 4 - LOT 6
301050257-BRI-C-DA09	EARTHWORKS SHADING PLAN STAGE 4 - LOT 6

GENERAL NOTES

1. DRAWINGS ARE CONCEPTUAL ONLY AND ARE INTENDED FOR DEVELOPMENT APPROVAL PURPOSES ONLY.
2. WHERE LEVELS OR SIZES OF ANY WORKS ARE SHOWN, THESE ARE INDICATIVE ONLY TO DEMONSTRATE THE CAPABILITY OF THE SERVICING OPTION PROPOSED AND ARE SUBJECT TO DETAILED DESIGN (OPERATIONAL WORKS DESIGN). THIS IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE LATEST VERSIONS OF THE AUTHORITY STANDARDS, AUSTRALIAN STANDARDS AND OTHER INDUSTRY REFERENCE DOCUMENTS AT TIME OF DESIGN.
3. DRAWINGS ARE NOT INTENDED TO BE USED FOR TENDER, ESTIMATING OR CONSTRUCTION.
4. THE PROPOSED SERVICING ARRANGEMENT HAS BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE PARKSIDE YERONGA PDA PRELIMINARY APPROVAL DOCUMENTATION WILL BE DELIVERED.

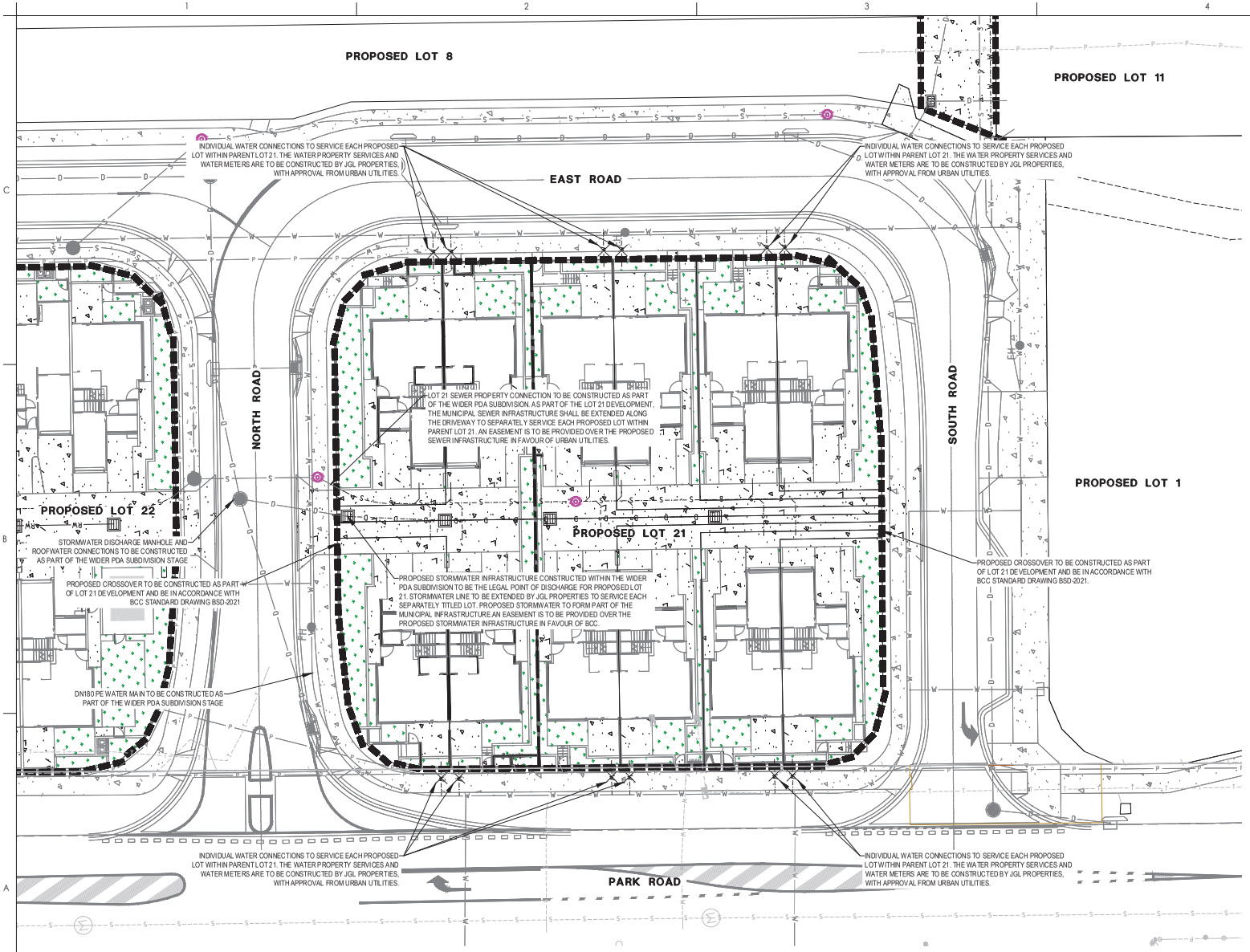
PRIOR TO COMMENCEMENT OF NEW WORK THE CONTRACTOR SHALL CONFIRM LOCATIONS, LEVELS AND DETAILS OF EXISTING CONNECTION POINTS AND SERVICE CROSSINGS BY POT HOLING. IF A VARIATION OCCURS CONTACT THE ENGINEER PRIOR TO CONSTRUCTION.

DIAL BEFORE YOU DIG www.1100.com.au

2022.08.16

PROJECT NUMBER: 301050318

Plotted: 16.08.2022 2022.08.16 3:51:57 PM By: cwiggett, Katherine
Drawing: 301050257 - DA01 - C:\3010502\project documents\work\drawings & drawings\working drawings\301050257 - cover.dwgx



LOT 21 CONCEPT SERVICES LAYOUT PLAN

SCALE 1:200 (A1) 0 4 8 10m

SCALE 1:400 (A3) 0 4 8 10m

GENERAL NOTES

1. DRAWINGS ARE CONCEPTUAL ONLY AND ARE INTENDED FOR DEVELOPMENT APPROVAL PURPOSES ONLY.
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3. DRAWINGS ARE NOT INTENDED TO BE USED FOR TENDER, ESTIMATING OR CONSTRUCTION.
4. THE PROPOSED SERVICING ARRANGEMENT HAS BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE PARKSIDE YERONGA PDA PRELIMINARY APPROVAL DOCUMENTATION WILL BE DELIVERED.

LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED SITE BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED MUNICIPAL DRAINAGE WORKS (CONSTRUCTED BY JGL PROPERTIES)
- PROPOSED WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- PROPOSED MUNICIPAL SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED CONCRETE PAVEMENT
- PROPOSED LANDSCAPING

Notes

A FOR APPROVAL	KJL	HS	2022.08.16	
Issued/Revision	By	Appd	YYYY.MM.DD	
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Issue Status

APPROVAL

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Client/Project Logo

Client/Project
JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

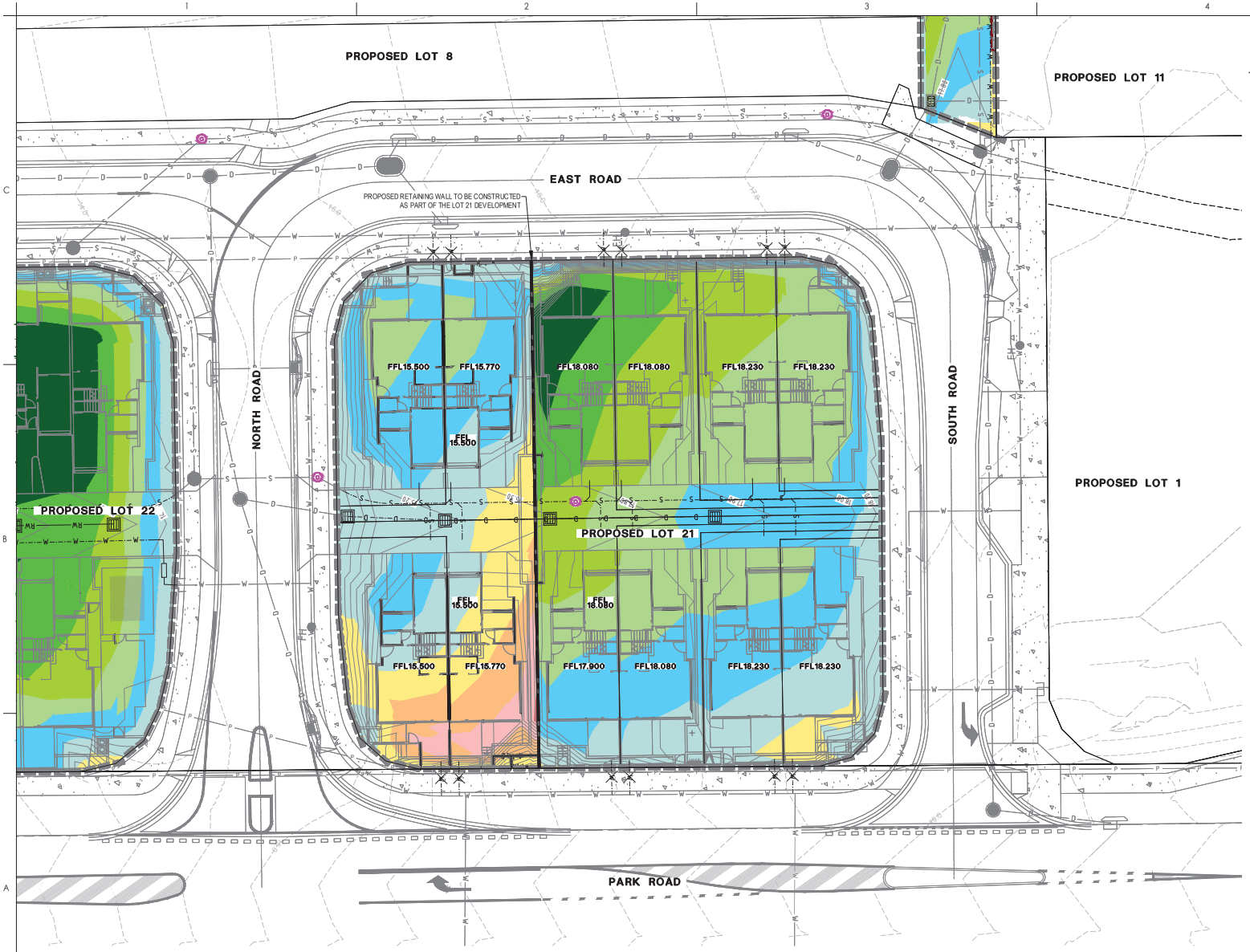
File Name: [SESSION] - [DRAWING SPECIFIC/LAYOUT NAME ON C] | KJL Dwn. | KJL Dsgn. | HS Chkd. | 2022.08.16 YYYY.MM.DD

Title
CONCEPT SERVICES LAYOUT PLAN
STAGE 1 - LOT 21

Project No. 301050318
Scale 1:200
Revision A
Drawing No. **301050318-BRI-C-DA02**

Plotted: 16/08/2022 3:13:37 PM By: JEFFORY, KATHERINE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS\

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LOT 21 EARTHWORKS SHADING PLAN

SCALE 1:200 (A1) 0 4 8 10m

SCALE 1:400 (A3) 0 4 8 10m

GENERAL NOTES

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3. DRAWINGS ARE NOT INTENDED TO BE USED FOR TENDER, ESTIMATING OR CONSTRUCTION.
4. THE PROPOSED SERVICING ARRANGEMENT HAS BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE PARKSIDE YERONGA PDA PRELIMINARY APPROVAL DOCUMENTATION WILL BE DELIVERED.

EARTHWORKS NOTES

1. THIS PRELIMINARY DESIGN DOES NOT PROVIDE DETAILED GUIDANCE ON THE FOLLOWING ELEMENTS WHICH ARE STILL TO BE RESOLVED IN FUTURE DETAILED DESIGN PHASES AND ARE THUS INDICATIVE ONLY AT THIS STAGE.
   - 1.1. RETAINING WALLS
   - 1.2. BUILDING INTERFACES
   - 1.3. DETAILED GRADING DESIGN
2. STEPS IN THE EARTHWORKS MODEL ARE REFLECTIVE OF WHERE BUILDING WALLS ARE LOCATED. IT SHOULD BE NOTED HOWEVER FURTHER RETAINING STRUCTURES ARE LIKELY REQUIRED UPON DETAILED DESIGN AND FURTHER COORDINATION WITH LANDSCAPE CONSULTANTS. ALL PROPOSED BUILDING WALLS ARE NOT SHOWN FOR CLARITY. REFER TO STRUCTURAL AND ARCHITECTURAL PLANS FOR THESE DETAILS.
3. BULK EARTHWORKS SHOWN DO NOT CONSIDER THE STAGING OF WORKS OR THE POTENTIAL NEED FOR TEMPORARY WORKS (E.G. BATTERS, WORKING PLATFORMS, SEDIMENT PONDS, ETC).
4. BULK EARTHWORKS SHOWN DOES NOT ALLOW FOR ROAD PAVEMENT REQUIREMENTS, LIFT SHAFTS, TRENCH EXCAVATION SPOIL, SERVICES, ROAD BOX, BUILDING FOOTINGS, FOOTPATHS, LANDSCAPE PAVEMENTS, GARDEN AREAS, OR TOPSOIL. THE EARTHWORKS DO ACCOUNT FOR BUILDING SLAB THICKNESS.
5. EARTHWORKS VOLUMES EXCLUDE ANY SITE SOIL REMEDIATION AND/OR REPLACEMENT.
6. THE VOLUMES PROVIDED ARE HIGHLY INDICATIVE ONLY, AS THE ACTUAL FINISHED SURFACE THAT WILL BE PRESENT UPON SITE OCCUPATION IS CURRENTLY UNKNOWN. THE EXISTING SURFACE HAS BEEN BASED ON THE TOPOGRAPHY INCLUDED IN THE PARKSIDE YERONGA PDA COMPLIANCE ASSESSMENT DOCUMENTATION.

EARTHWORKS VOLUMES

TOTAL FILL	

HIGHLY INDICATIVE VOLUME ONLY:

- ** ONLY LOT 21 EARTHWORKS INCLUDED IN THE ABOVE VOLUMES.
- ** ASSUMES FINISHED PAD LEVELS AS SHOWN, 100mm STEP TO PATIO AREAS, RETAINING WALL BETWEEN UPPER AND LOWER SITE AREAS, AND BATTERING BETWEEN THE PROPOSED PADS AND PROPERTY BOUNDARY.
- ** EXISTING SURFACE LEVEL HAS BEEN BASED ON THE PARKSIDE YERONGA PDA COMPLIANCE ASSESSMENT DOCUMENTATION, WHICH MAY NOT FORM THE ACTUAL FINISHED SURFACE THAT WILL BE PRESENT UPON SITE OCCUPATION.

LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 28.10 PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED TOP OF BATTER
- PROPOSED BOTTOM OF BATTER
- PROPOSED RETAINING WALL
- D D PROPOSED MUNICIPAL DRAINAGE WORKS (CONSTRUCTED BY JGL PROPERTIES)
- W W PROPOSED WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S S PROPOSED MUNICIPAL SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- D D PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- W W PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S S PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)

CUT/FILL LEGEND

- AREA OF CUT DEPTH >2.5m
- AREA OF CUT DEPTH 2m - 2.5m
- AREA OF CUT DEPTH 1.5m - 2m
- AREA OF CUT DEPTH 1m - 1.5m
- AREA OF CUT DEPTH 0.5m - 1m
- AREA OF CUT DEPTH 0.05m - 0.5m
- AREA OF FILL DEPTH 0.05m - 0.5m
- AREA OF FILL DEPTH 0.5m - 1m
- AREA OF FILL DEPTH 1m - 1.5m
- AREA OF FILL DEPTH 1.5m - 2m
- AREA OF FILL DEPTH 2m - 2.5m
- AREA OF FILL DEPTH >2.5m

Notes

A FOR APPROVAL	KJL	HS	2022.08.16
Issued/Revision	By	Appd	YYYY.MM.DD
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Issue Status

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Client/Project Logo

Client/Project
JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: [illegible] SHEN ROBIGSON DWG PLAN.DWG

KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Title
EARTHWORKS SHADING PLAN
STAGE 1 - LOT 21

Project No.
301050318

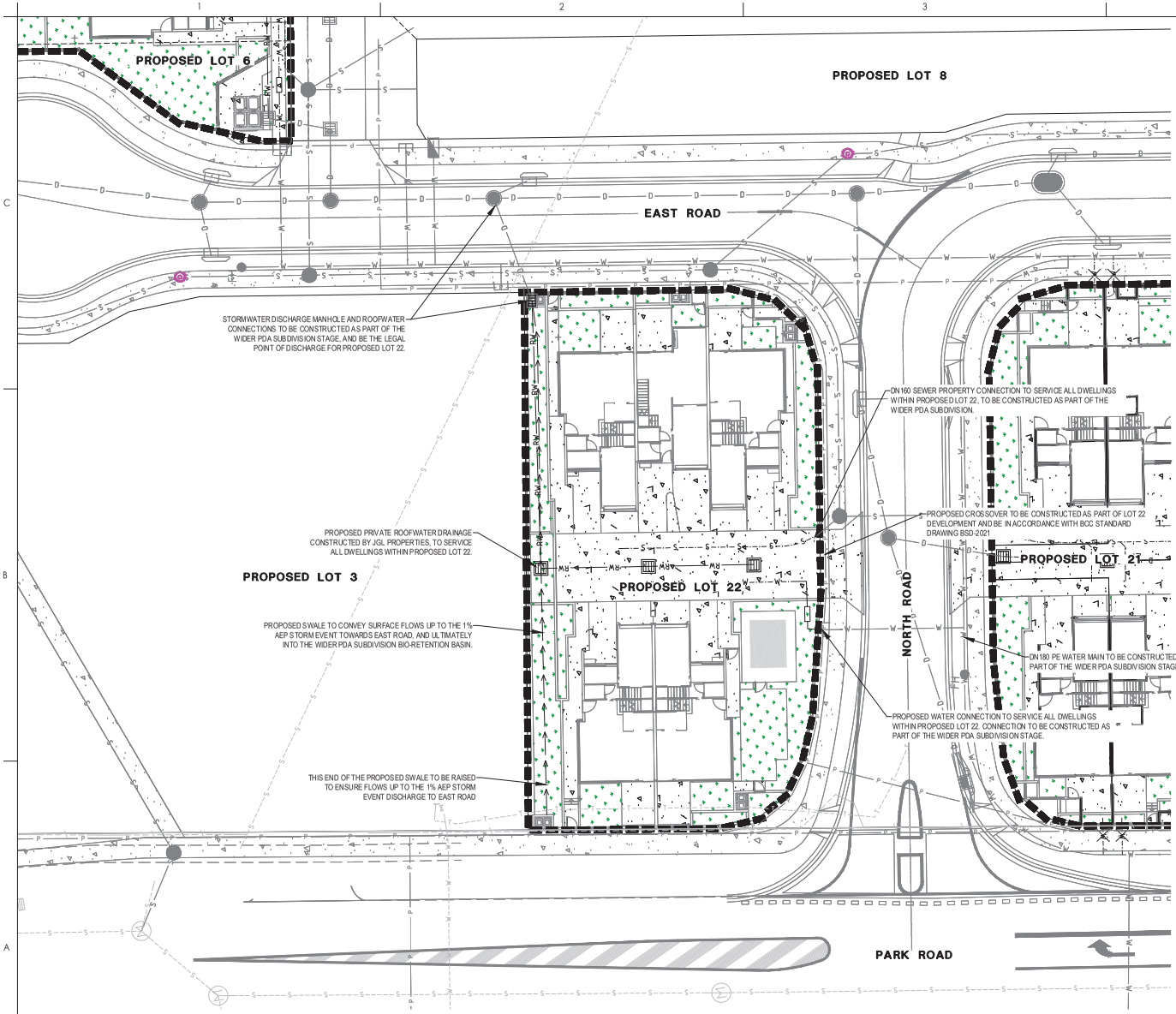
Scale
1:200

Revision
A

Drawing No.
301050318-BRI-C-DA03

Plotted: 16/08/2022 2:54:47 PM By: JSTOTT, KATHRINE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LOT 22 CONCEPT SERVICES LAYOUT PLAN

SCALE 1:200 (A1) 0 4 8 10m

SCALE 1:400 (A3) 0 4 8 10m

GENERAL NOTES

1. DRAWINGS ARE CONCEPTUAL ONLY AND ARE INTENDED FOR DEVELOPMENT APPROVAL PURPOSES ONLY.
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3. DRAWINGS ARE NOT INTENDED TO BE USED FOR TENDER, ESTIMATING OR CONSTRUCTION.
4. THE PROPOSED SERVICING ARRANGEMENT HAS BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE PARKSIDE YERONGA PDA PRELIMINARY APPROVAL DOCUMENTATION WILL BE DELIVERED.

LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED SITE BOUNDARY
- PROPOSED RETAINING WALL
- RW — PROPOSED PRIVATE ROOFWATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- W — PROPOSED PRIVATE WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S — PROPOSED PRIVATE SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- D — PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- W — PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S — PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P — PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED CONCRETE PAVEMENT
- PROPOSED LANDSCAPING

Notes

A FOR APPROVAL	KJL	HS	2022.08.16	
Issued/Revision	By	Appd	YYYY.MM.DD	
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

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Client/Project Logo

Client/Project
JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: [ISSUED]E-DRAWING SHEETS\LAYOUT PLANS.DWG

KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Title
CONCEPT SERVICES LAYOUT PLAN
STAGE 2 - LOT 22

Project No.
301050318

Scale
1:200

Revision
A

Drawing No.
301050318-BRI-C-DA04

Plotted: 16/08/2022 2:54:47 PM By: JEFFORY, KATHERINE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS

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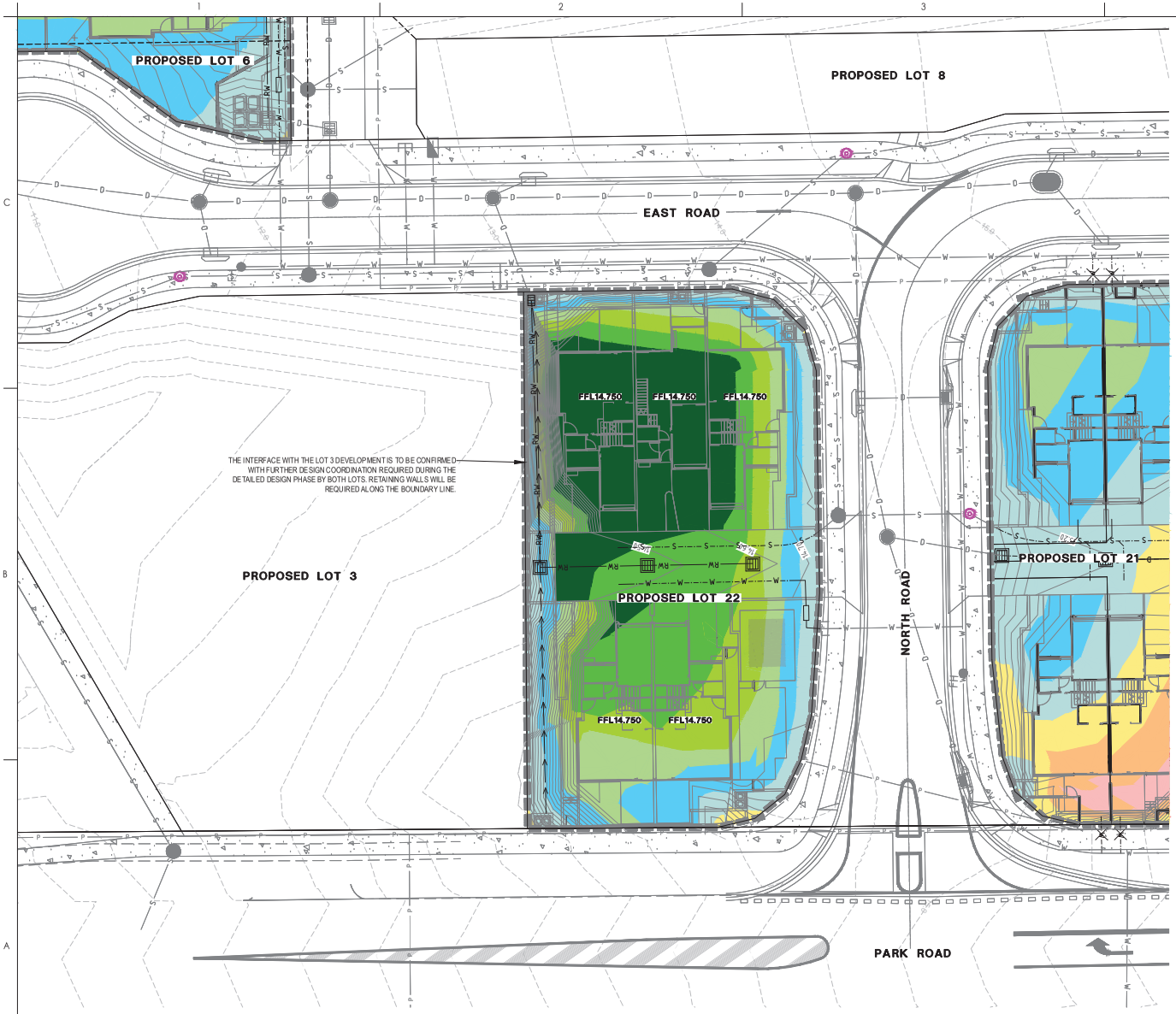

LOT 22 EARTHWORKS SHADING PLAN

SCALE 1:200 (A1) 0 4 8 10m

SCALE 1:400 (A3) 0 4 8 10m

GENERAL NOTES

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   - 1.1. RETAINING WALLS
   - 1.2. BUILDING INTERFACES
   - 1.3. DETAILED GRADING DESIGN
2. STEPS IN THE EARTHWORKS MODEL ARE REFLECTIVE OF WHERE BUILDING WALLS ARE LOCATED. IT SHOULD BE NOTED HOWEVER FURTHER RETAINING STRUCTURES ARE LIKELY REQUIRED UPON DETAILED DESIGN AND FURTHER COORDINATION WITH LANDSCAPE CONSULTANTS. ALL PROPOSED BUILDING WALLS ARE NOT SHOWN FOR CLARITY. REFER TO STRUCTURAL AND ARCHITECTURAL PLANS FOR THESE DETAILS.
3. BULK EARTHWORKS SHOWN DO NOT CONSIDER THE STAGING OF WORKS OR THE POTENTIAL NEED FOR TEMPORARY WORKS (E.G. BATTERS, WORKING PLATFORMS, SEDIMENT PONDS, ETC).
4. BULK EARTHWORKS SHOWN DOES NOT ALLOW FOR ROAD PAVEMENT REQUIREMENTS, LIFT SHAFTS, TRENCH EXCAVATION SPOIL, SERVICES, ROAD BOX, BUILDING FOOTINGS, FOOTPATHS, LANDSCAPE PAVEMENTS, GARDEN AREAS, OR TOPSOIL. THE EARTHWORKS DO ACCOUNT FOR BUILDING SLAB THICKNESS.
5. EARTHWORKS VOLUMES EXCLUDE ANY SITE SOIL REMEDIATION AND/OR REPLACEMENT.
6. THE VOLUMES PROVIDED ARE HIGHLY INDICATIVE ONLY, AS THE ACTUAL FINISHED SURFACE THAT WILL BE PRESENT UPON SITE OCCUPATION IS CURRENTLY UNKNOWN. THE EXISTING SURFACE HAS BEEN BASED ON THE TOPOGRAPHY INCLUDED IN THE PARKSIDE YERONGA PDA COMPLIANCE ASSESSMENT DOCUMENTATION.

EARTHWORKS VOLUMES

TOTAL FILL	
HIGHLY INDICATIVE VOLUME ONLY:	
••	ONLY LOT 22 EARTHWORKS INCLUDED IN THE ABOVE VOLUMES.
••	ASSUMES FINISHED PAD LEVELS AS SHOWN, 100mm STEP TO PATIO AREAS, AND BATTER BETWEEN PROPOSED PAD AND PROPERTY BOUNDARY.
••	EXISTING SURFACE LEVEL HAS BEEN BASED ON THE PARKSIDE YERONGA PDA COMPLIANCE ASSESSMENT DOCUMENTATION, WHICH MAY NOT FORM THE ACTUAL FINISHED SURFACE THAT WILL BE PRESENT UPON SITE OCCUPATION.

LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 28.10 PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED TOP OF BATTER
- PROPOSED BOTTOM OF BATTER
- PROPOSED RETAINING WALL
- RW PROPOSED PRIVATE ROOFWATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- W PROPOSED PRIVATE WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S PROPOSED PRIVATE SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- D PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- W PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)

CUT/FILL LEGEND

- AREA OF CUT DEPTH >2.5m
- AREA OF CUT DEPTH 2m - 2.5m
- AREA OF CUT DEPTH 1.5m - 2m
- AREA OF CUT DEPTH 1m - 1.5m
- AREA OF CUT DEPTH 0.5m - 1m
- AREA OF CUT DEPTH 0.05m - 0.5m
- AREA OF FILL DEPTH 0.05m - 0.5m
- AREA OF FILL DEPTH 0.5m - 1m
- AREA OF FILL DEPTH 1m - 1.5m
- AREA OF FILL DEPTH 1.5m - 2m
- AREA OF FILL DEPTH 2m - 2.5m
- AREA OF FILL DEPTH >2.5m

Notes

Issued/Revision	By	Appd	
A FOR APPROVAL	KJL	HS	2022.08.16 YYYY.MM.DD

Authorised	Dwn.	Dsgn.	Chkd.	
	KJL	KJL	HS	2022.08.16 YYYY.MM.DD

Issue Status

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Client/Project Logo

Client/Project
JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: [illegible] SHEN MORESIDE DWG PLAN.DWG

	Dwn.	Dsgn.	Chkd.	
	KJL	KJL	HS	2022.08.16 YYYY.MM.DD

Title
EARTHWORKS SHADING PLAN
STAGE 2 - LOT 22

Project No.
301050318

Scale
1:200

Revision
A

Drawing No.
301050318-BRI-C-DA05

Plotted: 16/08/2022 3:54:04 PM By: JEFFORY, KATHRINE
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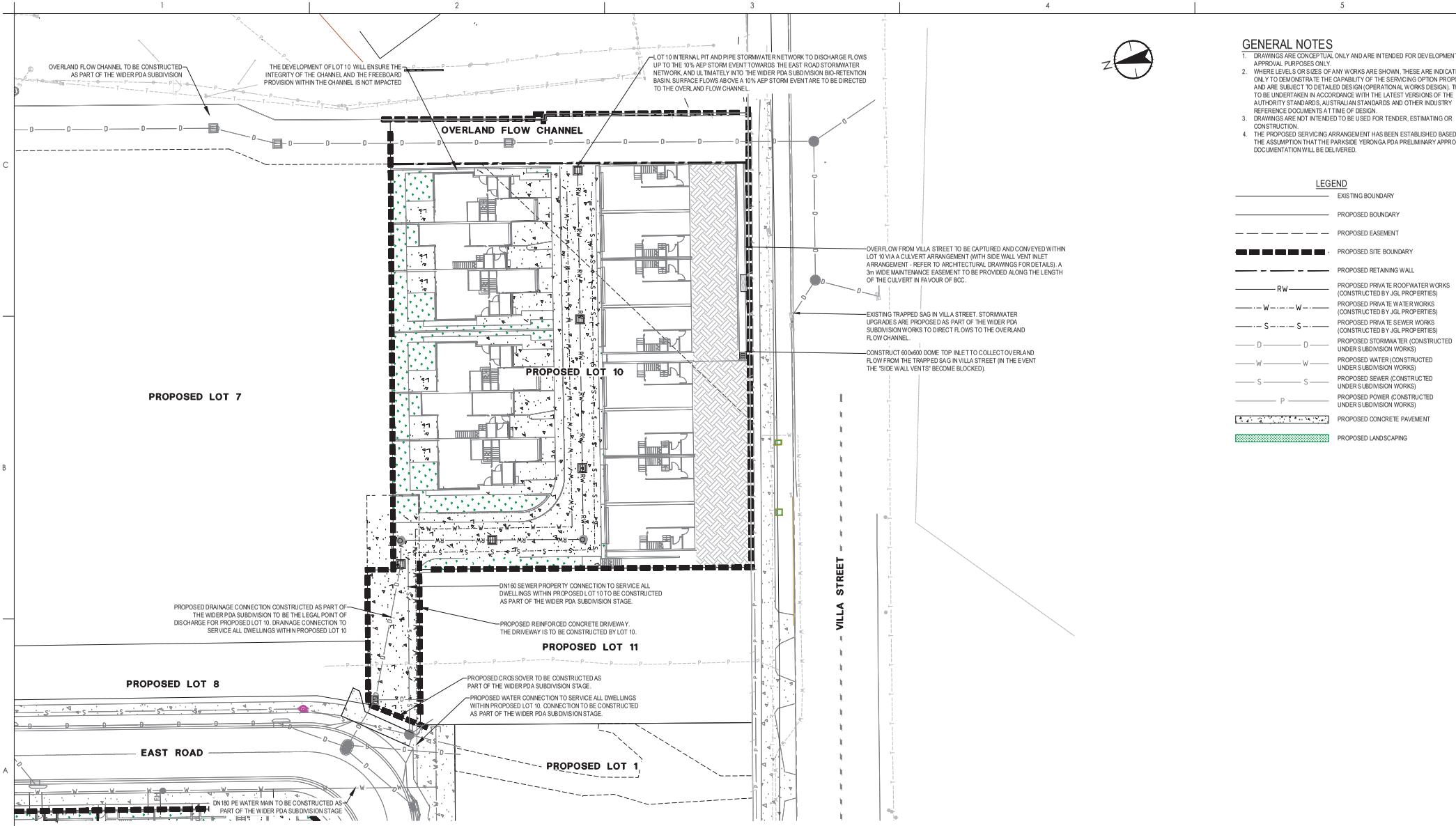
ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LOT 10 CONCEPT SERVICES LAYOUT PLAN

SCALE 1:250 (A1) 0 5 10

SCALE 1:500 (A3) 0 5 10

GENERAL NOTES

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LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED SITE BOUNDARY
- PROPOSED RETAINING WALL
- RW — PROPOSED PRIVATE ROOFWATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- W — W — PROPOSED PRIVATE WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S — S — PROPOSED PRIVATE SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- D — D — PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- W — W — PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S — S — PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P — PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED CONCRETE PAVEMENT
- PROPOSED LANDSCAPING

Notes

A FOR APPROVAL	KJL	HS	2022.08.16	
Issued/Revision	By	Appd	YYYY.MM.DD	
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Issue Status

APPROVAL

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Client/Project Logo

Client/Project

JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: [ISSUED]E-DRAWING SHEETS\LAYOUT PLANS.DWG

KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD	

Title

CONCEPT SERVICES LAYOUT PLAN
STAGE 3 - LOT 10

Project No. 301050318

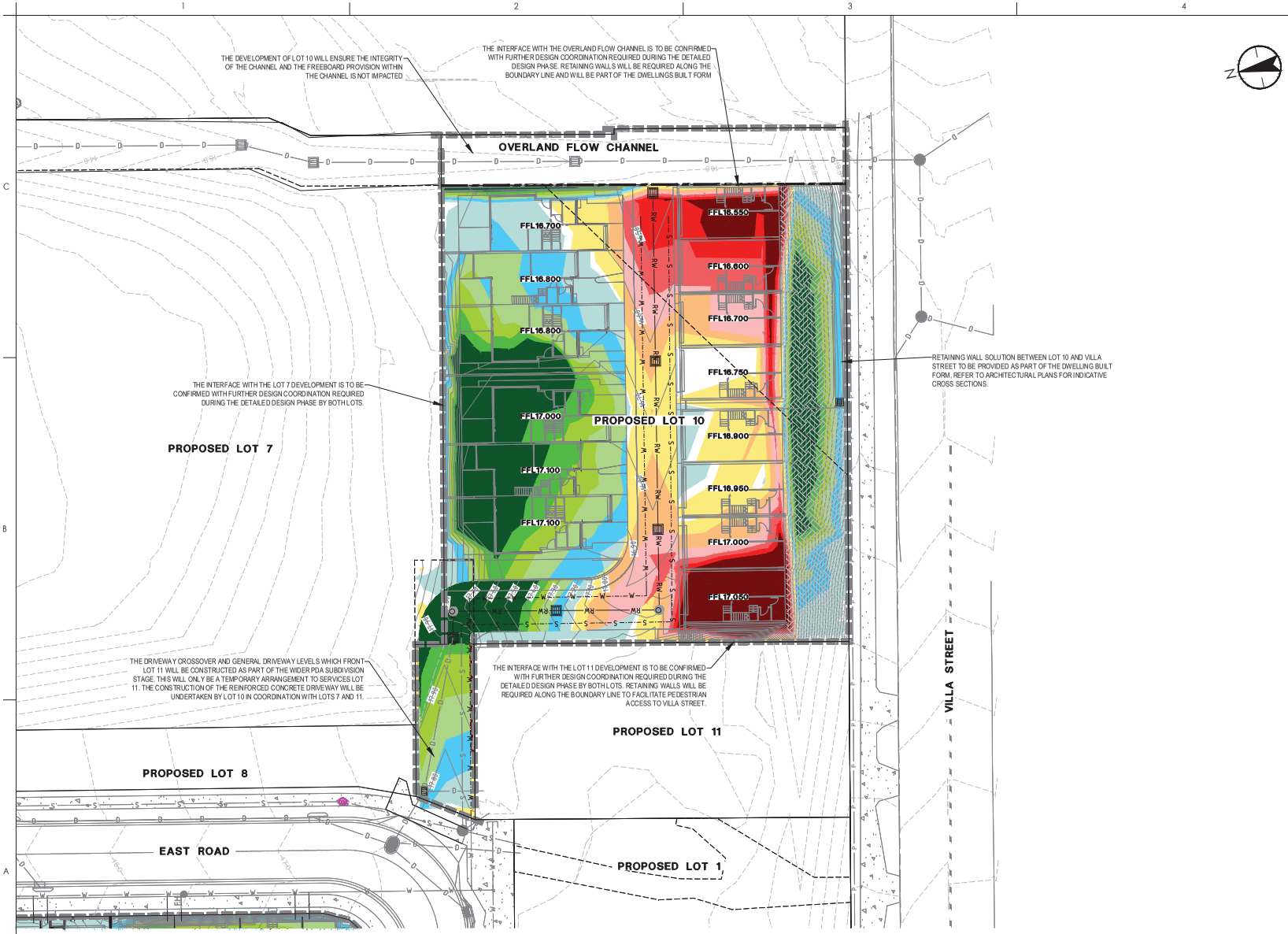
Scale 1:250

Revision A

Drawing No. 301050318-BRI-C-DA06

Plotted: 16/08/2022 3:45:13 PM By: JESSICA KATHRINE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS\

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LOT 10 EARTHWORKS SHADING PLAN

SCALE 1:250 (A1) 0 5 10

SCALE 1:500 (A3) 0 5 10

GENERAL NOTES

1. DRAWINGS ARE CONCEPTUAL ONLY AND ARE INTENDED FOR DEVELOPMENT APPROVAL PURPOSES ONLY.
2. WHERE LEVELS OR SIZES OF ANY WORKS ARE SHOWN, THESE ARE INDICATIVE ONLY TO DEMONSTRATE THE CAPABILITY OF THE SERVICING OPTION PROPOSED AND ARE SUBJECT TO DETAILED DESIGN (OPERATIONAL WORKS DESIGN). THIS IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE LATEST VERSIONS OF THE AUTHORITY STANDARDS, AUSTRALIAN STANDARDS AND OTHER INDUSTRY REFERENCE DOCUMENTS AT TIME OF DESIGN.
3. DRAWINGS ARE NOT INTENDED TO BE USED FOR TENDER, ESTIMATING OR CONSTRUCTION.
4. THE PROPOSED SERVICING ARRANGEMENT HAS BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE PARKSIDE YERONGA PDA PRELIMINARY APPROVAL DOCUMENTATION WILL BE DELIVERED.

EARTHWORKS NOTES

1. THIS PRELIMINARY DESIGN DOES NOT PROVIDE DETAILED GUIDANCE ON THE FOLLOWING ELEMENTS WHICH ARE STILL TO BE RESOLVED IN FUTURE DETAILED DESIGN PHASES AND ARE THUS INDICATIVE ONLY AT THIS STAGE.
   - 1.1. RETAINING WALLS
   - 1.2. BUILDING INTERFACES
   - 1.3. DETAILED GRADING DESIGN
2. STEPS IN THE EARTHWORKS MODEL ARE REFLECTIVE OF WHERE BUILDING WALLS ARE LOCATED. IT SHOULD BE NOTED HOWEVER FURTHER RETAINING STRUCTURES ARE LIKELY REQUIRED UPON DETAILED DESIGN AND FURTHER COORDINATION WITH LANDSCAPE CONSULTANTS. ALL PROPOSED BUILDING WALLS ARE NOT SHOWN FOR CLARITY. REFER TO STRUCTURAL AND ARCHITECTURAL PLANS FOR THESE DETAILS.
3. BULK EARTHWORKS SHOWN DO NOT CONSIDER THE STAGING OF WORKS OR THE POTENTIAL NEED FOR TEMPORARY WORKS (E.G. BATTERS, WORKING PLATFORMS, SEDIMENT PONDS, ETC).
4. BULK EARTHWORKS SHOWN DOES NOT ALLOW FOR ROAD PAVEMENT REQUIREMENTS, LIFT SHAFTS, TRENCH EXCAVATION SPOIL, SERVICES, ROAD BOX, BUILDING FOOTINGS, FOOTPATHS, LANDSCAPE PAVEMENTS, GARDEN AREAS, OR TOPSOIL. THE EARTHWORKS DO ACCOUNT FOR BUILDING SLAB THICKNESS.
5. EARTHWORKS VOLUMES EXCLUDE ANY SITE SOIL REMEDIATION AND/OR REPLACEMENT.
6. THE VOLUMES PROVIDED ARE HIGHLY INDICATIVE ONLY, AS THE ACTUAL FINISHED SURFACE THAT WILL BE PRESENT UPON SITE OCCUPATION IS CURRENTLY UNKNOWN. THE EXISTING SURFACE HAS BEEN BASED ON THE TOPOGRAPHY INCLUDED IN THE PARKSIDE YERONGA PDA COMPLIANCE ASSESSMENT DOCUMENTATION.

EARTHWORKS VOLUMES

TOTAL FILL	

HIGHLY INDICATIVE VOLUME ONLY:

- •• ONLY LOT 10 EARTHWORKS INCLUDED IN THE ABOVE VOLUMES.
- •• ASSUMES FINISHED PAD LEVELS AS SHOWN, 100mm STEP TO PATIO AREAS, INDICATIVE RETAINING SOLUTIONS ALONG THE BOUNDARY INTERFACE, AND BATTERING BETWEEN ALL OTHER AREAS.
- •• EXISTING SURFACE LEVEL HAS BEEN BASED ON THE PARKSIDE YERONGA PDA COMPLIANCE ASSESSMENT DOCUMENTATION, WHICH MAY NOT FORM THE ACTUAL FINISHED SURFACE THAT WILL BE PRESENT UPON SITE OCCUPATION.

LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 28.10 PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED TOP OF BATTER
- PROPOSED BOTTOM OF BATTER
- PROPOSED RETAINING WALL
- RW PROPOSED PRIVATE ROOFWATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- W PROPOSED PRIVATE WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S PROPOSED PRIVATE SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- D PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- W PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)

CUT/FILL LEGEND

- AREA OF CUT DEPTH >0.5m
- AREA OF CUT DEPTH 0.4m - 0.5m
- AREA OF CUT DEPTH 0.3m - 0.4m
- AREA OF CUT DEPTH 0.2m - 0.3m
- AREA OF CUT DEPTH 0.1m - 0.2m
- AREA OF CUT DEPTH 0.01m - 0.1m
- AREA OF FILL DEPTH 0.01m - 0.1m
- AREA OF FILL DEPTH 0.1m - 0.2m
- AREA OF FILL DEPTH 0.2m - 0.3m
- AREA OF FILL DEPTH 0.3m - 0.4m
- AREA OF FILL DEPTH 0.4m - 0.5m
- AREA OF FILL DEPTH >0.5m

Notes

A FOR APPROVAL	KJL	HS	2022.08.16	
Issued/Revision	By	Appd	YYYY.MM.DD	
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Issue Status

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Client/Project Logo

Client/Project
JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: | KJL Dwn. | KJL Dsgn. | HS Chkd. | 2022.08.16 YYYY.MM.DD

Title
EARTHWORKS SHADING PLAN
STAGE 3 - LOT 10

Project No. 301050318

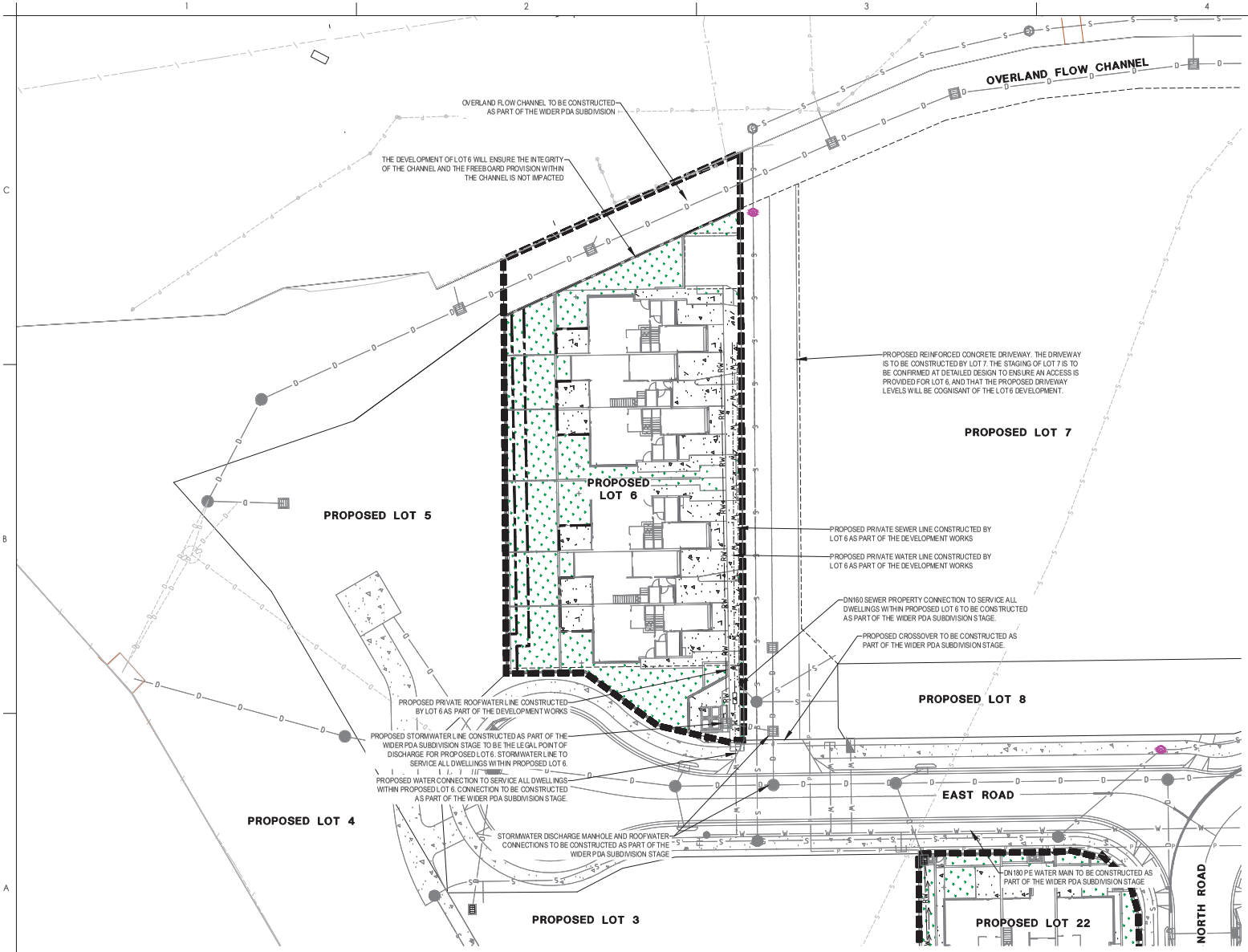
Scale 1:250

Revision A

Drawing No. 301050318-BRI-C-DA07

Plotted: 16/08/2022 3:45:04 PM By: JEFFORY, KATHRYNE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS\

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LOT 6 CONCEPT SERVICES LAYOUT PLAN

SCALE 1:250 (A1) 0 5 10

SCALE 1:500 (A3) 0 5 10

GENERAL NOTES

1. DRAWINGS ARE CONCEPTUAL ONLY AND ARE INTENDED FOR DEVELOPMENT APPROVAL PURPOSES ONLY.
2. WHERE LEVELS OR SIZES OF ANY WORKS ARE SHOWN, THESE ARE INDICATIVE ONLY TO DEMONSTRATE THE CAPABILITY OF THE SERVICING OPTION PROPOSED AND ARE SUBJECT TO DETAILED DESIGN (OPERATIONAL WORKS DESIGN). THIS IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE LATEST VERSIONS OF THE AUTHORITY STANDARDS, AUSTRALIAN STANDARDS AND OTHER INDUSTRY REFERENCE DOCUMENTS AT TIME OF DESIGN.
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4. THE PROPOSED SERVICING ARRANGEMENT HAS BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE PARKSIDE YERONGA PDA PRELIMINARY APPROVAL DOCUMENTATION WILL BE DELIVERED.

LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED SITE BOUNDARY
- PROPOSED RETAINING WALL
- RW — PROPOSED PRIVATE ROOFWATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- W — W — PROPOSED PRIVATE WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S — S — PROPOSED PRIVATE SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- D — D — PROPOSED STORMWATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- W — W — PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S — S — PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P — PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- PROPOSED CONCRETE PAVEMENT
- PROPOSED LANDSCAPING

Notes

	By	Appd	
A FOR APPROVAL	KJL	HS	2022.08.16
Issued/Revision			YYYY.MM.DD
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd. 2022.08.16 YYYY.MM.DD

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Client/Project Logo

Client/Project

JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: [XREFS]-E-DRAWING SPECIFIC LAYOUT PLAN.DWG

	Dwn.	Dsgn.	Chkd.	
	KJL	KJL	HS	2022.08.16 YYYY.MM.DD

Title

CONCEPT SERVICES LAYOUT PLAN
STAGE 4 - LOT 6

Project No. 301050318

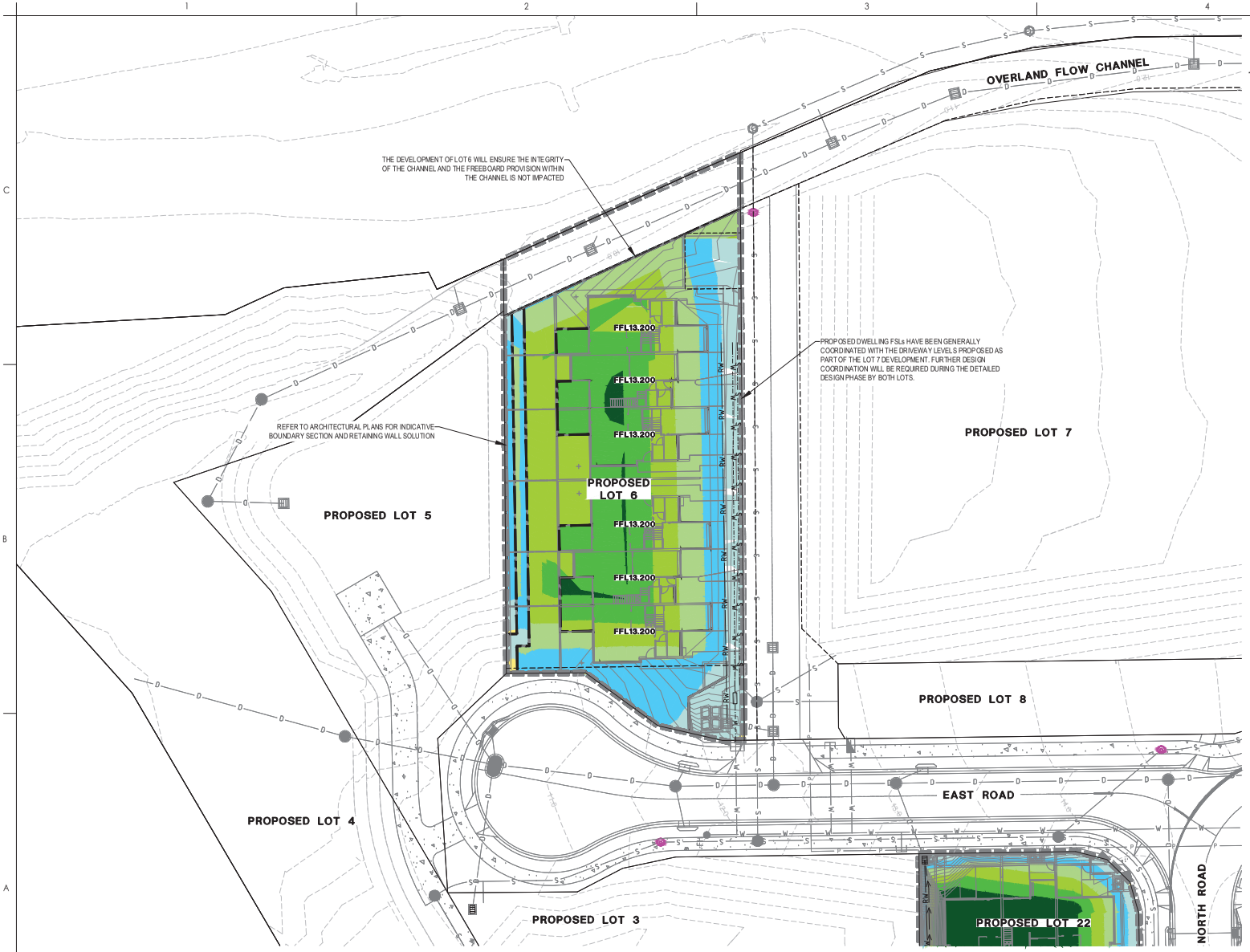
Scale 1:250

Revision A

Drawing No. 301050318-BRI-C-DA08

Plotted: 16/08/2022 3:43:57 PM By: JEFFORY, KATHRINE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LOT 6 EARTHWORKS SHADING PLAN

SCALE 1:250 (A1) 0 5 10

SCALE 1:500 (A3) 0 5 10

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EARTHWORKS VOLUMES

TOTAL FILL

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LEGEND

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- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 28.10 PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED TOP OF BATTER
- PROPOSED BOTTOM OF BATTER
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- W PROPOSED PRIVATE WATER WORKS (CONSTRUCTED BY JGL PROPERTIES)
- S PROPOSED PRIVATE SEWER WORKS (CONSTRUCTED BY JGL PROPERTIES)
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- W PROPOSED WATER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- S PROPOSED SEWER (CONSTRUCTED UNDER SUBDIVISION WORKS)
- P PROPOSED POWER (CONSTRUCTED UNDER SUBDIVISION WORKS)

CUT/FILL LEGEND

- AREA OF CUT DEPTH >5m
- AREA OF CUT DEPTH 4m - 5m
- AREA OF CUT DEPTH 3m - 4m
- AREA OF CUT DEPTH 2m - 3m
- AREA OF CUT DEPTH 1m - 2m
- AREA OF CUT DEPTH 0.1m - 1m
- AREA OF FILL DEPTH 0.1m - 1m
- AREA OF FILL DEPTH 1m - 2m
- AREA OF FILL DEPTH 2m - 3m
- AREA OF FILL DEPTH 3m - 4m
- AREA OF FILL DEPTH 4m - 5m
- AREA OF FILL DEPTH >5m

Notes

A FOR APPROVAL	KJL	HS	2022.08.16	
Issued/Revision	By	Appd	YYYY.MM.DD	
Authorised	KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

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Client/Project
JGL PROPERTIES

PARKSIDE YERONGA - JGL

PART OF 70 PARK ROAD, YERONGA

File Name: [illegible] SHEN ROBSON DWG PLAN.DWG

KJL Dwn.	KJL Dsgn.	HS Chkd.	2022.08.16 YYYY.MM.DD

Title
EARTHWORKS SHADING PLAN
STAGE 4 - LOT 6

Project No.
301050318

Scale
1:250

Revision
A

Drawing No.
301050318-BRI-C-DA09

Product: 14.00.0022 3 64 PM By: JEFFORY, KATHRINE
P:\301050318\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\WORKING DRAWINGS

ORIGINAL SHEET - B.O. A1 COORD - MGA/YY zone DATUM - mAHD

Parkside Yeronga

70 Park Road, Yeronga



Drawing List			
No.	Name	Rev	Date
000-01	Cover Sheet	F	09.08.22
000-02	Perspective	F	09.08.22
000-03	Perspective	F	09.08.22
000-04	Perspective	F	09.08.22
000-05	Perspective	F	09.08.22
000-06	Perspective	F	09.08.22
000-07	Perspective	F	09.08.22
000-08	Perspective	F	09.08.22
000-09	Perspective	F	09.08.22
100-01	Site Plan	F	09.08.22
100-02	Context Plan	F	09.08.22
100-03	Design Principles	E	09.08.22
100-10	Refuse Diagrams	F	09.08.22
100-11	Refuse Diagrams	G	09.08.22
100-12	Pedestrian Diagrams	F	09.08.22
150-10	Lot Plan - Precinct 1 - Lot 22	F	09.08.22
150-11	Lot Plan - Precinct 1 - Lot 21	F	09.08.22
150-20	Lot Plan - Precinct 2 - Lot 6	F	09.08.22
150-30	Lot Plan - Precinct 3 - Lot 10	F	09.08.22
200-01	Precinct 1 - Lot 22 - Ground Level	F	09.08.22
200-02	Precinct 1 - Lot 22 - Level 1	F	09.08.22
200-03	Precinct 1 - Lot 22 - Roof	F	09.08.22
200-10	Precinct 1 - Lot 21 - Ground Level	F	09.08.22
200-11	Precinct 1 - Lot 21 - Level 1	F	09.08.22
200-12	Precinct 1 - Lot 21 - Roof	F	09.08.22
200-20	Precinct 2 - Ground Level	G	09.08.22
200-21	Precinct 2 - Level 1	F	09.08.22
200-22	Precinct 2 - Roof	F	09.08.22
200-30	Precinct 3 - Ground Level	F	09.08.22
200-31	Precinct 3 - Level 1	G	09.08.22
200-32	Precinct 3 - Level 2	F	09.08.22
200-33	Precinct 3 - Roof	F	09.08.22
300-01	Elevations - Precinct 1 (Lot 22)	F	09.08.22
300-02	Elevations - Precinct 1 (Lot 22)	F	09.08.22
300-10	Elevations - Precinct 1 (Lot 21)	F	09.08.22
300-11	Elevations - Precinct 1 (Lot 21)	F	09.08.22
300-20	Elevations - Precinct 2 (Lot 6)	F	09.08.22
300-30	Elevations - Precinct 3 (Lot 10)	F	09.08.22
300-31	Elevations - Precinct 3 (Lot 10)	F	09.08.22
400-01	Section - Precinct 1 (Lot 22 + 21)	F	09.08.22
400-02	Section - Precinct 1 (Lot 22 + 21)	F	09.08.22
400-20	Section - Precinct 2 (Lot 6)	F	09.08.22
400-30	Section - Precinct 3 (Lot 10)	F	09.08.22
450-01	Interface Sections - Precinct 1 (Lot 22 + 21)	F	09.08.22
450-02	Interface Sections - Precinct 1 (Lot 22 + 21)	F	09.08.22
450-03	Interface Sections - Precinct 2 (Lot 6)	F	09.08.22
450-04	Interface Sections - Precinct 3 (Lot 10)	F	09.08.22
540-01	Dwelling House Plans - Type 1	F	09.08.22
540-02	Dwelling House Plans - Type 2	F	09.08.22
540-03	Dwelling House Plans - Type 3	F	09.08.22
900-03	Villa Street Interface	F	09.08.22
900-04	Villa Street Interface	F	09.08.22
900-05	Villa Street Interface	F	09.08.22
900-20	Material Legend	F	09.08.22
910-01	Area Schedule - Precinct 1	F	09.08.22
910-02	Area Schedule - Precinct 2	F	09.08.22
910-03	Area Schedule - Precinct 3	F	09.08.22

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CLIENT: JGL Properties

PROJECT: Parkside Yeronga

DRAWING NAME: Cover Sheet

DRAWING NO.: 000-01 F

SCALE NTS
09.08.22
PROJECT NO. 3662

9/08/2022 4:58:07 PM



Perspective - Precinct 1 - Park Road + South Road

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CLIENT
JGL Properties

PROJECT
Parkside Yeronga

DRAWING NAME
Perspective

DRAWING NO.
000-02 F

SCALE NTS
09.08.22
PROJECT NO. 3662

9/08/2022 4:58:07 PM



Perspective - Precinct 1 - East Road + South Road

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CLIENT
JGL Properties

PROJECT
Parkside Yeronga

DRAWING NAME
Perspective

DRAWING NO.
000-03 F

SCALE NTS
09.08.22
PROJECT NO. 3662

9/08/2022 4:58:08 PM



Perspective - Precinct 1 - Park Road + North Road

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE NTS 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Perspective	000-04 F	

9/08/2022 4:58:08 PM



Perspective - Precinct 1 - East Road

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CLIENT
JGL Properties

PROJECT
Parkside Yeronga

DRAWING NAME
Perspective

DRAWING NO.
000-05 F

SCALE NTS
09.08.22
PROJECT NO. 3662

9/08/2022 4:58:08 PM



Perspective - Precinct 2 - East Road

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE NTS 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Perspective	000-06 F	

9/08/2022 4:58:09 PM



Perspective - Precinct 3 - Retire Australia Interface

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CLIENT
JGL Properties

PROJECT
Parkside Yeronga

DRAWING NAME
Perspective

DRAWING NO.
000-07 F

SCALE NTS
09.08.22
PROJECT NO. 3662

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Perspective - Precinct 3 - Villa Street

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE NTS 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Perspective	000-08 F	

9/08/2022 4:58:10 PM



Perspective - Precinct 3 - Villa Street

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CLIENT
JGL Properties

PROJECT
Parkside Yeronga

DRAWING NAME
Perspective

DRAWING NO.
000-09 F

SCALE NTS
09.08.22
PROJECT NO. 3662

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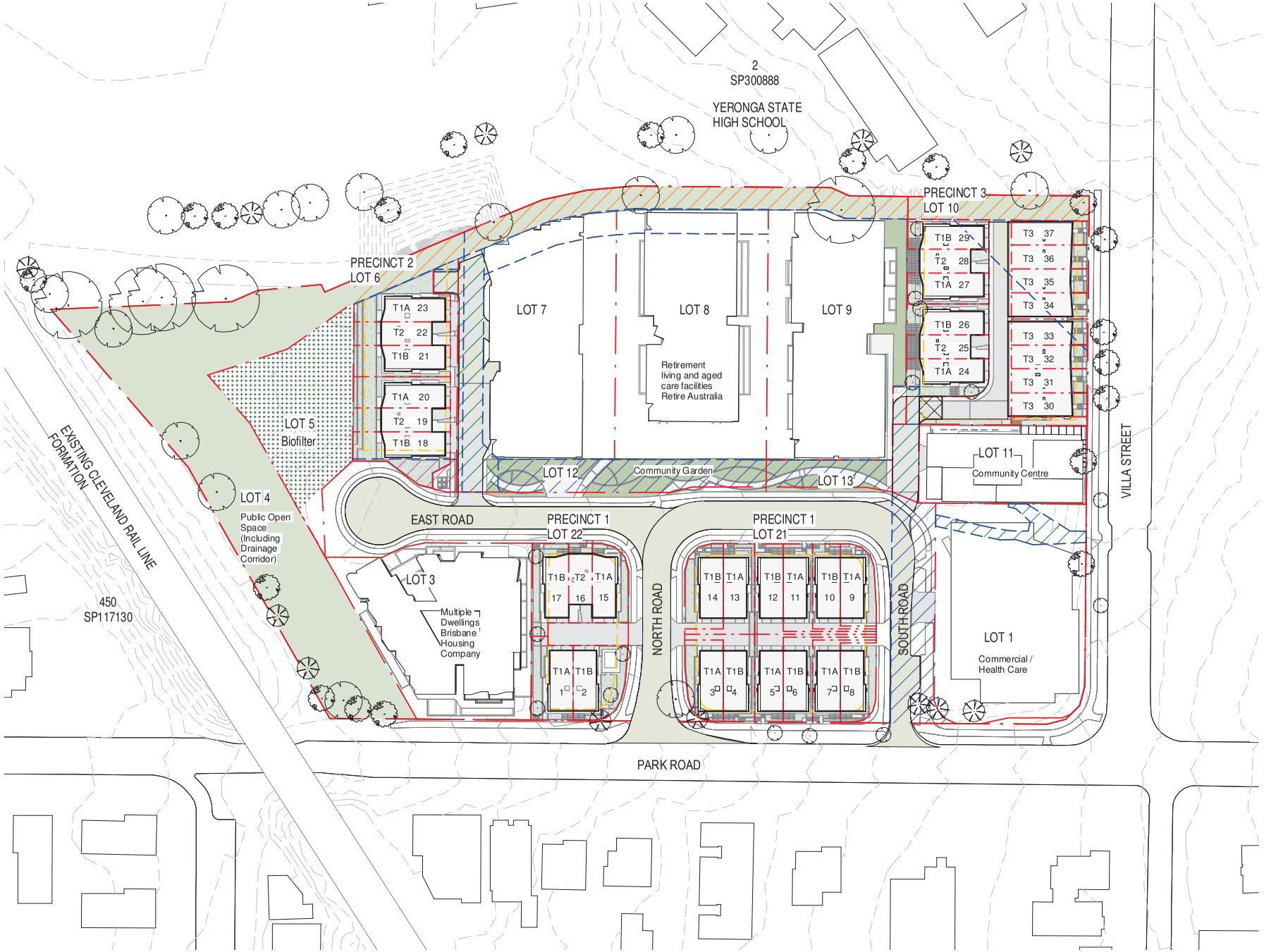

LEGEND

- setback line
- easement line
- boundary line

Areas by Precinct	
Precinct 1	
Private Open Space	824m²
Dwelling Site	1527m²
Site Cover	1856m²
Site Area	3500m²
Precinct 2	
Private Open Space	520m²
Dwelling Site	1243m²
Site Cover	623m²
Site Area	1605m²
Precinct 3	
Private Open Space	607m²
Dwelling Site	690m²
Site Cover	1421m²
Site Area	2888m²

DEVELOPMENT SUMMARY

PRECINCT 1
Max building height (storeys): 2
Max building height (metres AHD): 30 (lot 21), 26 (lot 22)
No. dwellings: 17

PRECINCT 2
Max building height (storeys): 2
Max building height (metres AHD): 24
No. dwellings: 6

PRECINCT 3
Max building height (storeys): 3
Max building height (metres AHD): 32
No. dwellings: 14

TOTAL DWELLINGS: 37

Site Plan
1 : 1000

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CLIENT: JGL Properties
PROJECT: Parkside Yeronga
DRAWING NAME: Site Plan
DRAWING NO.: 100-01 F
SCALE As indicated
09.08.22
PROJECT NO. 3662

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CONTEXT



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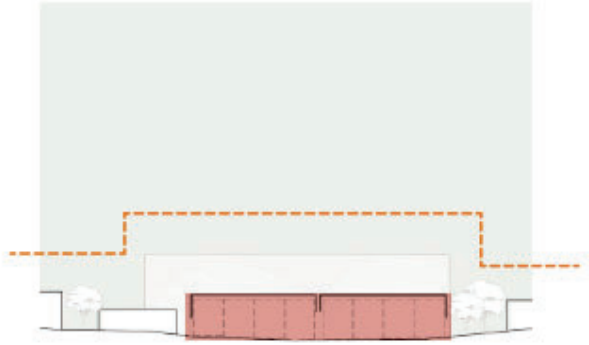
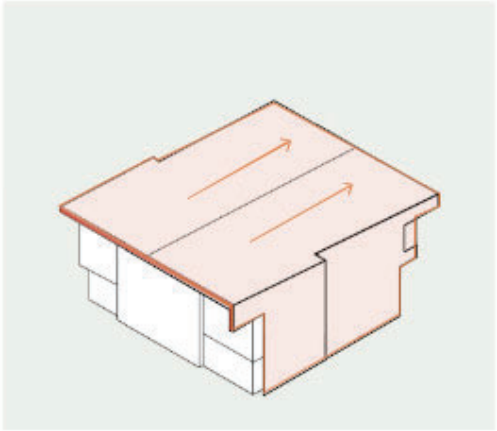
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE
JGL Properties	Parkside Yeronga	Context Plan	100-02 F	09.08.22 PROJECT NO. 3662

9/08/2022 4:58:15 PM

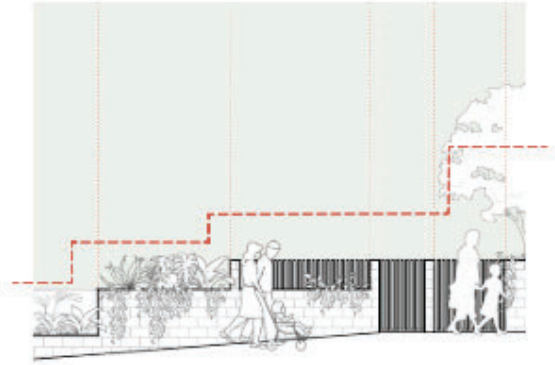
DESIGN PRINCIPLES



BOLD SCALE TO RELATE TO CONTEXT



SIMPLE FORM



FINE GRAIN TEXTURE + ARTICULATION



COVERED OUTDOOR SPACE + SHADING



CONNECTION TO STREET



ASPIRATIONAL LIVING

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CLIENT
JGL Properties

PROJECT
Parkside Yeronga

DRAWING NAME
Design Principles

DRAWING NO.
100-03 E

SCALE
09.08.22
PROJECT NO. 3662

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Precinct 1
Private dwelling 240L bins collected from Park Rd,
North Rd, South rd and East Rd
Resident to move bins to collection points



Precinct 1 - Refuse Diagram

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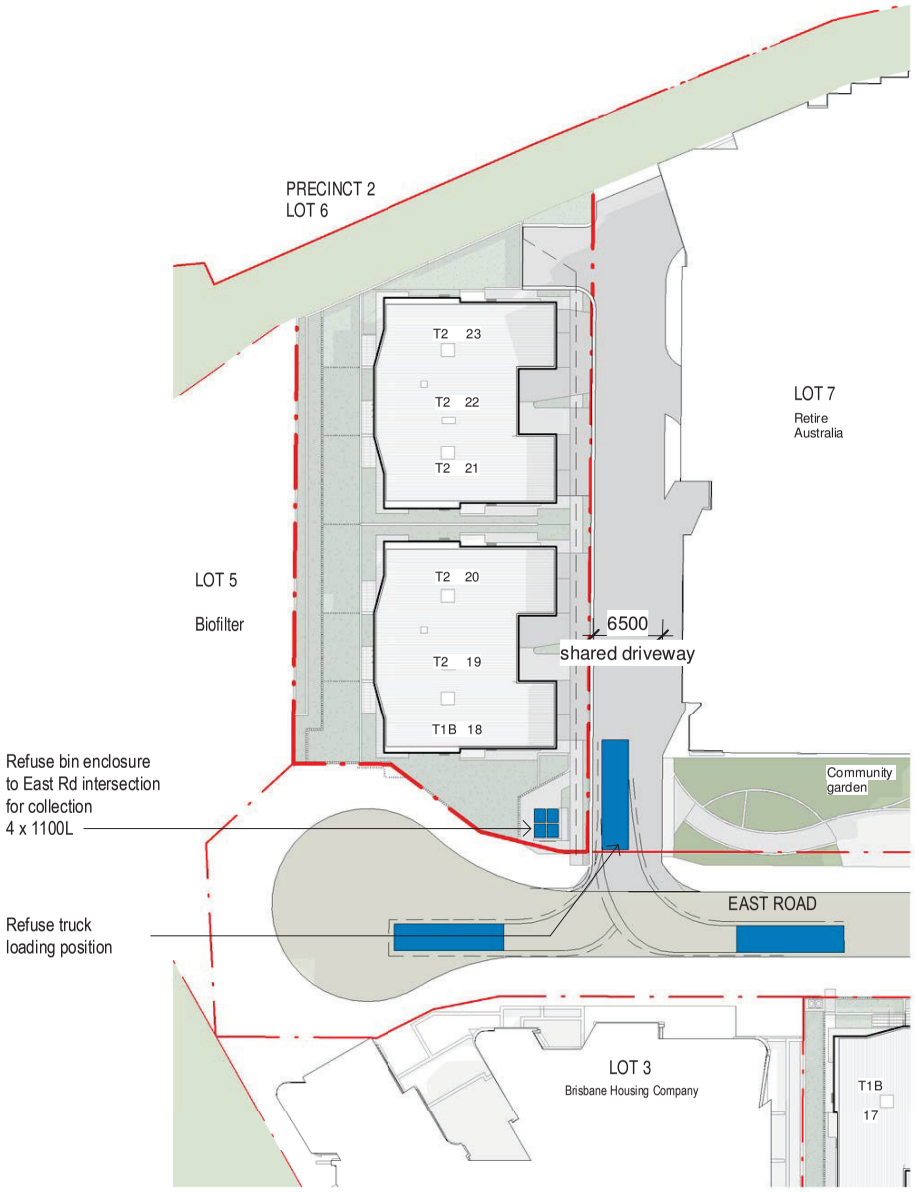
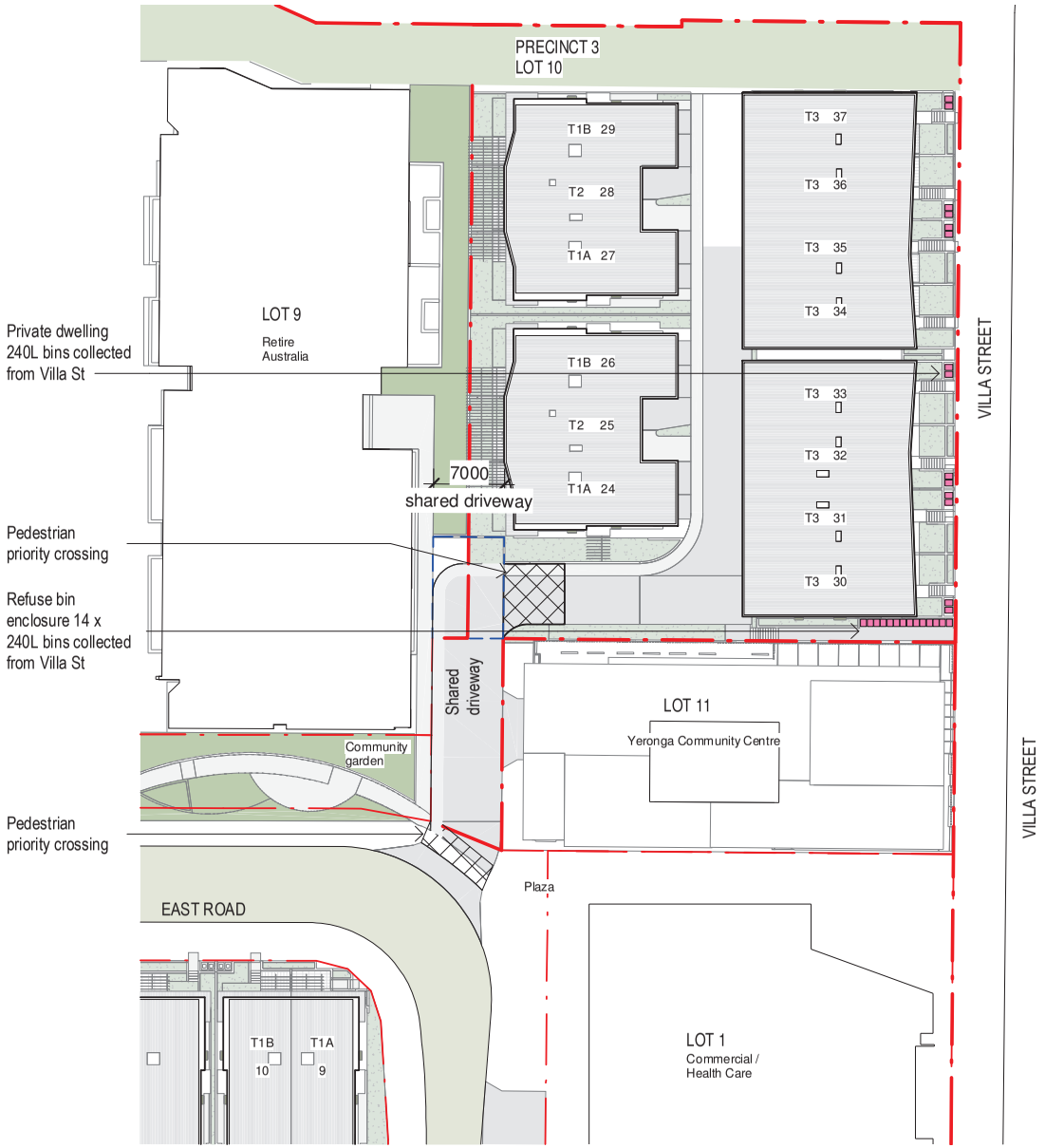
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 500 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Refuse Diagrams	100-10 F	

9/08/2022 4:58:19 PM



Precinct 2 - Refuse Diagram



Precinct 3 - Refuse Diagram

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 500 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Refuse Diagrams	100-11 G	

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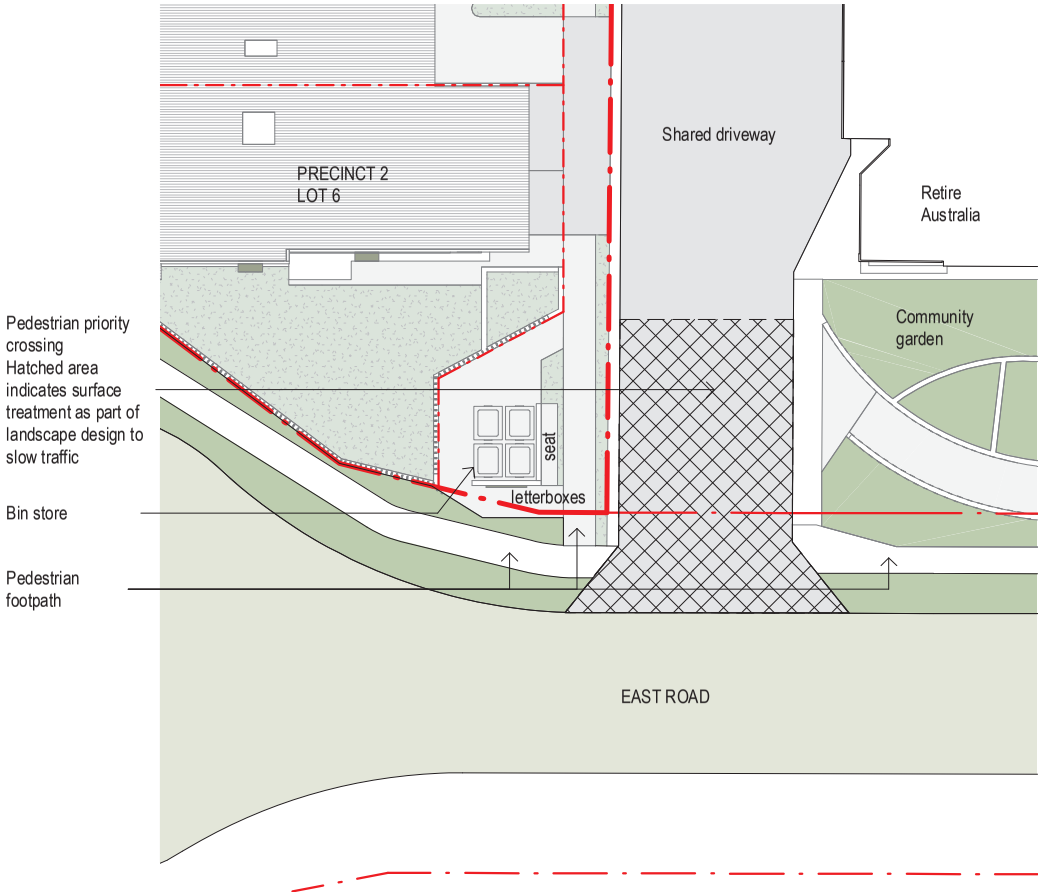
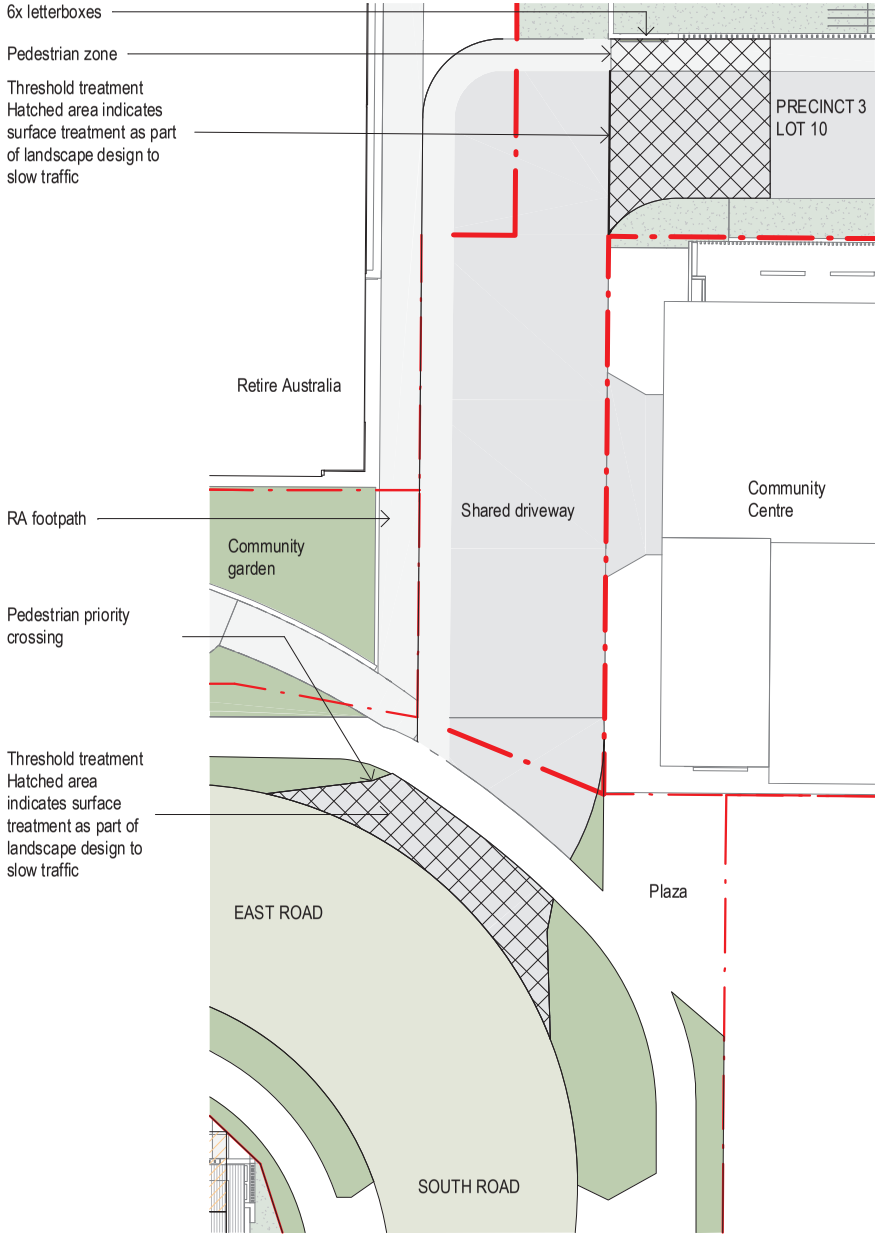


1 **Precinct 2 - Pedestrian Safety**
1 : 200



2 **Precinct 3 - Pedestrian Safety**
1 : 200

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CLIENT: JGL Properties

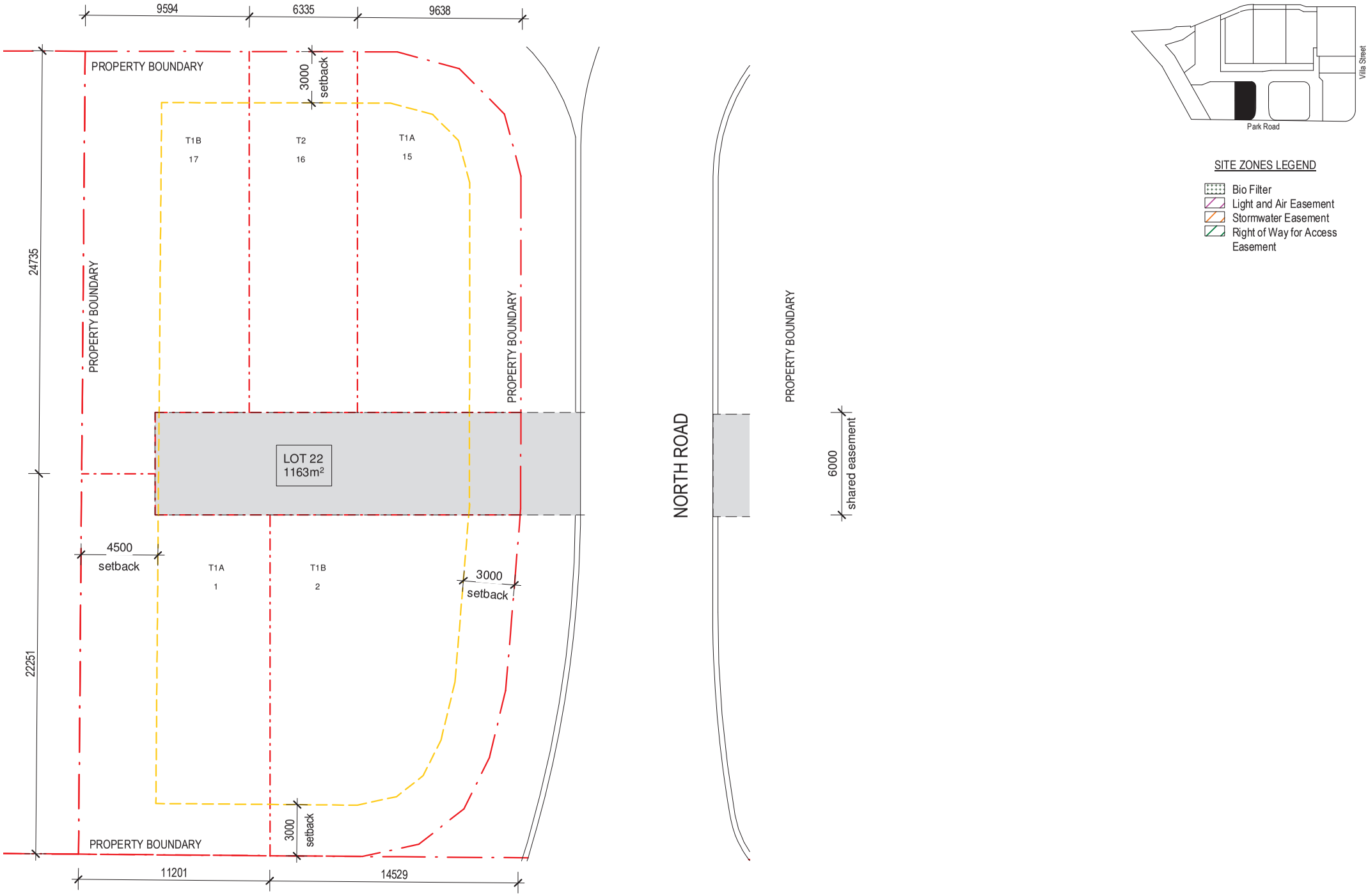
PROJECT: Parkside Yeronga

DRAWING NAME: Pedestrian Diagrams

DRAWING NO.: 100-12 F

SCALE 1 : 200
09.08.22
PROJECT NO. 3662

9/08/2022 4:58:23 PM



SITE ZONES LEGEND

- Bio Filter
- Light and Air Easement
- Stormwater Easement
- Right of Way for Access Easement

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200
JGL Properties	Parkside Yeronga	Lot Plan - Precinct 1 - Lot 22	150-10 F	09.08.22 PROJECT NO. 3662

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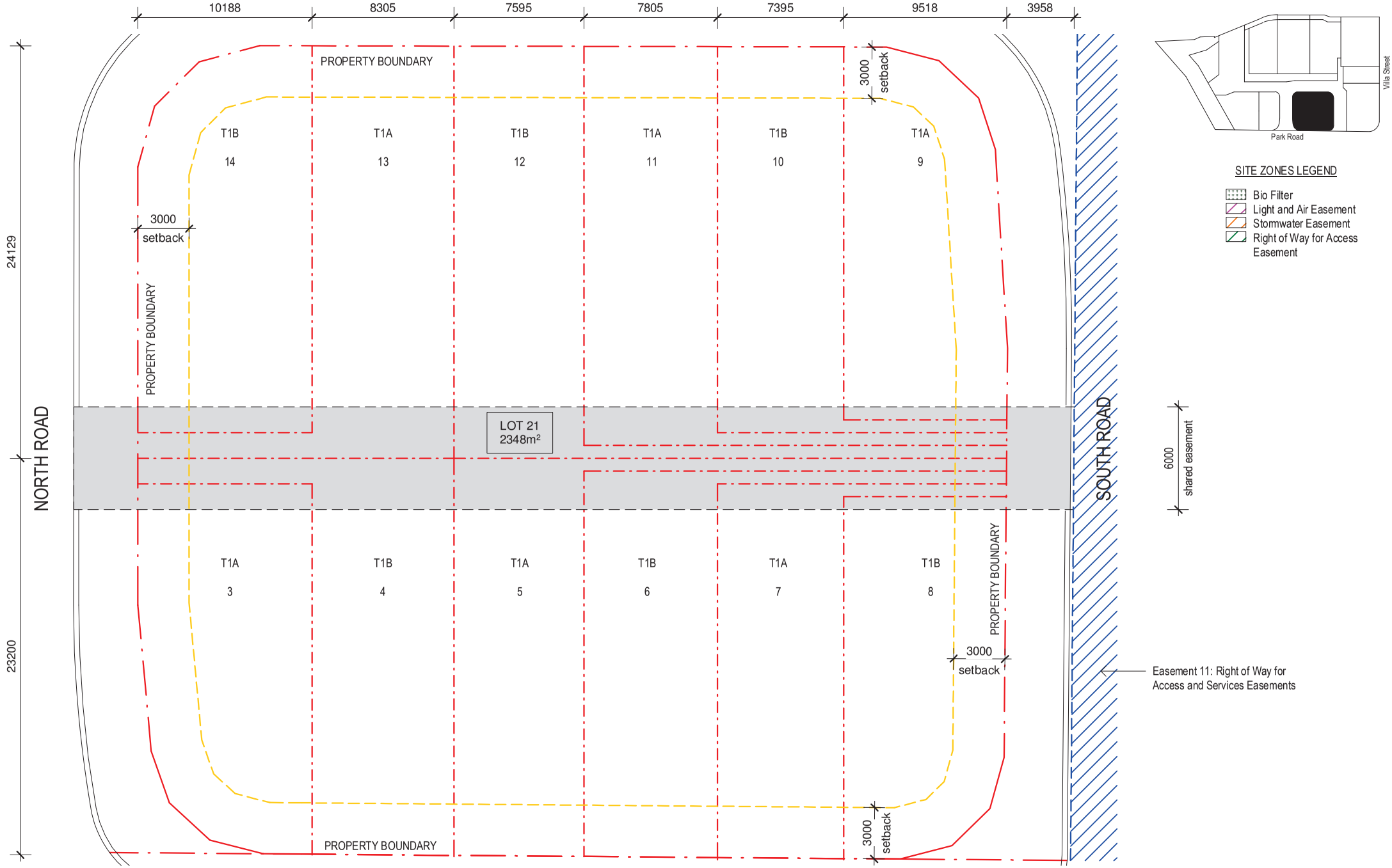

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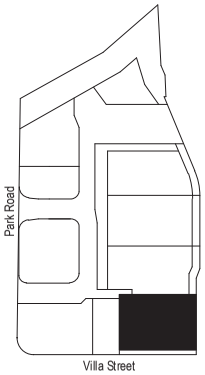
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200
JGL Properties	Parkside Yeronga	Lot Plan - Precinct 1 - Lot 21	150-11 F	09.08.22 PROJECT NO. 3662

9/08/2022 4:58:24 PM

SITE ZONES LEGEND

- Bio Filter
- Light and Air Easement
- Stormwater Easement
- Right of Way for Access Easement



Note: View rotated 90° Clockwise

7797 | 6339 | 8286 | 8291 | 6335 | 10406

Lot 5: Bio Filter

661

3000 setback

EAST ROAD (TURN ARROUND)

PROPERTY BOUNDARY

3000 setback

PROPERTY BOUNDARY

LOT 6
1606m²

PROPERTY BOUNDARY

Easement 8: Stormwater easement

Easement 10: Right of way for Access Easement

T1B 18 | T2 19 | T1A 20 | T1B 21 | T2 22 | T1A 23

Easement 3 - Light and Air Easement

3000 setback

PROPERTY BOUNDARY

SHARED DRIVEWAY

15953

Easement 9: Sewer easement

Easement 4: Right of way for Access Easement

23206

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200
JGL Properties	Parkside Yeronga	Lot Plan - Precinct 2 - Lot 6	150-20 F	09.08.22 PROJECT NO. 3662

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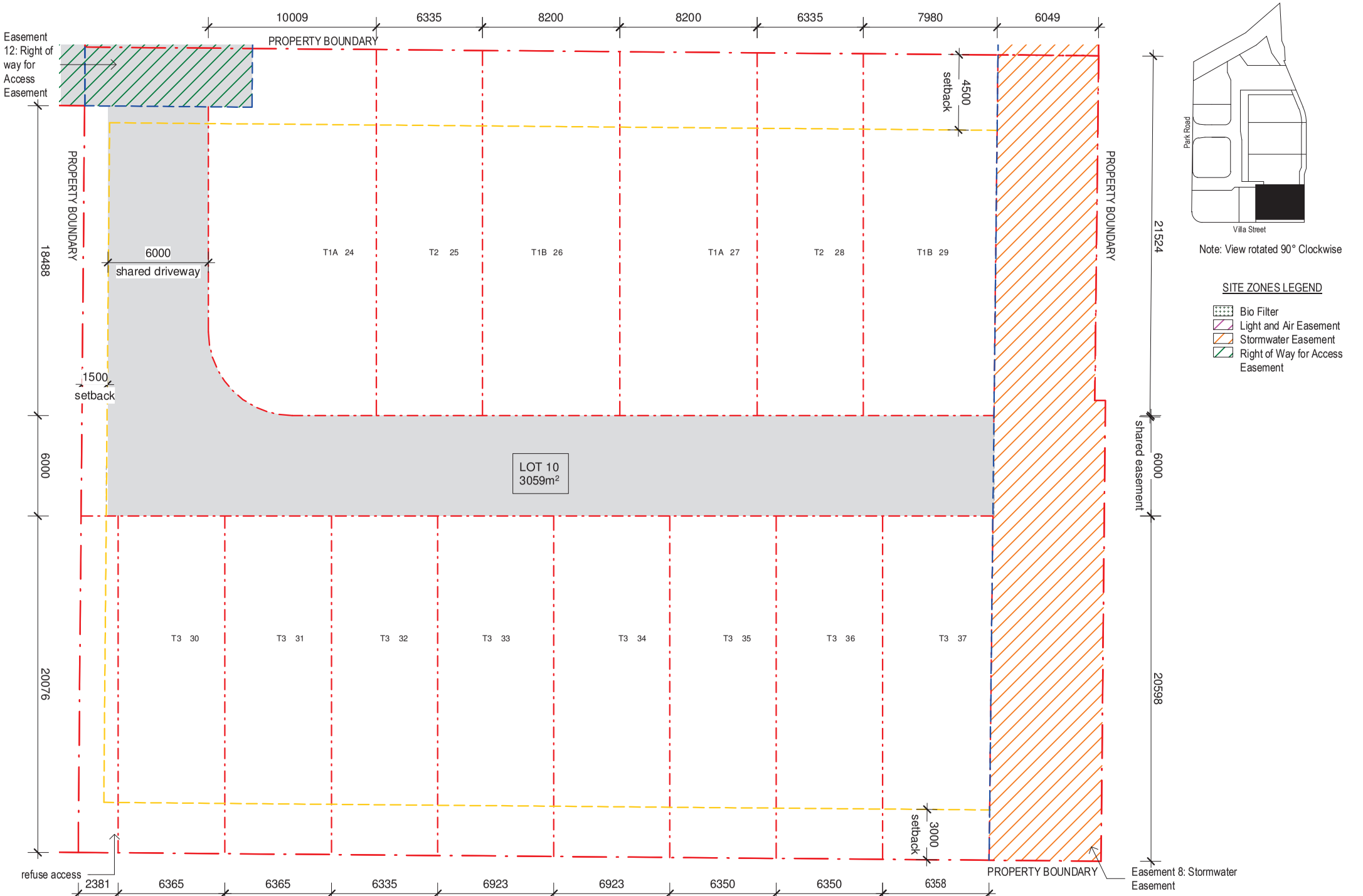

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CLIENT: JGL Properties

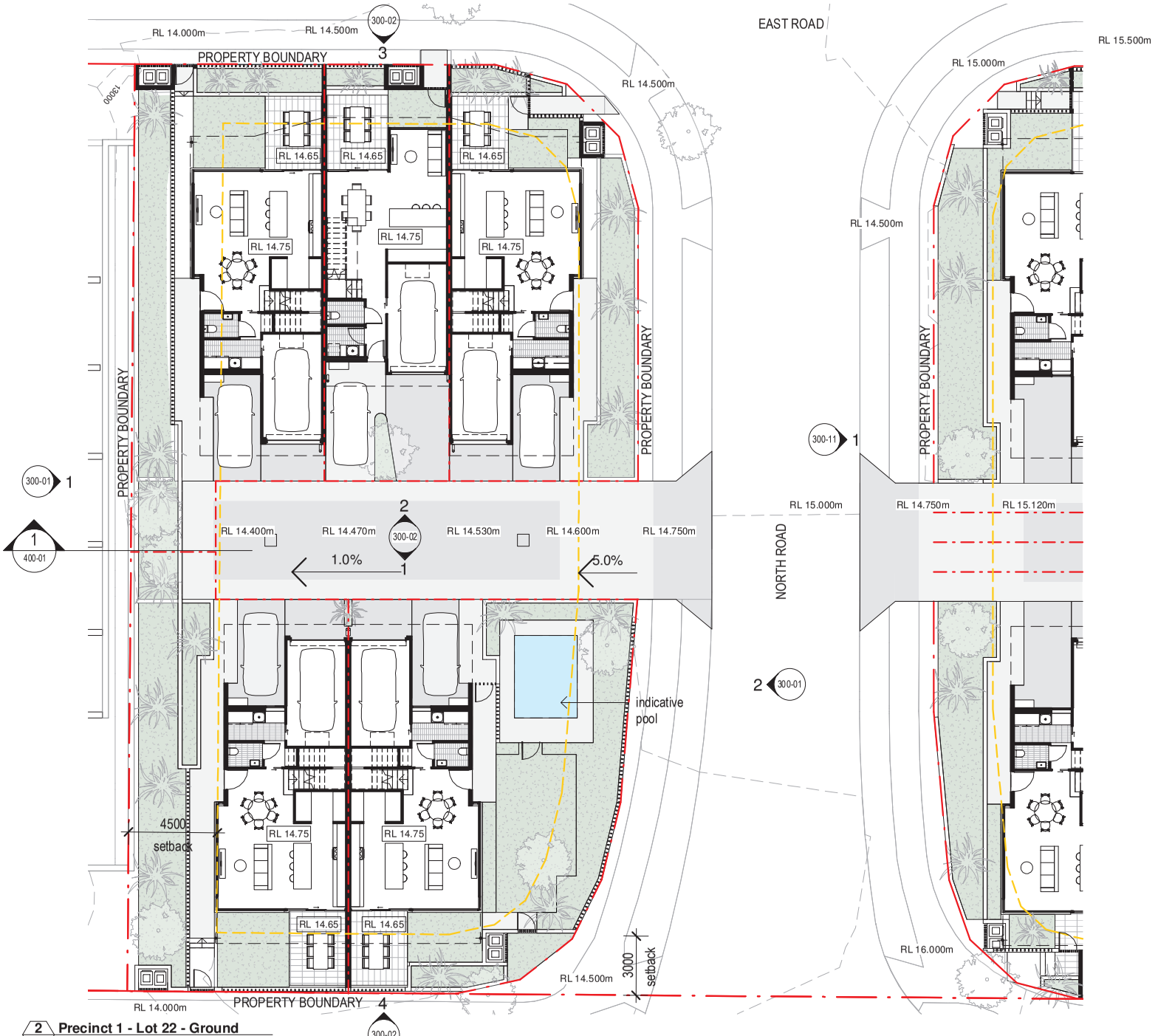
PROJECT: Parkside Yeronga

DRAWING NAME: Lot Plan - Precinct 3 - Lot 10

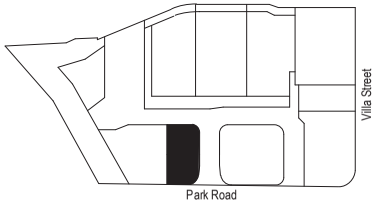
DRAWING NO.: 150-30 F

SCALE 1 : 200
09.08.22
PROJECT NO. 3662

9/08/2022 4:58:25 PM



2 **Precinct 1 - Lot 22 - Ground**
1 : 200



EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 1 - Lot 22 - Ground Level	200-01 F	

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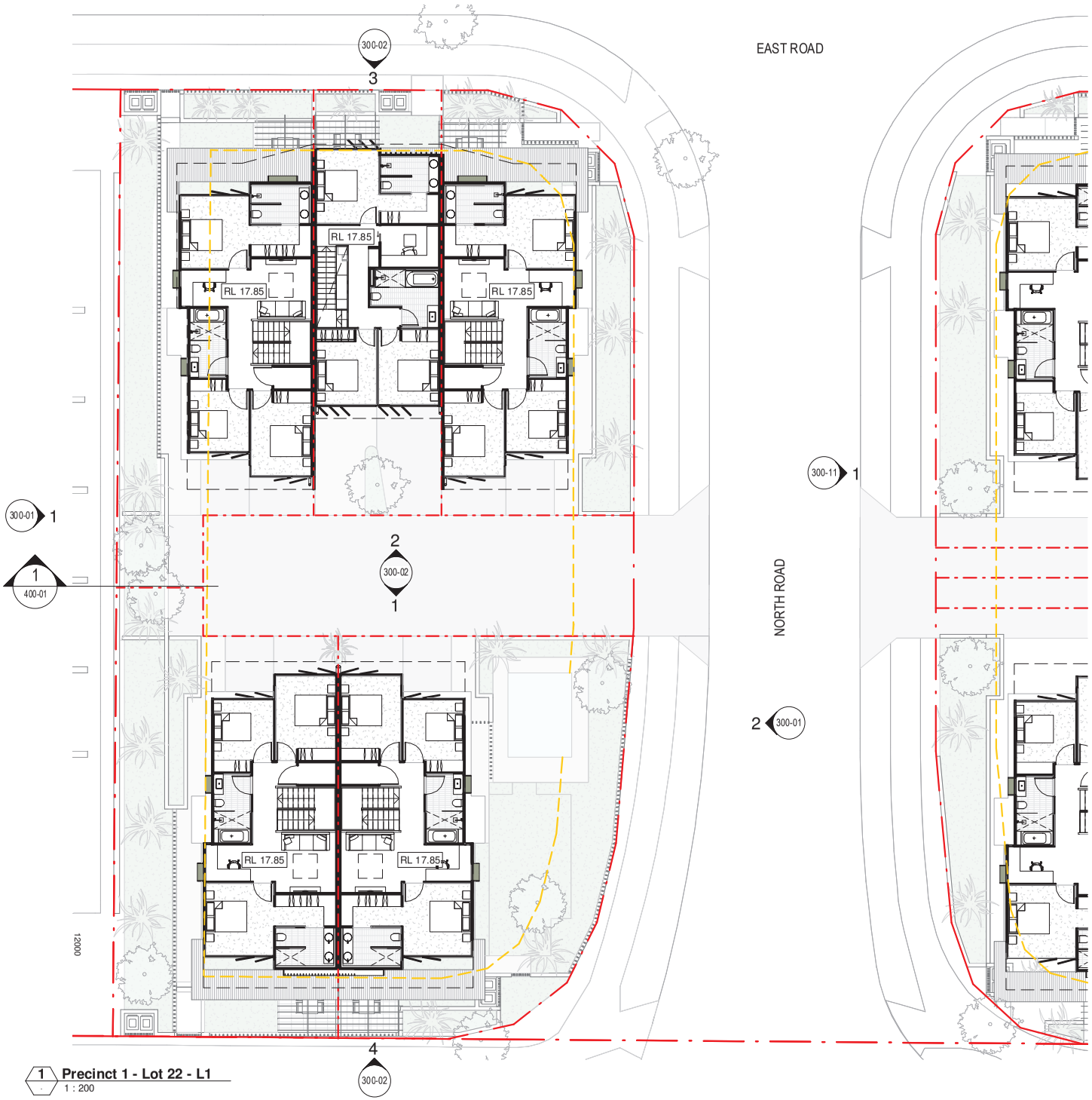

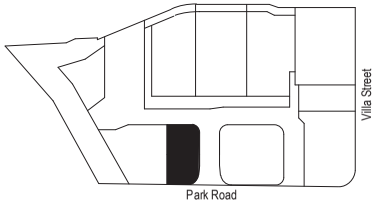

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

1 Precinct 1 - Lot 22 - L1
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 1 - Lot 22 - Level 1	200-02 F	

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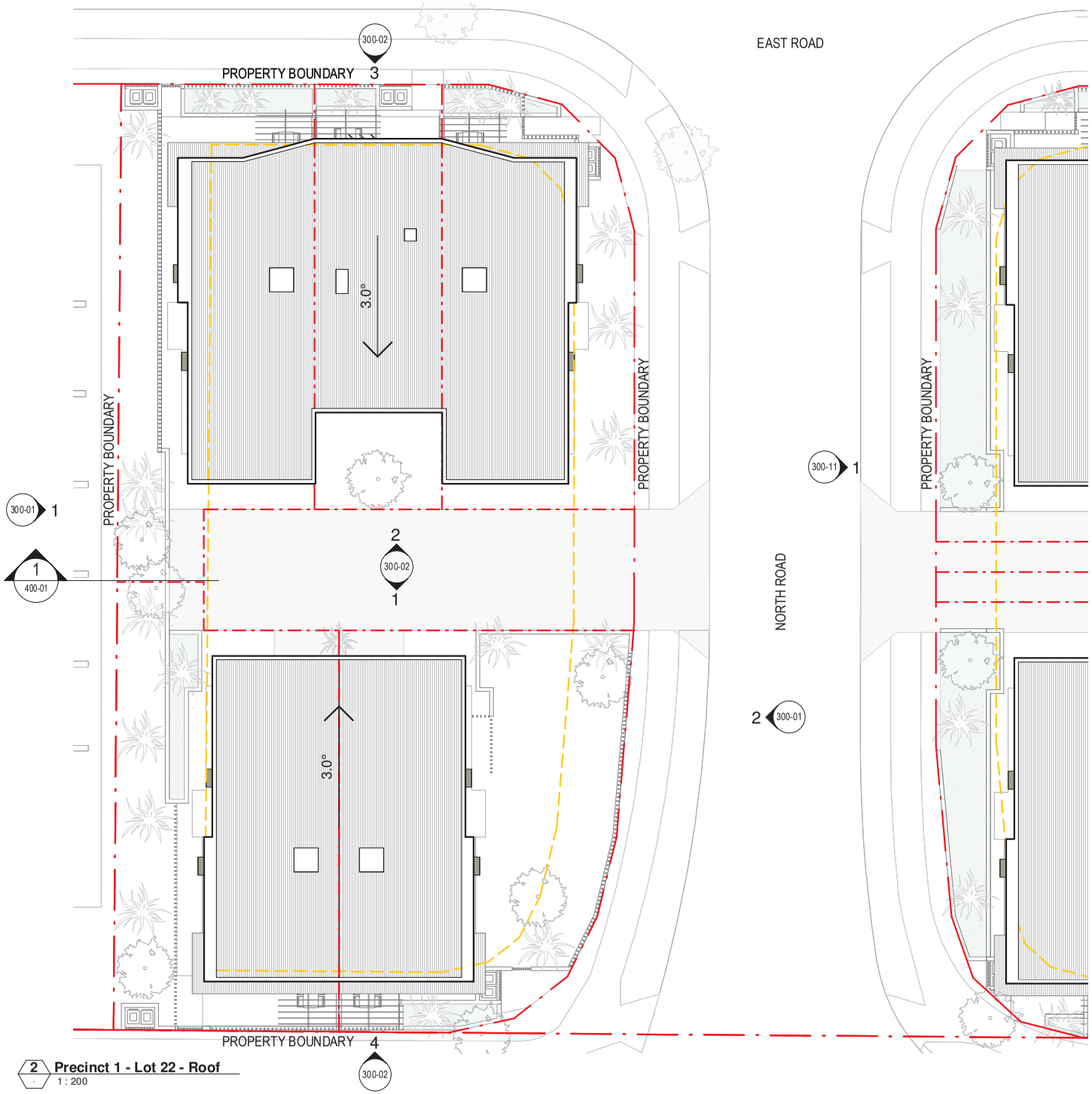

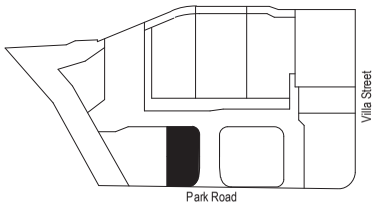

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 1 - Lot 22 - Roof
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 1 - Lot 22 - Roof	200-03 F	

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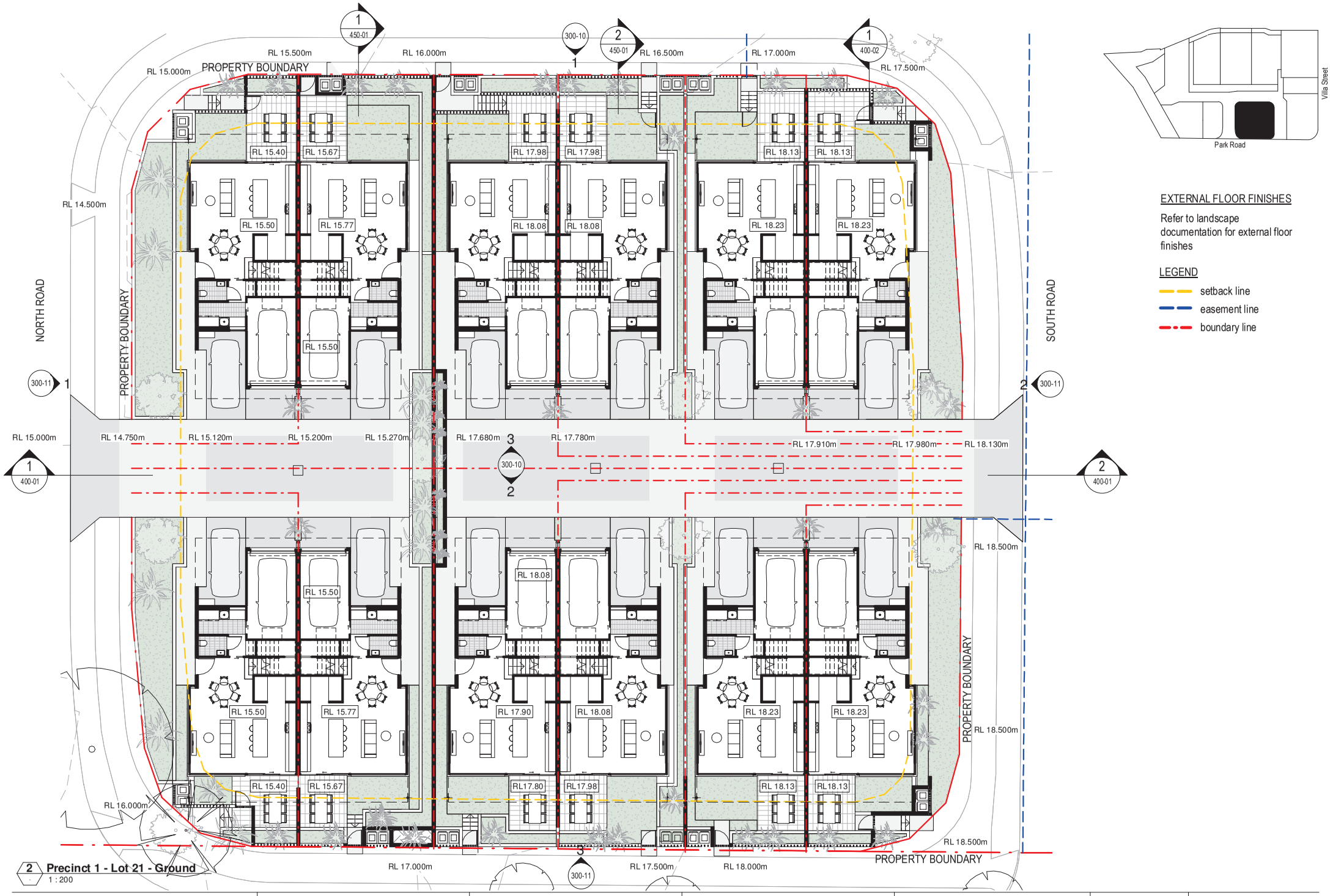

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 1 - Lot 21 - Ground
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE / PROJECT NO.
JGL Properties	Parkside Yeronga	Precinct 1 - Lot 21 - Ground Level	200-10 F	SCALE As indicated 09.08.22 PROJECT NO. 3662

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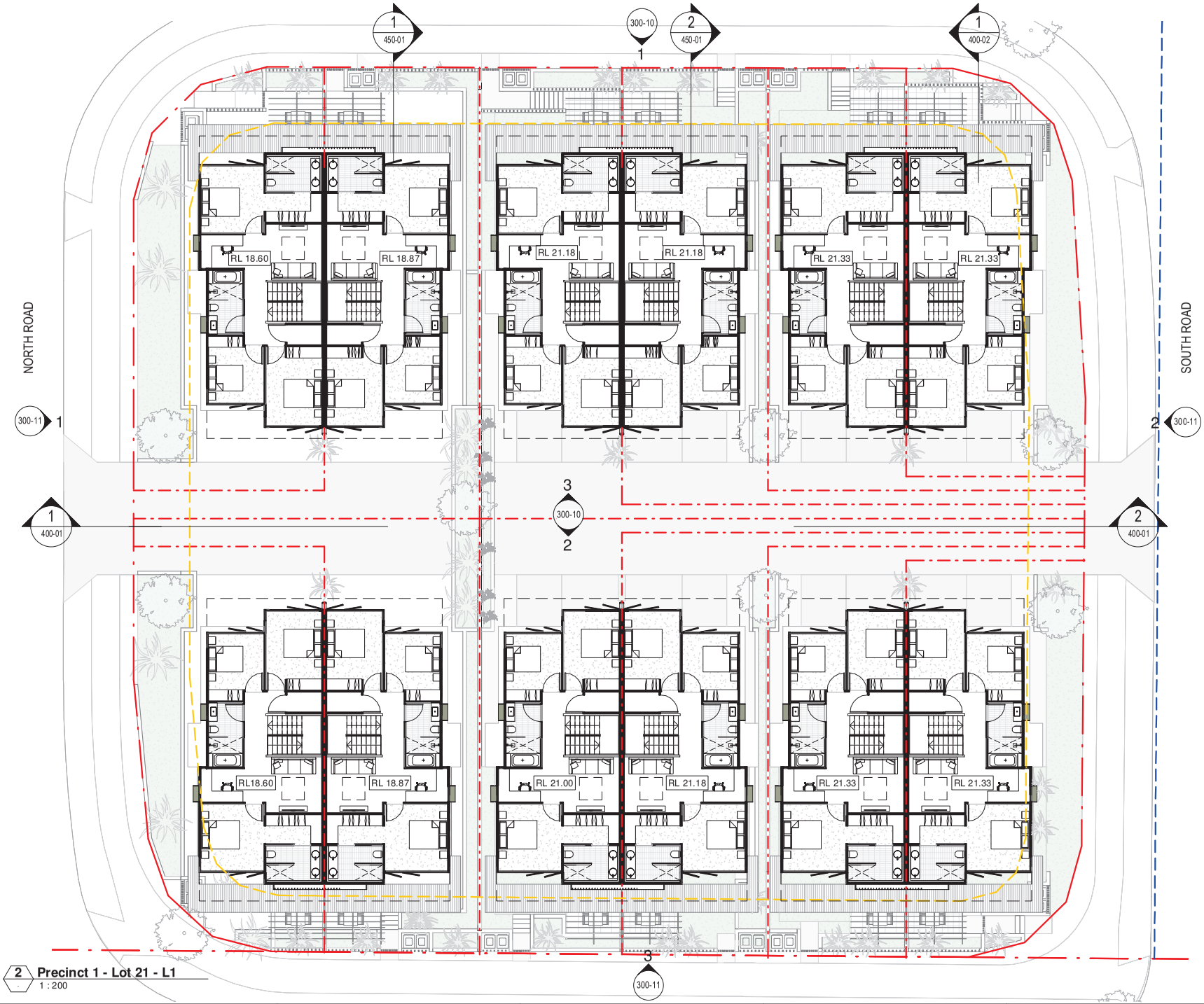

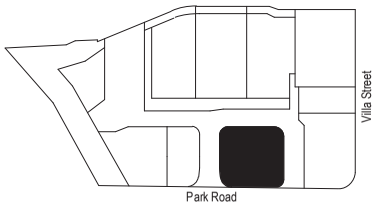

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 1 - Lot 21 - L1
1 : 200

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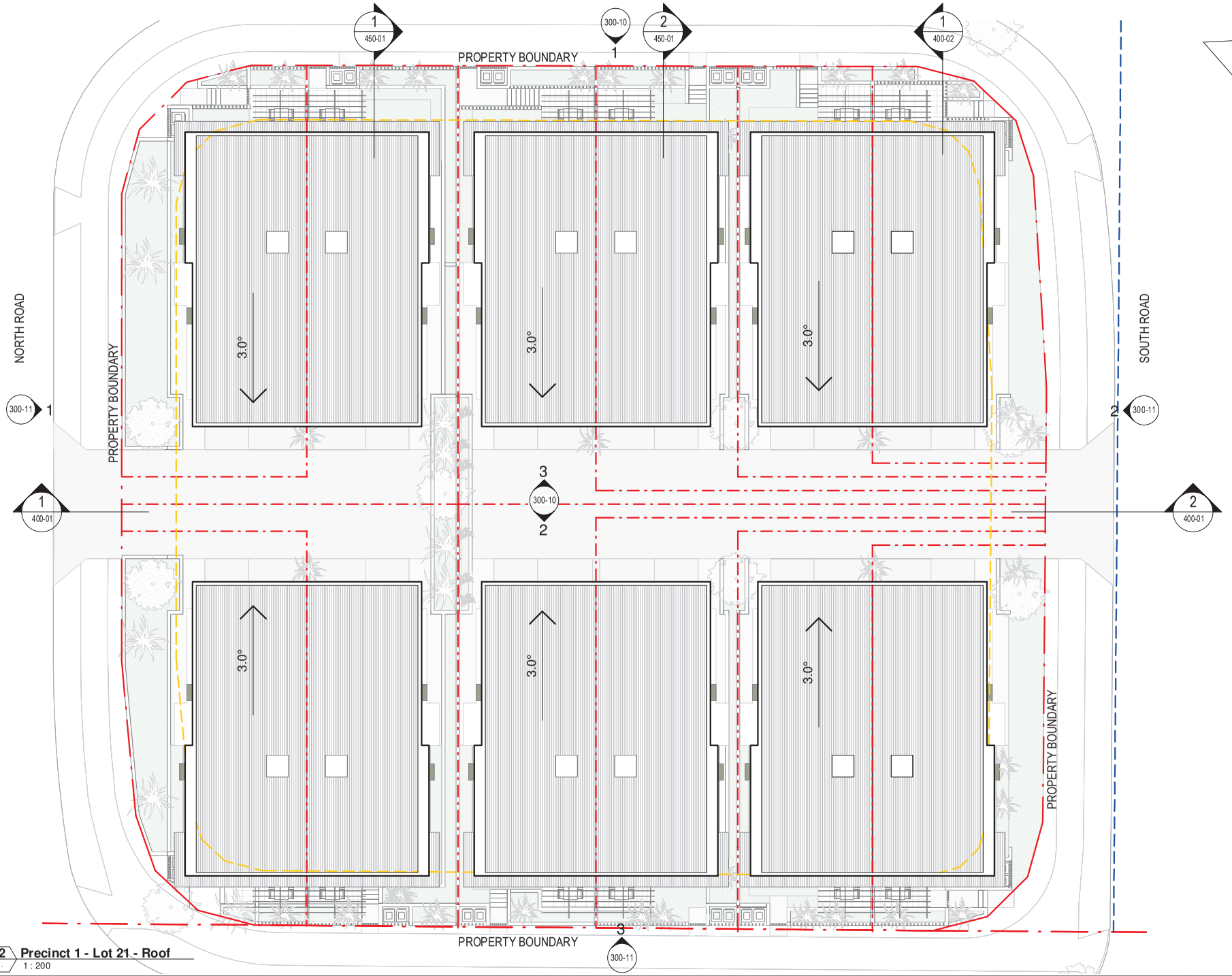
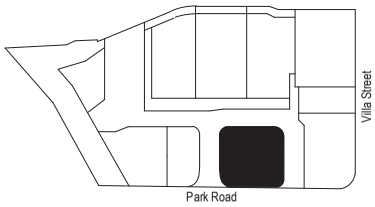
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 1 - Lot 21 - Level 1	200-11 F	

9/08/2022 4:58:45 PM





EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 1 - Lot 21 - Roof
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 1 - Lot 21 - Roof	200-12 F	

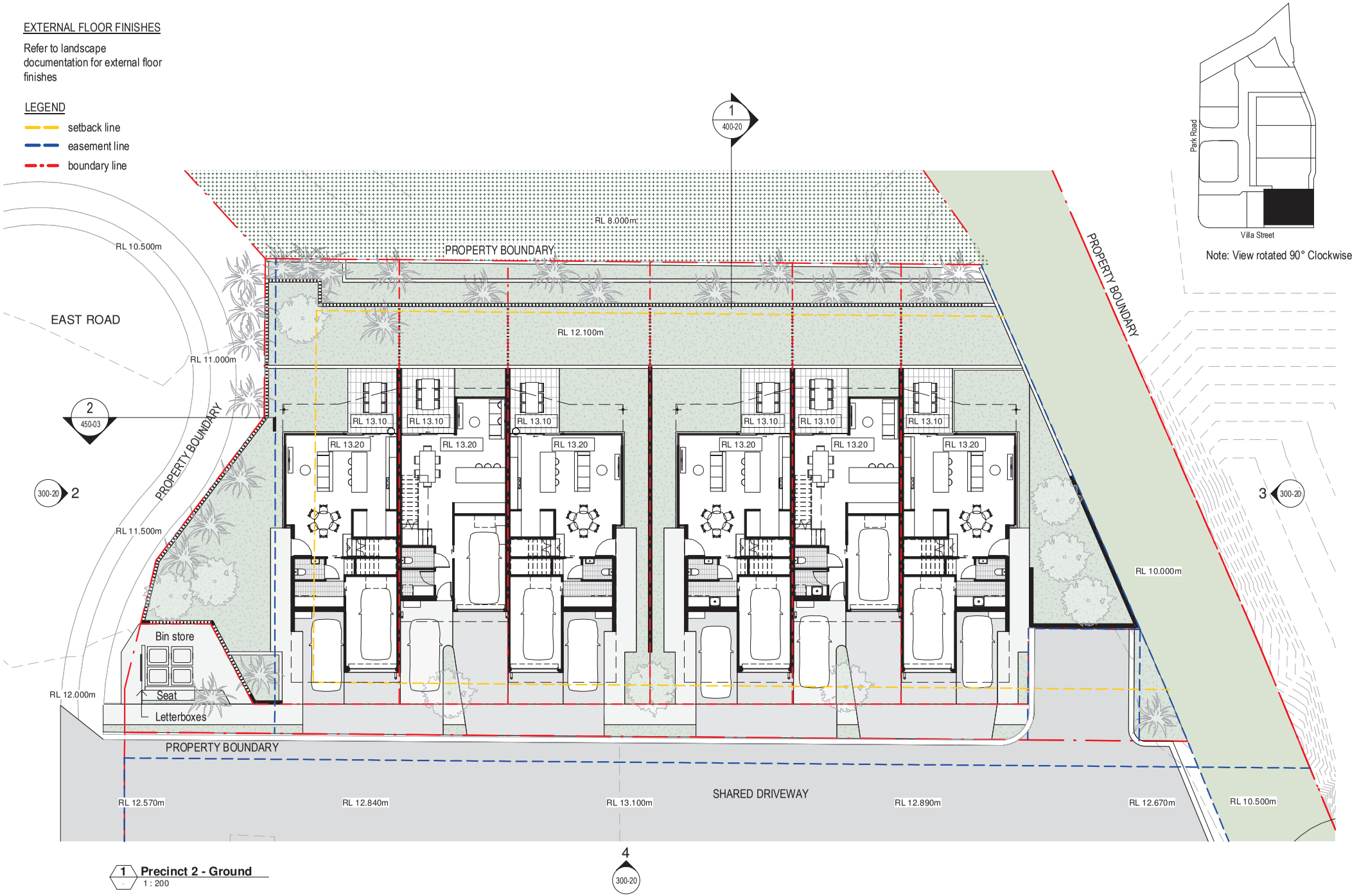
9/08/2022 4:58:49 PM

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line



Note: View rotated 90° Clockwise

1 **Precinct 2 - Ground**
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 2 - Ground Level	200-20 G	

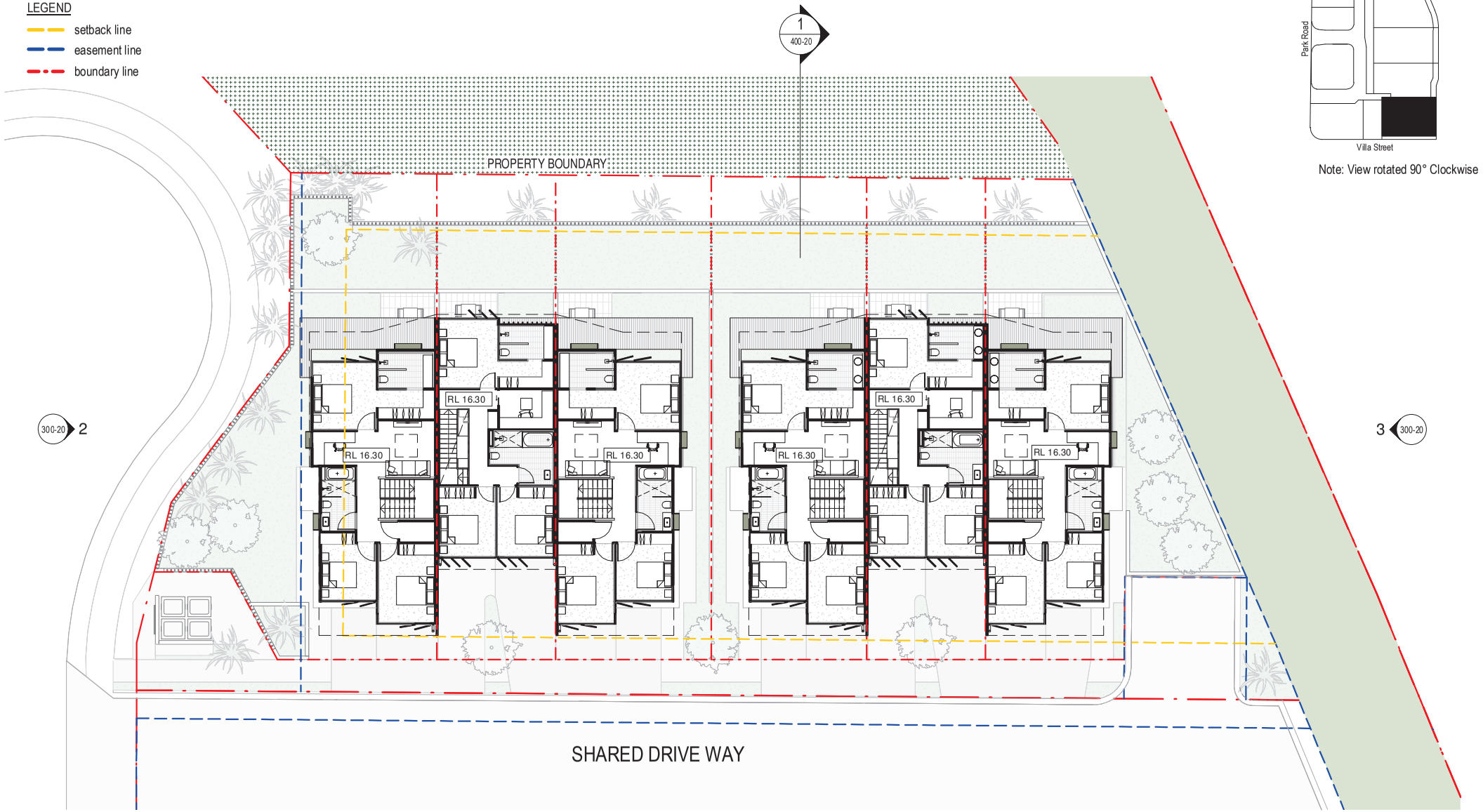
9/08/2022 4:58:53 PM

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line



Note: View rotated 90° Clockwise

2 **Precinct 2 - L1**
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 2 - Level 1	200-21 F	

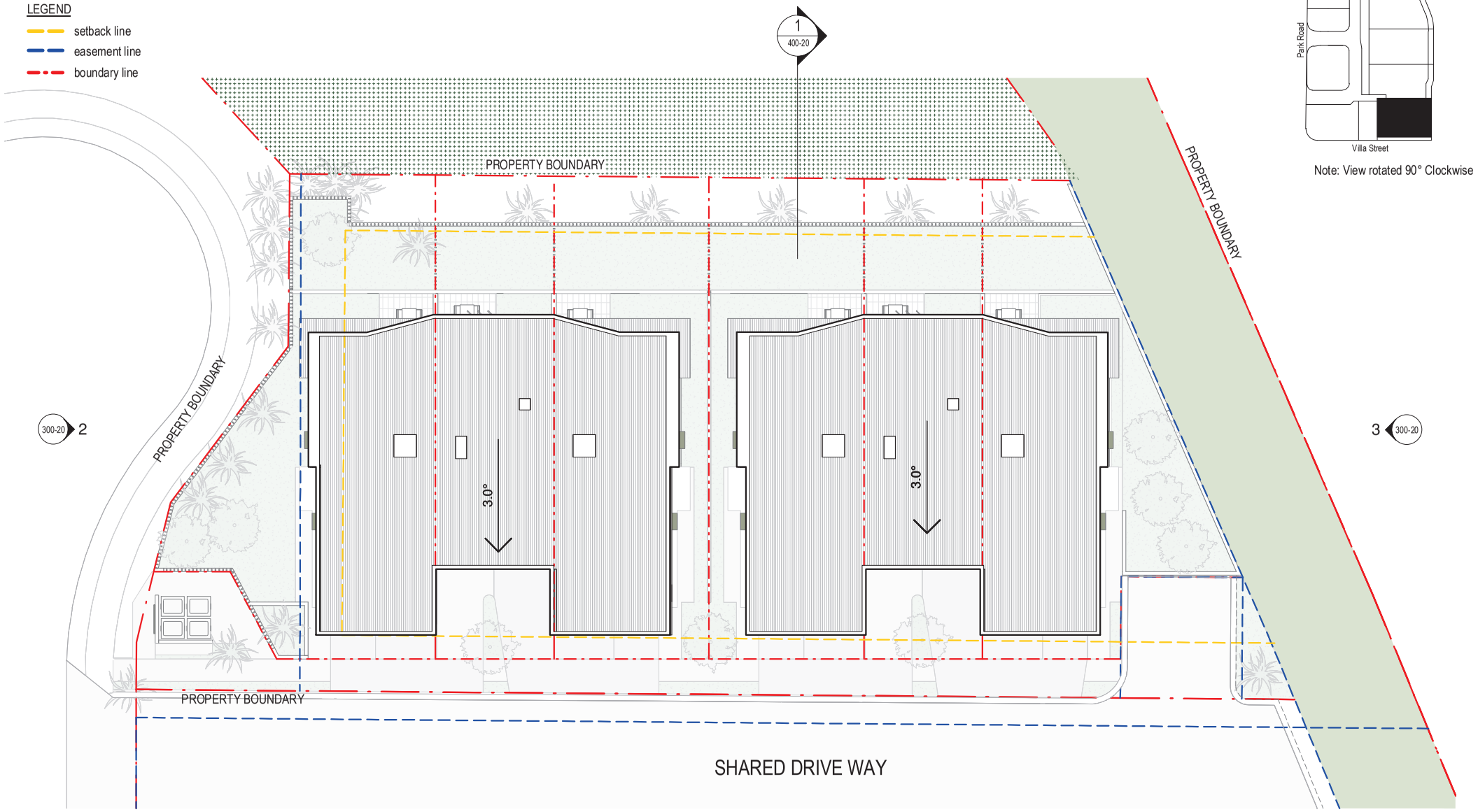
9/08/2022 4:58:56 PM

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line



Note: View rotated 90° Clockwise

2 **Precinct 2 - Roof**
1 : 200

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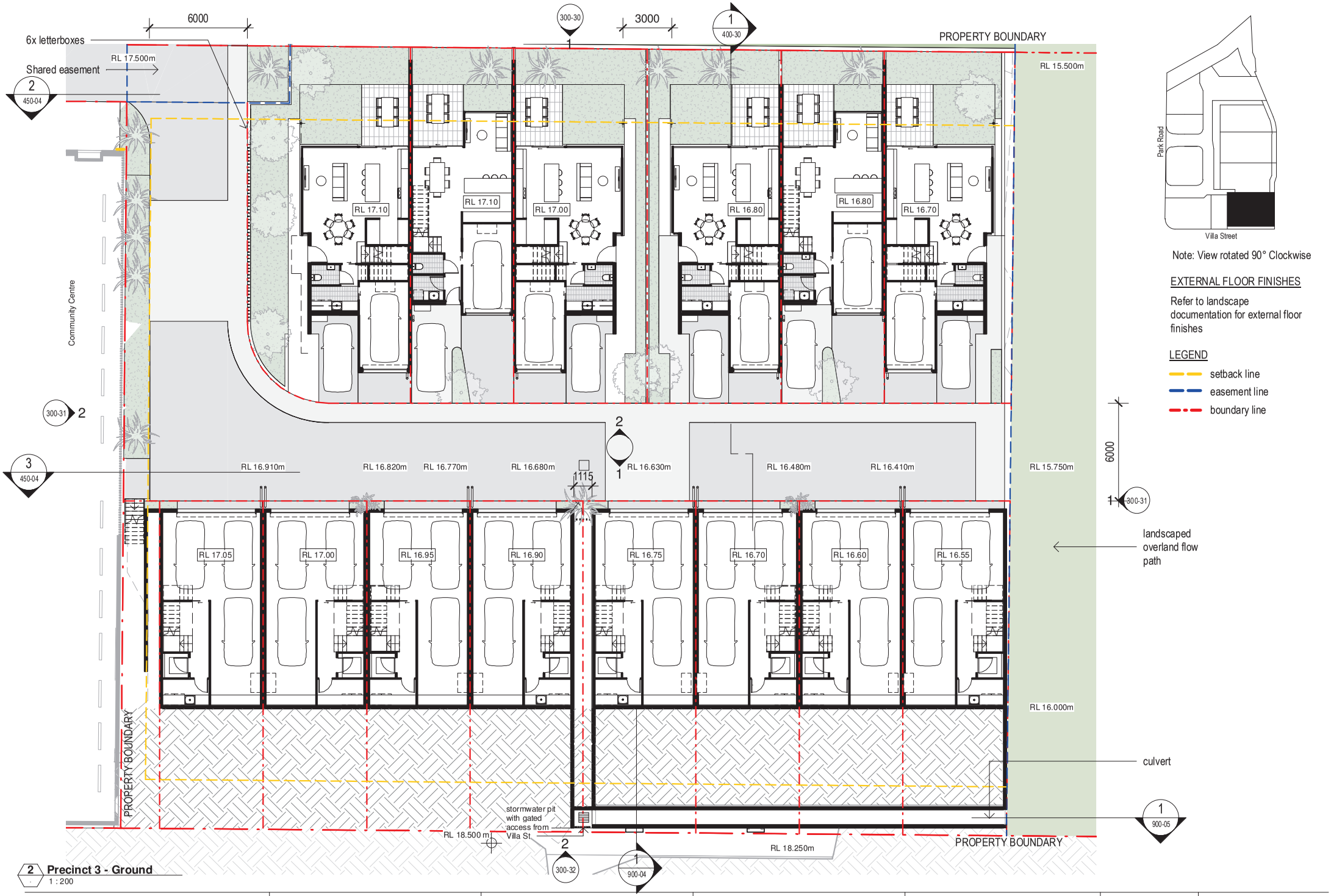
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 2 - Roof	200-22 F	

9/08/2022 4:58:58 PM



2 Precinct 3 - Ground
1 : 200

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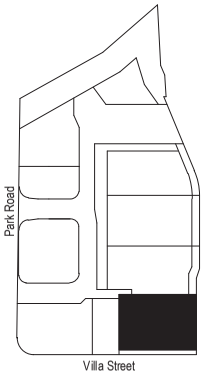
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE
JGL Properties	Parkside Yeronga	Precinct 3 - Ground Level	200-30 F	As indicated 09.08.22 PROJECT NO. 3662

9/08/2022 4:59:02 PM





Note: View rotated 90° Clockwise

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 3 - L1
1 : 200

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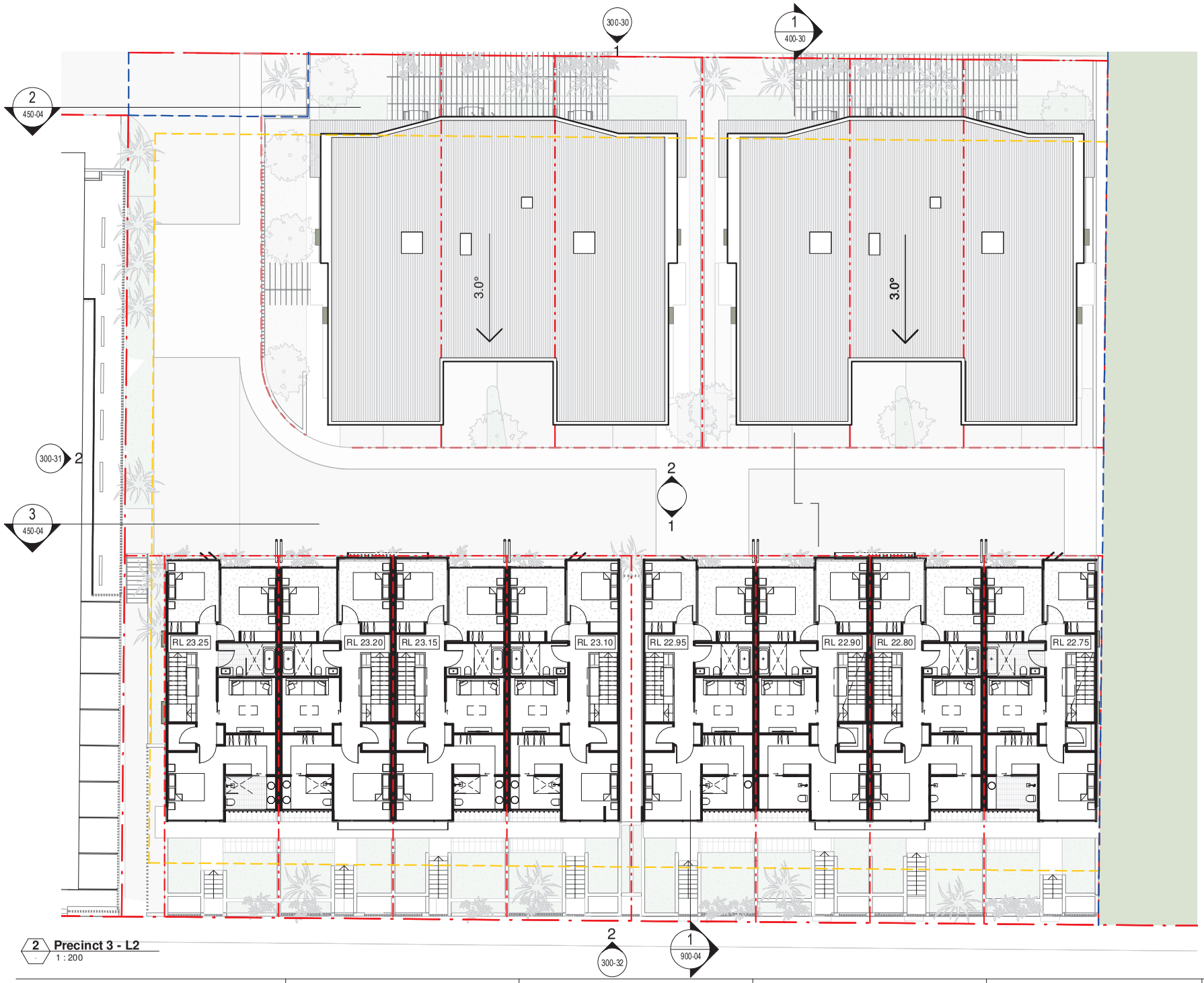
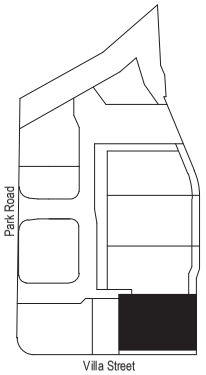
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 3 - Level 1	200-31 G	

9/08/2022 4:59:17 PM





Note: View rotated 90° Clockwise

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 3 - L2
1 : 200

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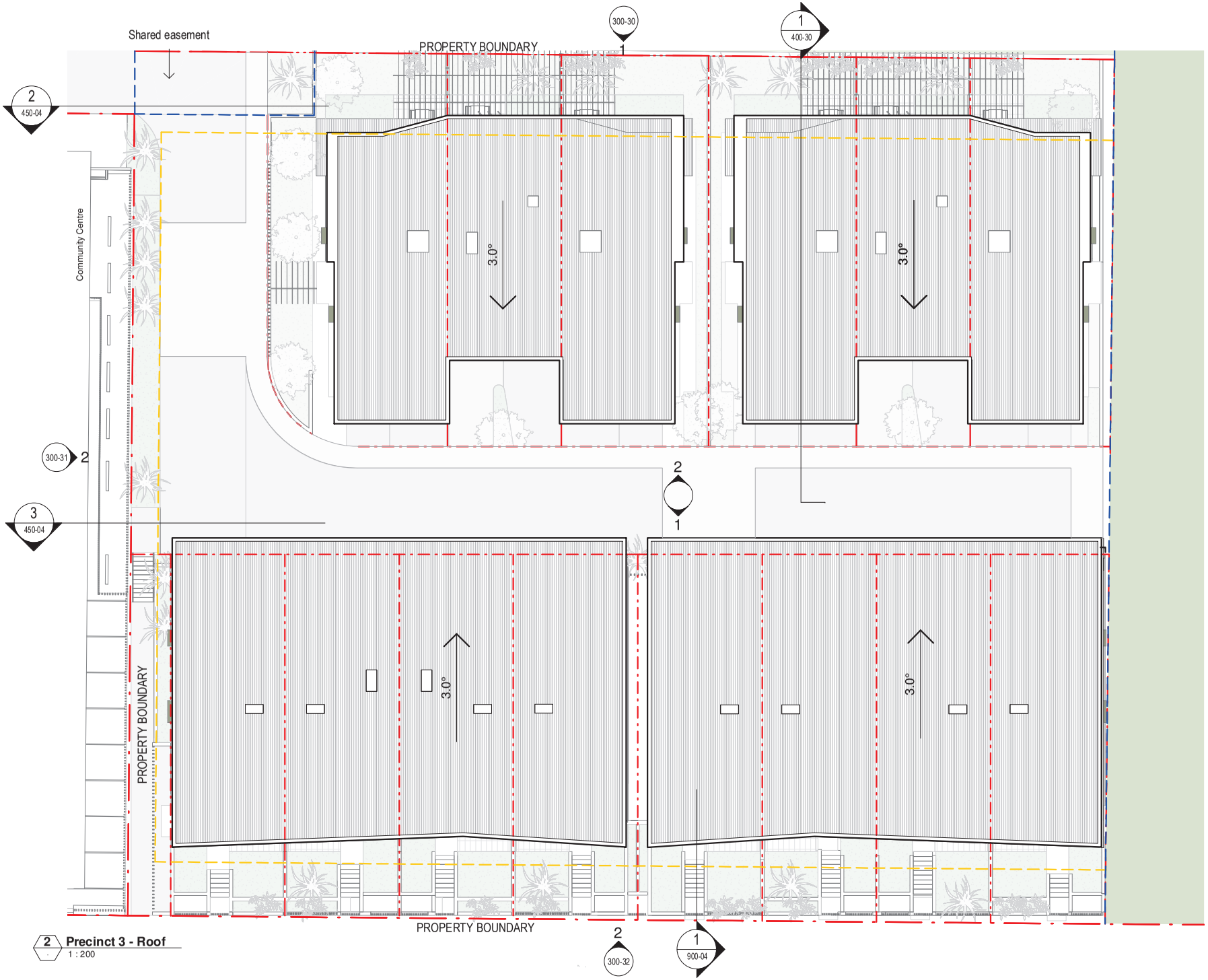
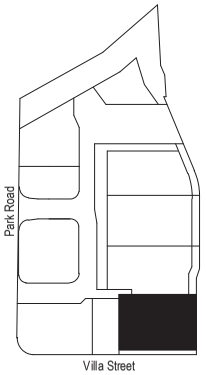
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 3 - Level 2	200-32 F	

9/08/2022 4:59:30 PM





Note: View rotated 90° Clockwise

EXTERNAL FLOOR FINISHES

Refer to landscape documentation for external floor finishes

LEGEND

- setback line
- easement line
- boundary line

2 Precinct 3 - Roof
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Precinct 3 - Roof	200-33 F	

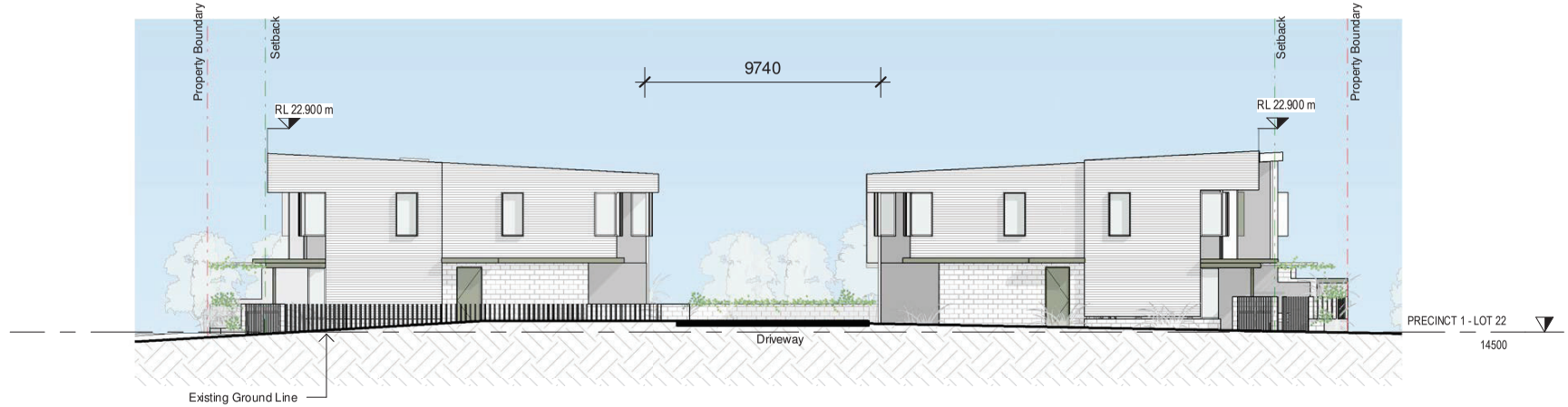
9/08/2022 4:59:39 PM

MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT



1 200-01 **Precinct 1 - Lot 22 - North**
1 : 200



2 **Precinct 1 - Lot 22 - South**
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Elevations - Precinct 1 (Lot 22)	300-01 F	

9/08/2022 4:59:43 PM



3 Precinct 1 - Lot 22 - East
1 : 200



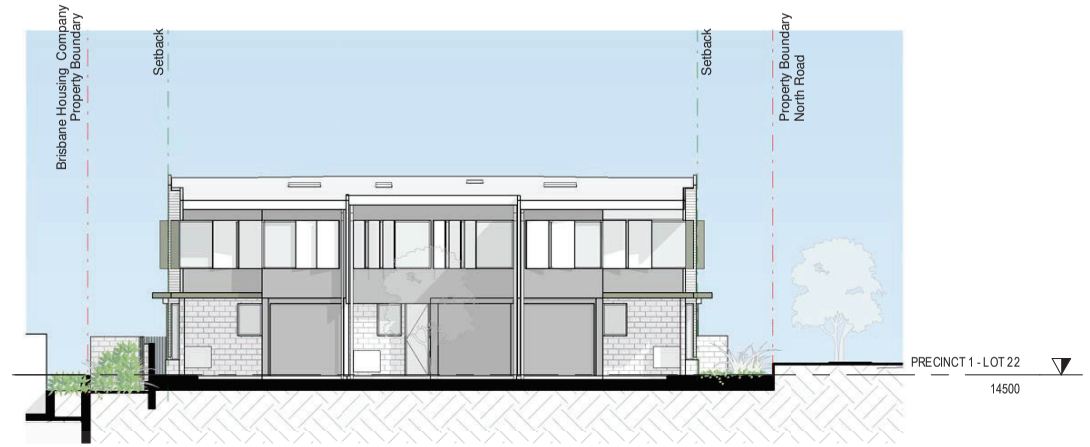
4 Precinct 1 - Lot 22 - West
1 : 200

MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT



1 Precinct 1 - Lot 22 - Internal Road East
1 : 200



2 Precinct 1 - Lot 22 - Internal Road West
1 : 200

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CLIENT: JGL Properties

PROJECT: Parkside Yeronga

DRAWING NAME: Elevations - Precinct 1 (Lot 22)

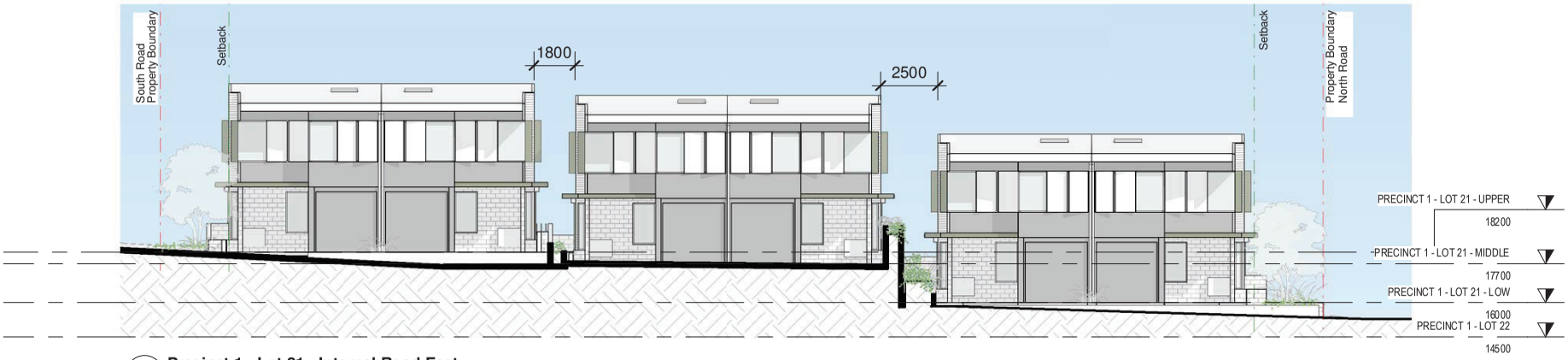
DRAWING NO.: 300-02 F

SCALE 1 : 200
09.08.22
PROJECT NO. 3662

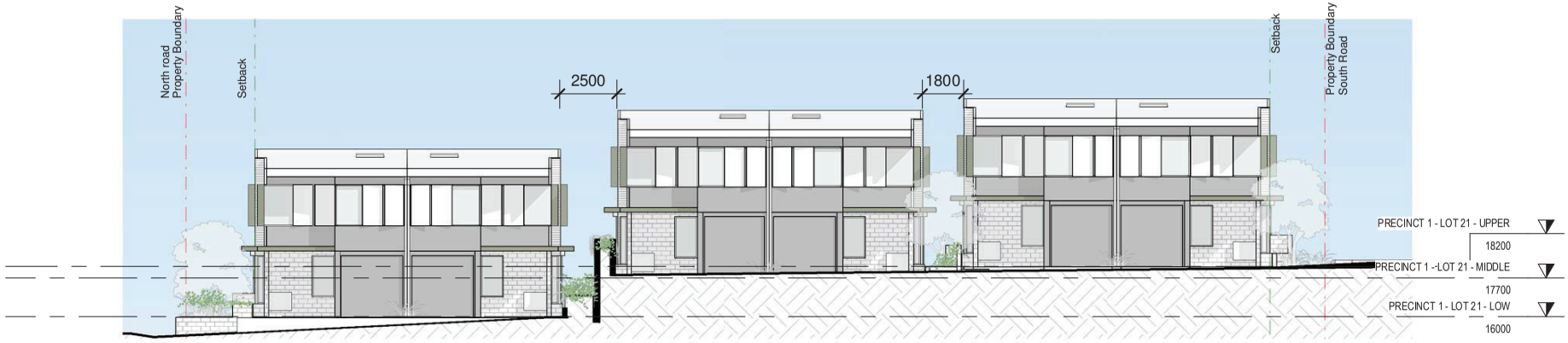
9/08/2022 4:59:47 PM



1 **Precinct 1 - Lot 21 - East**
1 : 200



2 **Precinct 1 - Lot 21 - Internal Road East**
1 : 200



3 **Precinct 1 - Lot 21 - Internal Road West**
1 : 200

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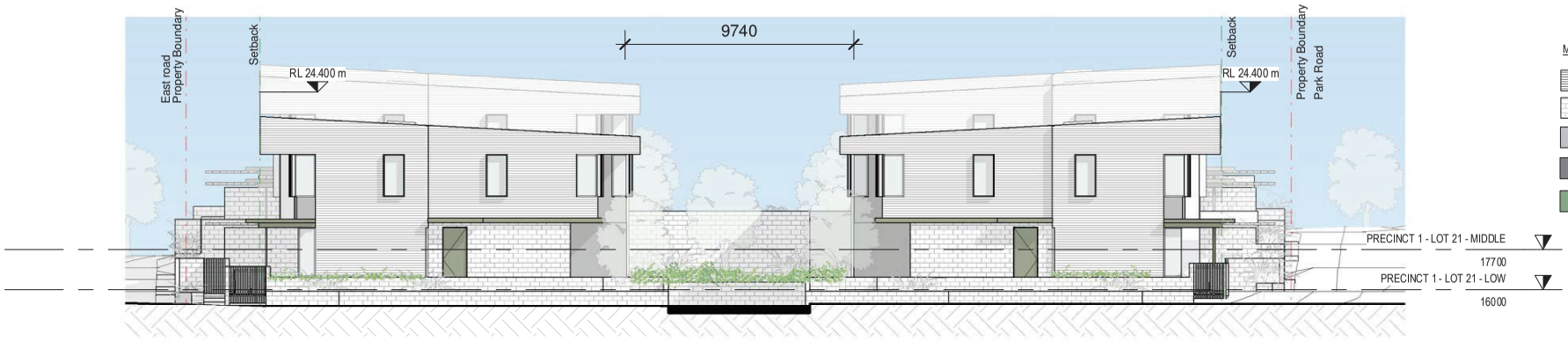
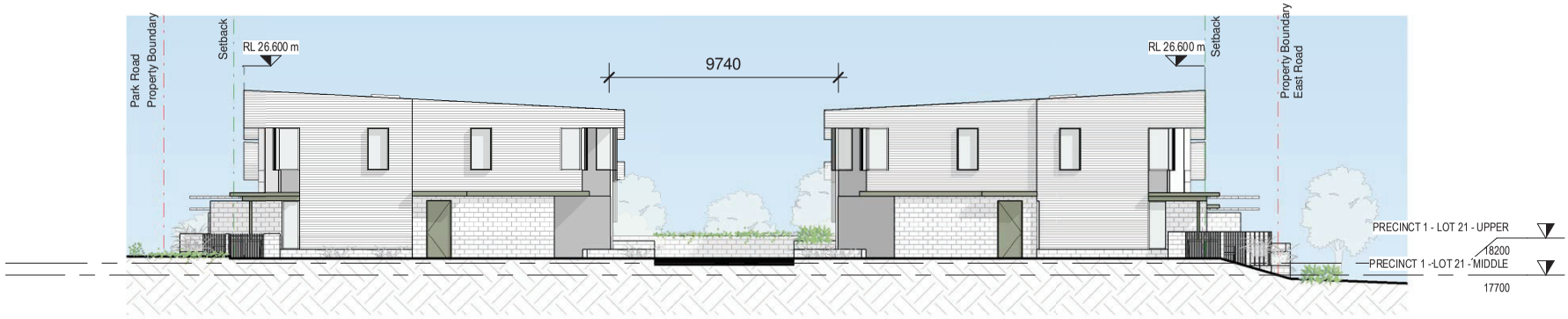
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Elevations - Precinct 1 (Lot 21)	300-10 F	

9/08/2022 4:59:55 PM



1 **Precinct 1 - Lot 21 - North**
1 : 200



2 **Precinct 1 - Lot 21 - South**
1 : 200



3 **Precinct 1B - Lot 21 -West**
1 : 200

MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT

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CLIENT: JGL Properties

PROJECT: Parkside Yeronga

DRAWING NAME: Elevations - Precinct 1 (Lot 21)

DRAWING NO.: 300-11 F

SCALE 1 : 200
09.08.22
PROJECT NO. 3662

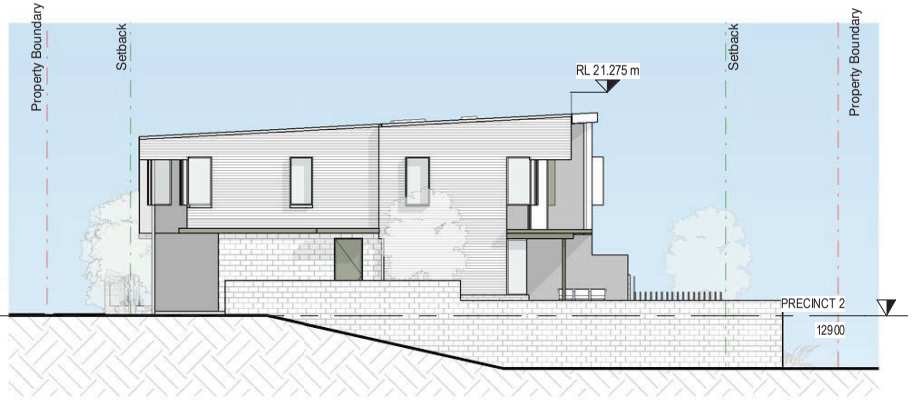
9/08/2022 5:00:04 PM



1 **Precinct 2 - Lot 6 - North**
1 : 200



4 **Precinct 2 - Lot 6 - South**
1 : 200



3 **Precinct 2 - Lot 6 - East**
1 : 200



2 **Precinct 2 - Lot 6 - West**
1 : 200

MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Elevations - Precinct 2 (Lot 6)	300-20 F	

9/08/2022 5:00:10 PM

MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT



1 **Precinct 3 - Lot 10 -North**
1 : 200



2 **Precinct 3 - Lot 10 - Internal Road South**
1 : 200

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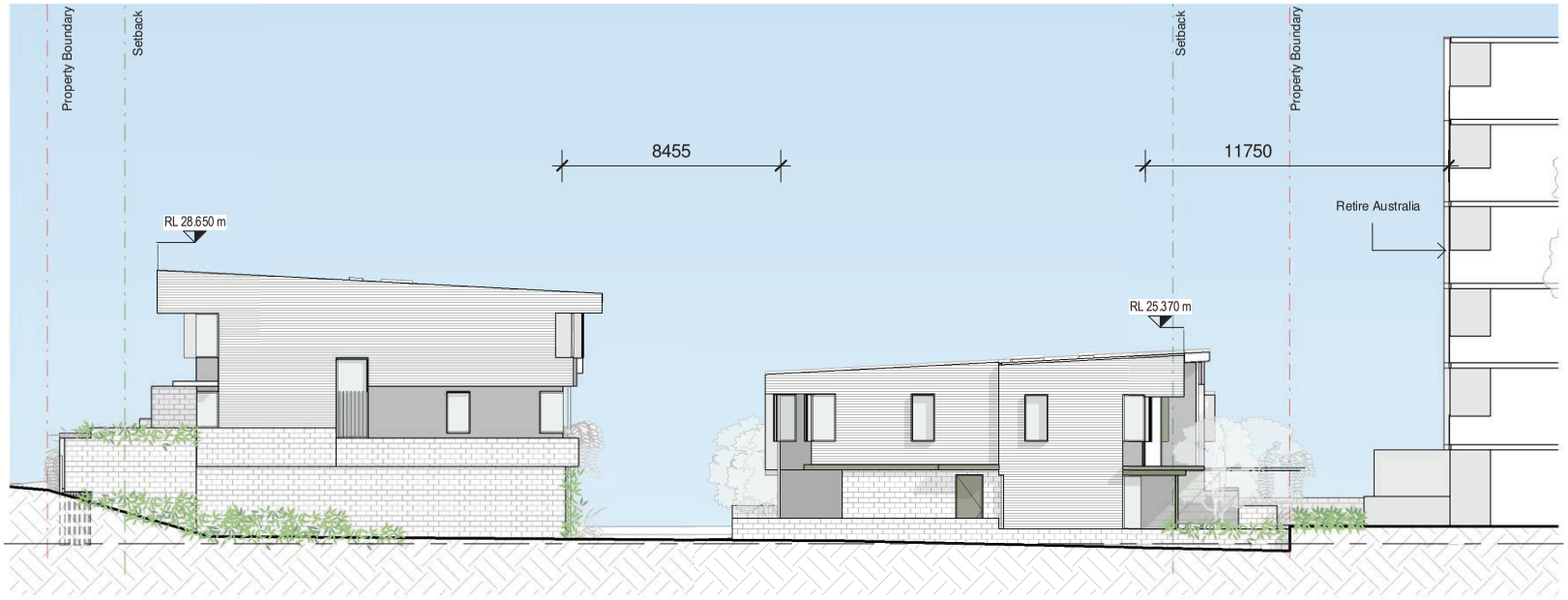
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Elevations - Precinct 3 (Lot 10)	300-30 F	

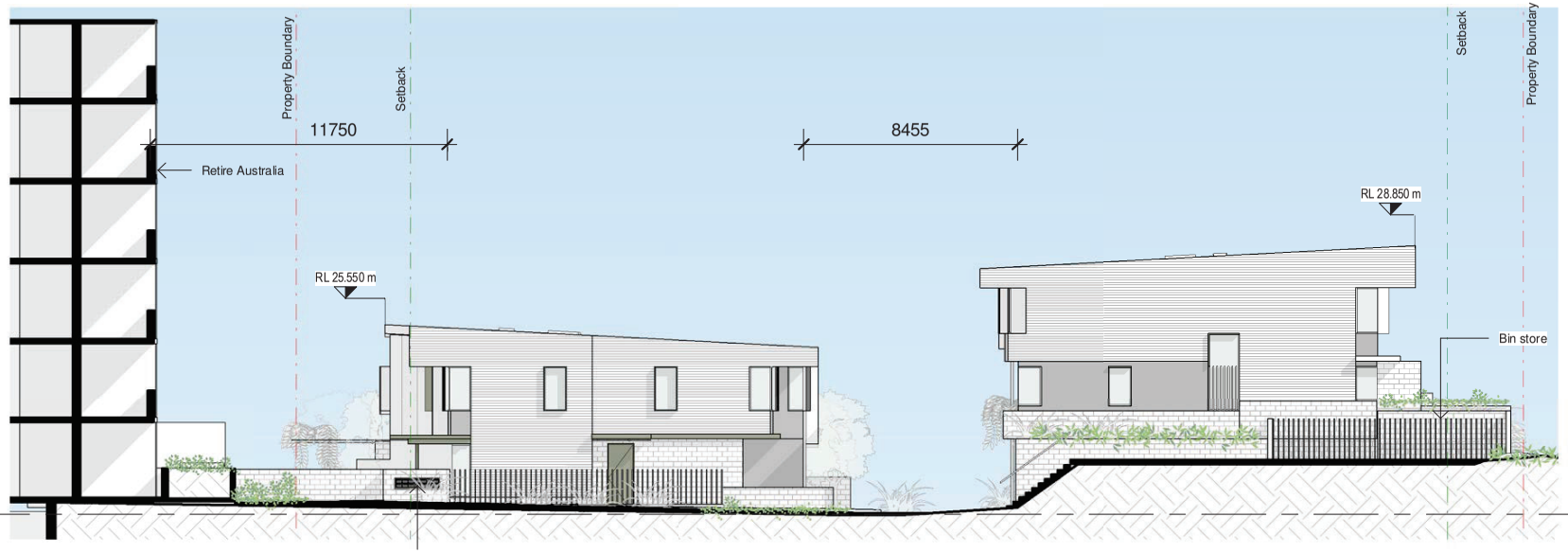
9/08/2022 5:00:13 PM



MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT

1 **Precinct 3 - East**
1 : 200



2 **Precinct 3 - West**
1 : 200

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CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Elevations - Precinct 3 (Lot 10)	300-31 F	

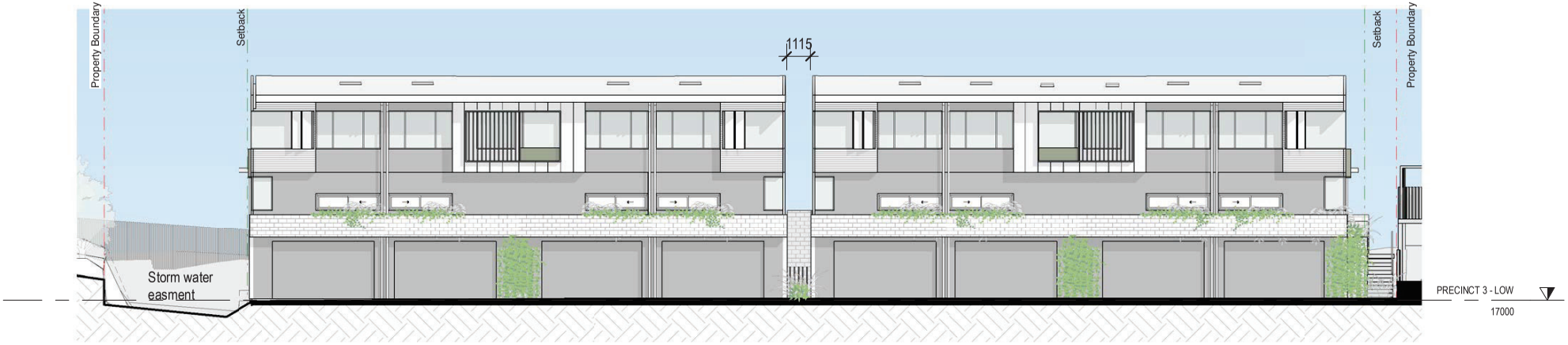
9/08/2022 5:00:20 PM

MATERIAL LEGENDS

- WEATHERBOARD
- BLOCKWORK
- FC PANEL - LIGHT
- FC PANEL - DARK
- FEATURE - COLORBOND PALE EUCALYPT



2 200-30 **Precinct 3 - Lot 10 - Villa Street**
1 : 200



1 200-30 **Precinct 3 - Lot 10 - Internal Road North**
1 : 200

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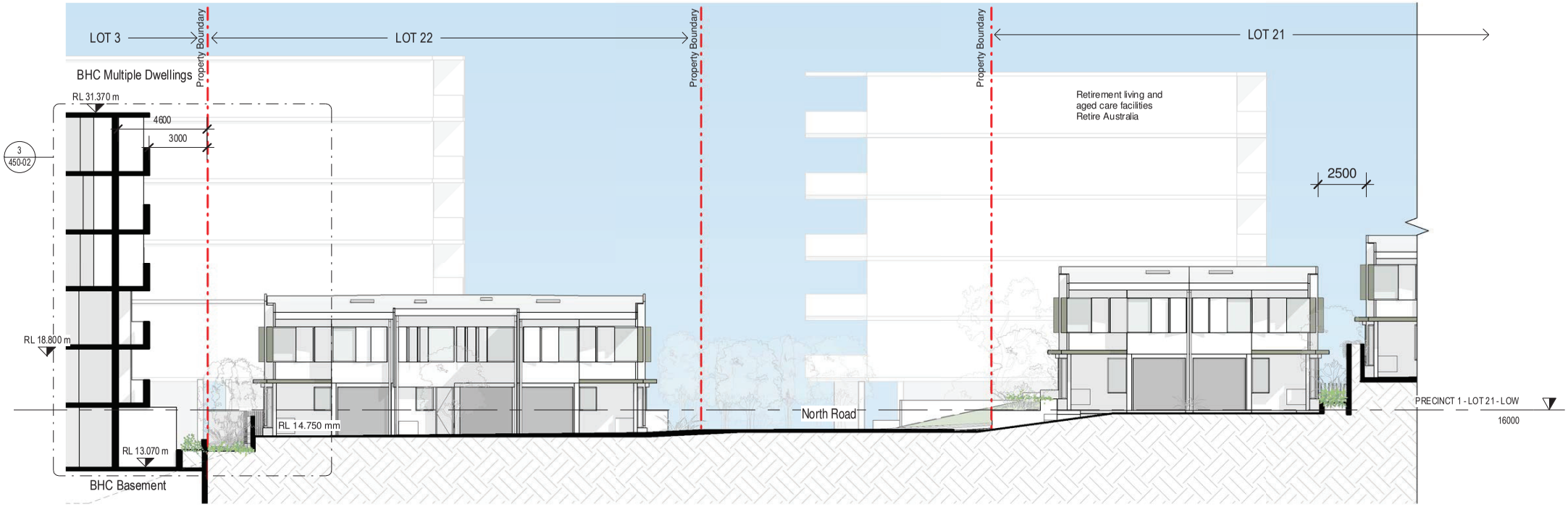
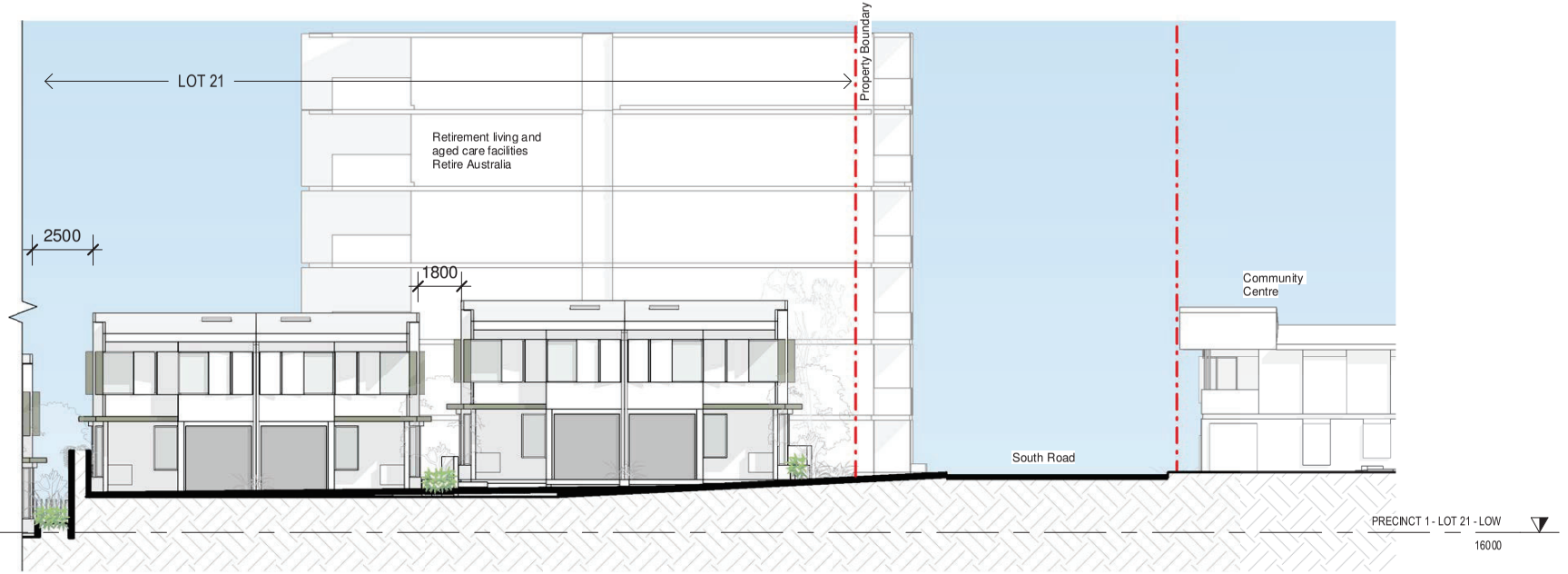
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Elevations - Precinct 3 (Lot 10)	300-32 F	

9/08/2022 5:00:25 PM



1 Section - Precinct 1 (Lot 22 + 21)
1 : 200



2 Section - Precinct 1 (Lot 22 + 21) continued
1 : 200

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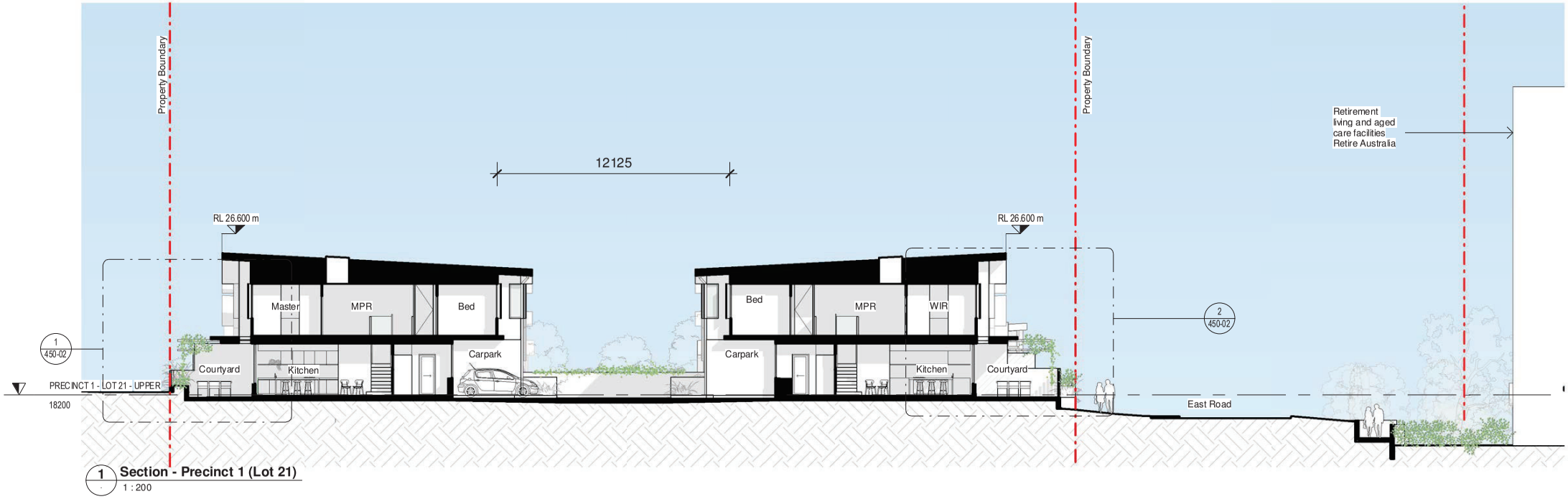
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Section - Precinct 1 (Lot 22 + 21)	400-01 F	

9/08/2022 5:00:29 PM



1 Section - Precinct 1 (Lot 21)
1 : 200

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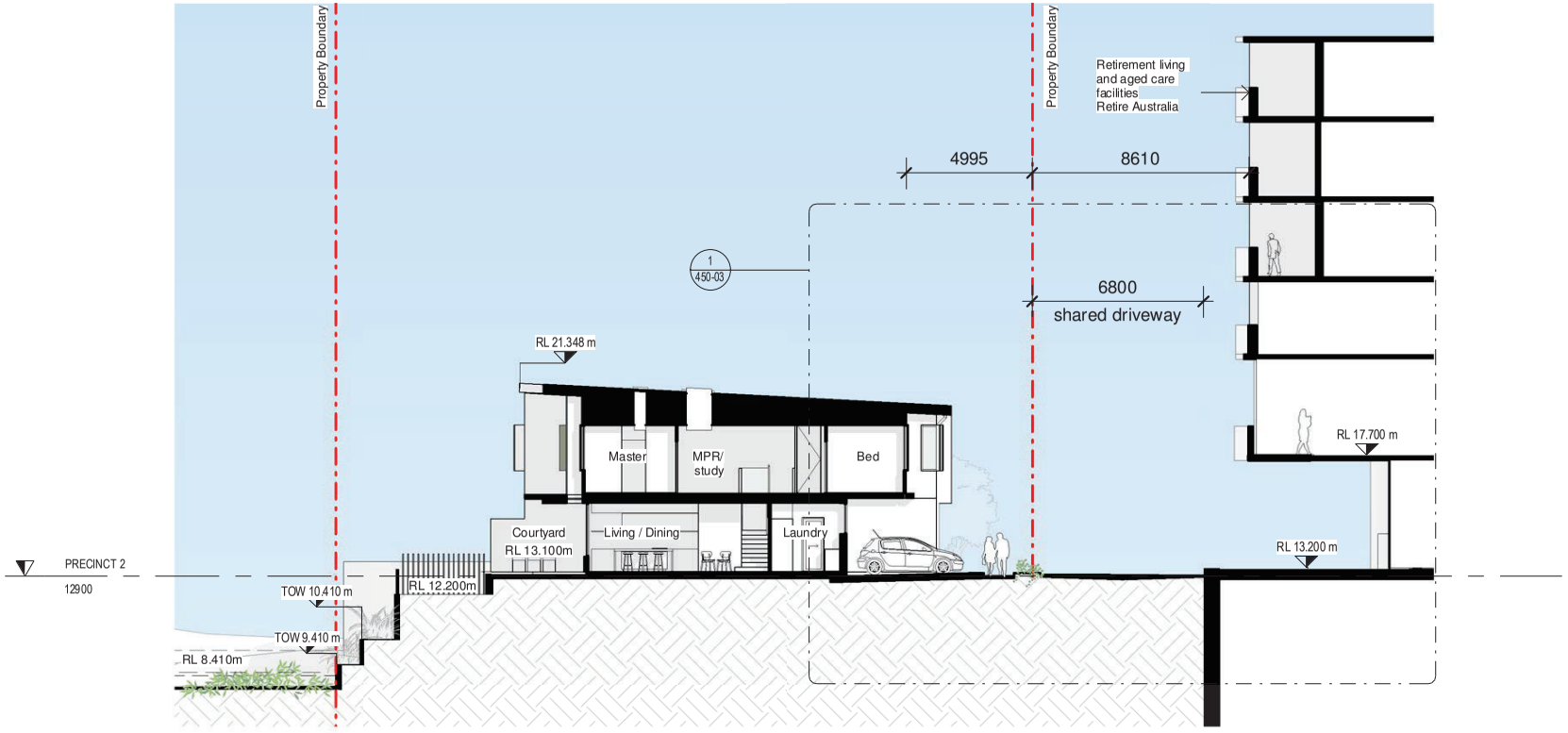
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Section - Precinct 1 (Lot 22 + 21)	400-02 F	

9/08/2022 5:00:33 PM



1 **Section - Precinct 2 (Lot 6)**
1 : 200

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CLIENT: JGL Properties

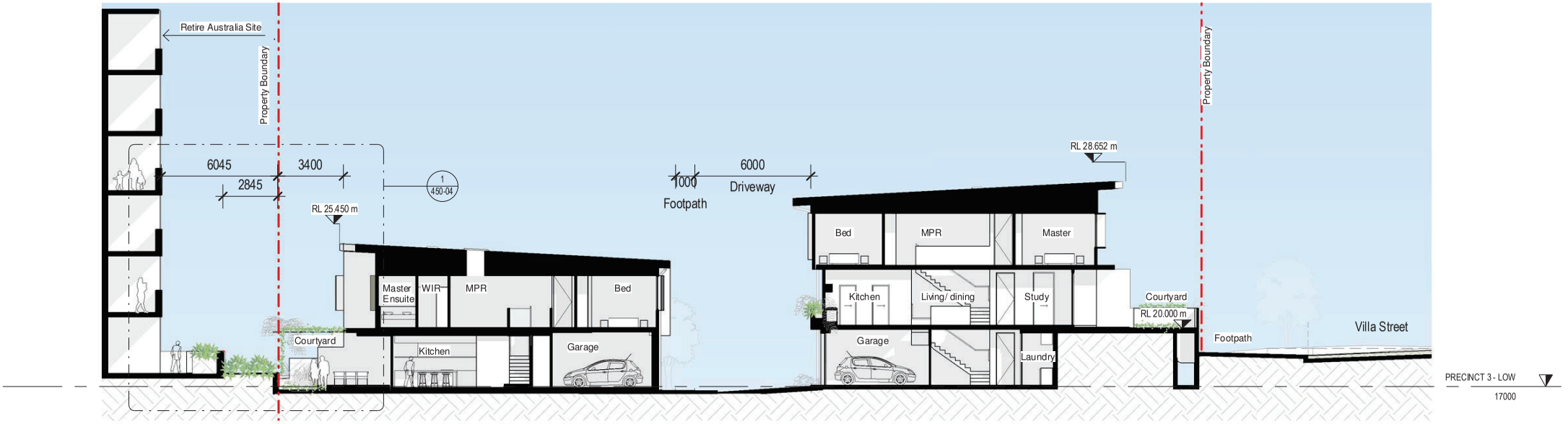
PROJECT: Parkside Yeronga

DRAWING NAME: Section - Precinct 2 (Lot 6)

DRAWING NO.: 400-20 F

SCALE 1 : 200
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:34 PM



1 / 200-30 **Section - Precinct 3 - Lot 10 - Section 1**
1 : 200

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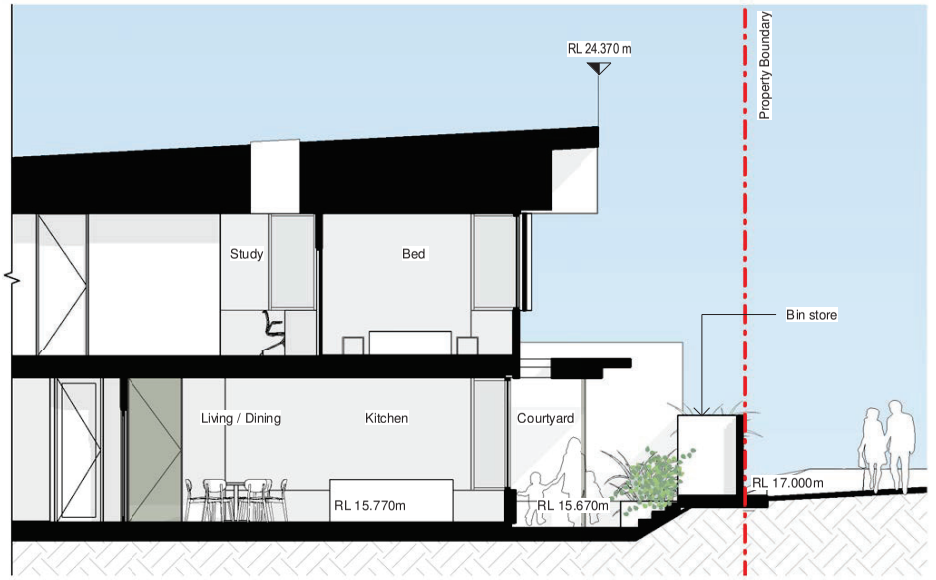
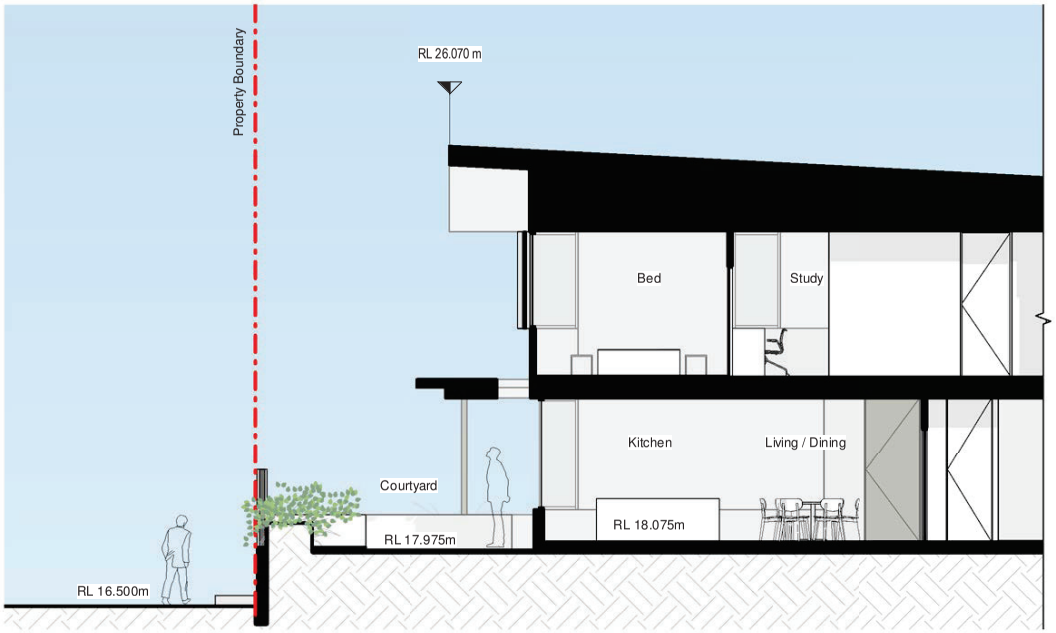
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 200 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Section - Precinct 3 (Lot 10)	400-30 F	

9/08/2022 5:00:36 PM





1 200-10 **Precinct 1 - Lot 21 - Section 1**
1 : 100





2 200-10 **Precinct 1 - Lot 21 - Section 2**
1 : 100

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CLIENT: JGL Properties

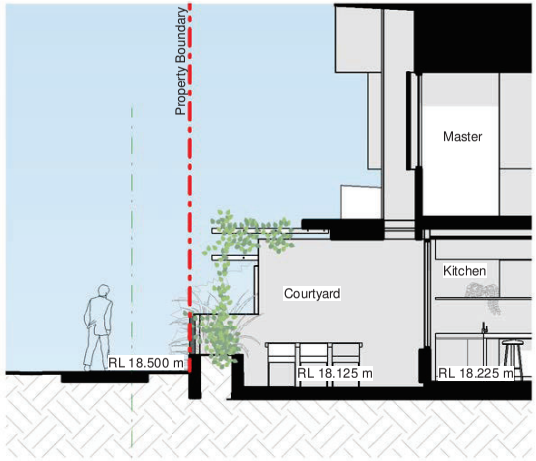
PROJECT: Parkside Yeronga

DRAWING NAME: Interface Sections - Precinct 1 (Lot 22 + 21)

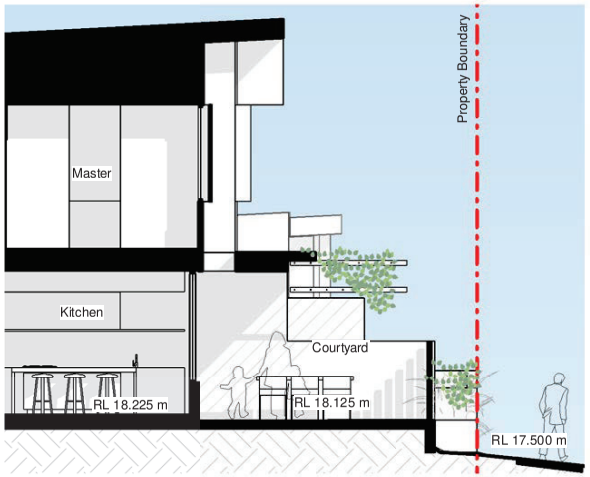
DRAWING NO.: 450-01 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

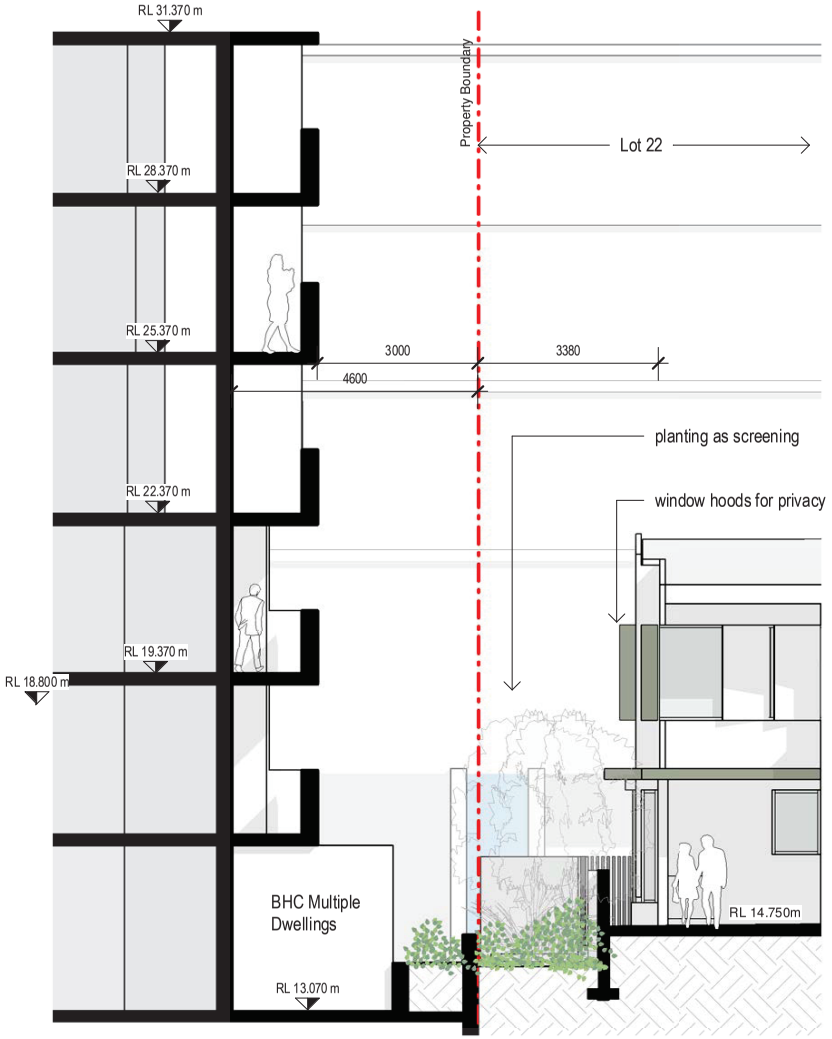
9/08/2022 5:00:39 PM



1 400.02 **Interface Section - Precinct 1 (Lot 21) - 1**
1 : 100



2 400.02 **Interface Section - Precinct 1 (Lot 21) - 2**
1 : 100



3 400.01 **Interface Section - Precinct 1 (Lot 22) - 1**
1 : 100

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CLIENT: JGL Properties

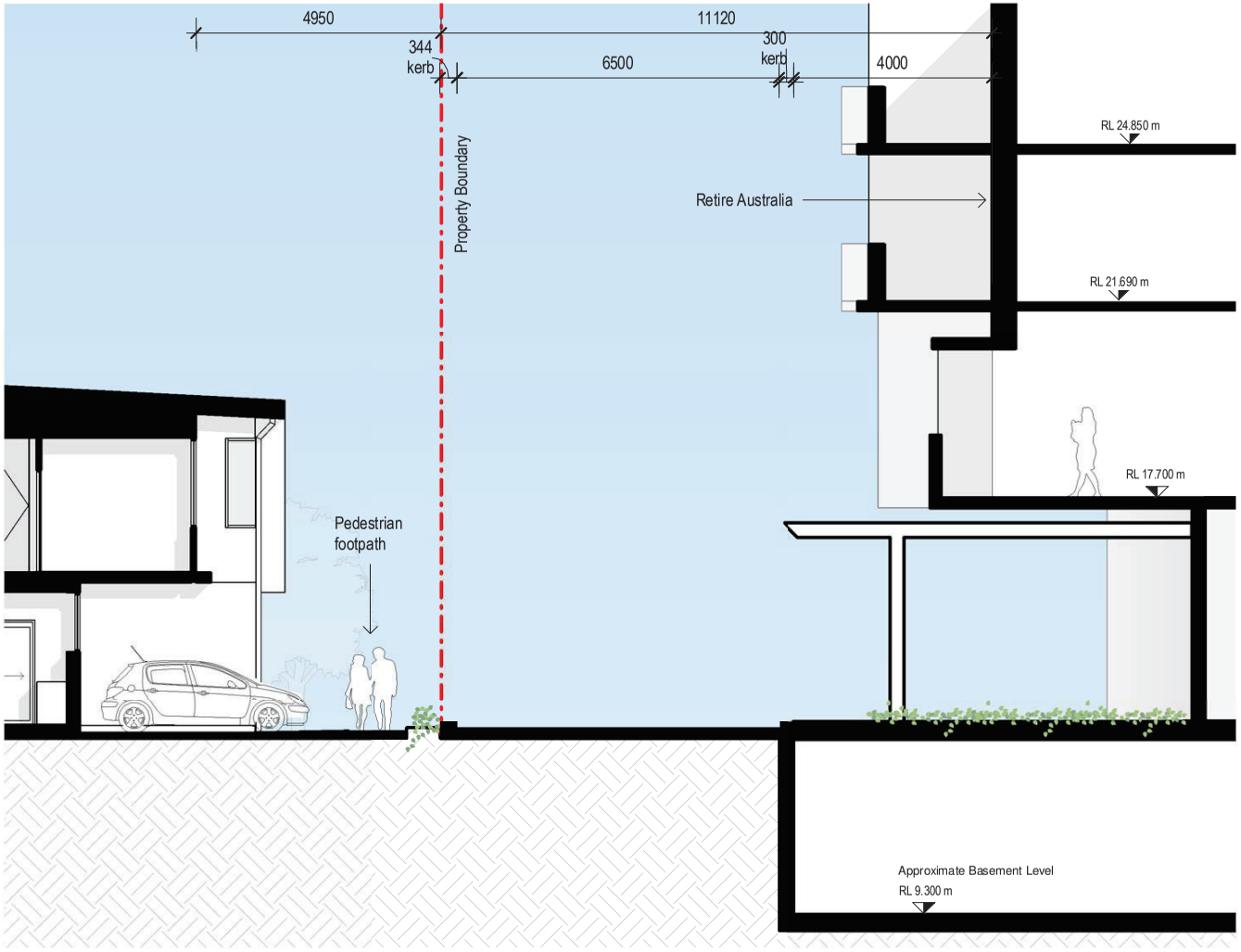
PROJECT: Parkside Yeronga

DRAWING NAME: Interface Sections - Precinct 1 (Lot 22 + 21)

DRAWING NO.: 450-02 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:41 PM



1 **Interface Section - Precinct 2 - 1**
400 20 1 : 100



2 **Interface Section - Precinct 2 - 2**
200 20 1 : 100

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CLIENT
JGL Properties

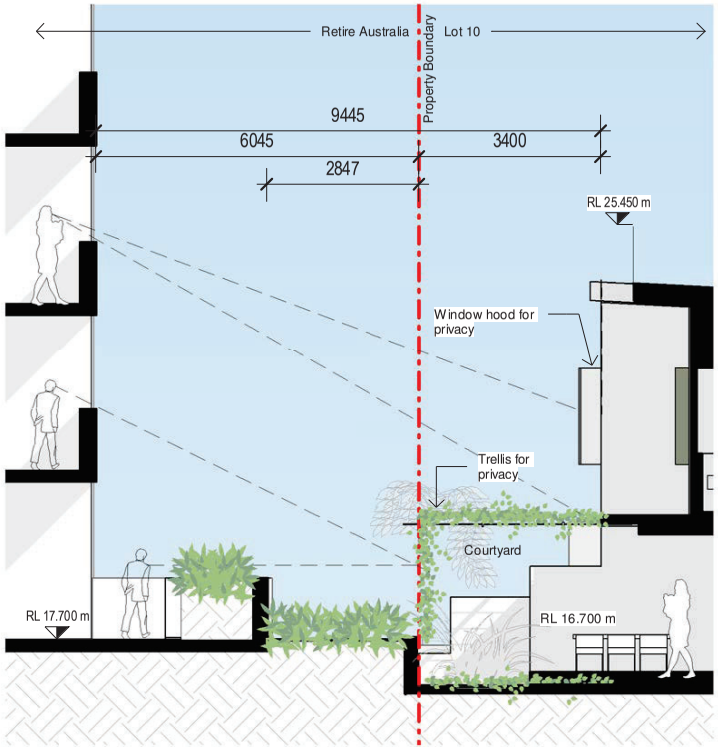
PROJECT
Parkside Yeronga

DRAWING NAME
Interface Sections - Precinct 2 (Lot 6)

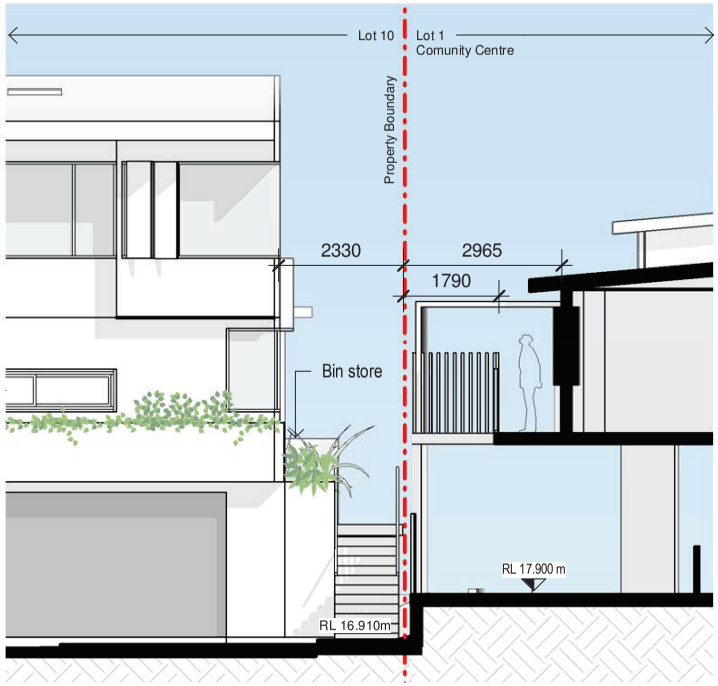
DRAWING NO.
450-03 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

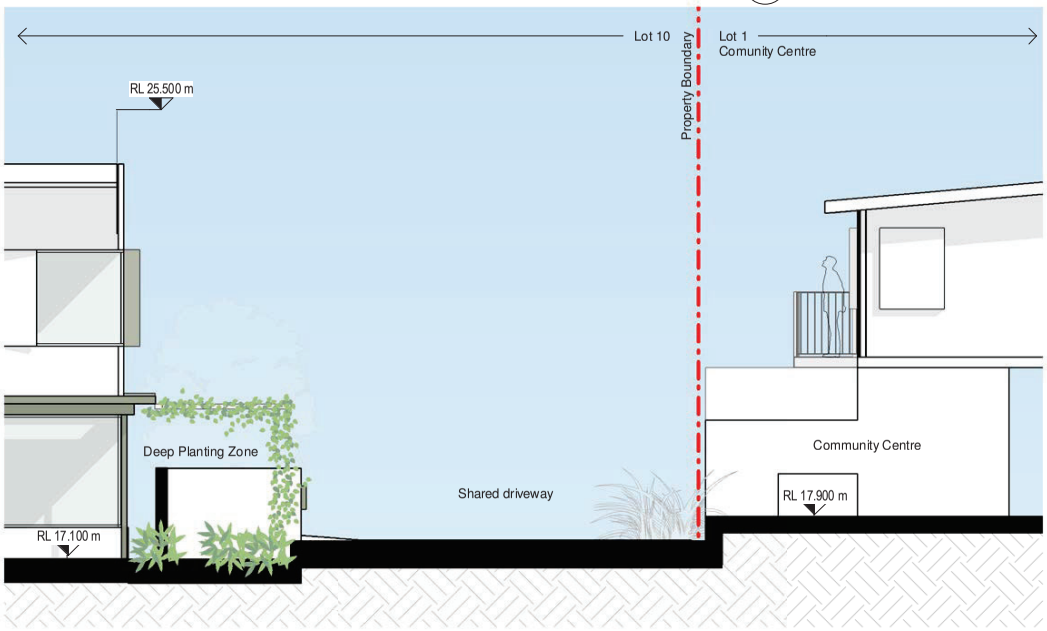
9/08/2022 5:00:42 PM



1 400-30 **Interface Section - Precinct 3 - 1**
1 : 100



3 200-30 **Interface Section - Precinct 3 - 3**
1 : 100



2 200-30 **Interface Section - Precinct 3 - 2**
1 : 100

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CLIENT: JGL Properties

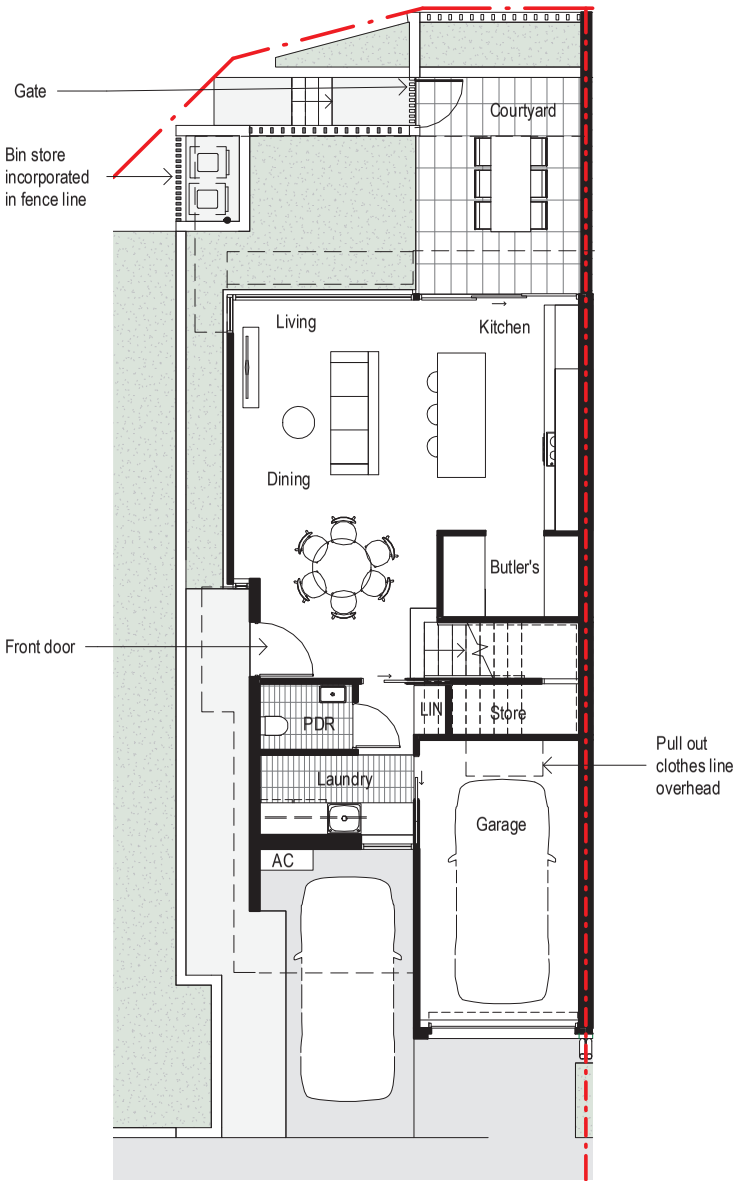
PROJECT: Parkside Yeronga

DRAWING NAME: Interface Sections - Precinct 3 (Lot 10)

DRAWING NO.: 450-04 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:43 PM



1 **Ground Level**
1 : 100



2 **Level 1**
1 : 100

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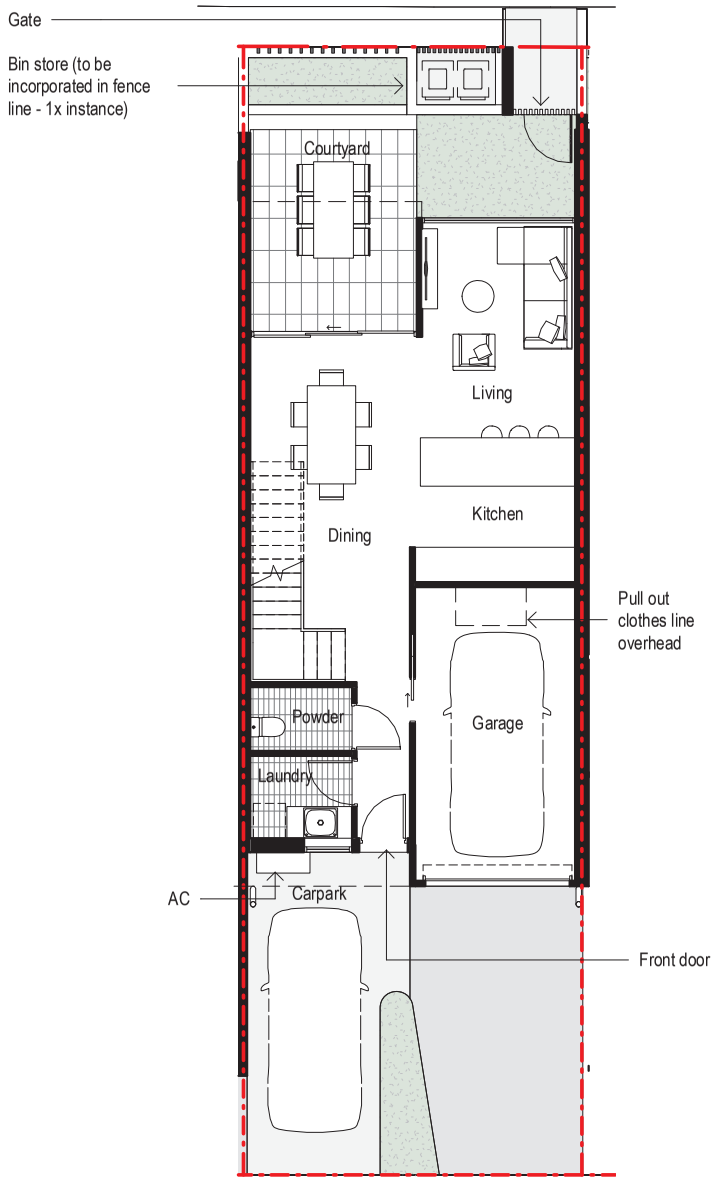
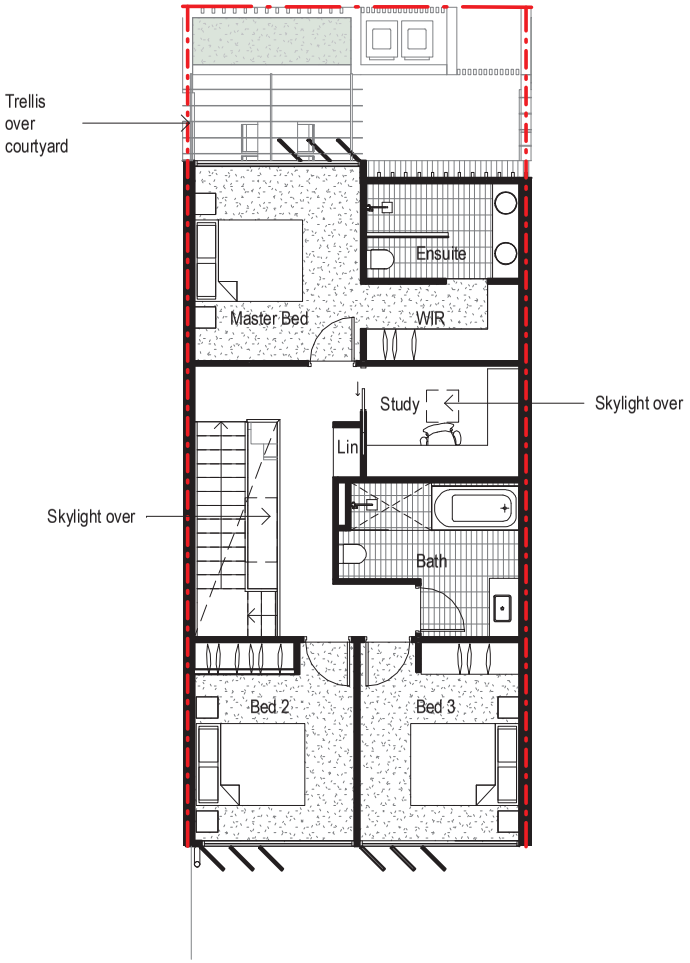
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 100 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Dwelling House Plans - Type 1	540-01 F	

9/08/2022 5:00:44 PM



1 **Ground Level**
1 : 100



2 **Level 1**
1 : 100

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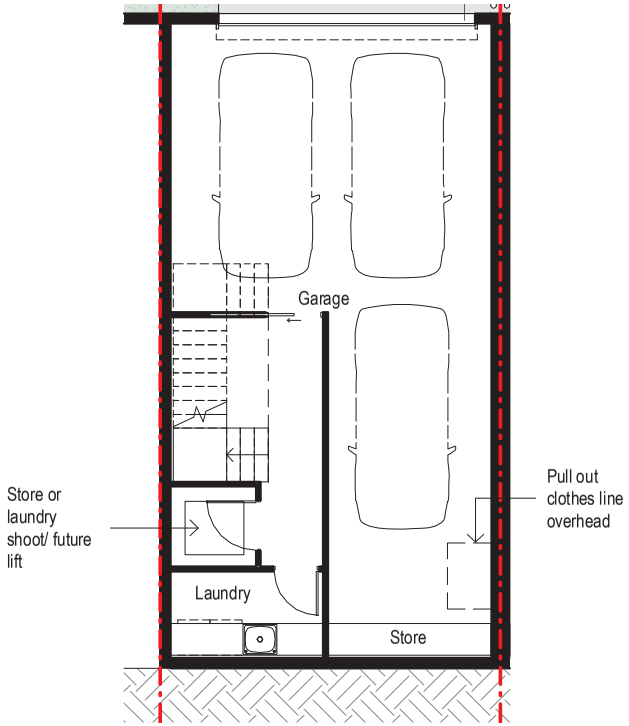
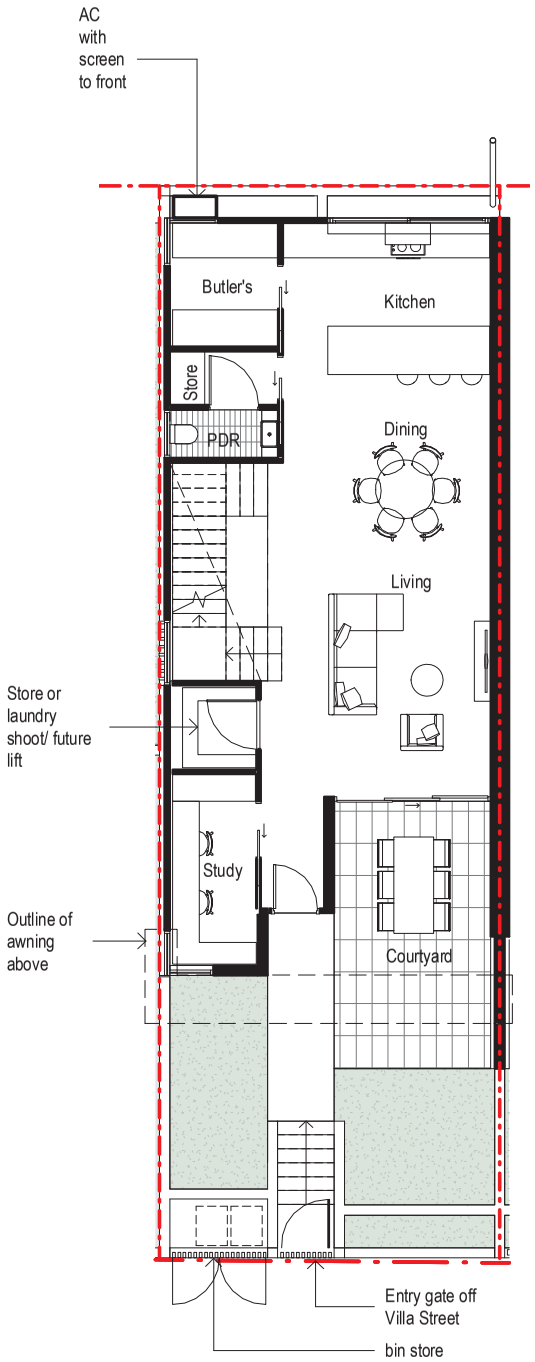
Arkhefield

CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE 1 : 100 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Dwelling House Plans - Type 2	540-02 F	

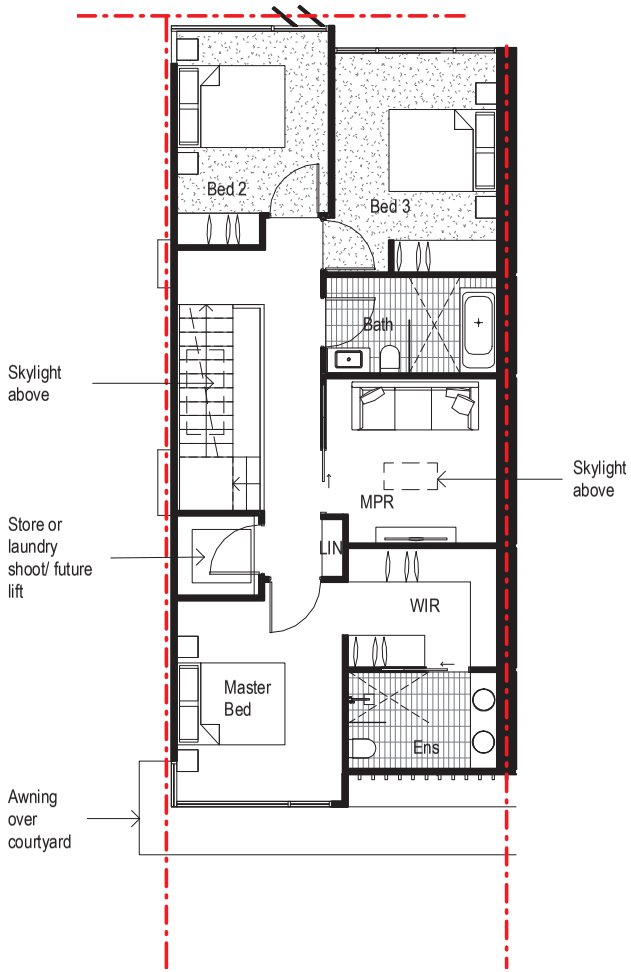
9/08/2022 5:00:45 PM



1 Ground Level
1 : 100



2 Level 1
1 : 100



3 Level 2
1 : 100

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CLIENT: JGL Properties

PROJECT: Parkside Yeronga

DRAWING NAME: Dwelling House Plans - Type 3

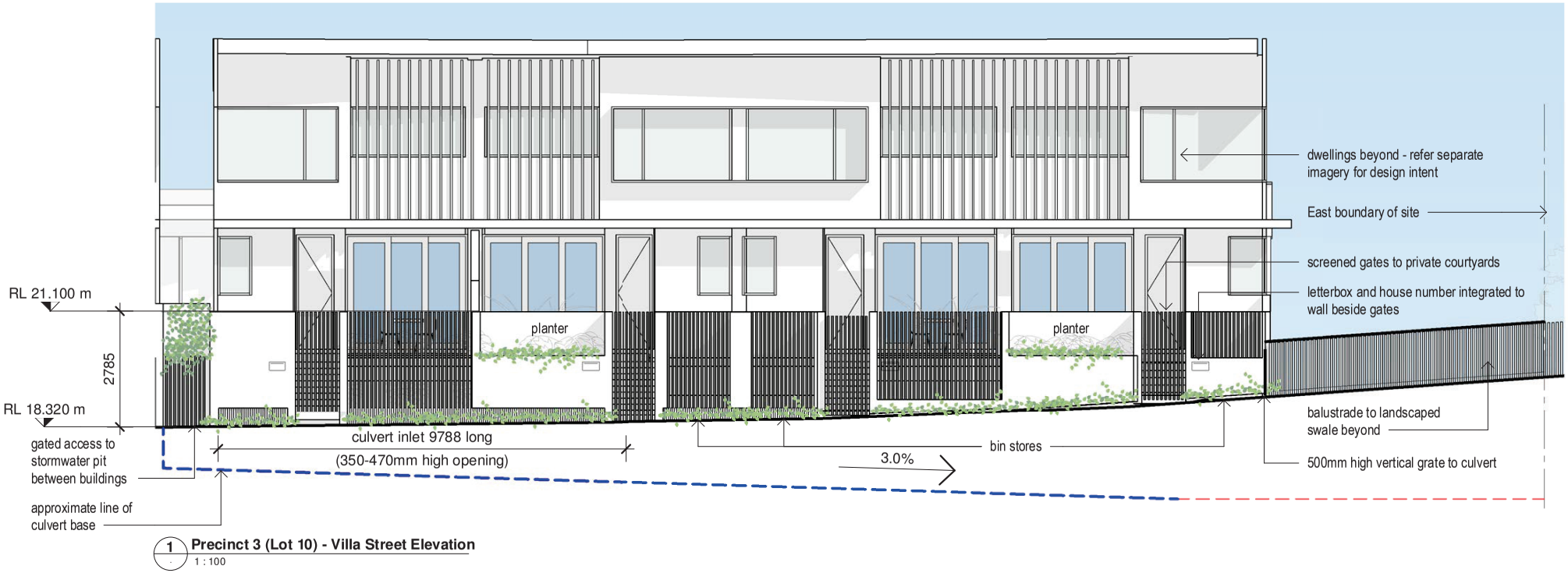
DRAWING NO.: 540-03 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:47 PM



Precinct 3 - Villa Street Perspective View



1 **Precinct 3 (Lot 10) - Villa Street Elevation**
1 : 100

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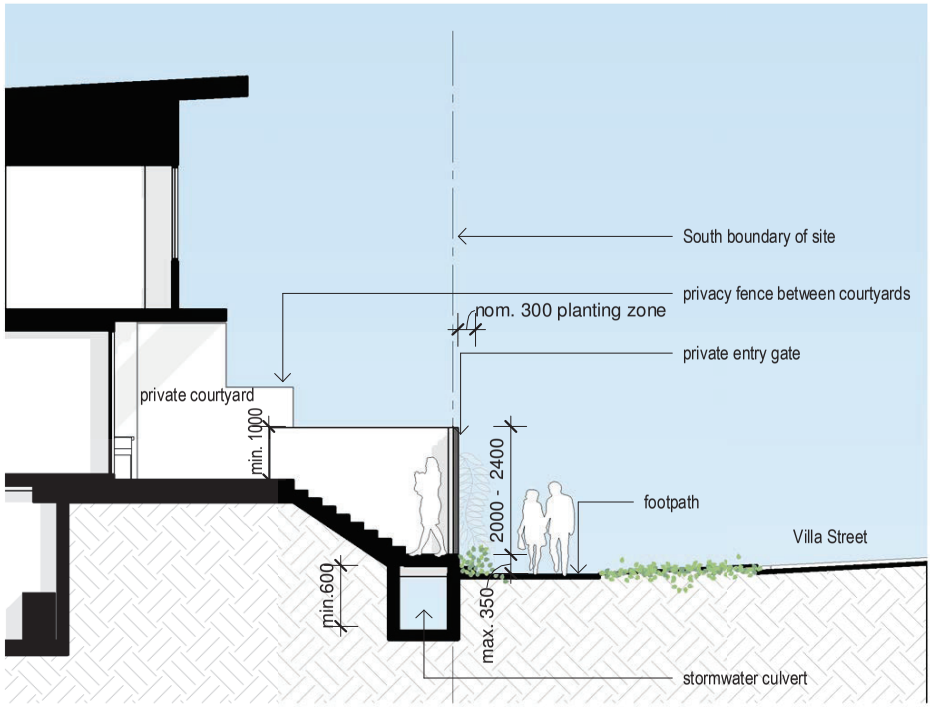
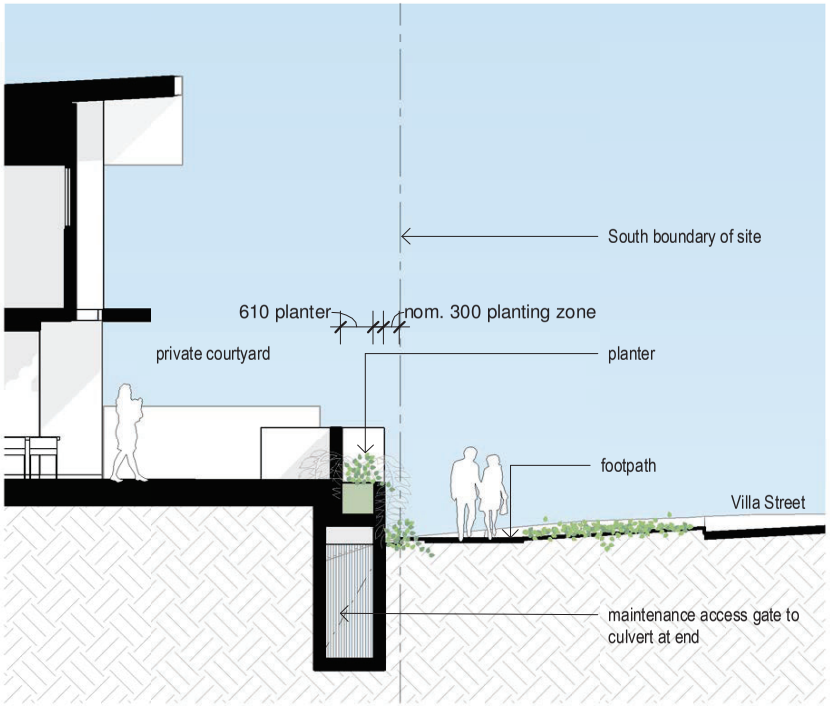
CLIENT	PROJECT	DRAWING NAME	DRAWING NO.	SCALE As indicated 09.08.22 PROJECT NO. 3662
JGL Properties	Parkside Yeronga	Villa Street Interface	900-03 F	

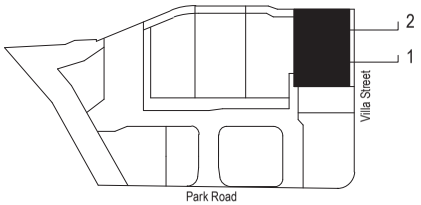
9/08/2022 5:00:49 PM



1 200-30 **Precinct 3 - Villa St Interface Cross Section 1**
1 : 100



2 **Precinct 3 - Villa St Interface Cross Section 2**
1 : 100



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CLIENT: JGL Properties

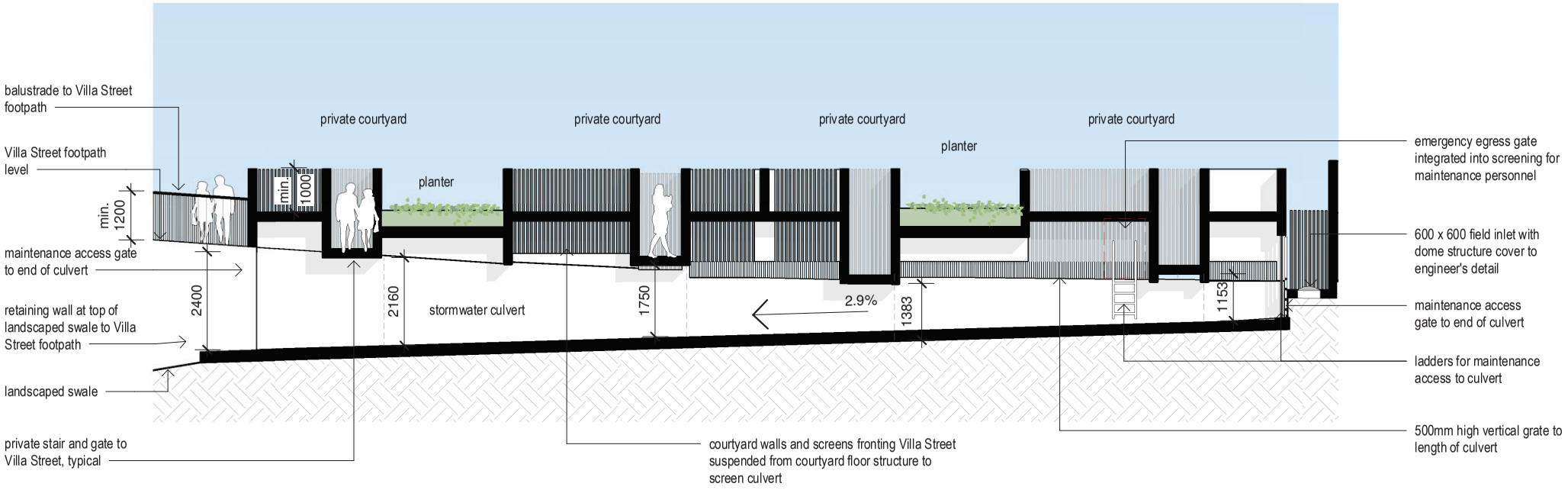
PROJECT: Parkside Yeronga

DRAWING NAME: Villa Street Interface

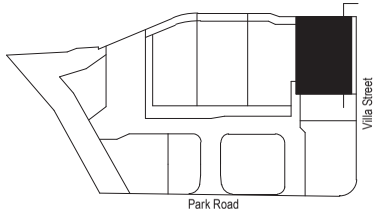
DRAWING NO.: 900-04 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:50 PM



1 Precinct 3 - Long Section through Stormwater Culvert
1 : 100



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CLIENT: JGL Properties

PROJECT: Parkside Yeronga

DRAWING NAME: Villa Street Interface

DRAWING NO.: 900-05 F

SCALE 1 : 100
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:51 PM

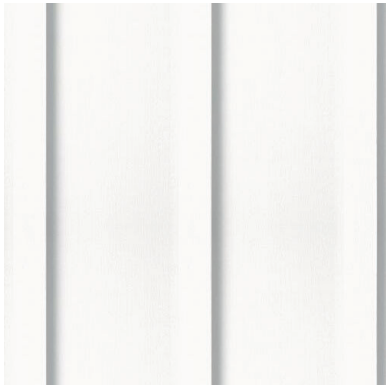
MATERIAL LEGEND



WEATHERBOARD



BLOCKWORK



FC PANEL - LIGHT



FC PANEL - DARK



FEATURE - COLORBOND PALE EUCALYPT

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CLIENT
JGL Properties

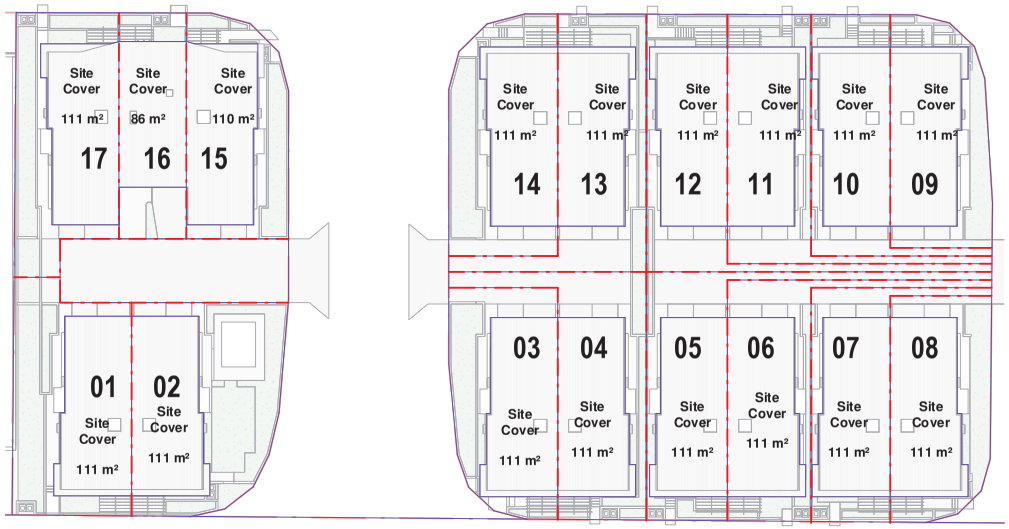
PROJECT
Parkside Yeronga

DRAWING NAME
Material Legend

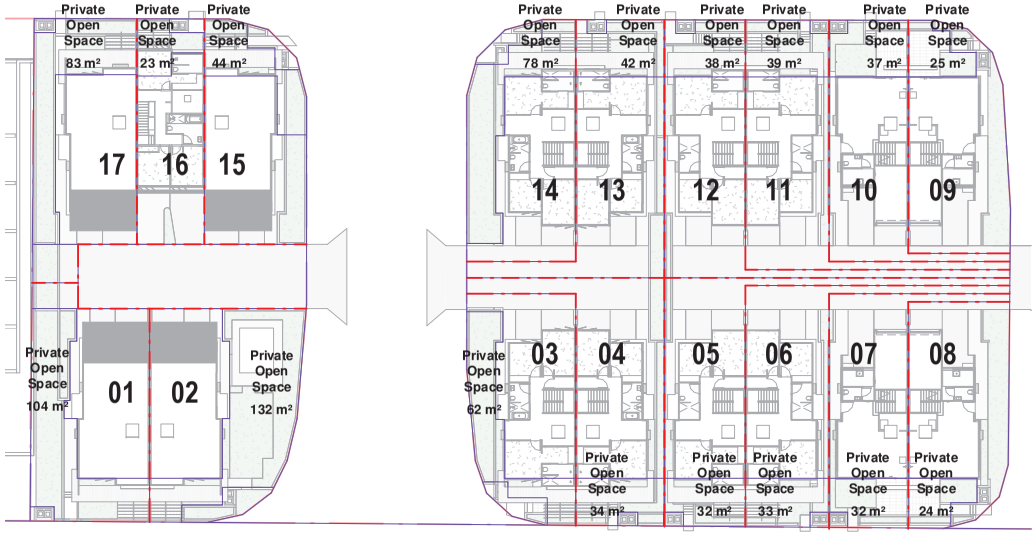
DRAWING NO.
900-20 F

SCALE 1 : 200
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:51 PM



1 Site Cover Precinct 1
1 : 500



2 Private Open Space Precinct 1
1 : 500

Site Cover - Precinct 1			
01	Site Cover	111 m²	48%
01	Dwelling Site	121 m²	52%
		232 m²	100%
02	Site Cover	111 m²	42%
02	Dwelling Site	150 m²	58%
		261 m²	100%
03	Site Cover	111 m²	55%
03	Dwelling Site	91 m²	45%
		202 m²	100%
04	Site Cover	111 m²	53%
04	Dwelling Site	97 m²	47%
		208 m²	100%
05	Site Cover	111 m²	57%
05	Dwelling Site	85 m²	43%
		195 m²	100%
06	Site Cover	111 m²	59%
06	Dwelling Site	78 m²	41%
		189 m²	100%
07	Site Cover	111 m²	65%
07	Dwelling Site	58 m²	35%
		169 m²	100%
08	Site Cover	111 m²	58%
08	Dwelling Site	80 m²	42%
		191 m²	100%
09	Site Cover	111 m²	58%
09	Dwelling Site	80 m²	42%
		190 m²	100%
10	Site Cover	111 m²	64%
10	Dwelling Site	63 m²	36%
		174 m²	100%
11	Site Cover	111 m²	57%
11	Dwelling Site	84 m²	43%
		195 m²	100%
12	Site Cover	111 m²	55%
12	Dwelling Site	91 m²	45%
		202 m²	100%
13	Site Cover	111 m²	51%
13	Dwelling Site	105 m²	49%
		216 m²	100%
14	Site Cover	111 m²	51%
14	Dwelling Site	107 m²	49%
		218 m²	100%
15	Site Cover	110 m²	58%
15	Dwelling Site	79 m²	42%
		189 m²	100%
16	Site Cover	86 m²	65%
16	Dwelling Site	47 m²	35%
		134 m²	100%
17	Site Cover	111 m²	51%
17	Dwelling Site	108 m²	49%
		220 m²	100%

Private Open Space - Precinct 1		
01	Private Open Space	104 m²
02	Private Open Space	132 m²
03	Private Open Space	62 m²
04	Private Open Space	34 m²
05	Private Open Space	32 m²
06	Private Open Space	33 m²
07	Private Open Space	32 m²
08	Private Open Space	24 m²
09	Private Open Space	25 m²
10	Private Open Space	37 m²
12	Private Open Space	38 m²
13	Private Open Space	42 m²
14	Private Open Space	78 m²
15	Private Open Space	44 m²
16	Private Open Space	23 m²
17	Private Open Space	83 m²

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CLIENT: JGL Properties

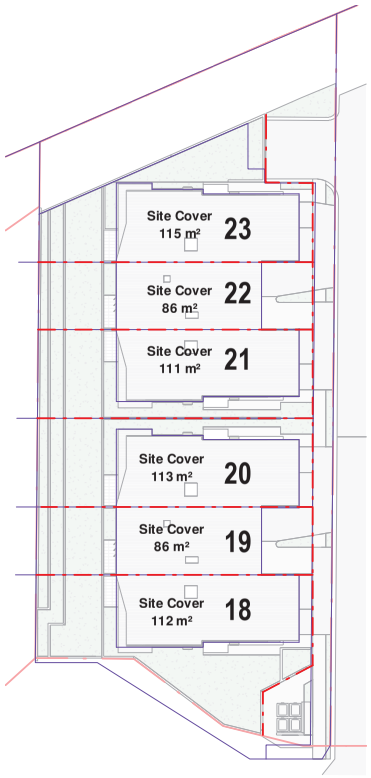
PROJECT: Parkside Yeronga

DRAWING NAME: Area Schedule - Precinct 1

DRAWING NO.: 910-01 F

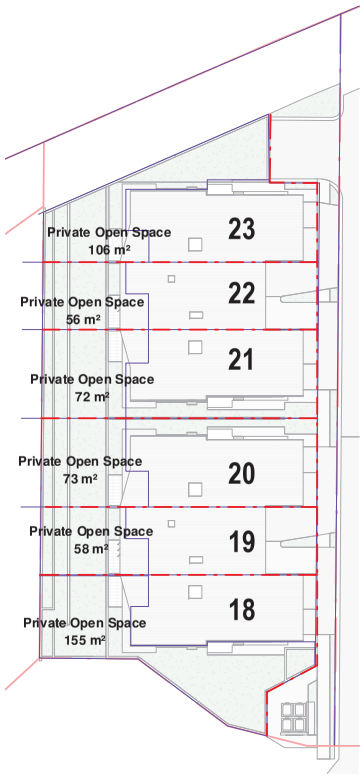
SCALE 1 : 500
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:55 PM



Site Cover - Precinct 2			
18	Site Cover	112 m²	35%
18	Dwelling Site	210 m²	65%
		323 m²	100%
19	Site Cover	86 m²	53%
19	Dwelling Site	77 m²	47%
		163 m²	100%
20	Site Cover	113 m²	53%
20	Dwelling Site	101 m²	47%
		214 m²	100%
21	Site Cover	111 m²	100%
		111 m²	100%
22	Site Cover	86 m²	45%
22	Dwelling Site	103 m²	55%
		189 m²	100%
23	Site Cover	115 m²	60%
23	Dwelling Site	77 m²	40%
		192 m²	100%

1 **Site Cover Precinct 2**
1 : 500



Private Open Space - Precinct 2		
18	Private Open Space	155 m²
19	Private Open Space	58 m²
20	Private Open Space	73 m²
21	Private Open Space	72 m²
22	Private Open Space	56 m²
23	Private Open Space	106 m²

2 **Private Open Space Precinct 2**
1 : 500

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CLIENT: JGL Properties

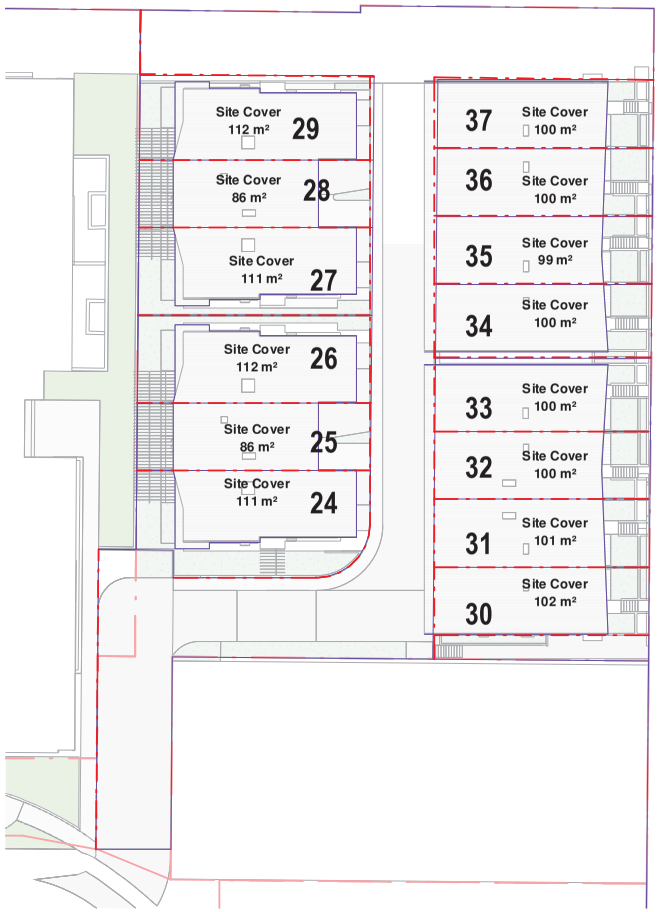
PROJECT: Parkside Yeronga

DRAWING NAME: Area Schedule - Precinct 2

DRAWING NO.: 910-02 F

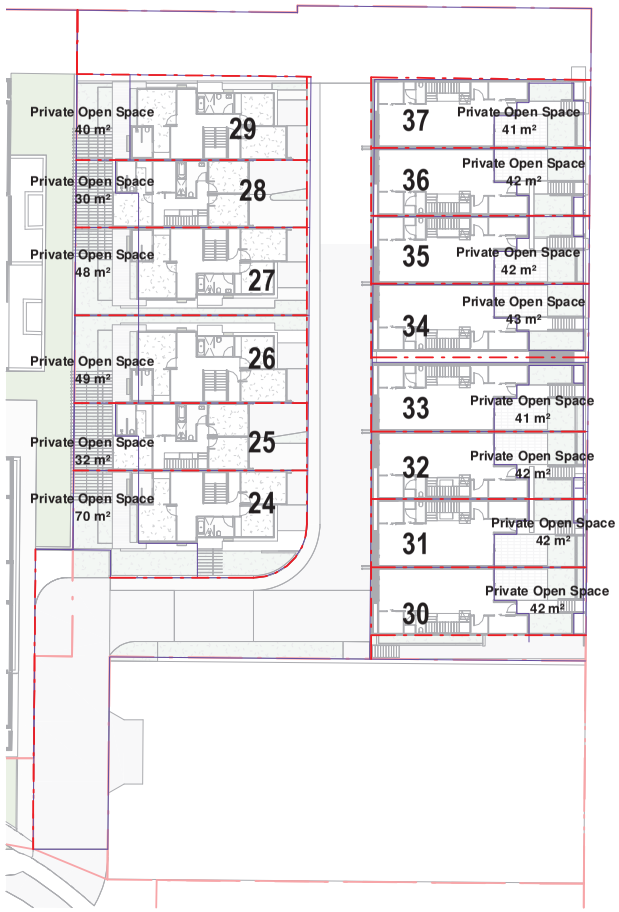
SCALE 1 : 500
09.08.22
PROJECT NO. 3662

9/08/2022 5:00:57 PM



1 **Site Cover Precint 3**
1 : 500

Site Cover - Precinct 3			
24	Site Cover	111 m²	60%
24	Dwelling Site	73 m²	40%
		185 m²	100%
25	Site Cover	86 m²	48%
25	Dwelling Site	93 m²	52%
		180 m²	100%
26	Site Cover	112 m²	68%
26	Dwelling Site	52 m²	32%
		164 m²	100%
27	Site Cover	111 m²	62%
27	Dwelling Site	68 m²	38%
		179 m²	100%
28	Site Cover	86 m²	56%
28	Dwelling Site	68 m²	44%
		155 m²	100%
29	Site Cover	112 m²	68%
29	Dwelling Site	52 m²	32%
		164 m²	100%
30	Site Cover	102 m²	62%
30	Dwelling Site	61 m²	38%
		163 m²	100%
31	Site Cover	101 m²	76%
31	Dwelling Site	32 m²	24%
		133 m²	100%
32	Site Cover	100 m²	78%
32	Dwelling Site	29 m²	22%
		128 m²	100%
33	Site Cover	100 m²	77%
33	Dwelling Site	29 m²	23%
		130 m²	100%
34	Site Cover	100 m²	72%
34	Dwelling Site	39 m²	28%
		139 m²	100%
35	Site Cover	99 m²	72%
35	Dwelling Site	38 m²	28%
		137 m²	100%
36	Site Cover	100 m²	78%
36	Dwelling Site	28 m²	22%
		128 m²	100%
37	Site Cover	100 m²	79%
37	Dwelling Site	27 m²	21%
		127 m²	100%



2 **Private Open Space Precinct 3**
1 : 500

Private Open Space - Precinct 3		
24	Private Open Space	70 m²
25	Private Open Space	32 m²
26	Private Open Space	49 m²
27	Private Open Space	48 m²
28	Private Open Space	30 m²
29	Private Open Space	40 m²
30	Private Open Space	42 m²
31	Private Open Space	42 m²
32	Private Open Space	42 m²
33	Private Open Space	41 m²
34	Private Open Space	43 m²
35	Private Open Space	42 m²
36	Private Open Space	42 m²
37	Private Open Space	41 m²

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CLIENT: JGL Properties

PROJECT: Parkside Yeronga

DRAWING NAME: Area Schedule - Precinct 3

DRAWING NO.: 910-03 F

SCALE 1 : 500
09.08.22
PROJECT NO. 3662

9/08/2022 5:01:00 PM

Appendix B Authority Flood Report

Brisbane City Council

FloodWise Property Report

Report Reference
1633663486795
08/10/2021 13:24:46

Dedicated to a better Brisbane

THIS REPORT IS FOR BUILDING AND DEVELOPMENT PURPOSES ONLY

The FloodWise Property Report provides property or lot-based flood information for building and development requirements. This report provides information on estimated flood levels, habitable floor level requirements and more technical information on the four sources of flooding: river, creek / waterway, storm tide and overland flow. Refer to the Useful Definitions section for a glossary of terms.

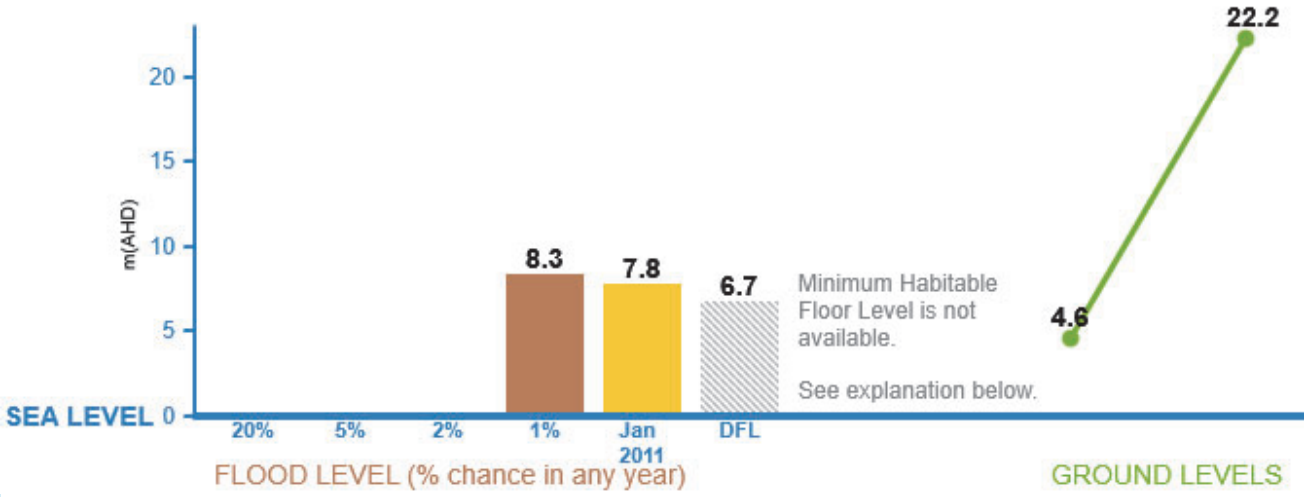
To find out more about how the contents of this report may affect building or development on this property, please visit www.brisbane.qld.gov.au/planning-building.For more general information about understanding your flood risk and how to prepare your property, family or business for potential flooding visit www.brisbane.qld.gov.au/beprepared

THIS IS A REPORT FOR:

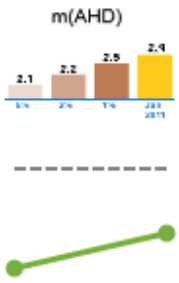
Rateable Address: 70 PARK RD, YERONGA QLD 4104

Lot Details: L.3 SP.300888

FLOOD LEVEL INFORMATION



EXPLANATION



m(AHD) - Metres Australia Height Datum. The level of 0.0m AHD is approximately mean sea level.

Flood Levels - The Flood level bar chart above shows the possible flooding level and percentage chance of that level being reached or exceeded in any year. If an orange bar shows, it is the calculated January 2011 flood level at this address or lot. Refer to 'Useful Definitions' for further information.

Minimum Habitable Floor Level - Applies to residential development only. Please refer to Council's planning scheme to learn how this may affect you. If a property is in an overland flow path, or a large allotment, a minimum habitable floor level cannot be provided. Refer flood and planning development flags below.

Ground Levels- The green line above shows this property's approximate lowest and highest ground levels based on latest available information (2019 airborne laser survey) to Council. If you are building, please confirm with a surveyor.

For further information and definitions please refer to the Useful Definitions page

FLOOD AND PLANNING DEVELOPMENT FLAGS

DEVELOPMENT FLAG(S)

This property may also be affected by one or more flood or property development overlays or flags. These include: OVERLAND FLOW PATH,LARGE ALLOTMENT

Please review the technical summary over page and refer to Council's planning scheme for further information.

Brisbane City Council

FloodWise Property Report

Report Reference
1633663486795
08/10/2021 13:24:46

Dedicated to a better Brisbane

TECHNICAL SUMMARY

This section of the FloodWise Property Report contains more detailed flood information for this property so surveyors, builders, certifiers, architects and engineers can plan and build in accordance with Council's planning scheme. For more information about building and development in Brisbane please visit www.brisbane.qld.gov.au/planning-building or talk to a Development Assessment Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

THIS IS A REPORT FOR:

Rateable Address: 70 PARK RD, YERONGA QLD 4104

Lot Details: L.3 SP.300888

PROPERTY INFORMATION (Summary)

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

PROPERTY SUMMARY	LEVEL (mAHD)
Minimum Ground Level	4.6
Maximum Ground Level	22.2
Min Habitable Floor Level	Contact Council
Residential Flood Level (RFL)	8.3
Residential Flood Level Source	RIVER
Flooding may also occur from	RIVER,OVERLAND FLOW

ESTIMATED PEAK FLOODING LEVELS

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning Development Information.

Note that the overland flow flooding level maybe higher than the levels below from other sources.

DESCRIPTION	LEVEL (mAHD)	SOURCE
20% AEP	N/A*	
5% AEP	N/A*	
2% AEP	N/A*	
1% AEP	8.3	RIVER
January 2011	7.8	RIVER
DFL	6.7	RIVER
RFL	8.3	RIVER

* Council does not hold flood levels for this probability event.

FLOOD PLANNING DEVELOPMENT INFORMATION

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

FLOOD OVERLAY CODE

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the Flood Planning Areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in Council's planning scheme, which is available from www.brisbane.qld.gov.au/planning-building.

FLOOD PLANNING AREAS (FPA)		
RIVER	CREEK/WATERWAY	OVERLAND FLOW
FPA5		Applicable

COASTAL HAZARD OVERLAY CODE

There are currently no Coastal Hazard Overlays that apply to this property.

PROPERTY DEVELOPMENT FLAGS

Overland Flow Path - Mapping indicates this property may be located within an overland flow path. Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. It is recommended you consult a Registered Professional Engineer of Queensland to determine this property's habitable floor level and flooding depth. Please refer to Council's planning scheme for further information.

Large Allotment - This property is either a Large Allotment of over 1000 square metres or is located within a Large Allotment. Flood levels may vary significantly across allotments of this size. Further investigations may be warranted in determining the variation in flood levels and the minimum habitable floor level across the site. For more information or advice, it is recommended you engage a Registered Professional Engineer of Queensland.

Brisbane City Council

FloodWise Property Report

Report Reference
1633663486795
08/10/2021 13:24:46

Dedicated to a better Brisbane

Useful Definitions

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

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

Defined Flood Level (DFL) - The DFL for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m^3/s.

Maximum and Minimum Ground Level – Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum Habitable Floor Level – The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family and rumpus rooms) must be constructed.

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

Residential Flood Level (RFL) – Residential flood level (RFL) for the Brisbane River flooding equates to the 1% Annual Exceedance Probability flood level.

Rateable Address - A Lot or Property may have more than one street address. The address shown on this report is the address used by Council for the Lot or property selected.

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

Brisbane City Council's Online Flood Tools

Council provides a number of online flood tools:

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

Planning and Development Online Flood Tools

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

- FloodWise Property Report
- Flood Overlay Code

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

- phone 07 3403 8888 to talk to a Development Assessment Customer Liaison Officer
- visit www.brisbane.qld.gov.au/planning-building
- visit a Regional Business Centre.

Helping residents and businesses be prepared for flooding

Council has a range of free tools and information to help residents and businesses understand potential flood risks and how to be prepared. This includes:

- Flood Awareness Map
- Flooding in Brisbane – A Guide for Residents
- Flooding in Brisbane – A Guide for Businesses
- Early Warning Alert Service. Visit www.brisbane.qld.gov.au/earlywarning to register for email, home phone or SMS severe weather alert updates.

Note: The Flood Awareness Map shows four levels of flood likelihood from high likelihood (flooding is very likely to occur) through to very low likelihood (very rare and extreme flood events).

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- Visit www.brisbane.qld.gov.au/beprepared
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Brisbane City Council

FloodWise Property Report

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Appendix C Approved Parkside Yeronga PDA Documentation

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Flood Assessment

Yeronga Priority Development Area – Parkside Yeronga

Stantec c-/ Economic Development Queensland

08 July 2022



Document Status

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1 INTRODUCTION AND BACKGROUND

1.1 Introduction

Water Technology Pty Ltd (WT) has been commissioned by Stantec on behalf of Economic Development Queensland (EDQ) to undertake a detailed flood impact assessment for a proposed development located at 70 Park Road, Yeronga (the Site). The development, known as Parkside Yeronga, involves a subdivision of land historically occupied by the Yeronga TAFE facility. The Site locality and pre-demolition site condition is shown in Figure 1-1. The site is approximately 3.1 ha in total area and is located within the Brisbane City Council (BCC) Local Government Area (LGA). The Site is affected by backwater flooding from the Brisbane River and overland flow from external catchments to the south and east of the site. The hydraulic modelling undertaken for this study assesses the overland flow flooding impacts of the proposed development.

This report addresses relevant flooding and stormwater issues raised in the Further Issues information request from the State Department, Infrastructure, Local Government and Planning (SDILGP), dated 28th October 2021 (ref: DEV2021/1221). The information request additionally contains items raised by the Department of Transport and Main Roads (TMR) primarily relating to the railway located downstream of the site. This report has been prepared to address all outstanding flooding items contained in the information request. The assessment undertaken is also intended to demonstrate that the proposed development is consistent with the Preliminary Approval for Material Change of Use and Development Approval for the Reconfiguration of Lots conditions received 3 May 2022.



FIGURE 1-1 SITE LOCATION (AERIAL IMAGE PRE-DEMOLITION)

1.2 Proposed Development

Figure 1-2 below shows the proposed development layout plan provided by Wolter Consulting Group. We note that this layout has since been revised, however, this does not fundamentally affect the outcomes of this hydraulic assessment. The development layout and associated civil drawings provided by Stantec are included in Appendix A. We understand that the approved development includes the following:

- Reconfiguration of the lot (1 into 11 lots, easement and road);
- Road and drainage improvement works in Villa Street; and
- Construction of ultimate drainage works on Villa Street and diversion trunk pipe and overland flow swale on the Site's eastern boundary.

Hydraulic assessment undertaken and documented in this report is consistent with the ultimate and interim design case with drainage swale on Lot 10.

We understand that demolition of the Yeronga TAFE buildings and facilities on the site occurred in early 2019. Our assessment is based on assessing impacts of the proposed development compared to pre-demolition conditions. This is discussed in further detail herein.

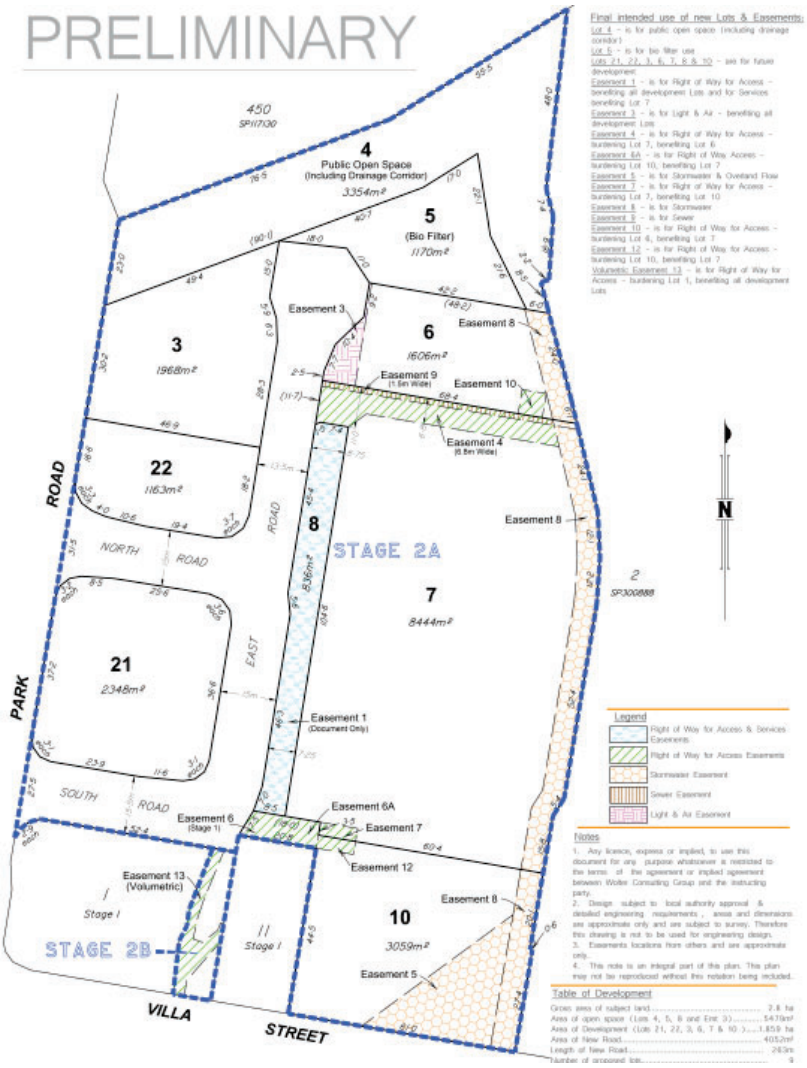


FIGURE 1-2 PROPOSED DEVELOPMENT LAYOUT PLAN (SOURCE: WOLTER CONSULTING GROUP, 2022)

1.3 Scope of Report and Overview of Approach

This report has been prepared for the purpose of addressing flooding impact matters raised by TMR and EDQ in respect to the development and proposed works on Villa Street, and to support the development application for the site. This report does not specifically address BCC's overland flow code as these provisions do not apply in respect to a State Government development and there is no requirement to obtain a DA via BCC, however, the assessments undertaken have had regard for the BCC code provisions where relevant.

The assessment undertaken is also intended to demonstrate that the proposed development is consistent with the Preliminary Approval for Material Change of Use conditions received 3 May 2022.

The scope of this report specifically includes consideration of flooding impacts of the development and drainage works. Issues relating to regional flooding from the Brisbane River and other stormwater quality management issues have been addressed separately by Stantec.

Detailed hydrologic and hydraulic modelling has been undertaken to demonstrate that the proposed development can be fundamentally supported. The following sections of this report outline in further detail the methodologies, details and results of the technical assessments completed.

2 SITE DESCRIPTION

2.1 Topography and Drainage

The Site was historically occupied by the Yeronga TAFE until all buildings were demolished in early 2019. The flood assessment has been based on the pre-demolition conditions which are represented in the publicly available 2014 LiDAR. Figure 2-1 illustrates the Site topography based on available 2014 LiDAR topographic survey and includes the BCC stormwater networks layers.

The Site grades from the southern boundary towards the northern boundary at an average slope of approximately 6%. Elevations at the Site range from approximately 20 mAHD in the south of the Site to 6 mAHD in the north.

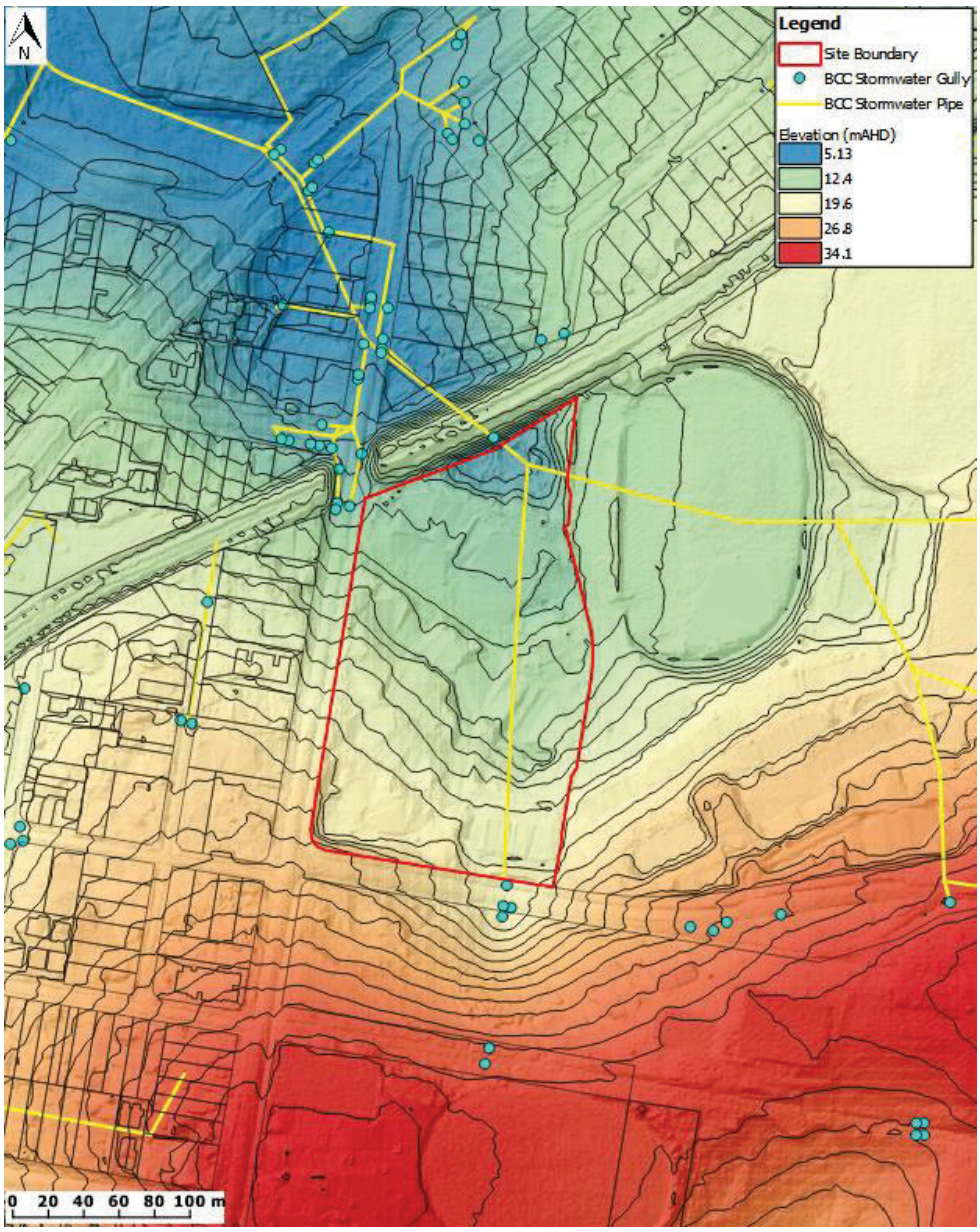


FIGURE 2-1 PRE DEMOLITION SITE TOPOGRAPHY – BASED ON 1M LIDAR 2014

2.2 Available Data

The following data has been sourced and used to inform the current assessment:

- LiDAR and associated contour data captured in 2014 for BCC LGA. Note that this dataset is suitable for the assessment given that the base case scenario considered the site prior to demolition occurring in early 2019;
- Council stormwater pipe and pit network data, obtained via BCC online data portal;
- Proposed development layout supplied by Wolter Consulting Group (refer to Appendix A);
- DRAINS model provided by Stantec;
- Pre-demolition survey undertaken by RPS (provided in Appendix B);
- Post-demolition survey undertaken by Wolter Consulting Group;
- Civil design surface and stormwater design plans provided by Stantec;
- Site photos provided by Stantec;
- Rainfall data from the Bureau of Meteorology (BoM); and
- Aerial imagery obtained from Google Earth and MetroMap.

3 HYDROLOGIC MODELLING

3.1 Overview

To assess stormwater characteristics at the Site, hydrologic models have been established for the catchment using the Watershed Network Bounded Model (WBNM) software. Resulting flows were incorporated into the hydraulic model discussed in the following section. This assessment has been undertaken in accordance with ARR19 methodology using the Storm Injector software.

In the absence of stream gauges, the hydrologic models were validated to the Rational Method, in accordance with Section 4.3 of the IPWEA Queensland Urban Drainage Manual (QUDM) Fourth Edition (2017). Additional comparisons were made with the DRAINS model supplied by Stantec. The following sections of this report provide further details with respect to the stormwater modelling methodology.

3.2 Base Case Model

3.2.1 Sub-Catchment Breakdown

Sub-catchments have been delineated based on the LiDAR topography and available pipe network data. The WBNM model catchment layout is shown in Figure 3-1 below. Note that a diversion has been included in the model to represent minor flows captured in the stormwater system on Villa St (flowing north) with excess flows routed west down to the sag on Villa St. Sub-catchment details for the WBNM model and included in Appendix C.

The model layout includes the site, upstream catchments to the west, east and south, and extends downstream of the site a sufficient distance to fully include downstream areas that are included in the hydraulic model.

3.2.2 Rainfall and Losses

Rainfall intensity data has been obtained online from the Australian Bureau of Meteorology's 2016 Design Intensity Frequency and Duration (IFD) Rainfall System via the Storm Injector software. Median preburst depths have been applied and initial and continuing losses have been applied from the pre-bursts. Rainfall losses adopted have included a 5mm initial loss and 1mm/hr continuing loss which is consistent with the DRAINS model and have also been subject to validation using the Rational Method. Digital models including Storm Injector files will be provided separately to this report.

Hydrology for the 1%, 2%, 5%, 10%, 20%, 50% and 63.2% AEP events was analysed for this assessment and represents an appropriate range of flow conditions for assessment the impacts of the proposed development.



FIGURE 3-1 SUB-CATCHMENT LAYOUT – BASE CASE

3.2.3 Base Case Model Validation

The WBNM model was validated against the Rational Method for the base case catchment conditions and in the absence of available stream gauges. The time of concentration was calculated using an assumed average flow velocity and including an additional 5-min for standard inlet time. Table 3-1 summarises the Rational Method parameters used. Figure 3-1 shows the Rational Method validation location, with Table 3-2 summarising the Rational Method results. The hydrology model flows show good correlation with the Rational Method and are slightly higher than the Rational Method. The flow comparisons show that the WBNM model can be suitably adopted for all hydrological modelling prepared as part of this assessment.

Additional spot checks and comparisons were made with the DRAINS model provided by Stantec. The spot checks of peak flow at various locations (discharges to Villa St and in pipes discharging to the downstream area of the site) were comparable to the WBNM model results.

An impervious percentage of 90% has been assumed for the pre-demolition TAFE site.

TABLE 3-1 VALIDATION LOCATION RATIONAL METHOD PARAMETERS – BASE CASE

Parameter	Input	Reference
Catchment area (ha)	20.5	Sub-catchment area
Discharge coefficient C_{10}	0.82	QUDM 2016 Table 4.5.4
Time of concentration (min)	23	Calculated using flow path length, assumed average velocity and adding 5min standard inlet time

TABLE 3-2 WBNM RATIONAL METHOD VALIDATION RESULTS – BASE CASE

AEP Event	WBNM Peak Flow (m^3/s)	Rational Method Peak Flow (m^3/s)	Difference (%)
1%	10.0	9.6	+5
2%	8.9	8.3	+8
5%	7.4	6.5	+15
10%	6.3	5.4	+18
50%	3.2	2.7	+16

3.3 Post-Development Case Model

The base case model was used as the basis for the post-development model, with minor catchment modifications to represent the post-development internal catchments and overland flow drain. Figure 3-2 below shows the modified catchment boundaries for the Site. The update ensured that the hydrology for the Site and overland flow drain were represented as accurately as possible and that inflows for the hydraulic model were appropriately defined.

Note that the impervious percentage of 90% for the pre-demolition TAFE site has been assumed for the post-development case. This is consistent with the proposed layout of development. Given the proposed land use and impervious percentage of the proposed development is not intensified or increased, the hydrology of the site will not be fundamentally affected, and provision of on-site detention is not required.

Note that catchment “Yer21” major storm will be discharged to the drain on the eastern boundary. For the purpose of the assessment, we have included the total flow from “Yer21” in the drain which traverses along the eastern site boundary.

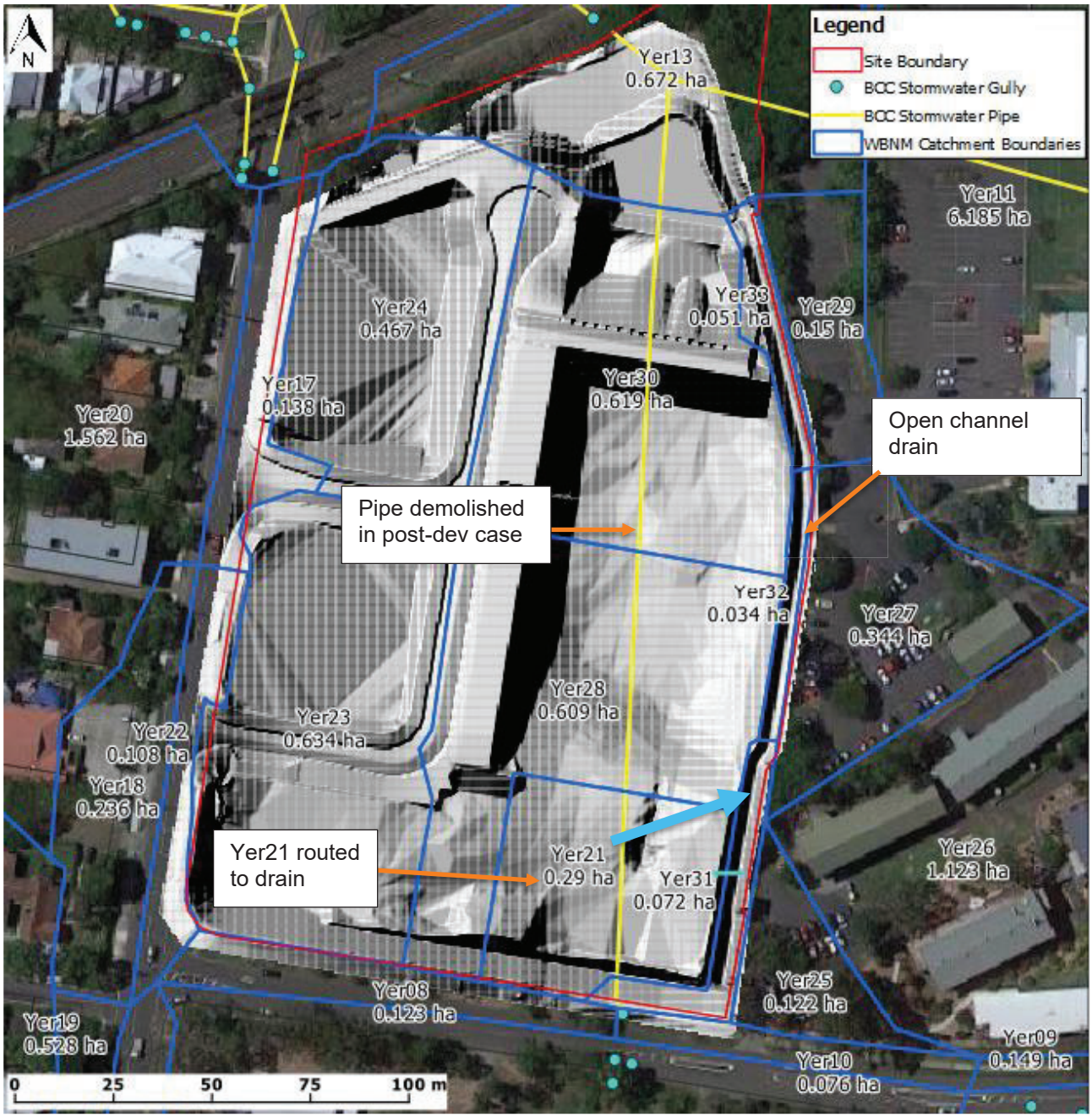


FIGURE 3-2 SUB-CATCHMENT LAYOUT – POST-DEVELOPMENT CASE

3.4 Hydrological Model Results

Base case box plots for all events analysed at the rail corridor (Catchment Yer13) are included in Appendix D. We note that the changes made in the post-development WBNM model were minor and do not fundamentally change the resulting critical durations or total flows downstream.

The critical duration at the railway corridor is generally the 15-minute, 25-minute and 30-minute storms across the AEPs analysed based to the hydrologic model. The base case and post development model outputs were used to inform the hydraulic model flows as discussed in the following section. Determination of the critical durations was undertaken using the hydraulic model due to the complexity of the catchment and effect of

natural flood storage and changes in conveyance characteristics. Testing in the hydraulic model using the 1% and 10% AEP hydrology showed that the 25-minute storm was found to be critical at the railway corridor.

Base case and post-development run-off from the site will not be fundamentally worsened given that the impervious area and catchment characteristics are similar in both cases.

4 HYDRAULIC MODELLING

4.1 Overview

To assess the hydraulic flooding conditions in the catchment and to quantify the change in hydraulic behaviour as a result of the proposed development, a TUFLOW hydraulic model has been developed. TUFLOW is an effective 1d/2d hydraulic simulation software which is capable of assessing various water environments, including flooding within urban drainage catchments. The TUFLOW model developed for this flood study was based on the TUFLOW software version 2020-10-AC-iSP-w64 which incorporates the Highly Parallelised Compute (HPC) solution scheme.

Hydraulic models have been developed to assess the following scenarios:

- Base Case – representing the Site pre-demolition conditions;
- Post-Development Case – based on the base case model, with the inclusion of the civil design surface and associated drainage features; and
- Severe Storm Sensitivity Case – this case assesses a 1% AEP storm with complete blockage (100%) applied to the stormwater pits on Villa Street and 50% blockage applied to the new trunk 1050 RCP aligned with the eastern site boundary drain. This case was simulated to ensure that the overland flow drain is adequately sized and to inform civil design levels at the site as well as design planning levels. Results are discussed in Section 4.4.1.
- Railway pit blockage sensitivity – 60% total blockage applied to the railway pit inlet to test the sensitivity of this structure to blockage.

The following sections of this report provide further detailed information on the hydraulic model developed for this study.

4.2 Base Case Model

The topography for the TUFLOW model was based on 1m resolution LiDAR datasets captured in 2014 and has been modelled using the same 1m resolution. The extent of this model has been set to ensure the overland flow paths at the site are suitably represented at the site as well as in both upstream and downstream areas from the site. The downstream boundary has been positioned perpendicular to the drain downstream of Fairfield Road and is located a sufficient distance downstream of the site to assess local flooding impacts of the proposed development.

The TUFLOW model layout is shown in Figure 4-2 below. The model roughness layout for the base case is shown in Figure 4-3. A summary of the model for the base case assessment is as follows:

- The model topography is based on a 1m grid resolution;
- Detailed ground survey has been included based on the pre-demolition survey provide by RPS;
- Building footprints in the base case have been represented using Z-shapes;
- Some internal drainage has been included to ensure that overland flow through the site does not pond unrealistically and is conveyed downstream. The internal drainage pits and pipe arrangement has been informed by the pre-demolition survey, LiDAR and aerial imagery;
- Downstream boundary (2D and 1D boundary) set using a HQ type normal slope of 0.1% based on the ground topography slope at this location. The location of the boundary was chosen to be sufficiently

downstream of the site and railway corridor which forms a major hydraulic control, to ensure that the boundary conditions did not affect the outcomes of the assessment;

- Stormwater network has been informed by BCC-supplied stormwater pipe and pit network, pre-demolition site survey and additional data and photos provided by Stantec;
- Some upstream drainage from the catchment to the east and downstream of the railway has been simplified due to incomplete records;
- Depth-discharge curves have been derived for all pits where data was available. All curves have assumed 50% grate blockage. Where structures have been assumed, these have been represented as R type pits;
- The pit on the upstream side of the railway has been represented as a pit structure with 30% inlet blockage based on photos provided by Stantec. A selected image of the pit is shown in Figure 4-1 below; and
- Inflows from the WBNM model have been applied using 2d_sa polygons and 2d_sa pit inflows.

The floodplain roughness for the TUFLOW model has been represented using Manning's 'n'. A summary of the roughness value for each land use type is summarised below in Table 4-1, with the spatial extent illustrated in Figure 4-3. Note that areas that do not get wet (such as buildings raised out of the topography) are not relevant to the roughness mapping.

Testing was undertaken using the base case model to determine the critical durations of the 1% and 10% AEP events. In both cases, the critical event downstream of the site at the railway corridor was the 25-minute storm. For the purpose of assessing impacts, the 25-minute storm was adopted for all AEPs analysed, noting that this duration storm produces appropriate flows in all AEPs.

TABLE 4-1 MANNINGS 'N' ROUGHNESS

Material Type	Manning's 'n' Roughness
Roads and Pavement	0.020
Open Space	0.045
Low Vegetation	0.050
Medium Vegetation	0.070
Urban Residential	0.200
Buildings	2.000
Swale (sensitivity)	0.100



FIGURE 4-1 PIT ADJACENT TO RAILWAY

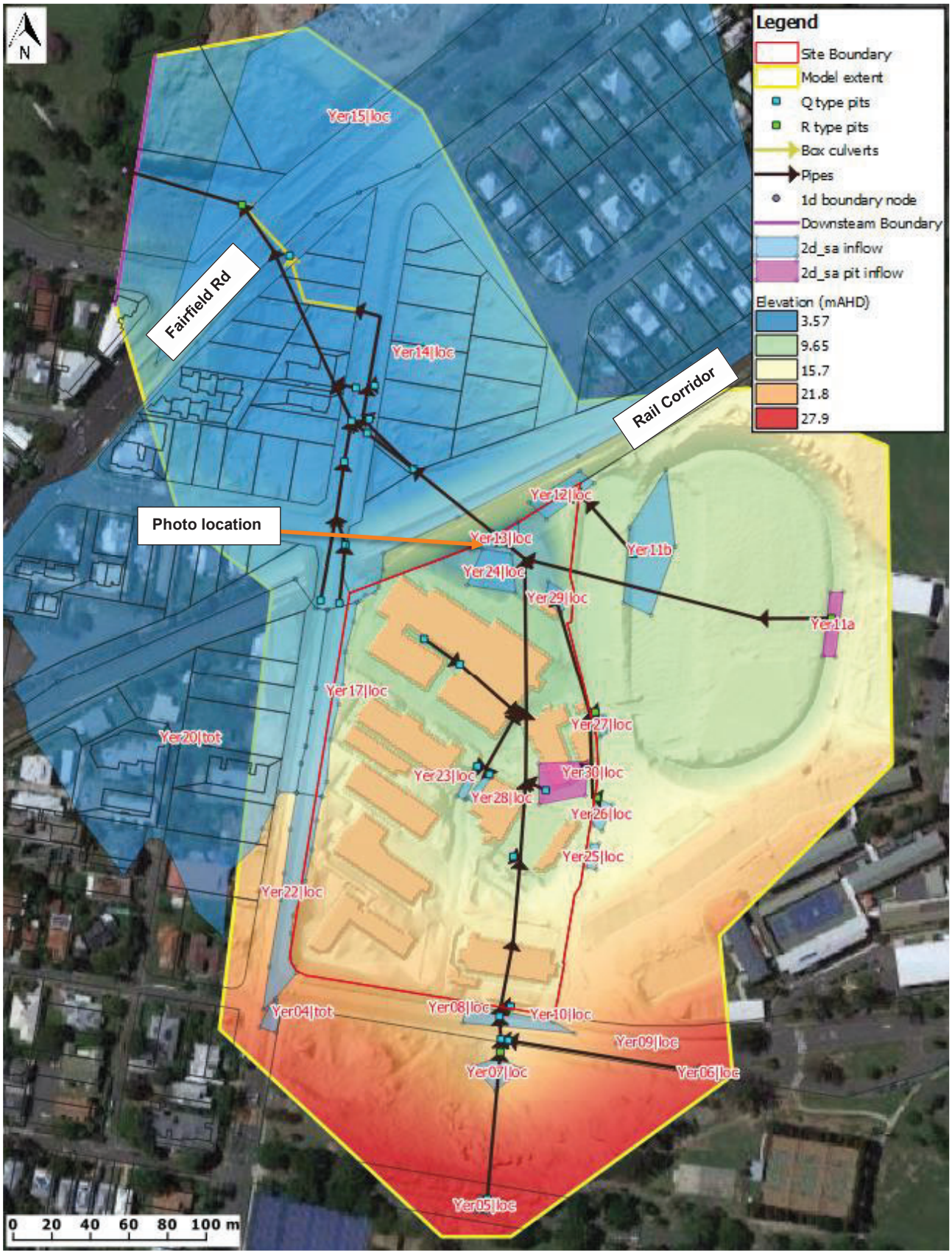


FIGURE 4-2 TUFLOW MODEL LAYOUT AND TOPOGRAPHY – BASE CASE



FIGURE 4-3 TUFLOW ROUGHNESS LAYOUT – BASE CASE

4.3 Post-Development Case Model

The post-development case model is based on the base case model and includes the following additional features:

- The civil design surface provided by Stantec. The design surface includes the proposed overland flow drain along the eastern boundary of the site.
- All proposed drainage associated with the overland flow path. The proposed stormwater design provided by Stantec was used to inform the model set up.
- As per the base case model, depth-discharge curves have been derived for proposed new pit structures with a 50% blockage applied to grates.
- 20% standard design blockage has been applied to the trunk 1050mm RCP aligned with the overland flow drain.
- The overland flow drain has been represented in the 2D domain and for the impacts assessment has been applied with a Manning's roughness of 0.020 to represent the proposed concrete invert. A sensitivity case using a roughness of 0.100 in accordance with overland flow path BCC guidelines has been undertaken to inform design level control.
- A drain along the Villa Street frontage of Lot 10 (shown in Figure 4-4) is proposed to convey any flow overtopping the Villa Street footpath to the overland flow drain to the east. In reality, this can take many forms, such as an overland flow drain, concrete lined channel and pit and pipe structure with grates. Details for this aspect have not yet been determined. For the hydraulic modelling, this drain has been represented with a z-line gully and is only intended to represent conveyance of flow to the overland flow drain. We note that the sag and Villa Street footpath do not overtop in the standard design event analysed with standard blockage applied to the street inlets. A severe storm analysis has been simulated to inform the detailed civil design of the drain along Lot 10.
- Note that the internal stormwater network has not been modelled and flows have been introduced at the downstream part of the site. To ensure that flows in the culvert under the railway were adequately represented, a sag pit in the proposed cul-de-sac was modelled with a pipe connecting to the pit upstream of the railway, as per the drawings provided by Stantec. We note that a drop structure may be required to achieve constructible invert levels for the pipe, and may be located in the access ramp for the bioretention basin.
- A low-flow splitter from the sag pit to the bioretention basin has not been modelled. As noted on the Stantec engineering drawings, the splitter will be designed to divert a peak flow of up to approximately 0.45m3/s. The peak total flow from catchment "Yer24" is approximately 0.45m3/s, therefore, this has been introduced directly into the bioretention basin. To ensure that the bioretention does not completely contain frequent event flows, a pit outlet has been placed in the basin at the filter media level and connects into a new manhole downstream.

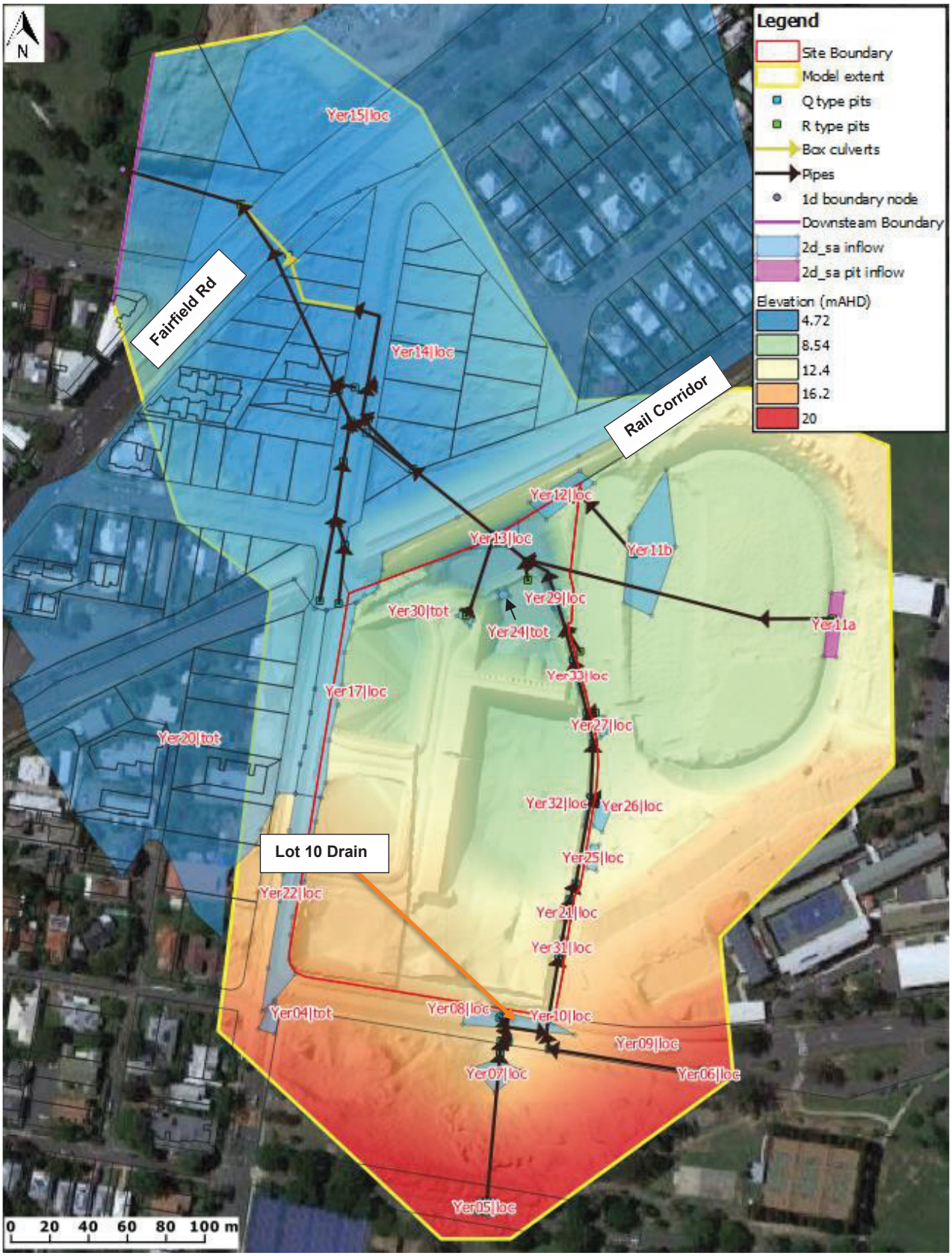


FIGURE 4-4 TUFLOW MODEL LAYOUT AND TOPOGRAPHY – POST-DEVELOPMENT CASE



FIGURE 4-5 TUFLOW ROUGHNESS LAYOUT – POST-DEVELOPMENT CASE

4.4 Results and Discussion

Base case and post-development case flood maps for maximum depth, water level, velocity and hazard are included in Appendix E. The adopted hazard categories are based on the Australian Emergency Management Institutes categories (ZAEM1 output in TUFLOW) which are shown in Figure 4-6.

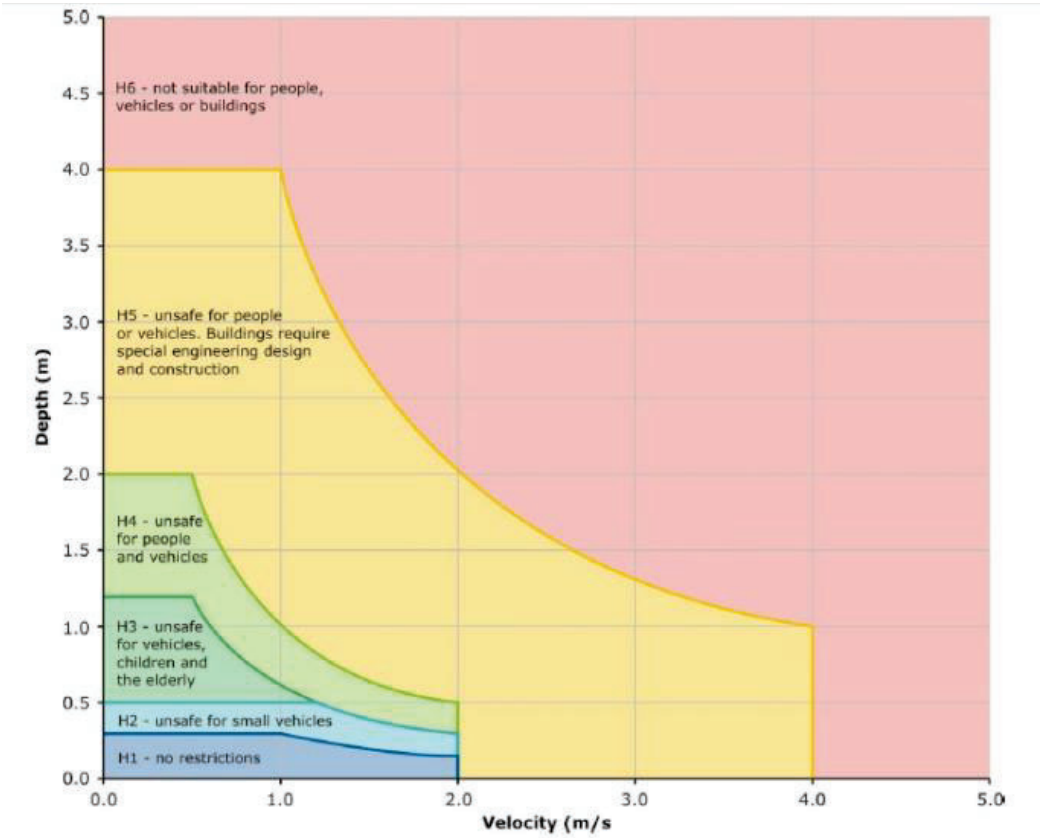
Flood level and velocity change maps are included in Appendix F.

All aspects of Condition 10 of the Development Approval have been addressed as part of this assessment. Non-worsening of flooding conditions in respect to maximum flood water level and velocity has been achieved. Lot 10 has been included as fully developed. QUDM safety and trafficability criteria for flood conditions on Villa Street and adjacent footpath has been achieved.

A summary of the results is provided as follows:

- Water levels upstream and adjacent to the railway corridor are not worsened in any of the design events simulated.
- There are no surface water level increases downstream of the railway in any of the design events simulated. We note that any potential changes to flood levels will not affect floor level control as this is highly dominated by Brisbane River flooding downstream of the railway.
- Peak flood velocities on private property external to the site are not affected. Localised increases in Villa Street are minor and a natural consequence of reducing ponding in the sag.
- Due to the increased trunk drainage capacity, flow increases are predicted in the 1050mm RCP downstream of the site and under the railway corridor. Hydrographs for the pipe in the 1%, 10% and 50% AEP events are shown in Figure 4-7, Figure 4-8 and Figure 4-9 respectively. The hydrographs demonstrate that increases in peak flows are predicted due to the increased pipe capacity upstream, with the frequent events being unlikely to be affected.
- Increases in peak flows also occur in pipes downstream of the site. The stormwater network downstream of the railway has a large capacity and these small increases in peak flow do not cause actionable surface water level increases downstream.
- The time of inundation is not increased in the post-development case compared to the base case.
- Maximum velocities in the concrete lined drain are generally up to 1.6 m/s (n.b. based on a Mannings n=0.020). We note that a localised area of higher velocity is shown to occur at the downstream end of the open drain and to the east of the bioretention basin. This occurs at a slight constriction and increase in grade. Widening and/or rock protection will be required to prevent scour and can be readily addressed as part of future works.
- Ponding in Villa Street has been dramatically reduced by virtue of the upgraded stormwater pits and downstream trunk pipe. Trafficability and flood hazard in Villa Street have been notably improved by the proposed development.
- The maximum ponding depth in the existing 1% AEP case in Villa Street are approximately 0.71m in the gutter and 0.35m on the road crown. In the post-development case, the maximum 1% AEP ponding depth in Villa Street is 0.21m in the gutter, with no ponding occurring over the road crown. Thus, Villa Street is trafficable in the 1% AEP event.
- The Villa Street footpath does not overtop in the standard design events analysed and therefore there is an acceptable risk to pedestrians and represents a marked improvement compared to the base case. In the severe storm case (1% AEP with 100% blockage of Villa Street drainage) the dv product is ~0.18m^2/s which is less than the permitted 0.4m^2/s (despite the severe storm assessment being above and beyond the typical design standard).

- Minimum design levels for the site can be readily achieved and are discussed in detail in the following section.
- In respect to the 20% AEP flood level impact mapping, a small area of water level increase up to 21mm is shown in pink downstream of the railway. This is not related to the development as there are reductions on the upstream side of the railway, and there are no impacts in any other AEP event. It occurs over a hard building structure, which isn't accurately represented in the Lidar topography. In the immediate surrounds, water levels are not fundamentally different, and the area of green below it indicates that there are water level reductions adjacent. The green area also indicates that the artefact is likely related to the way TUFLOW introduces and distributes water into the model. The impacts are numerical only, and are not real.



Hazard Classification	Description
H1	Relatively benign flow conditions. No vulnerability constraints.
H2	Unsafe for small vehicles.
H3	Unsafe for all vehicles, children and the elderly.
H4	Unsafe for all people and all vehicles.
H5	Unsafe for all people and all vehicles. Buildings require special engineering design and construction.
H6	Unconditionally dangerous. Not suitable for any type of development or evacuation access. All building types considered vulnerable to failure.

FIGURE 4-6 AUSTRALIAN EMERGENCY MANAGEMENT INSTITUTE HAZARD CATEGORIES

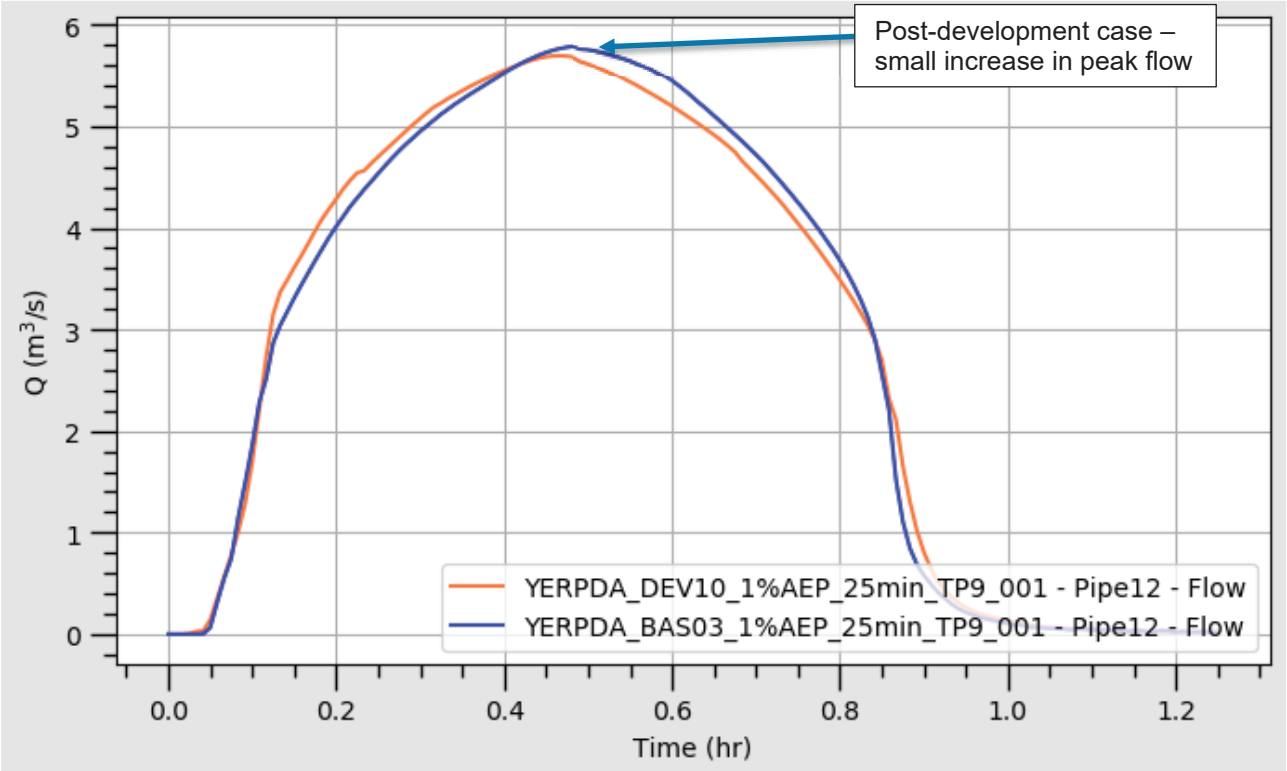


FIGURE 4-7 RAILWAY CULVERT CRITICAL HYDROGRAPHS – 1% AEP

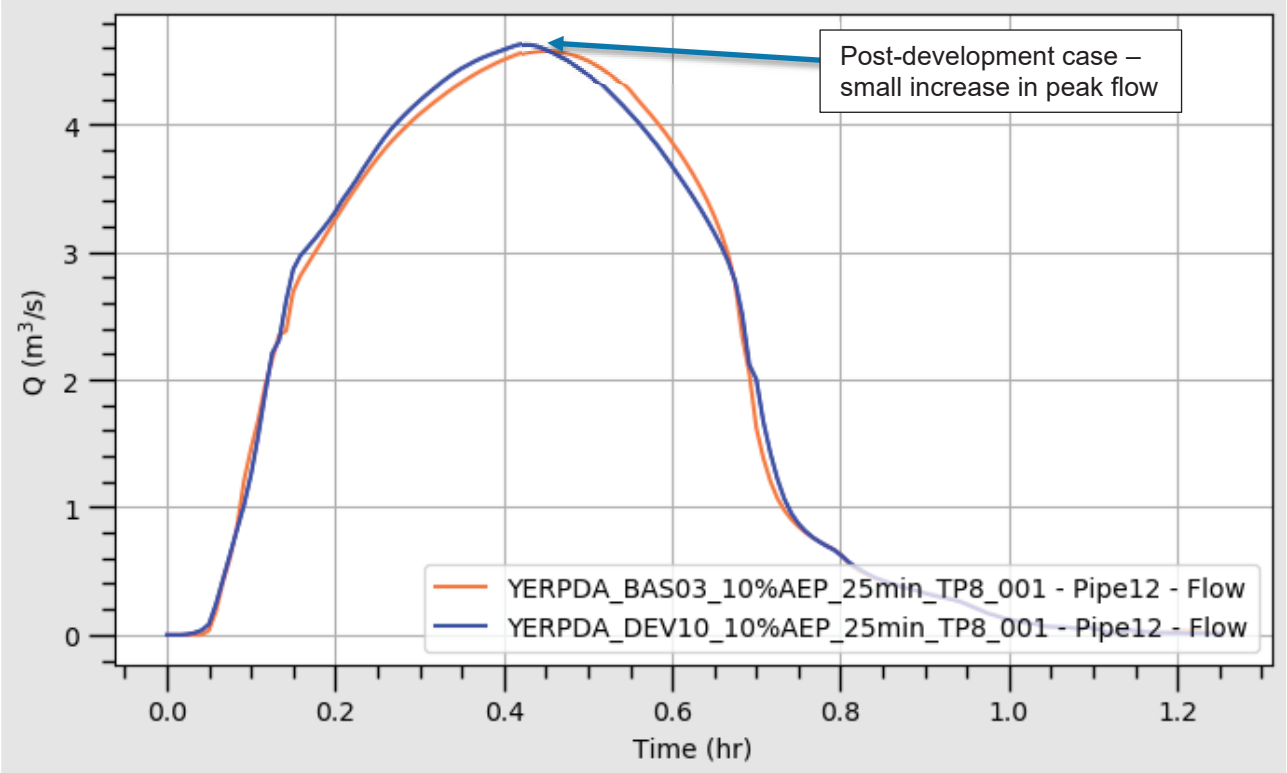


FIGURE 4-8 RAILWAY CULVERT CRITICAL HYDROGRAPHS – 10% AEP

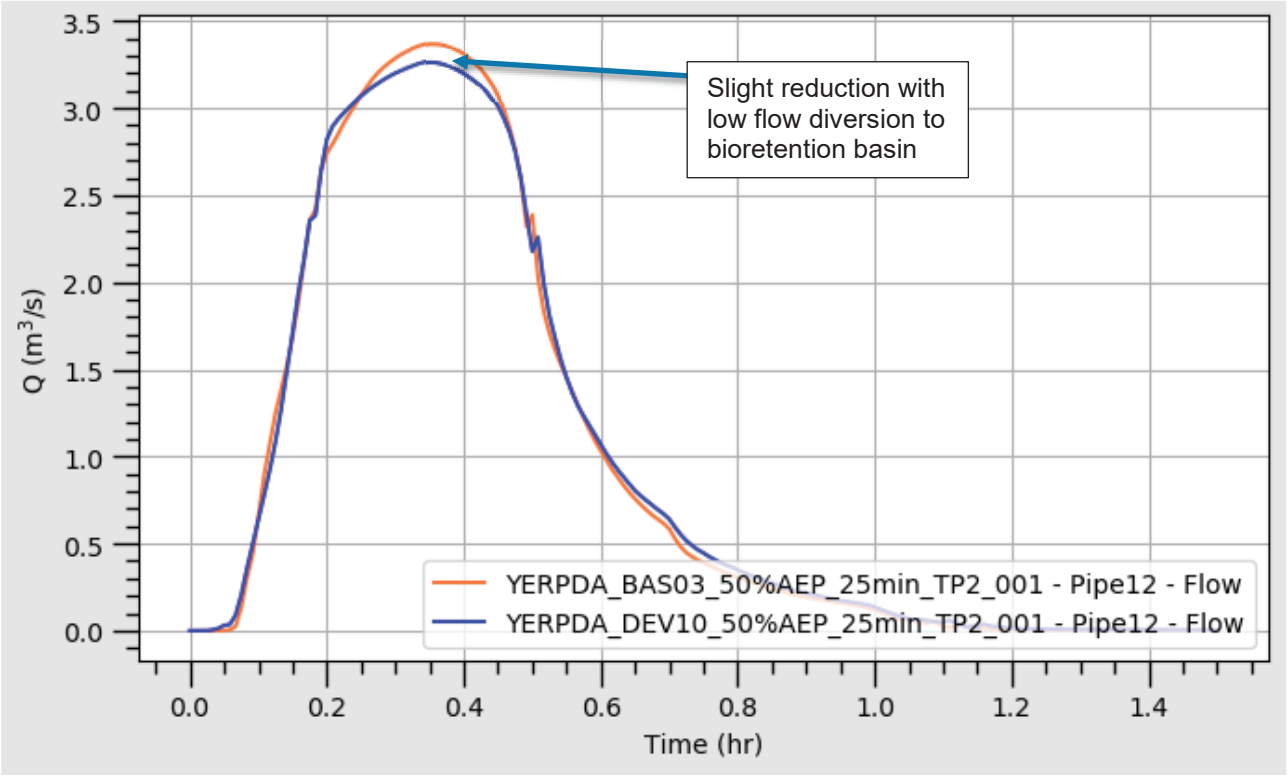


FIGURE 4-9 RAILWAY CULVERT CRITICAL HYDROGRAPHS – 50% AEP

4.4.1 Minimum Design Levels

The site is subject to overland flow path mapping according to the BCC City Plan (2014). Overland flow flood levels will be the dominant flood event which control minimum design planning levels at the site as they are comparably higher than the 1% AEP Brisbane River level (8.3mAHD), the latter only affecting the bottom portion of the site adjacent to the railway. Based on the typical BCC City Plan (2014) requirements, the 2% AEP event design water levels with an additional 500mm should be adopted for minimum design levels across the site, except for the flood protection along the Villa Street frontage of Lot 10.

The former TAFE site employed an earthen bund downstream of Villa Street as shown in Figure 4-10 below. The top level of the bund (based on the 2014 LiDAR) is 19.0mAHD. It is recommended that the same level be adopted for the design planning levels proposed along the street frontage. We note that this is higher compared to the 2% AEP level plus 500mm and provides additional protection having regard to blockage or the instance where vehicles drive through the flooded sag forming bow waves.

Design levels can vary with the water level grade along the drain on the eastern site boundary. We have provided the design case flood results to Stantec to inform minimum design levels at the site, which are based on the 1% AEP design event (with high roughness in the drain and without high pipe blockage – TUFLOW case “DEV10a”) plus 500mm.

The severe storm assessment discussed in the following section confirms that the minimum design levels for the site are appropriate.

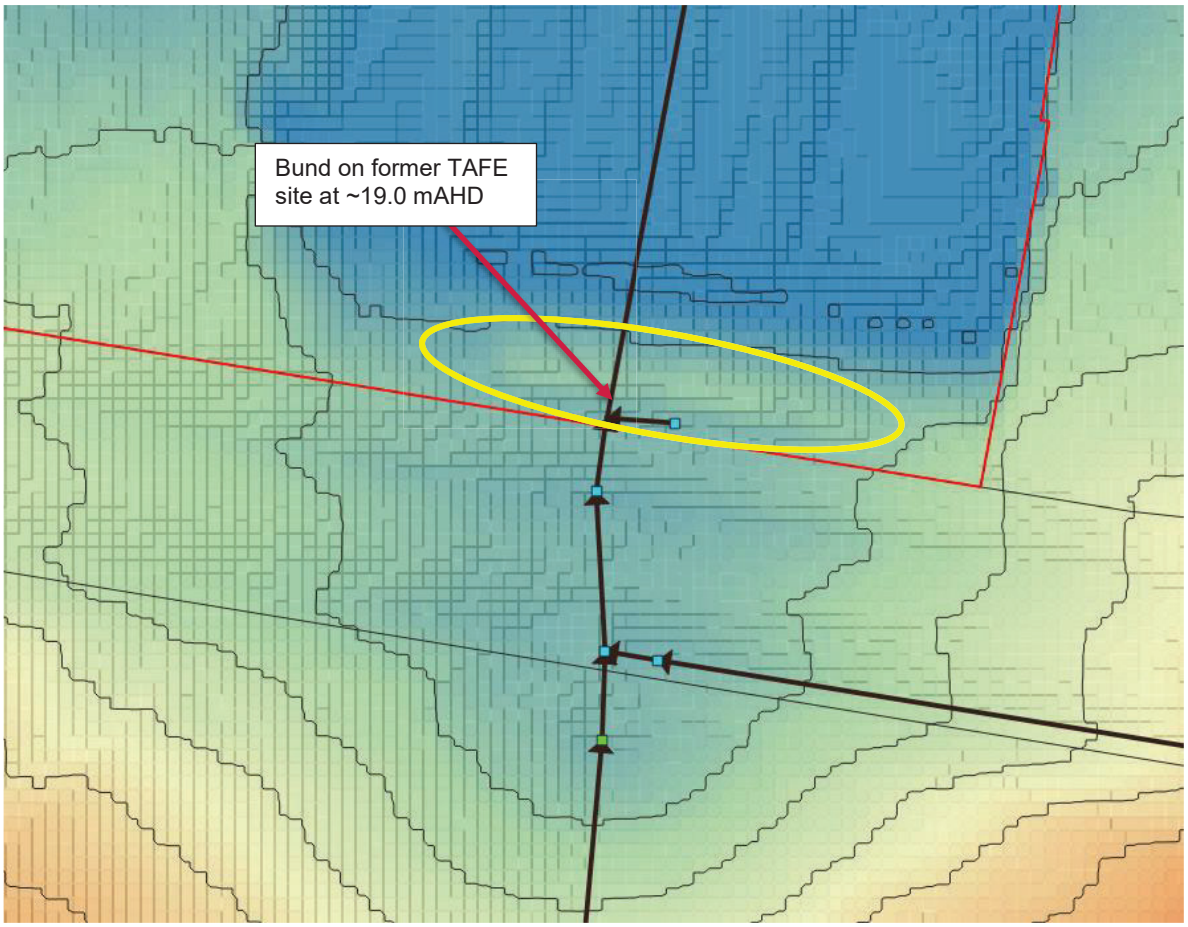


FIGURE 4-10 VILLA STREET FRONTAGE BUND – BASE CASE TOPOGRAPHY

4.4.2 Severe Storm Assessment

A severe storm assessment has been undertaken using the 1% AEP storm with consideration of extreme blockage of the proposed new trunk drainage. The purpose of this assessment is to ensure that the drain is appropriately sized and ensure the minimum design level for the wall on the Villa Street frontage of Lot 10 is not compromised.

A 100% blockage condition was applied to the most upstream section of the trunk 1050mm RCP (immediately downstream of the Villa Street pits) such that the only flow relief is provided by the drain adjacent to Lot 10 and the overland flow swale. The remain sections of pipe were given 50% blockage.

Figure 4-11 shows the maximum flood depth and level in the severe storm case. The maximum water level adjacent to Lot 10 is approximately 18.6 mAHD. The proposed design level for the wall along the Lot 10 frontage is 19.00mAHD, therefore, freeboard is not compromised in the severe storm case. The median peak 1% AEP flow in the cut off drain adjacent to Lot 10 is 0.6m^3/s.

As previously noted, the Villa Street footpath does not overtop in the standard design events analysed. In the severe storm assessment, results show that the maximum depth over the footpath is approximately 0.2m and maximum velocity is approximately 0.8m/s. This represents a low hazard (dv = ~0.18m^2/s which is less than the QUDM criteria of 0.4m^2/s) and will not present a significant safety risk for children or adults, especially considering the extreme and unlikely nature of the severe storm conditions. We note that water on the road is generally ponded and slow-moving.

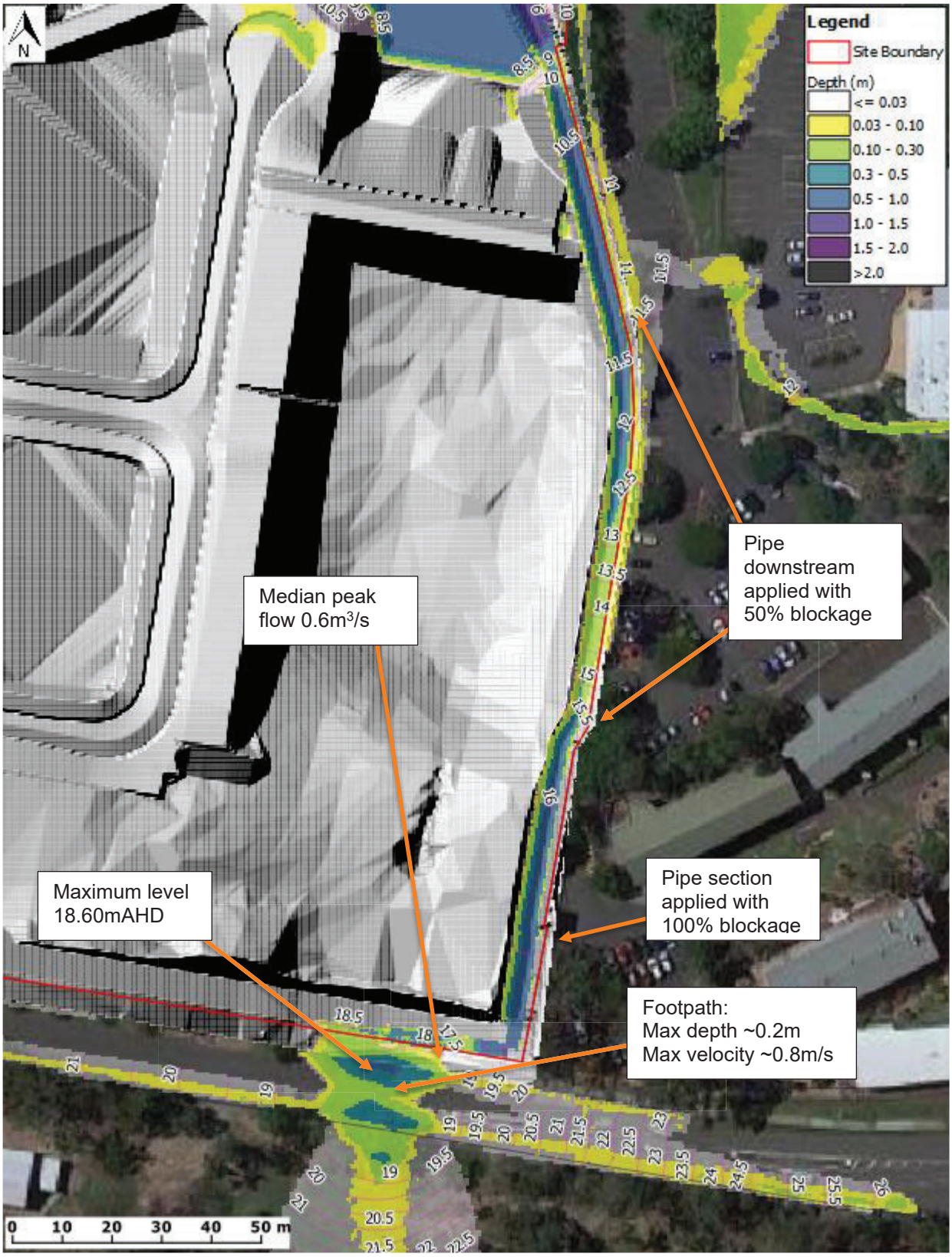


FIGURE 4-11 MAXIMUM FLOOD DEPTH AND LEVEL – 1% AEP SEVERE STORM CASE

4.4.3 Railway Pit Blockage Sensitivity

An additional sensitivity check has been undertaken by applying a total 60% blockage on the railway pit. This was simulated for the ten (10) 25-min 1% AEP storm events. This high blockage scenario only resulted in a modest 22mm water level increase upstream of the railway embankment on the site when compared to the post-development case with regular blockage applied. The pit is therefore not sensitive to blockage.

We also note that in the event of a severe blockage of the railway culvert or pit upstream of the railway corridor, relief is provided to the west via Park Road at approximately 9.5mAHD. Proposed floor levels adjacent to the bioretention basin are approximately 10mAHD, therefore it is extremely unlikely floor levels will be compromised due to blockage of the pit or culvert. However, we recommend that the pit cover be upgraded to incorporate a dome cover to reduce the risk of severe blockage. This flow path also provides relief in the event of a severe local event coinciding with Brisbane River flooding.

5 CONCLUSION

Water Technology Pty Ltd (WT) has been commissioned by Stantec on behalf of Economic Development Queensland (EDQ) to undertake a detailed flood impact assessment for a proposed development located at 70 Park Road, Yeronga (the Site). The development, known as Parkside Yeronga, involves a subdivision of land historically occupied by the Yeronga TAFE facility. The hydraulic modelling undertaken assesses the overland flow flooding impacts of the proposed development. Design aspects relating to Brisbane River flooding and floodplain storage have been addressed separately by Stantec.

This report addresses and satisfies the relevant conditions of the Development Approval (EDQ Ref: DEV1021/1221, dated May 2022).

A summary of the hydraulic assessment outcomes from this study are summarised as follows:

- Detailed hydrological modelling has been undertaken to define hydrology for the catchment and inform inflows or the hydraulic model.
- Detailed hydraulic modelling using TUFLOW has been undertaken to assess the adopted base case (pre-demolition) and post-development site conditions.
- Non-worsening water level increases (flood impacts) have been achieved for all standard design events including the 1%, 2%, 5%, 10%, 20%, 50% and 63.2% AEP events.
- There is no predicted increase in maximum flood velocity external to the site on private property.
- The time of inundation is not fundamentally affected.
- Due to the increased trunk drainage capacity, flow increases are predicted in the culvert under the railway corridor. The increases in peak flow also occur in pipes downstream of the site. The stormwater network downstream of the railway has a large capacity and these small increases in peak flow do not cause material surface water level increases downstream.
- Minimum design levels for the site can be readily achieved, with design levels provided to Stantec that are based on the 1% AEP design event plus 500mm, apart from the higher standard recommended for the Villa Street frontage of Lot 10.
- Ponding in Villa Street has been dramatically reduced by virtue of the upgraded stormwater pits and downstream trunk pipe. Trafficability and flood hazard in Villa Street have been notably improved by the proposed development.
- The Villa Street footpath does not overtop in the standard design event analysed therefore there is an acceptable risk to pedestrians and represents a marked improvement compared to the base case.

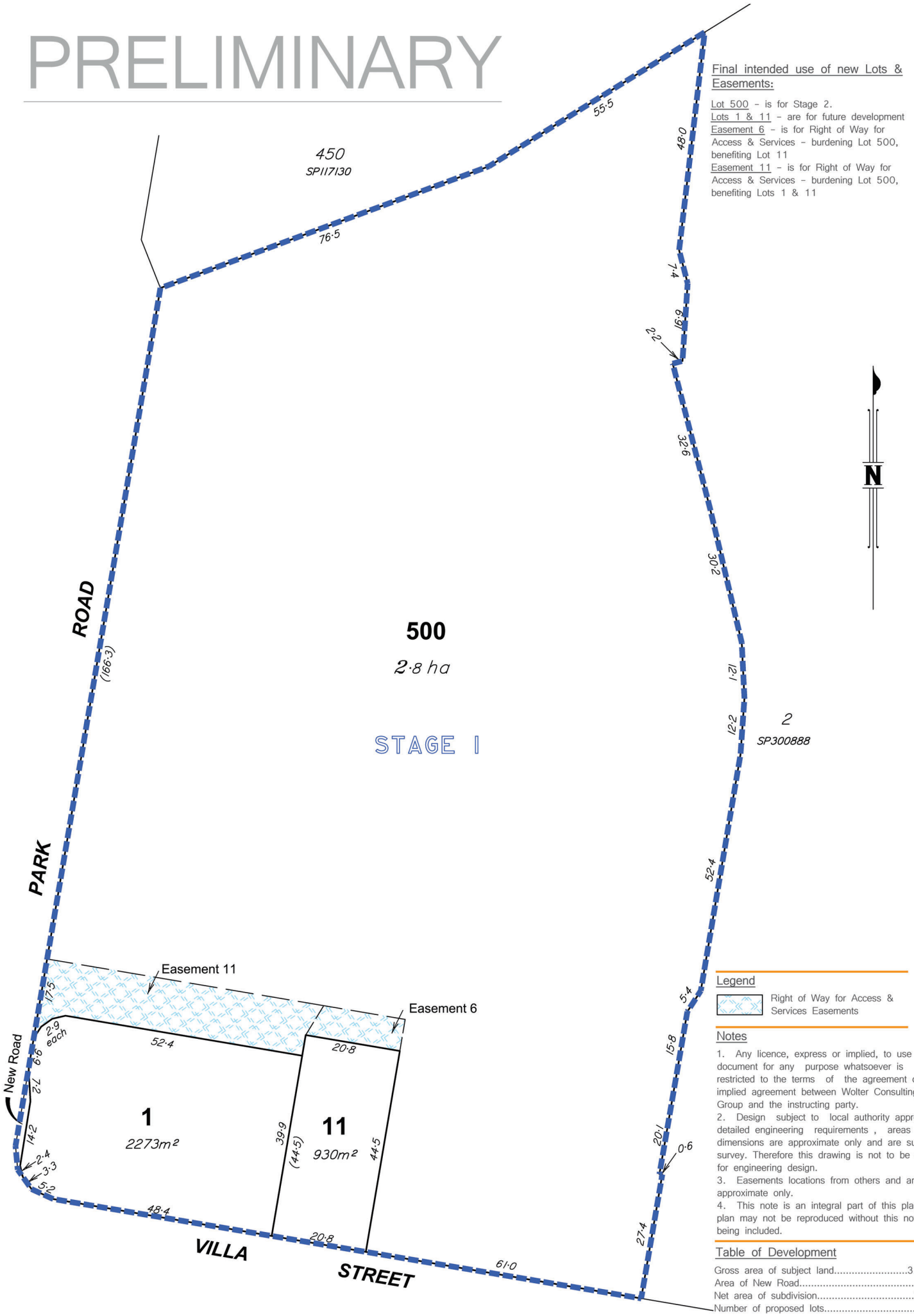
It has been demonstrated that the proposed development will not result in adverse flooding conditions external to the site. On this basis, we believe that the development can readily be readily supported subject to reasonable and relevant conditions.

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

APPENDIX A
PROPOSED DEVELOPMENT LAYOUT PLAN AND CIVIL DRAWINGS



PRELIMINARY



Final intended use of new Lots & Easements:

Lot 500 - is for Stage 2.
Lots 1 & 11 - are for future development
Easement 6 - is for Right of Way for Access & Services - burdening Lot 500, benefiting Lot 11
Easement 11 - is for Right of Way for Access & Services - burdening Lots 1 & 11

Legend

Right of Way for Access & Services Easements

Notes

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3. Easements locations from others and are approximate only.
4. This note is an integral part of this plan. This plan may not be reproduced without this notation being included.

Table of Development

Gross area of subject land	3.123 ha
Area of New Road	28 m²
Net area of subdivision	3.12 ha
Number of proposed lots	3
Number of existing lots	1

WOLTER consulting group
Planning Urban Design Landscape Environment Surveying
Brisbane: Level 2, 1 Breakfast Ck Road, Newstead, QLD 4006 Phone: (07) 3666 5200

Scale 1:750 @ A3
Lengths are in Metres.
10 0 10 20 30

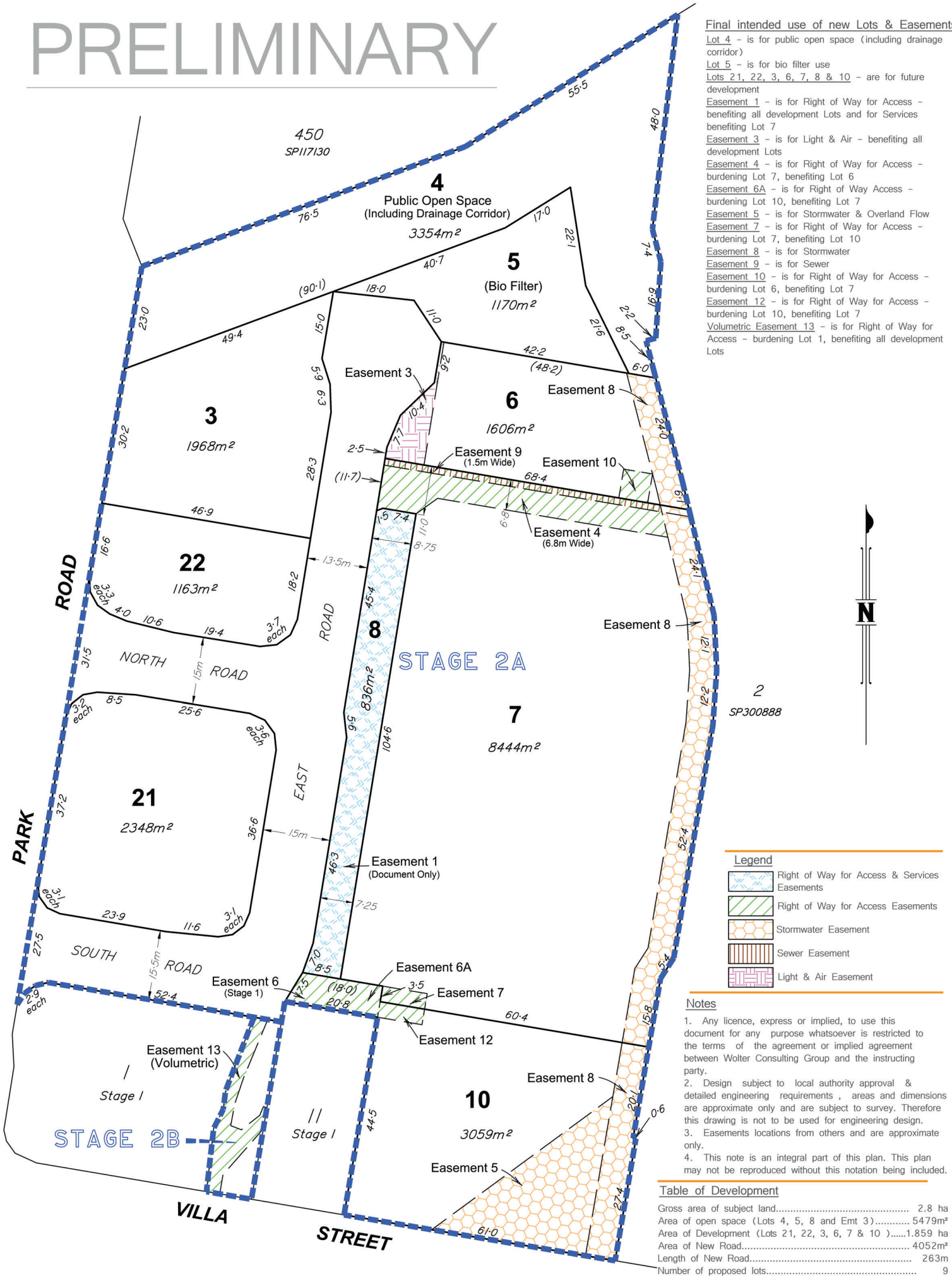
Plan of Reconfiguration - Stage 1

70 Park Road, Yeronga Tafe Site

Description Lot 3 on SP300888
Local Authority Brisbane City

DRAWING NO. 18-0765P-02
VERSION S
DATE DRAWN 22-06-2022
SHEET NO. 1 of 2

PRELIMINARY



Final intended use of new Lots & Easements:

Lot 4 – is for public open space (including drainage corridor)
Lot 5 – is for bio filter use
Lots 21, 22, 3, 6, 7, 8 & 10 – are for future development
Easement 1 – is for Right of Way for Access – benefiting all development Lots and for Services benefiting Lot 7
Easement 3 – is for Light & Air – benefiting all development Lots
Easement 4 – is for Right of Way for Access – burdening Lot 7, benefiting Lot 6
Easement 6A – is for Right of Way Access – burdening Lot 10, benefiting Lot 7
Easement 5 – is for Stormwater & Overland Flow
Easement 7 – is for Right of Way for Access – burdening Lot 7, benefiting Lot 10
Easement 8 – is for Stormwater
Easement 9 – is for Sewer
Easement 10 – is for Right of Way for Access – burdening Lot 6, benefiting Lot 7
Easement 12 – is for Right of Way for Access – burdening Lot 10, benefiting Lot 7
Volumetric Easement 13 – is for Right of Way for Access – burdening Lot 1, benefiting all development Lots

Legend

- Right of Way for Access & Services Easements
- Right of Way for Access Easements
- Stormwater Easement
- Sewer Easement
- Light & Air Easement

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Table of Development

Gross area of subject land	2.8 ha
Area of open space (Lots 4, 5, 8 and Emt 3)	5479m²
Area of Development (Lots 21, 22, 3, 6, 7 & 10)	1.859 ha
Area of New Road	4052m²
Length of New Road	263m
Number of proposed lots	9
Number of existing lots	1

WOLTER consulting group
Planning Urban Design Landscape Environment Surveying
Brisbane: Level 2, 1 Breakfast Ck Road, Newstead, QLD 4006 Phone: (07) 3666 5200

Scale 1:750 @ A3
Lengths are in Metres.
10 0 10 20 30

Plan of Reconfiguration – Stages 2A & 2B

70 Park Road, Yeronga Tafe Site

Description: Part of Lot 3 on SP300888
Local Authority: Brisbane City

DRAWING NO. 18-0765P-02
VERSION S
DATE DRAWN 22-06-2022
SHEET NO. 2 of 2

ECONOMIC DEVELOPMENT QUEENSLAND
PARKSIDE YERONGA - SUBDIVISION
70 PARK ROAD, YERONGA, BRISBANE



DEVELOPMENT LAYOUT PLAN

1:1000 10 0 10 20 30 40 50 A1
1:2000 A3

DRAWING REGISTRY	
DRAWING NUMBER	DRAWING DESCRIPTION
CI-001-P01	COVER SHEET, DRAWING REGISTRY AND LOCALITY PLAN
CI-100-P01	BULK EARTHWORKS PLANCONCEPTUAL MASTER PLAN
CI-500-P01	CONCEPTUAL STORMWATER EXTERNAL CATCHMENT PLAN
CI-500-P02	CONCEPTUAL STORMWATER QUALITY CATCHMENT PLAN
CI-520-P01	CONCEPTUAL STORMWATER DRAINAGE PLAN
CI-520-P02	CONCEPTUAL STORMWATERMANAGEMENT PLAN
CI-526-D01	STORMWATER DRAINAGE DETAILS SHEET 1 OF 3
CI-526-D02	STORMWATER DRAINAGE DETAILS SHEET 2 OF 3
CI-526-D03	STORMWATER DRAINAGE DETAILS SHEET 3 OF 3
CI-700-P01	COMBINED SERVICES PLAN CONCEPTUAL MASTER PLAN

Notes

Issued/Revision	By	Appd	YYYY.MM.DD
D UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
B FURTHER ISSUE LETTER	TJ	AR	2021.11.10
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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name:	CI-001-P01.DWG	MK	JW/SBJ	AR	2022.07.07
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Title

COVER SHEET AND DRAWING REGISTRY

Project No. 301048272

Scale 1:1000 @A1

Revision D

Drawing No. **CI-001-P01**

Plotted: 2022.07.07 11:07:39 AM by MIKE BIN
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5. ALL LOTS SHALL BE PROVIDED WITH CONNECTION TO SEWER, WATER, ELECTRICITY, TELECOMMUNICATIONS AND A LAWFUL POINT OF STORMWATER DISCHARGE.
6. IN GENERAL, ALL CONTOURS SHOWN ARE BULK EARTHWORKS CONTOURS ONLY AND DO NOT REPRESENT FINAL FINISHED SURFACE LEVELS. TEMPORARY BATTERS WILL BE CONSTRUCTED TO ALLOW BUILT FORM AND LOT DEVELOPMENTS TO BE ESTABLISHED.

LEGEND

- 10.5 — INDICATIVE PROPOSED BULK EW DESIGN CONTOURS 0.5m
- 20.0 — EXISTING CONTOURS
- PROPOSED RETAINING WALL
- POTENTIAL FUTURE RETAINING WALL
- PROPOSED SWALE
- INDICATIVE TOP OF BATTER

CUT/FILL LEGEND

- AREA OF CUT DEPTH >2.5m
- AREA OF CUT DEPTH 2.5m - 2.0m
- AREA OF CUT DEPTH 2.0m - 1.5m
- AREA OF CUT DEPTH 1.5m - 1.0m
- AREA OF CUT DEPTH 1.0m - 0.5m
- AREA OF CUT DEPTH 0.5m - 0.05m
- AREA OF FILL DEPTH 0.05m - 0.5m
- AREA OF FILL DEPTH 0.5m - 1.0m
- AREA OF FILL DEPTH 1.0m - 1.5m
- AREA OF FILL DEPTH 1.5m - 2.0m
- AREA OF FILL DEPTH 2.0m - 2.5m
- AREA OF FILL DEPTH >2.5m

LOCAL CATCHMENT FLOOD STORAGE COMPARISON (1% AEP SCENARIO)

PRE-DEMO (RPS SURFACE) FLOOD STORAGE BELOW RL8.41m AHD: 297.3m³

DESIGN SURFACE FLOOD STORAGE BELOW RL8.41m AHD: 397.4m³

BUILDING PADS SHOWN ARE INDICATIVE IN FORM AND LEVEL. THEY ARE SUBJECT TO FUTURE DEVELOPMENT AS PART OF THE RESPECTIVE LOTS FUTURE APPLICATIONS.

BULK EARTHWORKS VOLUMES (DESIGN SURFACE TO PRE-DEMO SURFACE):
CUT = -5310m³
FILL = +11322m³
BALANCE = 6012m³

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
B	FURTHER ISSUE LETTER	TJ	AR	2021.11.10
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Title

BULK EARTHWORKS PLAN
CONCEPTUAL MASTER PLAN

Project No. 301048272

Scale 1:500 @A1

Revision D

Drawing No. **CI-100-P01**

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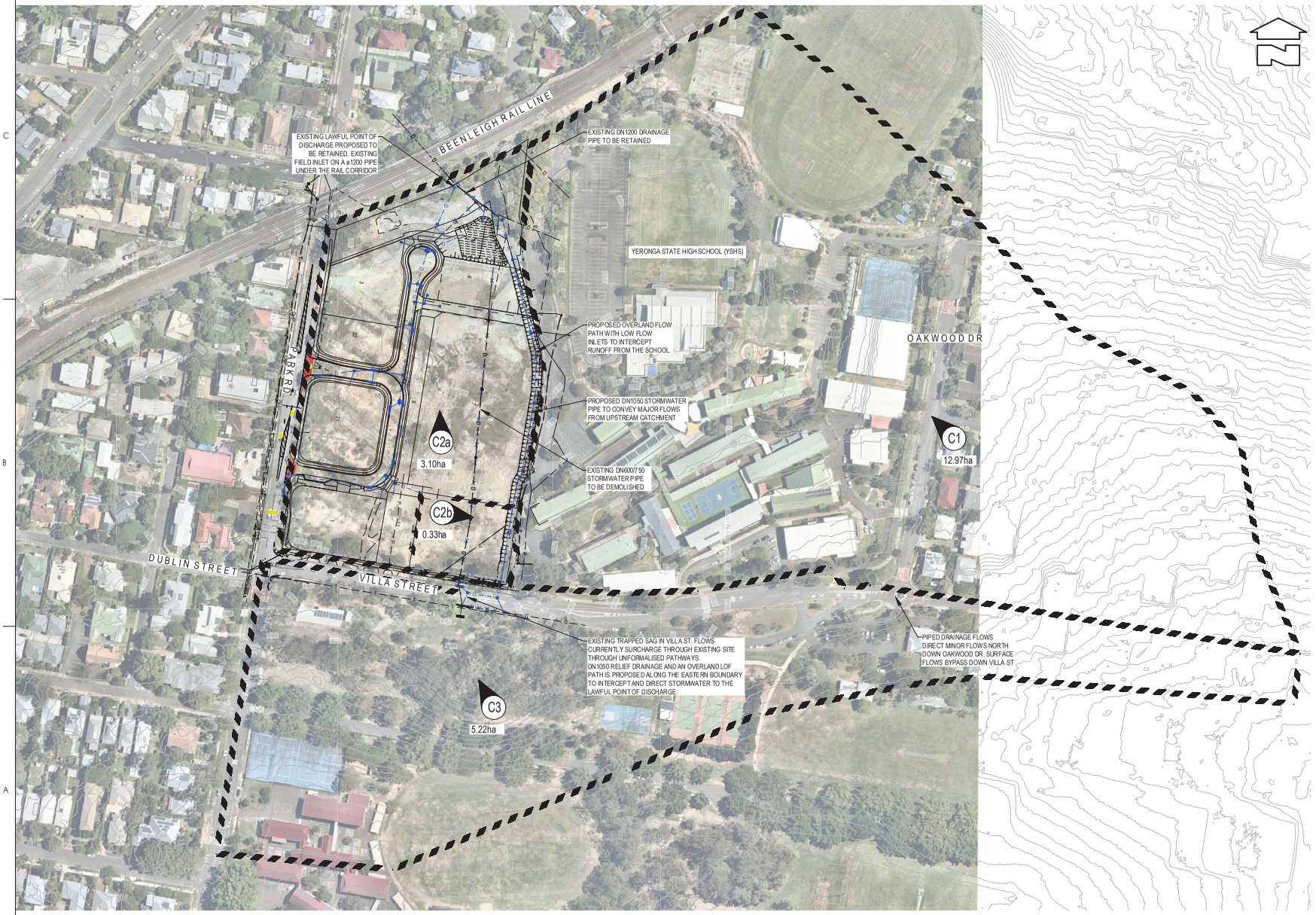

LEGEND

- EXISTING 0.5m CONTOURS & HEIGHT
- PROPOSED CATCHMENT BOUNDARY
- INDICATIVE STORMWATER LINE & MANHOLE
- INDICATIVE STORMWATER LINE & PIT
- INDICATIVE STORMWATER OVERLAND FLOW PATH
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- EXISTING STORMWATER LINE TO BE REMOVED

12.97ha C1 — PROPOSED CATCHMENT LABEL

SCALE 1:1250 (A1) 0 10 20

SCALE 1:2500 (A3) 0 10 20

Notes

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CONCEPTUAL STORMWATER EXTERNAL CATCHMENT PLAN

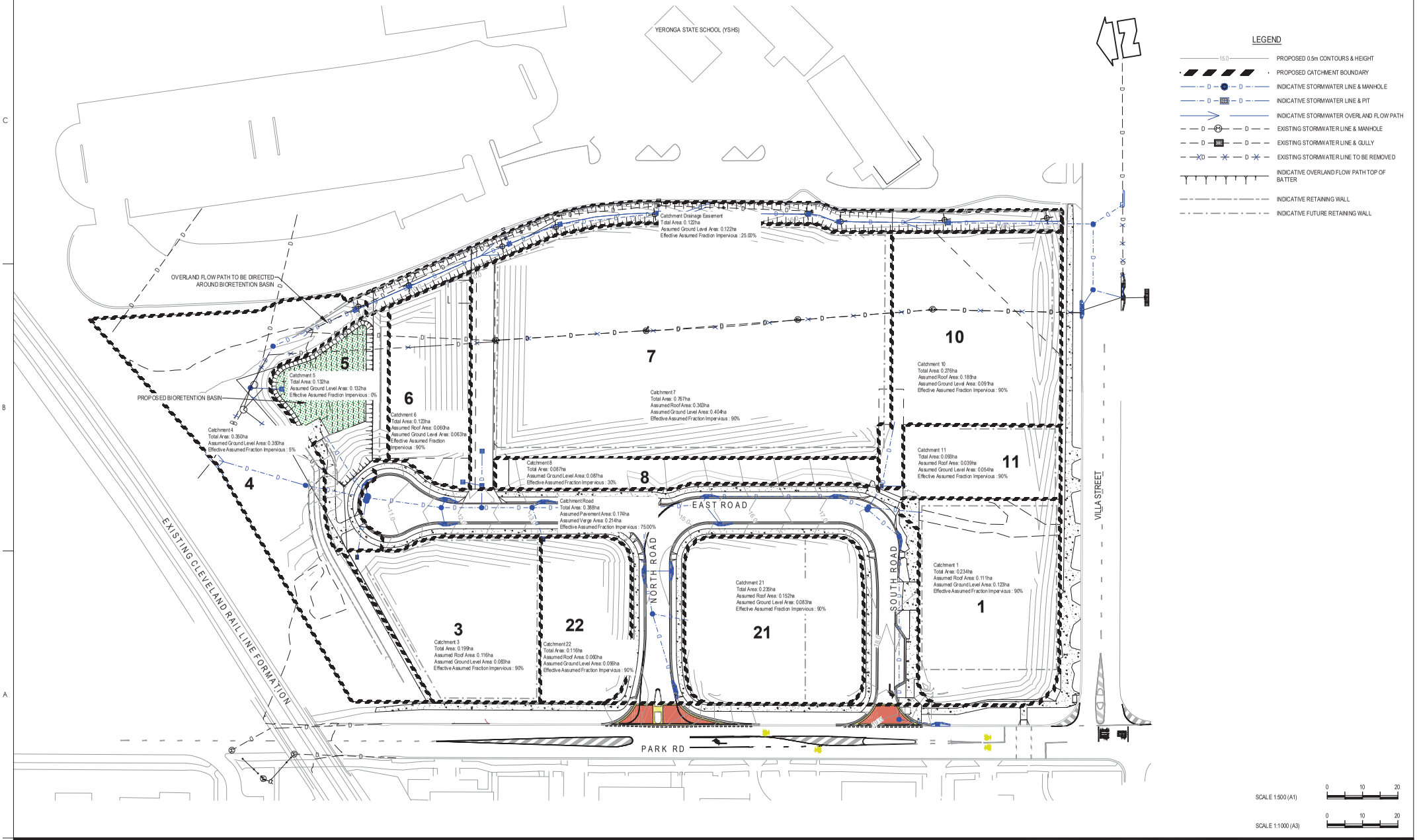
Project No. 301048272

Scale 1:1250 @A1

Revision D

Drawing No. **CI-500-P01**

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



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Title

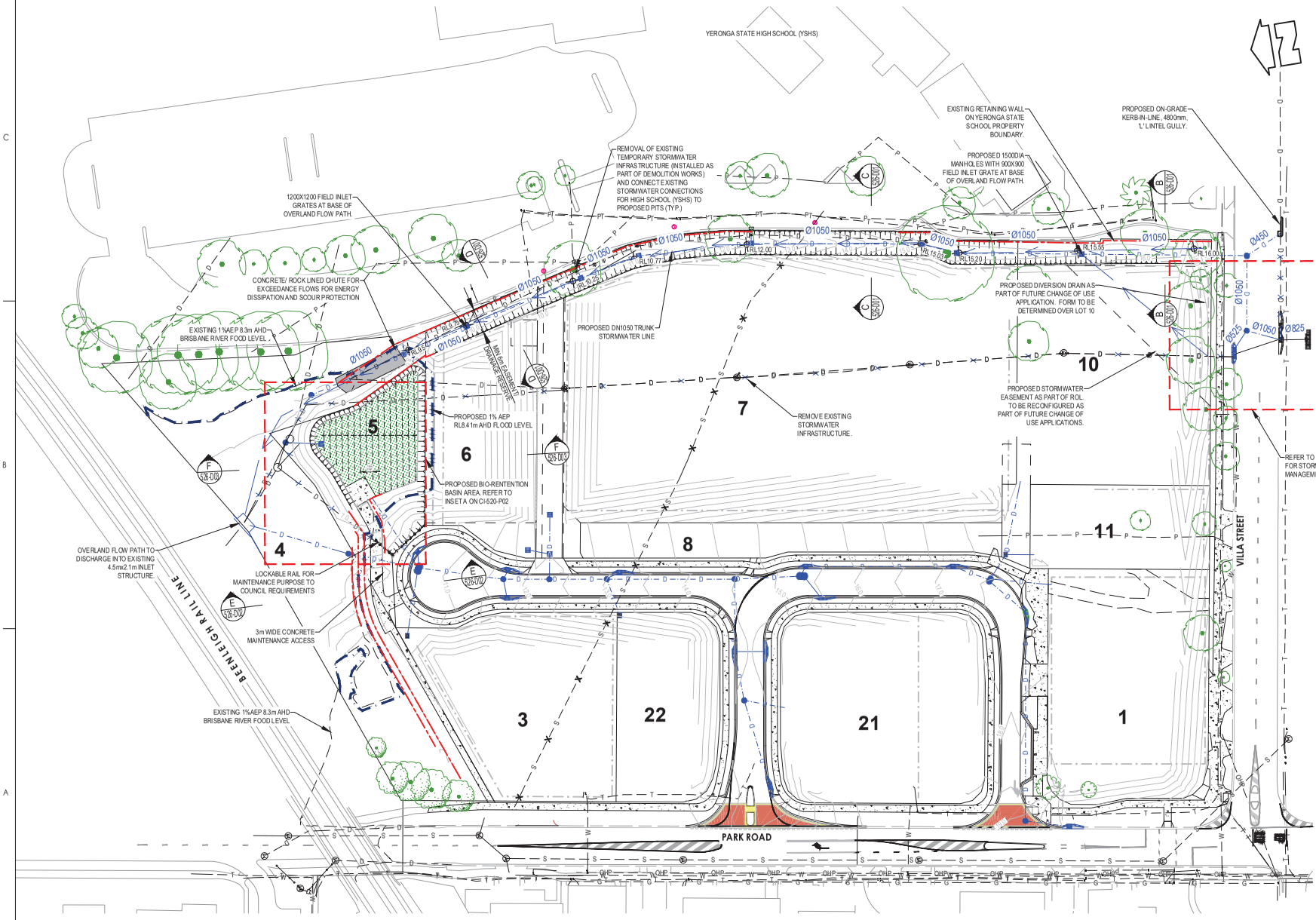
CONCEPTUAL STORMWATER QUALITY CATCHMENT PLAN

Project No. 301048272

Scale 1:500 @A1

Revision D

Drawing No. **CI-500-P02**



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5. ALL LOTS SHALL BE PROVIDED WITH CONNECTION TO SEWER, WATER, ELECTRICITY, TELECOMMUNICATIONS AND A LAWFUL POINT OF STORMWATER DISCHARGE.
6. ACTUAL SIZING AND LAND DEDICATION IS SUBJECT TO DESIGN DEVELOPMENT OF EARTHWORKS AND STORMWATER DESIGNS.

LEGEND

- PROPOSED 0.5m CONTOURS & HEIGHT
- INDICATIVE STORMWATER LINE & MANHOLE
- INDICATIVE STORMWATER LINE & PIT
- INDICATIVE STORMWATER OVERLAND FLOW PATH
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING GAS PIPE LINE
- EXISTING OVERHEAD LINE
- EXISTING TELECOM
- EXISTING UNDERGROUND POWER
- EXISTING STORMWATER LINE TO BE REMOVED
- EXISTING SEWER LINE TO BE REMOVED
- INDICATIVE OVERLAND FLOW PATH TOP OF BATTER
- INDICATIVE RETAINING WALL
- POTENTIAL RETAINING WALL AS PART OF RELEVANT LOTS FUTURE DEVELOPMENT
- PROPOSED OVERFLOW PATH INVERT LEVEL

MINIMUM LEVELS FOR FLOOD IMMUNITY

1% AEP FLOOD LEVEL (LOCAL CATCHMENT*): RL8.41m

1% AEP FLOOD LEVEL (BRISBANE RIVER): RL8.30m

*BASED ON FLOOD ASSESSMENT REPORT PREPARED BY WATERTECH DATED 10/2/22 1% AEP FLOOD LEVEL: RL8.56m (LOCAL CATCHMENT)

LOT	USE	MIN LEVEL (mAHD) (FREEBOARD)
1	ALL USES	N/A
3	NCC CLASS 1-4 BUILDING - HABITABLE ROOM	8.91m (500mm)
	NCC CLASS 1-4 BUILDING - BASEMENT ENTRY	8.41m (0mm)
	OTHER CLASSES	NOT COMPATIBLE
6	NCC CLASS 1-4 BUILDING - HABITABLE ROOM	8.91m (500mm)
	NCC CLASS 1-4 BUILDING - HABITABLE ROOM	8.91m (500mm)
	NCC CLASS 1-4 BUILDING - BASEMENT ENTRY	8.41m (0mm)
	NCC CLASS 9a/c BUILDING - BUILDING FLOOR LEVEL	11.80 (0mm)
	NCC CLASS 9 BUILDING - BASEMENT ENTRY	8.41m (0mm)
8	OPEN SPACE	8.41m (0mm)
10	ALL USES (MIN RL ALONG VILLA ST FRONTAGE)	19.00m (500mm)
11	ALL USES	N/A
21	ALL USES	N/A
22	ALL USES	N/A

NOTE:
THE FUTURE DEVELOPMENTS ON THE RESPECTIVE LOTS AS PART OF SEPARATE APPLICATIONS WILL NEED TO ENSURE THEIR BUILT FORM PROVIDES ADEQUATE HEIGHT OF AN IMPERMEABLE BARRIER ABOVE THE OVERLAND FLOW PATH ALONG THE WESTERN BOUNDARY. THE MINIMUM HEIGHT ABOVE THE TOP OF DRAIN AT ANY POINT IS RECOMMENDED TO 0.3m OR 0.7m ABOVE THE INVERT UNO (2% AEP 500mm FREEBOARD, AND CONTAINS THE SEVERE STORM ASSESSMENT WHICH ASSUMES BLOCKAGE OF THE PIPE SYSTEM IN VILLA ST.)

1:500 1:1000 2 0 2 4 6 8 10 A1 A3

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
B	FURTHER ISSUE LETTER	TJ	AR	2021.11.10
A	ISSUED FOR APPROVAL	BM/VI	AR	2021.09.15
Issued/Revision		By	Appd	YYYY.MM.DD

Issue Status

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Client/Project
ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-520P01-P02.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
CONCEPTUAL STORMWATER DRAINAGE PLAN

Project No. 301048272

Scale 1:500 @A1

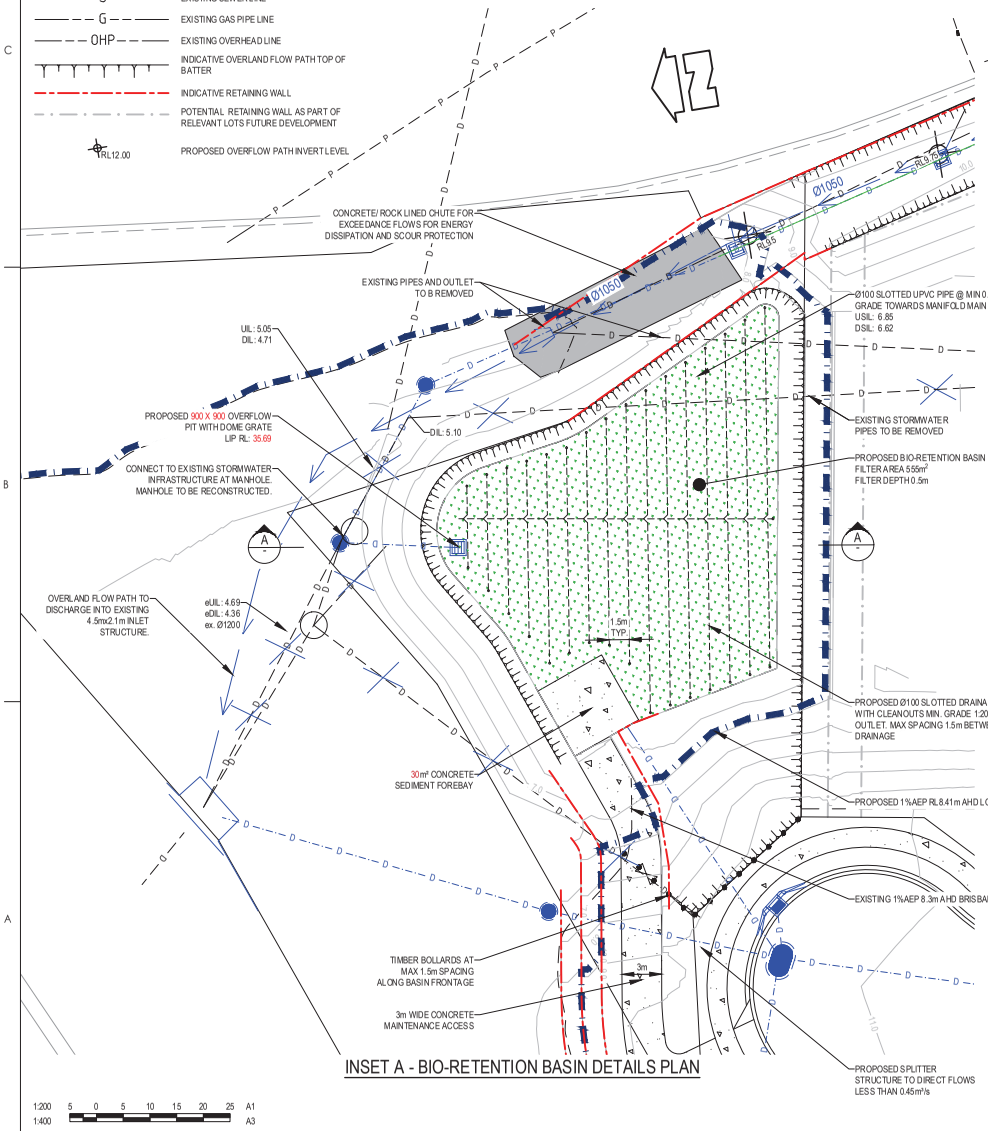
Revision D

Drawing No. CI-520-P01

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD

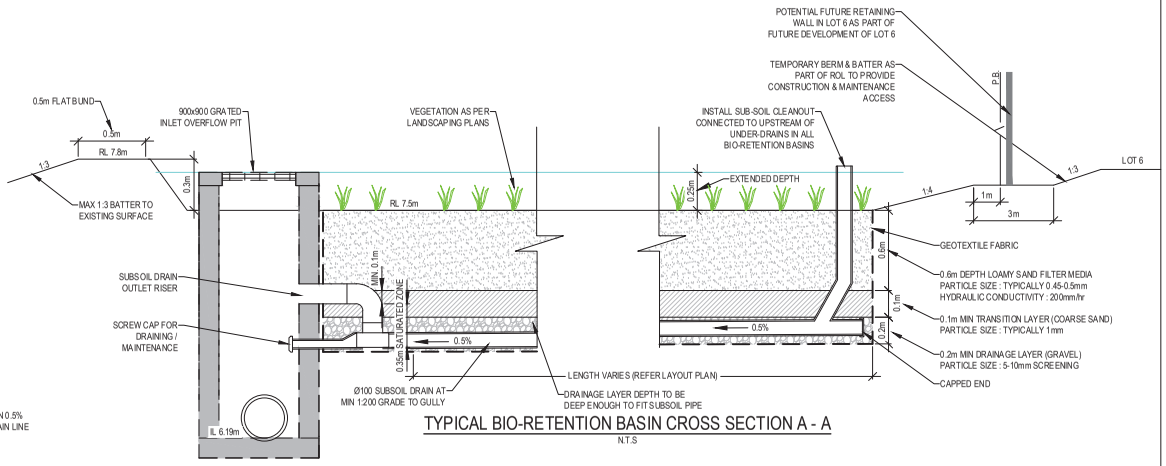
LEGEND

- INDICATIVE STORMWATER LINE & MANHOLE
- INDICATIVE STORMWATER LINE & PIT
- INDICATIVE STORMWATER OVERLAND FLOW PATH
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING GAS PIPE LINE
- EXISTING OVERHEAD LINE
- INDICATIVE OVERLAND FLOW PATH TOP OF BATTER
- INDICATIVE RETAINING WALL
- POTENTIAL RETAINING WALL AS PART OF RELEVANT LOTS FUTURE DEVELOPMENT
- RL12.00 PROPOSED OVERFLOW PATH INVERT LEVEL



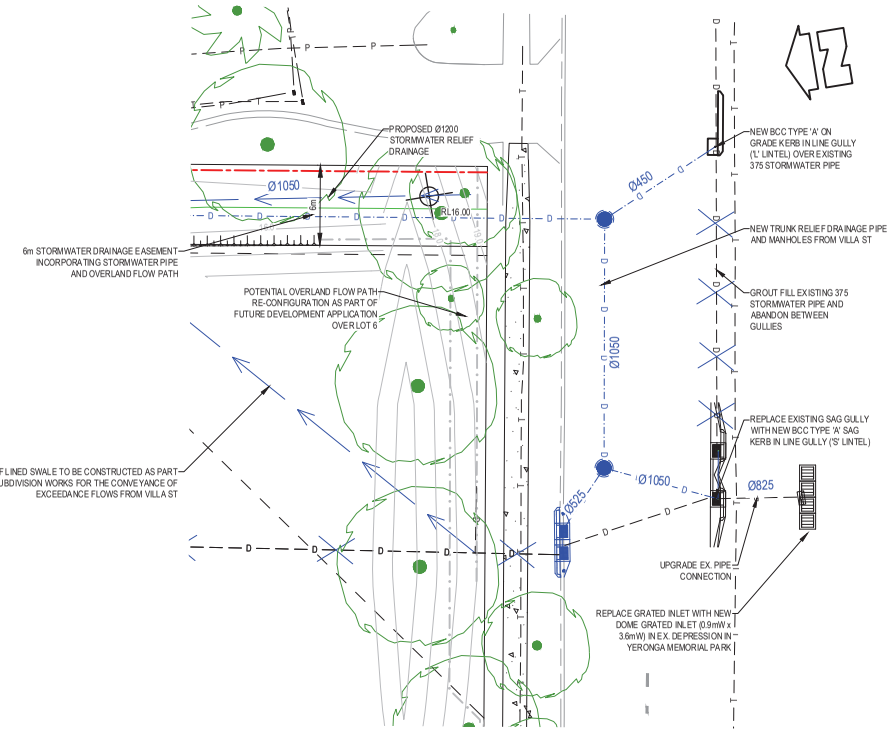
INSET A - BIO-RETENTION BASIN DETAILS PLAN

1:200 5 0 5 10 15 20 25 A1
1:400 A3



TYPICAL BIO-RETENTION BASIN CROSS SECTION A - A

N.T.S



INSET B - VILLA ST RELIEF DRAINAGE UPGRADE

Notes

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C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

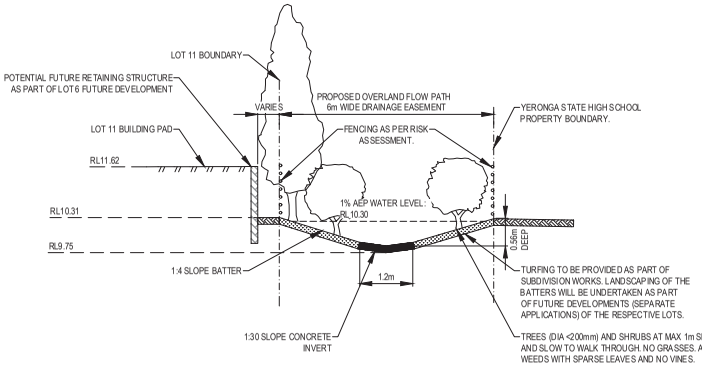
File Name:	CI-520P01-P02.DWG	MK	JW/SBJ	AR	2022.07.07
		Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

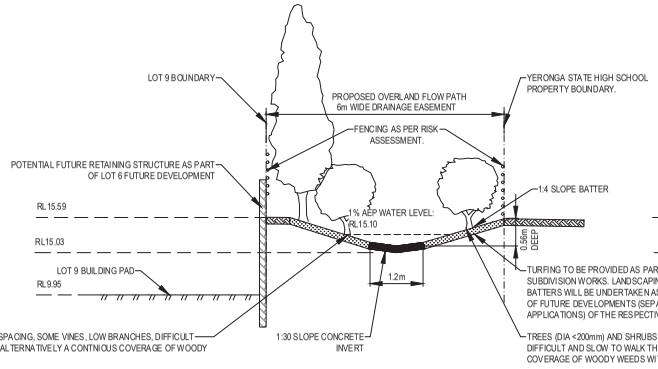
CONCEPTUAL STORMWATER MANAGEMENT PLAN

Project No.	Scale
301048272	1:200 @A1
Revision	Drawing No.
D	CI-520-P02

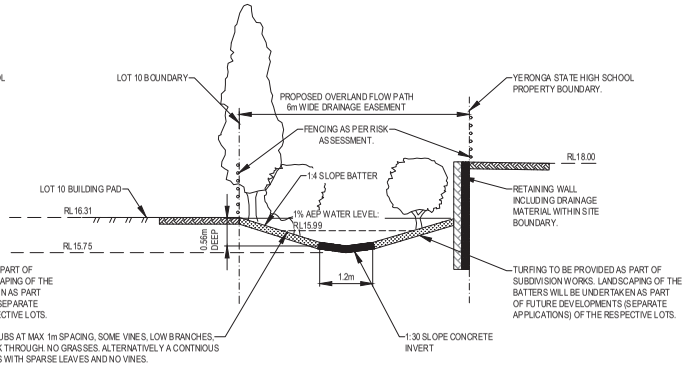
ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



TYPICAL OVERLAND FLOW PATH
SECTION D-D
N.T.S.



TYPICAL OVERLAND FLOW PATH
SECTION C-C
N.T.S.



TYPICAL OVERLAND FLOW PATH
SECTION B-B
N.T.S.

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-526-D01-003.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

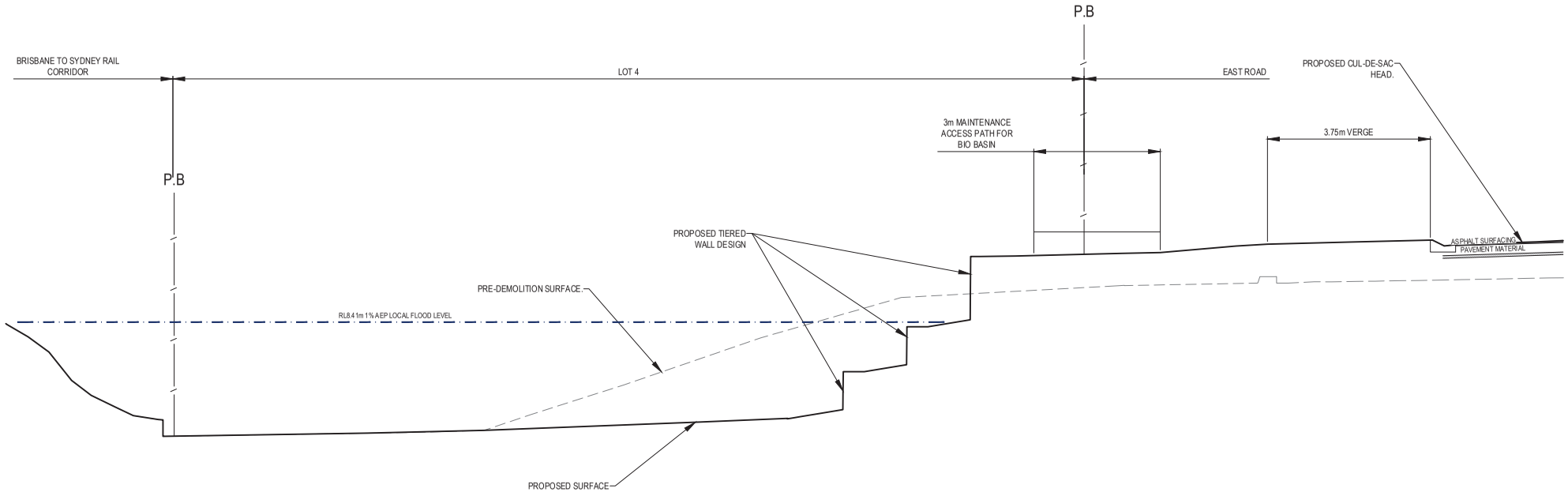
Title
STORMWATER DRAINAGE DETAILS
SHEET 1 OF 3

Project No.
301048272

Scale

Revision
D

Drawing No.
CI-526-D01



SECTION E-E 520-P01
SCALE 1:50 (A1)
1:100 (A3)

SCALE 1:50 (A1) 0 1 2

SCALE 1:100 (A3) 0 1 2

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-526-D01-D03.DWG

MK	JW/SBJ	AR	2022.07.07	
Dwn.	Dsgn.	Chk'd.	YYYY.MM.DD	

Title

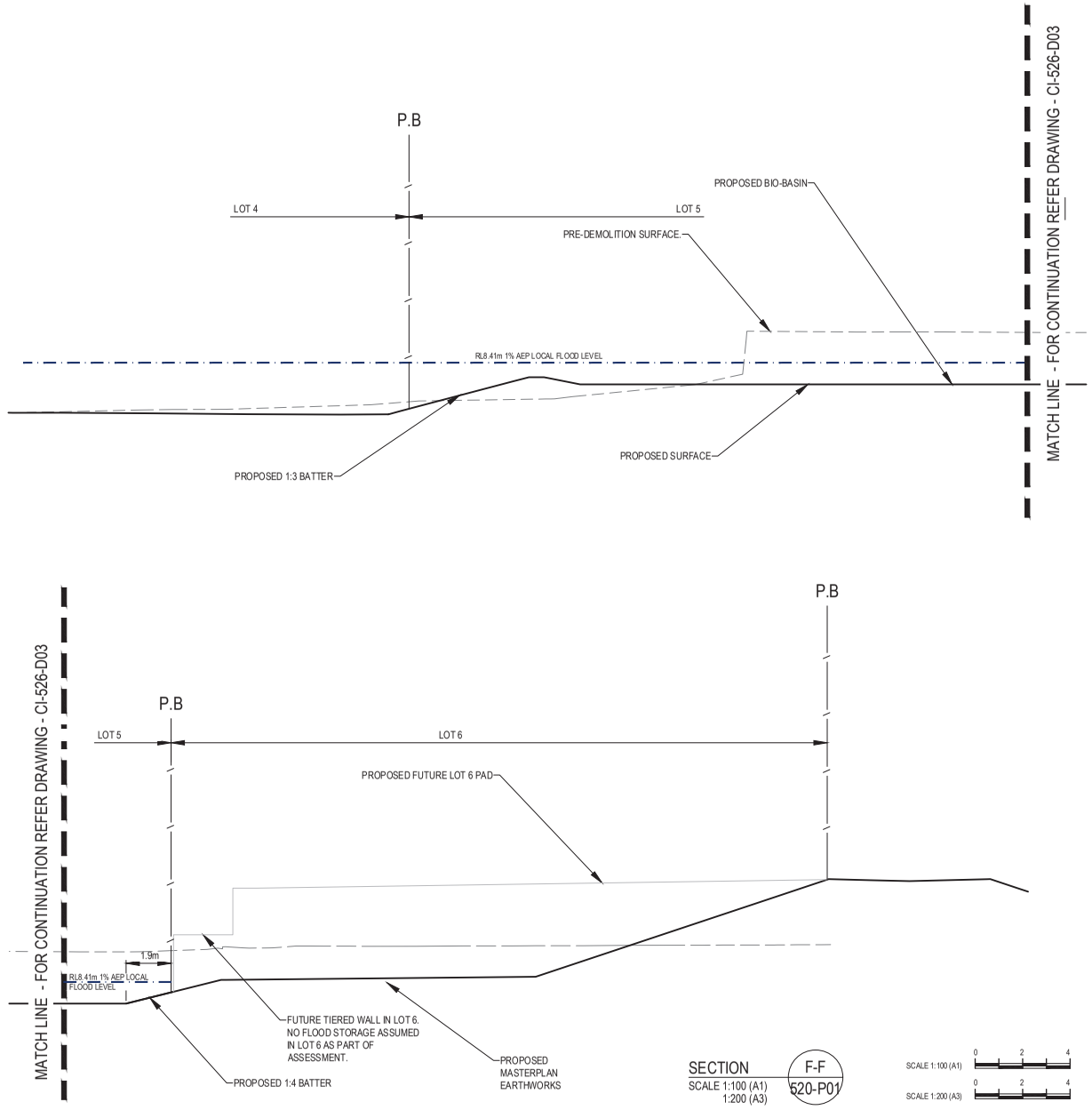
STORMWATER DRAINAGE DETAILS
SHEET 2 OF 3

Project No. 301048272

Scale AS SHOWN

Revision D

Drawing No. **CI-526-D02**



SECTION F-F
SCALE 1:100 (A1)
1:200 (A3)
520-P01

SCALE 1:100 (A1) 0 2 4
SCALE 1:200 (A3) 0 2 4

Notes

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70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-526-D01-D03.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chk'd.	YYYY.MM.DD

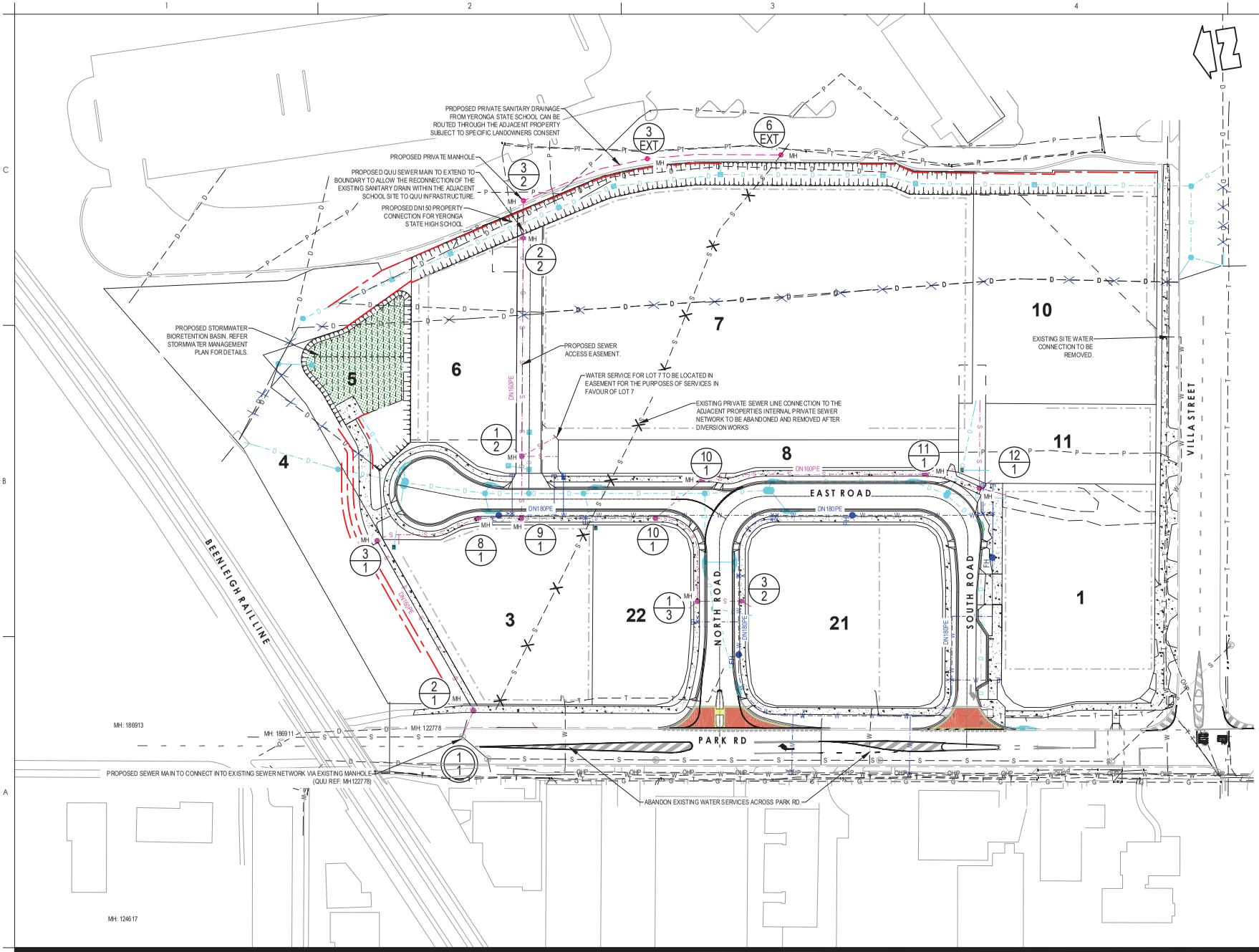
Title
STORMWATER DRAINAGE DETAILS
SHEET 3 OF 3

Project No.
301048272

Scale
AS SHOWN

Revision
D

Drawing No.
CI-526-D03



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LEGEND

- INDICATIVE RETAINING WALL
- INDICATIVE FUTURE RETAINING WALL
- PROPOSED DN160PE SEWER LINE, PROPERTY CONNECTION & MANHOLE
- PROPOSED PRIVATE SANITARY DRAINAGE & MANHOLE
- PROPOSED SEWER LINE & MAINTENANCE SHAFT
- EXISTING SEWER LINE & MANHOLE
- PROPOSED DN180PE WATER LINE & FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED END CAP
- PROPOSED WATER METER
- PROPOSED STORMWATER LINE & MANHOLE
- PROPOSED STORMWATER MANHOLE
- PROPOSED STORMWATER KERB INLET
- PROPOSED STORMWATER SAG GULLY
- EXISTING WATER LINE
- EXISTING SEWER LINE TO BE DEMOLISHED
- EXISTING STORMWATER LINE TO BE REMOVED
- EXISTING GAS PIPE LINE
- EXISTING OVERHEAD LINE
- EXISTING TELECOM
- EXISTING UNDERGROUND POWER
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- SEWER MANHOLE NUMBER

SCALE 1:500 (A1) 0 10 20

SCALE 1:1000 (A3) 0 10 20

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
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Client/Project

ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name:	CI-700P01.DWG	MK	JW/SBJ	AR	2022.07.07
		Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

COMBINED SERVICES PLAN
CONCEPTUAL MASTER PLAN

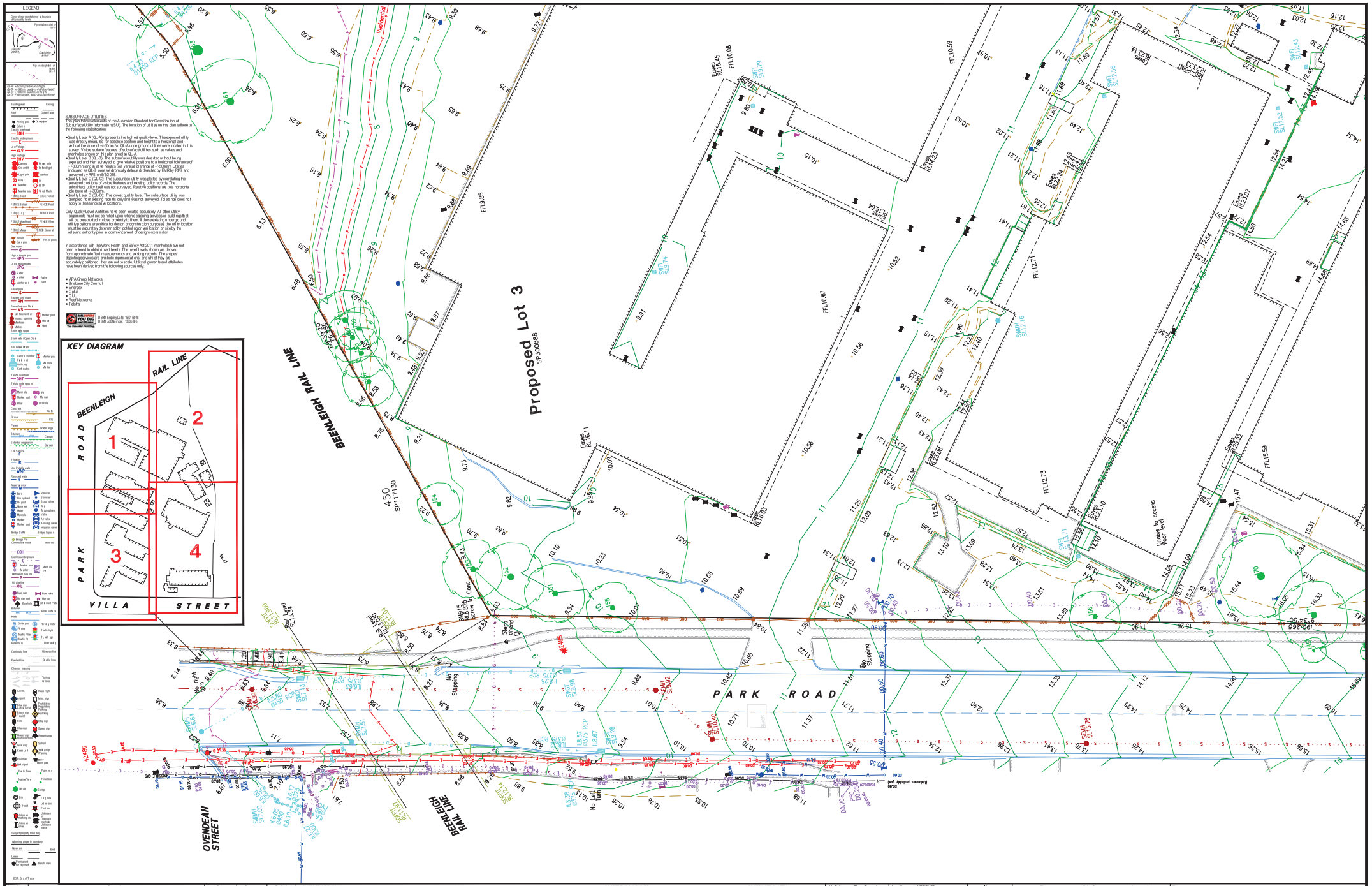
Project No.	Scale
301048272	1:500 @A1
Revision	**Drawing No.**
D	**CI-700-P01**

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

APPENDIX B
PRE DEMOLITION SURVEY





SUBSURFACE UTILITIES

This plan has been prepared in accordance with the Australian Standard for Classification of Subsurface Utility Information (SUI). The location of utilities on this plan adhere to the following classification:

- Quality Level A (QL-A) represents the highest quality level. The exposed utility was directly measured for absolute position and height to a horizontal and vertical tolerance of +/-50mm.No QL-A underground utilities were located in this survey. Visible surface features of underground utilities such as valves and covers were surveyed to obtain their position.
- Quality Level B (QL-B): The subsurface utility was detected without being exposed and then surveyed to give relative positions to a horizontal tolerance of +/-300mm and relative heights to a vertical tolerance of +/-300mm. Utilities indicated as QLB were electronically detected detected by EMR by RPS and surveyed by RPS on 8/3/2018.
- Quality Level C (QL-C): The subsurface utility was plotted by correlating the surveyed positions of visible features and existing utility records.The subsurface utility itself was not surveyed. Relative positions are to a horizontal tolerance of +/-300mm.
- Quality Level D (QL-D): The lowest quality level. The subsurface utility was compiled from existing records only and was not surveyed. Tolerance does not apply to these indicative locations.

Only Quality Level A utilities have been located accurately. All other utility alignments must not be relied upon when designing services or building rigs that will be constructed in close proximity to them. If these existing underground utility positions are critical for design or construction purposes, the utility location must be accurately determined by potholing or verification on site by the relevant authority prior to commencement of design or construction.

In accordance with the Work Health and Safety Act 2011 manholes have not been entered to obtain invert levels. The invert levels shown are derived from approximate field measurements and existing records. The shapes depicting services are symbolic representations, and while they are accurately positioned, they are not to scale. Utility alignments and attributes have been derived from the following sources only:

- APA Group Networks
- Brisbane City Council
- Energex
- Optus
- QUU
- Roof Networks
- Telstra

DIAL BEFORE YOU DIG The Essential First Step.
DBYD Enquiry Date: 15/01/2018
DBYD Job Number: 1353845

Amendment	Description	Date	Surveyor	Drafted
A	First Issue	26/03/2018	SD&JL	BJS

PURPOSE OF PLAN

The plan represents a ground survey of the site to enable architectural and engineering design.

As the area in detail 2 on RP142343 is to be demolished, only minimal detail has been located, however the contours and Triangulated Irregular Network are accurate. Items such as footpaths, stairs, seats and so forth have not been located. Outside the property on the surrounding streets and verges, comprehensive detail has been located.

Only the connections of subsurface utilities entering the site have been located. Minor subsurface utilities inside the site have not been traced.

For reason of clarity, certain information is not shown on this plan. Please refer to the accompanying digital data for all survey information and attributes.

CONTOURS

The contours shown represent the site as it was at the time of survey. This is not necessarily the "natural surface" or "ground level" as defined by some councils and thus cannot be used to calculate compliance with some council's building height limits.

Minor Contour Interval: 0.5m

VEGETATION

Only trees greater than or equal to 150mm breast height diameter have been located. Tree heights are approximate only. The species of trees shown are layman's estimates and were not determined by experts.

PROPERTY BOUNDARIES

The property boundaries and dimensions shown on this plan are plotted from original title records (SP300888). Not registered at the date of survey). Accurate boundary locations can only be determined by completing a cadastral survey as defined by the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003.

The property boundaries and dimensions shown on this plan must not be relied upon when designing services, buildings or other structures that will be constructed in close proximity to them. Designs of services, buildings or structures that require critical boundary offsets will require accurate boundary locations determined by completing a cadastral survey as defined by the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003.

Boundary corners were not marked at the time of survey.

COORDINATE SYSTEM

The coordinate system for this digital data is a plane system with a scale factor of 1.0.

To transform to MGA94 Zone 56, scale by 1.000401831483362 about PM23976 (5019716917, 6956280.184).

FLOOD DATA

Flood information from BCC Floodwise Report 2203/2016

Residential Flood Level: RL7.8 — F

January 2011 Flood: RL 7.8

Defined Flood Level: RL 6.7 — F

Hz Datum:	Plane (See note)	Locality:	YERONGA
Hz Origin:	PM13297	Local Authority:	Brisbane City Council
Vt Datum:	AHD	Lat Long:	27°31'36.25" E153°01'17.29"
Vt Origin:	PM23976	DWG:	13924DET
Origin RL:	21.413m	12D:	13924MASTER

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PAGE SIZE: A1

SCALE: 1:200

NORTH

CLIENT: Department of Infrastructure, Local Government and Planning

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PROJECT: YERONGA TAFE

Contour and Utility Investigation Survey, Yeerongpilly TAFE
70 Park Road, Yeronga
(Part of lot 2 on SP142343)

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SHEET: 1 of 4

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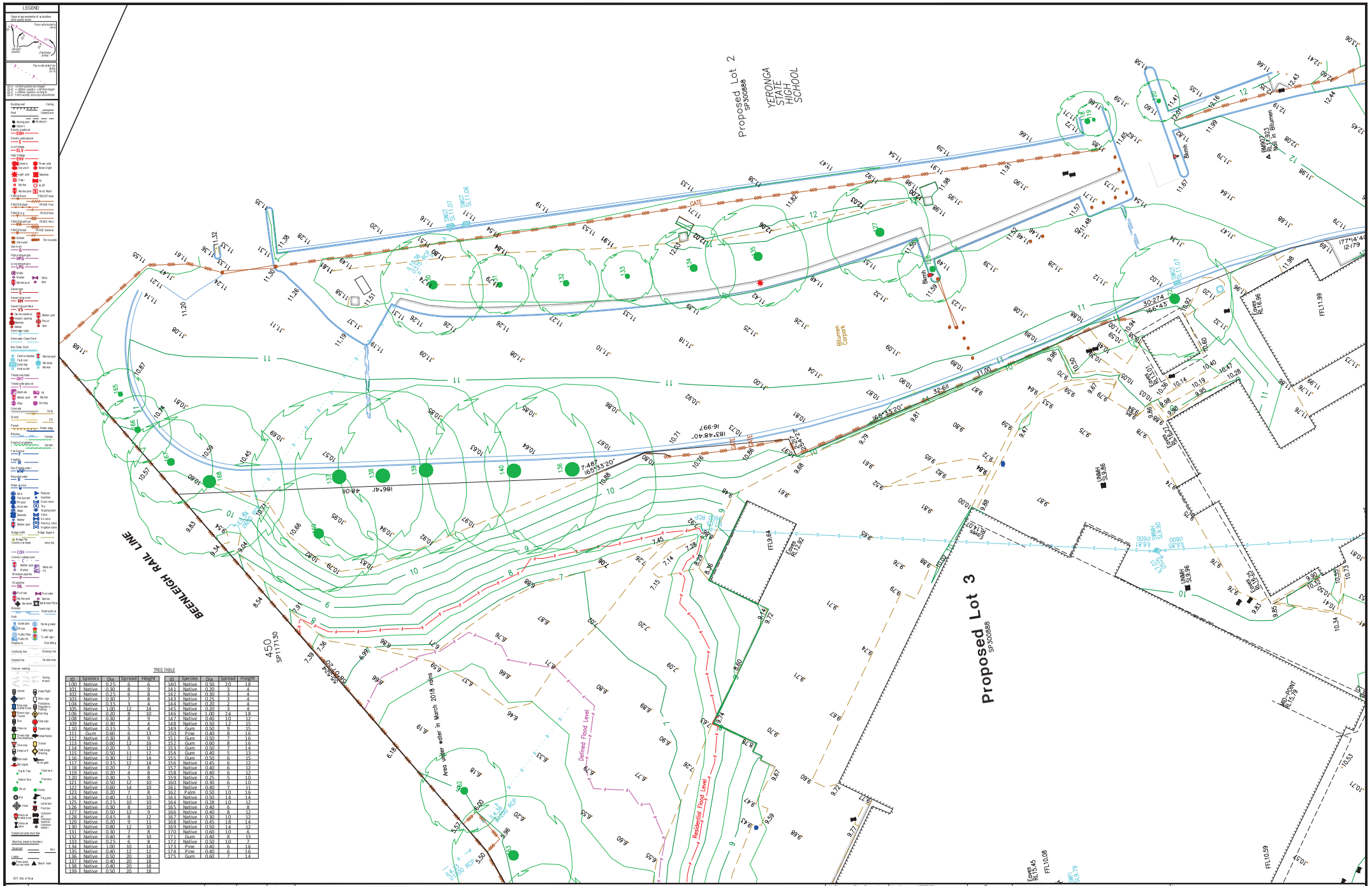

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102	Native	0.25	6	8
103	Native	0.30	7	8
104	Native	0.35	3	4
105	Native	1.00	12	14
106	Native	0.20	8	10
108	Native	0.30	8	9
109	Native	0.30	3	4
110	Native	0.35	5	6
111	Gum	0.60	6	13
112	Native	0.30	8	9
113	Native	0.60	12	16
114	Native	0.20	5	6
115	Native	0.50	11	12
116	Native	0.30	12	14
117	Native	0.35	12	14
118	Native	0.20	7	8
119	Native	0.20	6	8
120	Native	0.30	5	8
121	Native	0.50	12	10
122	Native	0.60	14	10
123	Native	0.20	7	8
124	Native	0.40	11	10
125	Native	0.35	10	10
126	Native	0.50	8	10
127	Native	0.50	12	9
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130	Native	0.80	12	10
131	Native	0.30	7	8
132	Native	0.40	8	10
133	Native	0.25	6	8
134	Native	1.00	10	14
135	Native	0.40	12	12
136	Native	0.50	20	18
137	Native	0.40	20	18
138	Native	0.60	20	18
139	Native	0.50	20	18

ID	Species	Dia	Spread	Height
140	Native	0.50	20	18
141	Native	0.20	3	4
142	Native	0.30	3	4
143	Native	0.25	3	4
144	Native	0.20	3	4
145	Native	0.20	3	4
146	Native	1.00	24	18
147	Native	0.60	10	12
148	Native	0.50	12	15
149	Gum	0.50	9	15
150	Pine	0.60	8	16
151	Gum	0.50	7	16
152	Gum	0.60	8	16
153	Gum	0.50	7	14
154	Gum	0.40	5	13
155	Gum	0.50	6	15
156	Native	0.45	6	12
157	Native	0.60	6	12
158	Native	0.60	6	12
159	Native	0.25	5	10
160	Native	0.30	6	10
161	Native	0.60	7	11
162	Palm	0.50	10	16
163	Native	0.50	14	14
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165	Native	0.40	6	8
166	Native	0.60	8	12
167	Native	0.30	10	12
168	Native	0.45	18	14
169	Native	0.50	14	12
170	Native	0.60	10	6
171	Gum	0.40	8	13
172	Native	0.50	10	7
173	Pine	0.40	6	16
174	Pine	0.40	6	16
175	Gum	0.60	7	14

Amendment	Description	Date	Surveyor	Drafted
A	First Issue	26/03/2018	SD&JL	BJS

PURPOSE OF PLAN
This plan represents a ground survey of the site to enable architectural and engineering design.

As the area in detail 2 on RP142343 is to be demolished, only minimal detail has been located, however the contours and Triangulated Irregular Network are accurate, items such as footpaths, stairs, seats and so forth have not been located. Outside the property on the surrounding streets and verges, comprehensive detail has been located.

Only the connections of subsurface utilities entering the site have been located. Minor subsurface utilities inside the site have not been traced.

For reason of clarity, certain information is not shown on this plan. Please refer to the accompanying digital data for all survey information and attributes.

CONTOURS
The contours shown represent the site as it was at the time of survey. This is not necessarily the "natural surface" or "ground level" as defined by some councils and thus cannot be used to calculate compliance with some council's building height limits.
Minor Contour Interval: 0.5m

VEGETATION
Only trees greater than or equal to 150mm breast height diameter have been located. Tree heights are approximate only. The species of trees shown are layman's estimates and were not determined by experts.

PROPERTY BOUNDARIES
The property boundaries and dimensions shown on this plan are plotted from original title records (SP300888). Not registered at the date of survey). Accurate boundary locations can only be determined by completing a cadastral survey as defined by the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003.

The property boundaries and dimensions shown on this plan must not be relied upon when designing services, buildings or other structures that will be constructed in close proximity to them. Designs of services, buildings or structures that require critical boundary offsets will require accurate boundary locations determined by completing a cadastral survey as defined by the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003.

Boundary corners were not marked at the time of survey.

COORDINATE SYSTEM
The coordinate system of this digital data is a plane system with a scale factor of 1.0.

To transform to MGA94: Zone 56, scale by 1.000401831403362 about PM120976 (501797.6917, 6966280.184).

FLOOD DATA
Flood information on from BCC Floodwise Report 2203/2016
Residential Flood Level: RL7.8 — F
January 2011 Flood: RL 7.8
Defined Flood Level: RL 6.7 — F

Hz Datum:	Plane (See note)	Locality:	YERONGA
Hz Origin:	PM132397	Local Authority:	Brisbane City Council
Vt Datum:	AHD	Lat Long:	027°30'38.25" E 153°01'17.29"
Vt Origin:	PM20976	DWG:	13924DET
Origin RL:	21.413m	12D:	13924MASTER

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PROJECT: YERONGA TAFE

Contour and Utility Investigation Survey, Yeerongpilly TAFE
70 Park Road, Yeronga
(Part of lot 2 on SP142343)

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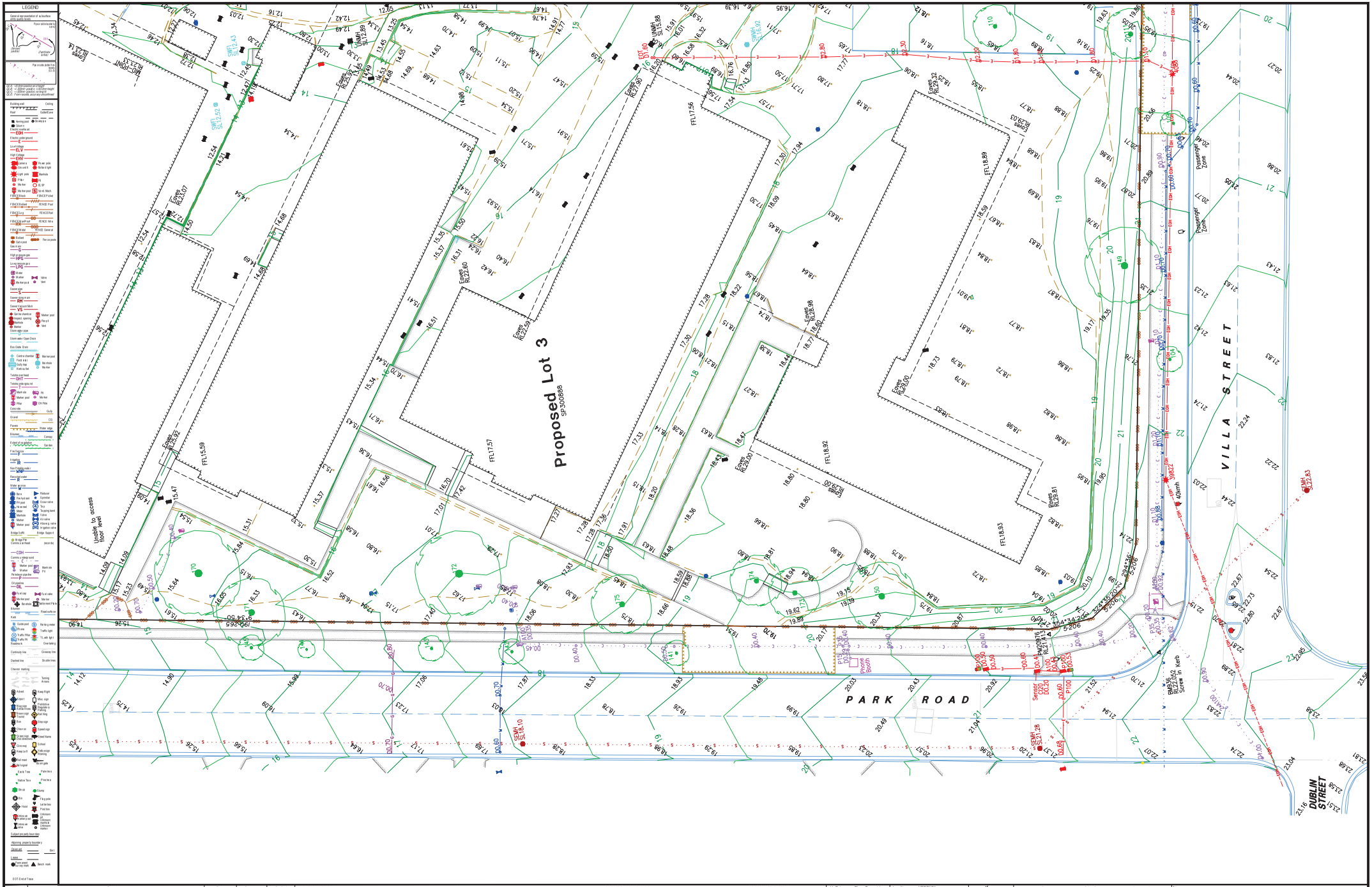
SHEET: 2 of 4 | PR139204 | 1 | A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VILLA STREET
DUBLIN STREET
Unsafe to access
Roof level
Edges RL23.07
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Passenger Zone
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SWFI SL12.52
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BM20.76 RL21.43 Screw in Kerb
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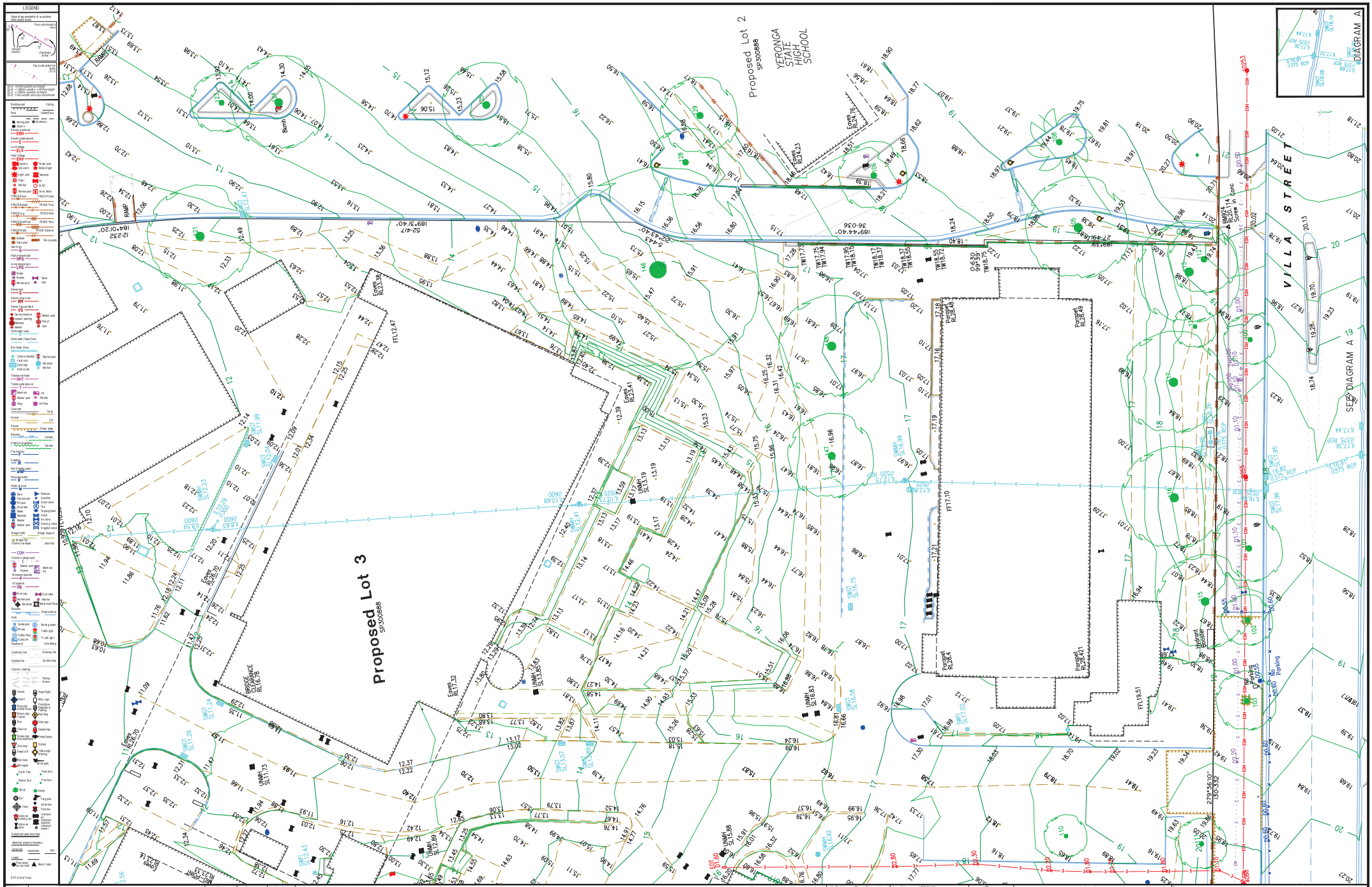
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DIAGRAM A
SEE DIAGRAM A
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YERONGA STATE HIGH SCHOOL
Proposed Lot 2
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Proposed Lot 3
SP300888
RAMP
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WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

APPENDIX C
WBNM MODEL CATCHMENT DETAILS



Appendix C.1 – Base Case WBNM Catchment Parameters

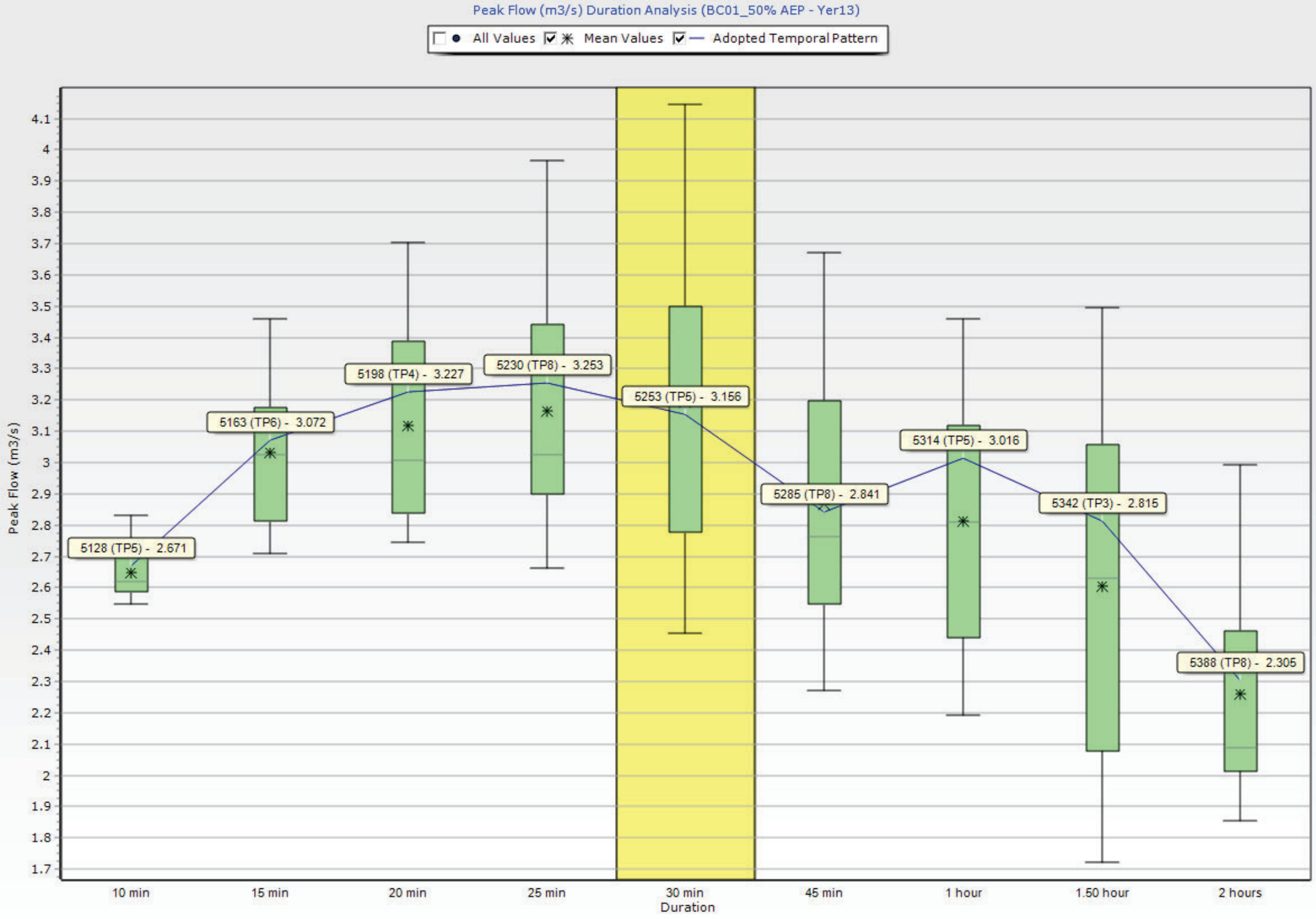
Catchment	Downstream Catchment	Area (ha)	Lag Parameters (C/Imp lag)	Flowpath Parameters (Type/Value)	Impervious Percentage (%)
Yer01	Yer06	1.048	1.6/0.1	R/0.5	70
Yer06	Yer07	1.255	1.6/0.1	R/0.5	20
Yer05	Yer07	1.238	1.6/0.1	R/0.5	50
Yer03	Yer04	0.102	1.6/0.1	R/0.5	60
Yer04	Yer07	0.123	1.6/0.1	R/0.5	60
Yer07	VillaUS	1.803	1.6/0.1	R/0.5	5
VillaUS	VillaDS	0	1.6/0.1	R/0.5	0
Yer09	Yer10	0.149	1.6/0.1	R/0.5	60
Yer10	VillaDS	0.076	1.6/0.1	R/0.5	60
Yer08	VillaDS	0.124	1.6/0.1	R/0.5	60
VillaDS	Yer28	0	1.6/0.1	R/0.5	0
Yer28	Yer30	0.531	1.6/0.1	R/0.5	90
Yer30	Yer29	0.368	1.6/0.1	R/0.5	90
Yer26	Yer27	1.123	1.6/0.1	R/0.5	85
Yer25	Yer27	0.122	1.6/0.1	R/0.5	90
Yer27	Yer29	0.356	1.6/0.1	R/0.5	90
Yer29	Yer13	0.316	1.6/0.1	R/0.5	90
Yer23	Yer24	0.784	1.6/0.1	R/0.5	90
Yer24	Yer13	0.935	1.6/0.1	R/0.5	90
Yer12	Yer13	0.769	1.6/0.1	R/0.5	15
Yer02	Yer11	2.423	1.6/0.1	R/0.5	65
Yer11	Yer13	6.185	1.6/0.1	R/0.5	50
Yer13	RailUS	0.645	1.6/0.1	R/0.5	0
RailUS	Yer14	0	1.6/0.1	R/0.5	0
Yer19	Yer20	0.528	1.6/0.1	R/0.5	65
Yer16	Yer18	0.113	1.6/0.1	R/0.5	60
Yer18	Yer20	0.236	1.6/0.1	R/0.5	60
Yer20	Yer14	1.562	1.6/0.1	R/0.5	65
Yer22	Yer17	0.119	1.6/0.1	R/0.5	60
Yer17	Yer14	0.133	1.6/0.1	R/0.5	60
Yer14	Yer15	6.955	1.6/0.1	R/0.5	65
Yer15	SINK	2.961	1.6/0.1	R/0.5	65

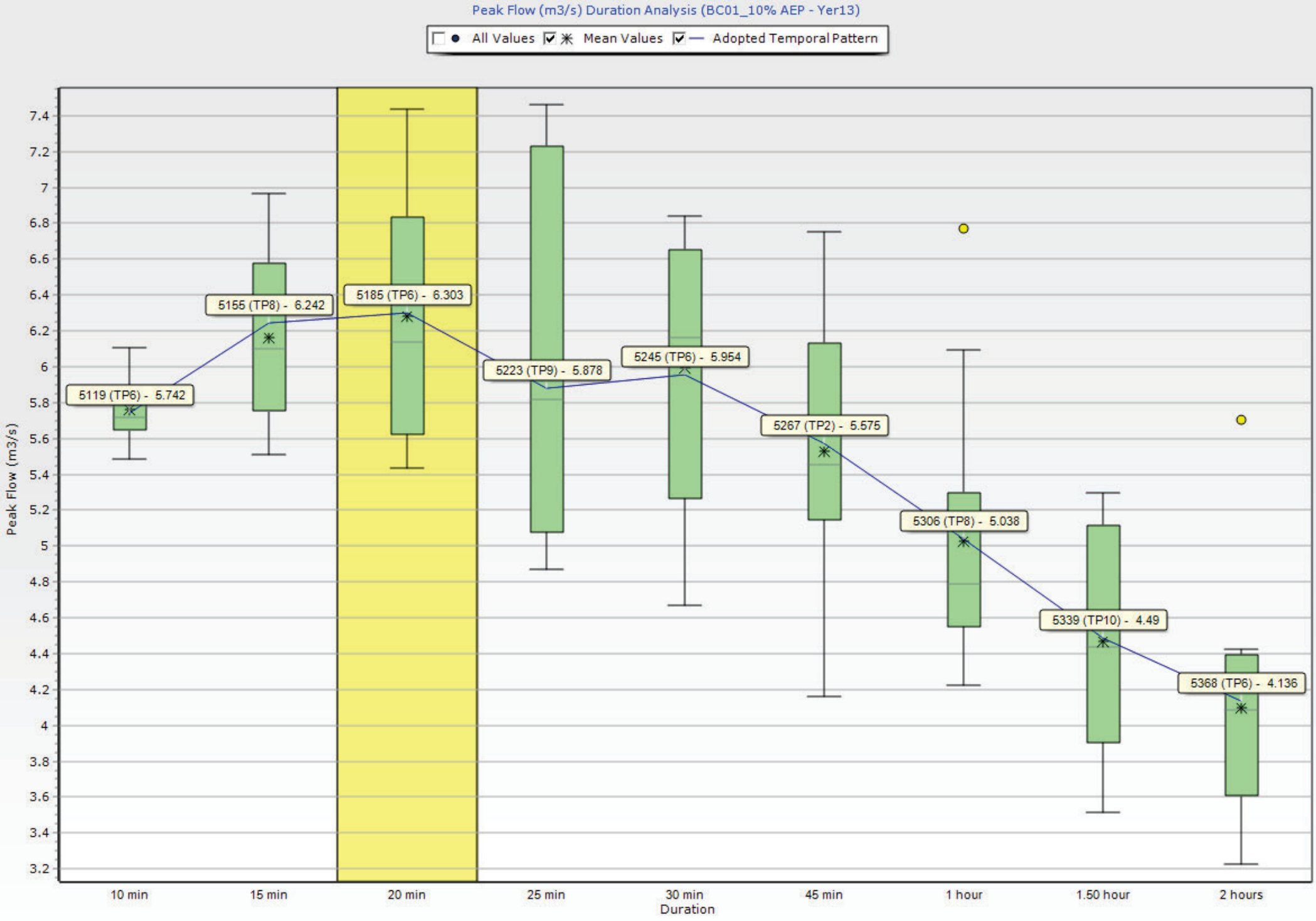
Appendix C.2 – Post-Development Case WBNM Catchment Parameters

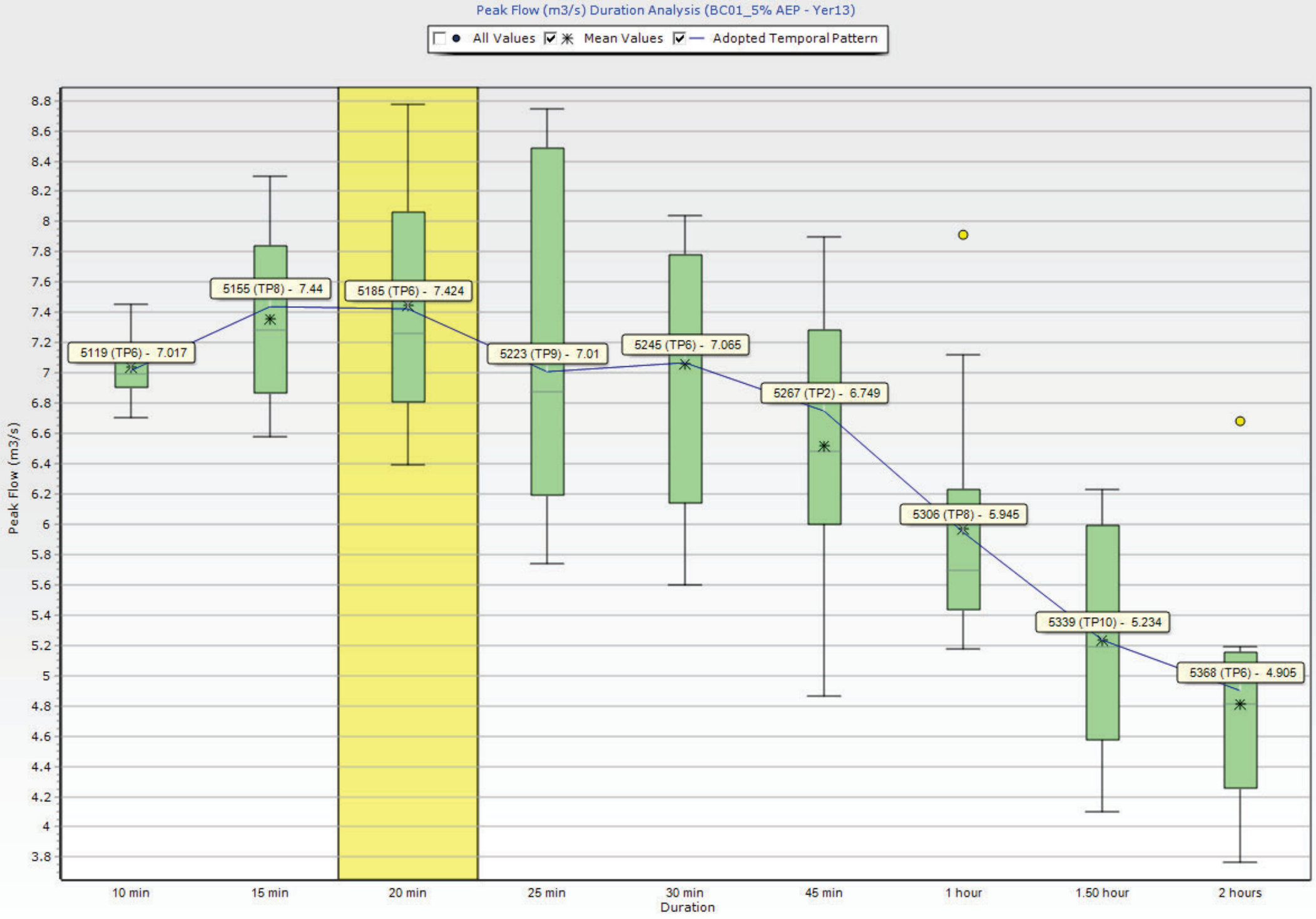
Catchment	Downstream Catchment	Area (ha)	Lag Parameters (C/Imp lag)	Flowpath Parameters (Type/Value)	Impervious Percentage (%)
Yer22	Yer17	0.108	1.6/0.1	R/0.5	60
Yer17	Yer14	0.138	1.6/0.1	R/0.5	60
Yer16	Yer18	0.113	1.6/0.1	R/0.5	60
Yer18	Yer20	0.236	1.6/0.1	R/0.5	60
Yer19	Yer20	0.528	1.6/0.1	R/0.5	65
Yer20	Yer14	1.562	1.6/0.1	R/0.5	65
Yer08	VillaDS	0.123	1.6/0.1	R/0.5	60
Yer09	Yer10	0.149	1.6/0.1	R/0.5	60
Yer10	VillaDS	0.076	1.6/0.1	R/0.5	60
Yer03	Yer04	0.102	1.6/0.1	R/0.5	60
Yer04	Yer07	0.123	1.6/0.1	R/0.5	60
Yer05	Yer07	1.238	1.6/0.1	R/0.5	50
Yer01	Yer06	1.048	1.6/0.1	R/0.5	70
Yer06	Yer07	1.255	1.6/0.1	R/0.5	20
Yer07	VillaUS	1.803	1.6/0.1	R/0.5	5
VillaUS	VillaDS	0	1.6/0.1	R/0.5	0
VillaDS	Yer31	0	1.6/0.1	R/0.5	0
Yer31	Yer32	0.072	1.6/0.1	R/0.5	0
Yer32	Yer33	0.034	1.6/0.1	R/0.5	0
Yer33	Yer13	0.051	1.6/0.1	R/0.5	0
Yer02	Yer11	2.423	1.6/0.1	R/0.5	65
Yer11	Yer13	6.185	1.6/0.1	R/0.5	50
Yer12	Yer13	0.769	1.6/0.1	R/0.5	15
Yer23	Yer24	0.634	1.6/0.1	R/0.5	90
Yer24	Yer13	0.467	1.6/0.1	R/0.5	90
Yer25	Yer27	0.122	1.6/0.1	R/0.5	90
Yer26	Yer27	1.123	1.6/0.1	R/0.5	85
Yer27	Yer29	0.344	1.6/0.1	R/0.5	90
Yer29	Yer13	0.15	1.6/0.1	R/0.5	90
Yer28	Yer30	0.9	1.6/0.1	R/0.5	90
Yer30	Yer13	0.619	1.6/0.1	R/0.5	90
Yer13	RailUS	0.672	1.6/0.1	R/0.5	0
RailUS	Yer14	0	1.6/0.1	R/0.5	0
Yer14	Yer15	6.955	1.6/0.1	R/0.5	65
Yer15	SINK	2.961	1.6/0.1	R/0.5	65

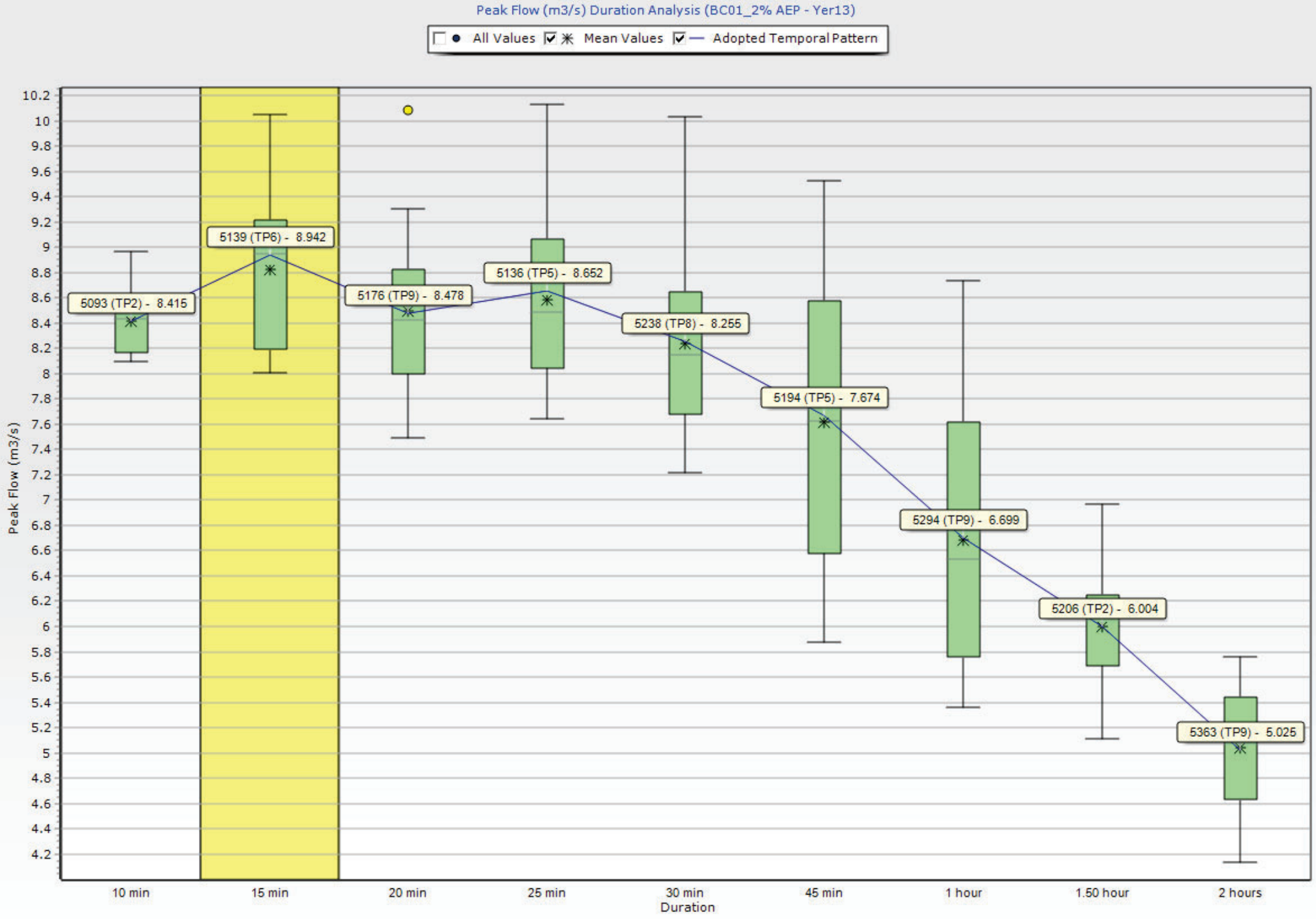
APPENDIX D
SELECTED BASE CASE BOX PLOTS

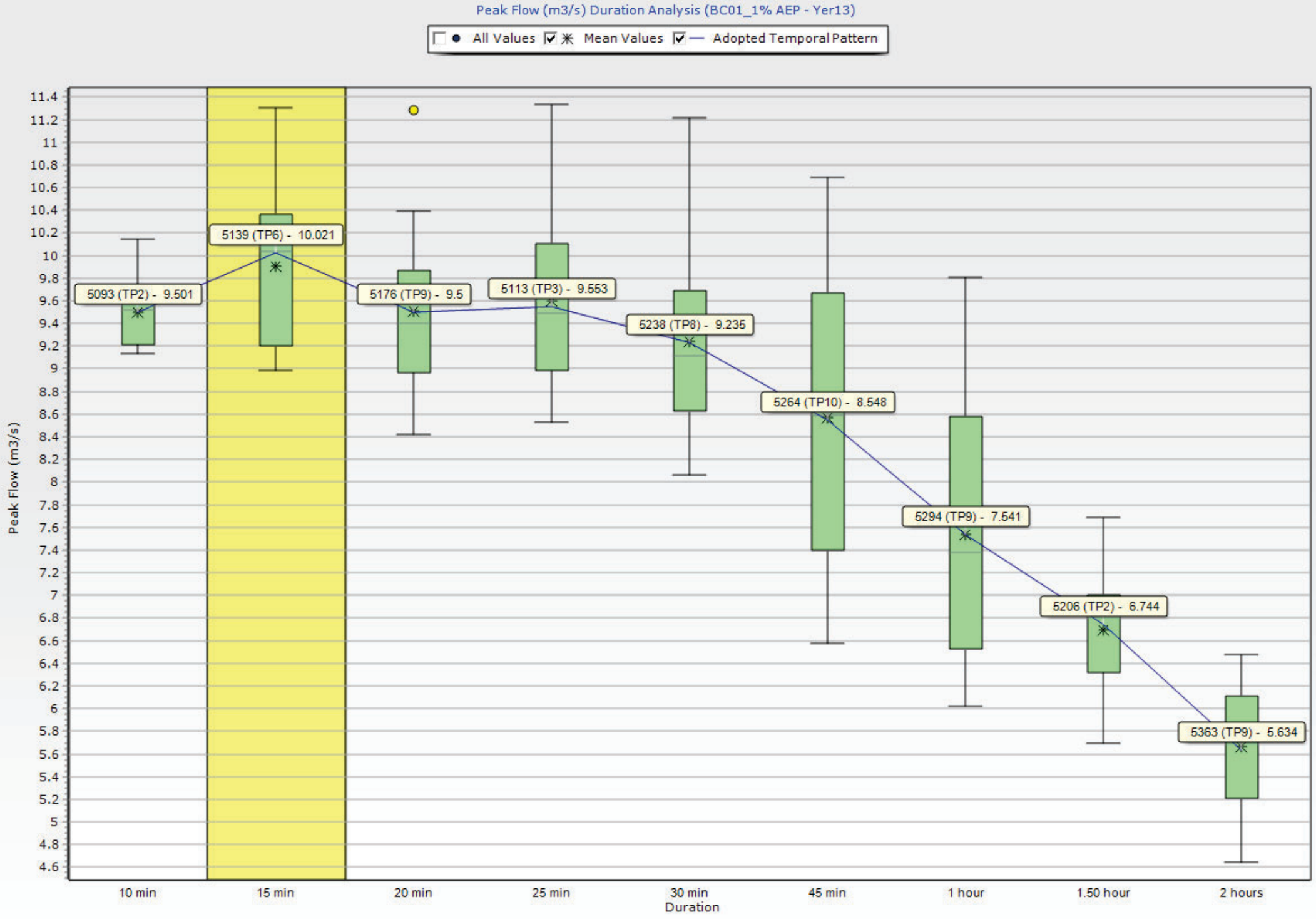


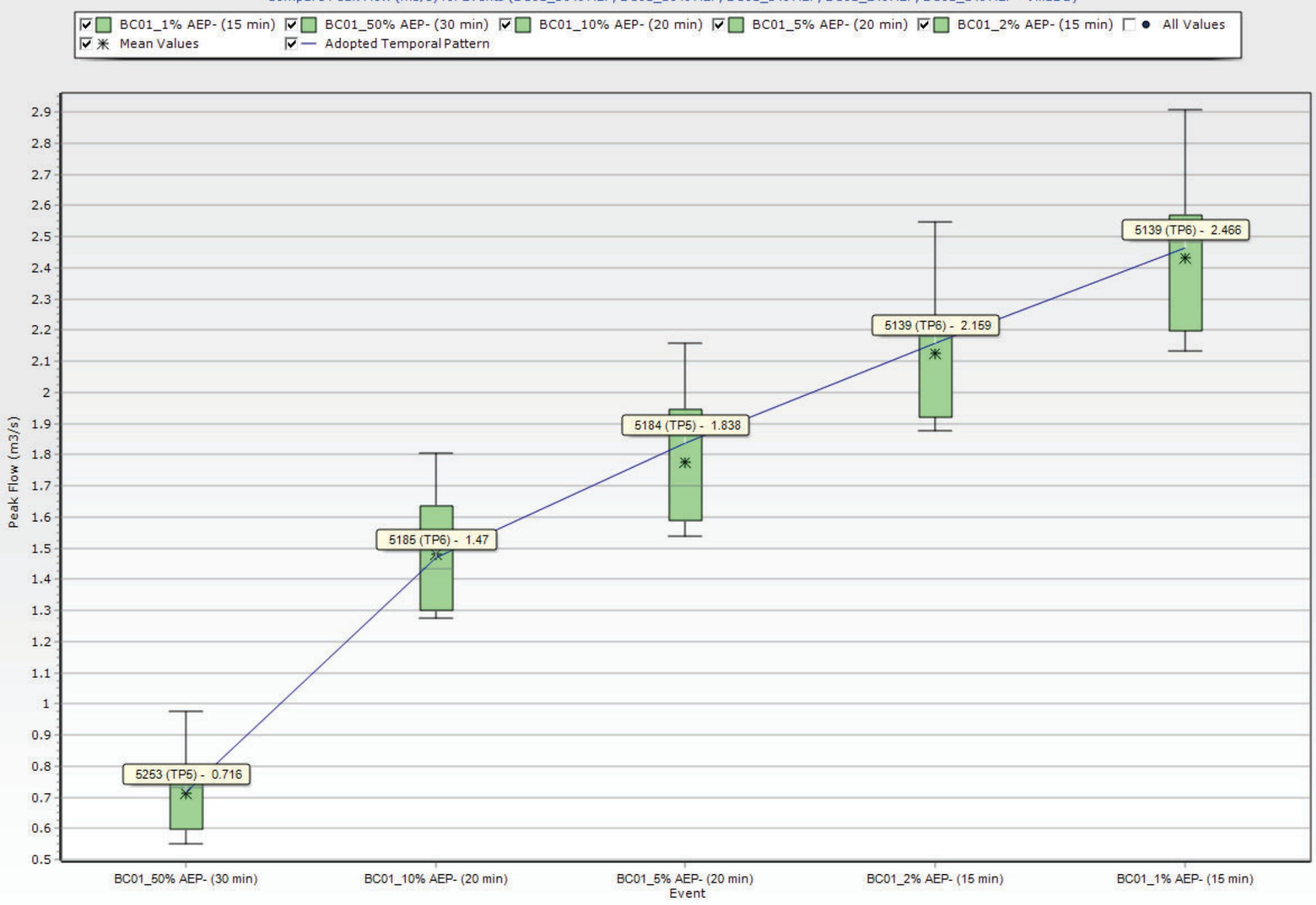

Peak Flow (m3/s) Duration Analysis (BC01_50% AEP - Yer13)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
4.1
4
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
5128 (TP5) - 2.671
5163 (TP6) - 3.072
5198 (TP4) - 3.227
5230 (TP8) - 3.253
5253 (TP5) - 3.156
5285 (TP8) - 2.841
5314 (TP5) - 3.016
5342 (TP3) - 2.815
5388 (TP8) - 2.305
10 min
15 min
20 min
25 min
30 min
45 min
1 hour
1.50 hour
2 hours
Duration

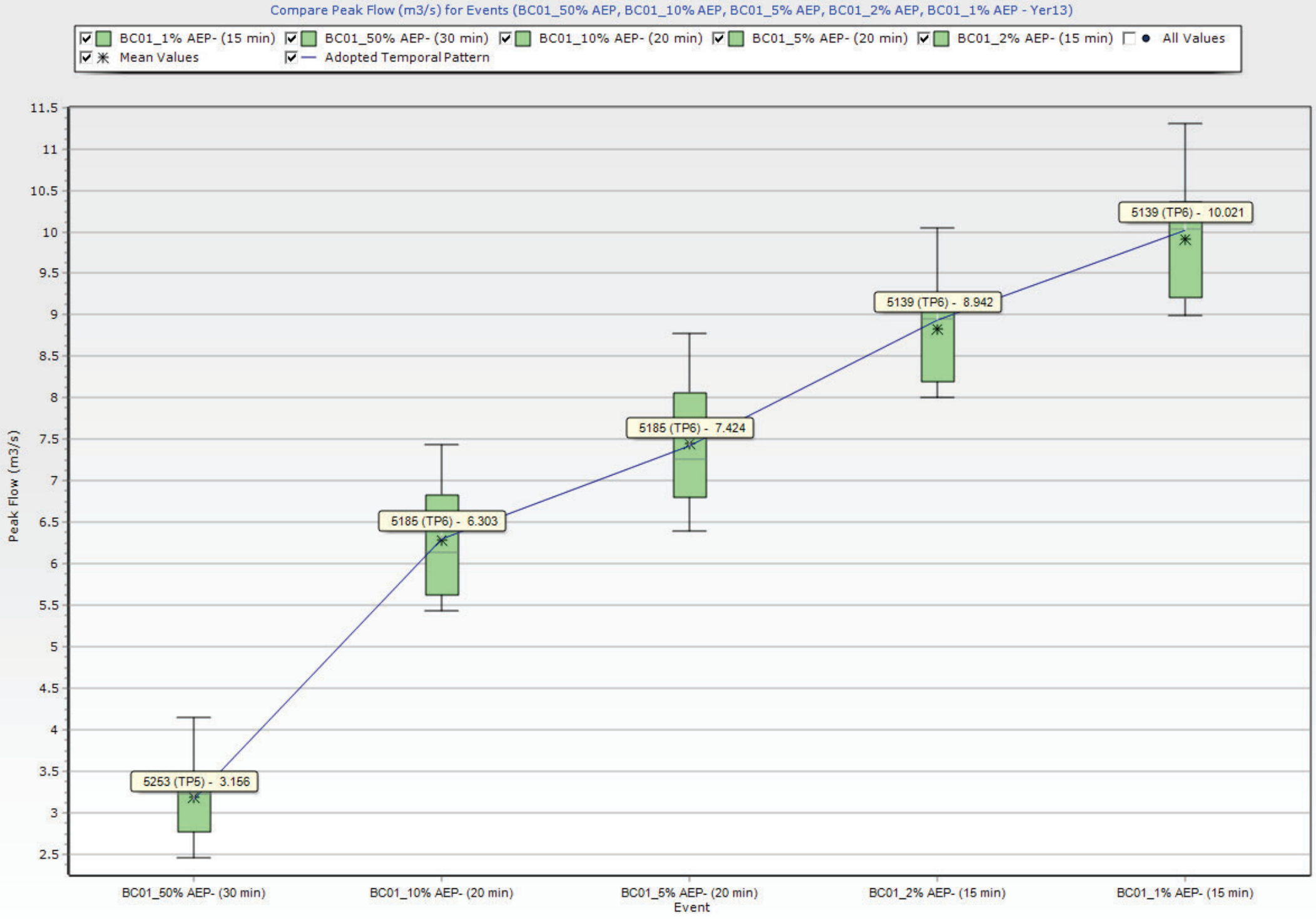

Peak Flow (m3/s) Duration Analysis (BC01_10% AEP - Yer13)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
4.8
4.6
4.4
4.2
4
3.8
3.6
3.4
3.2
5119 (TP6) - 5.742
5155 (TP8) - 6.242
5185 (TP6) - 6.303
5223 (TP9) - 5.878
5245 (TP6) - 5.954
5267 (TP2) - 5.575
5306 (TP8) - 5.038
5339 (TP10) - 4.49
5368 (TP6) - 4.136
10 min
15 min
20 min
25 min
30 min
45 min
1 hour
1.50 hour
2 hours
Duration


Peak Flow (m3/s) Duration Analysis (BC01_5% AEP - Yer13)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
8.8
8.6
8.4
8.2
8
7.8
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
4.8
4.6
4.4
4.2
4
3.8
5119 (TP6) - 7.017
5155 (TP8) - 7.44
5185 (TP6) - 7.424
5223 (TP9) - 7.01
5245 (TP6) - 7.065
5267 (TP2) - 6.749
5306 (TP8) - 5.945
5339 (TP10) - 5.234
5368 (TP6) - 4.905
10 min
15 min
20 min
25 min
30 min
45 min
1 hour
1.50 hour
2 hours
Duration


Peak Flow (m3/s) Duration Analysis (BC01_2% AEP - Yer13)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
10.2
10
9.8
9.6
9.4
9.2
9
8.8
8.6
8.4
8.2
8
7.8
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
4.8
4.6
4.4
4.2
5093 (TP2) - 8.415
5139 (TP6) - 8.942
5176 (TP9) - 8.478
5136 (TP5) - 8.652
5238 (TP8) - 8.255
5194 (TP5) - 7.674
5294 (TP9) - 6.699
5206 (TP2) - 6.004
5363 (TP9) - 5.025
10 min
15 min
20 min
25 min
30 min
45 min
1 hour
1.50 hour
2 hours
Duration


Peak Flow (m3/s) Duration Analysis (BC01_1% AEP - Yer13)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
11.4
11.2
11
10.8
10.6
10.4
10.2
10
9.8
9.6
9.4
9.2
9
8.8
8.6
8.4
8.2
8
7.8
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
4.8
4.6
5093 (TP2) - 9.501
5139 (TP6) - 10.021
5176 (TP9) - 9.5
5113 (TP3) - 9.553
5238 (TP8) - 9.235
5264 (TP10) - 8.548
5294 (TP9) - 7.541
5206 (TP2) - 6.744
5363 (TP9) - 5.634
10 min
15 min
20 min
25 min
30 min
45 min
1 hour
1.50 hour
2 hours
Duration


Compare Peak Flow (m3/s) for Events (BC01_50% AEP, BC01_10% AEP, BC01_5% AEP, BC01_2% AEP, BC01_1% AEP - VillaDS)
BC01_1% AEP- (15 min)
BC01_50% AEP- (30 min)
BC01_10% AEP- (20 min)
BC01_5% AEP- (20 min)
BC01_2% AEP- (15 min)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
5253 (TP5) - 0.716
5185 (TP6) - 1.47
5184 (TP5) - 1.838
5139 (TP6) - 2.159
5139 (TP6) - 2.466
BC01_50% AEP- (30 min)
BC01_10% AEP- (20 min)
BC01_5% AEP- (20 min)
BC01_2% AEP- (15 min)
BC01_1% AEP- (15 min)
Event


Compare Peak Flow (m3/s) for Events (BC01_50% AEP, BC01_10% AEP, BC01_5% AEP, BC01_2% AEP, BC01_1% AEP - Yer13)
BC01_1% AEP- (15 min)
BC01_50% AEP- (30 min)
BC01_10% AEP- (20 min)
BC01_5% AEP- (20 min)
BC01_2% AEP- (15 min)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
11.5
11
10.5
10
9.5
9
8.5
8
7.5
7
6.5
6
5.5
5
4.5
4
3.5
3
2.5
5253 (TP5) - 3.156
5185 (TP6) - 6.303
5185 (TP6) - 7.424
5139 (TP6) - 8.942
5139 (TP6) - 10.021
BC01_50% AEP- (30 min)
BC01_10% AEP- (20 min)
BC01_5% AEP- (20 min)
BC01_2% AEP- (15 min)
BC01_1% AEP- (15 min)
Event

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APPENDIX E
BASE CASE AND POST DEVLOPMENT FLOOD MAPPING





Scale: 1:1,600 0 20 40 60 80 100 m

63.2% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:26:59.562



Scale: 1:1,600 0 20 40 60 80 100 m

50% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:01.226



Scale: 1:1,600

0 20 40 60 80 100 m

20% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:02.975



Scale: 1:1,600 0 20 40 60 80 100 m

10% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:04.730



Scale: 1:1,600 0 20 40 60 80 100 m

5% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:06.474



Scale: 1:1,600 0 20 40 60 80 100 m

2% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:08.552



Scale: 1:1,600 0 20 40 60 80 100 m

1% AEP Maximum Flood Depth and Level - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:10.260



Scale: 1:1,600 0 20 40 60 80 100 m

63.2% AEP Maximum Flood Depth and Level - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:12.044



Scale: 1:1,600 0 20 40 60 80 100 m

50% AEP Maximum Flood Depth and Level - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:13.773



Scale: 1:1,600 0 20 40 60 80 100 m

20% AEP Maximum Flood Depth and Level - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:15.566



Scale: 1:1,600 0 20 40 60 80 100 m

10% AEP Maximum Flood Depth and Level - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:17.835



Scale: 1:1,600 0 20 40 60 80 100 m

5% AEP Maximum Flood Depth and Level - Post Development Case

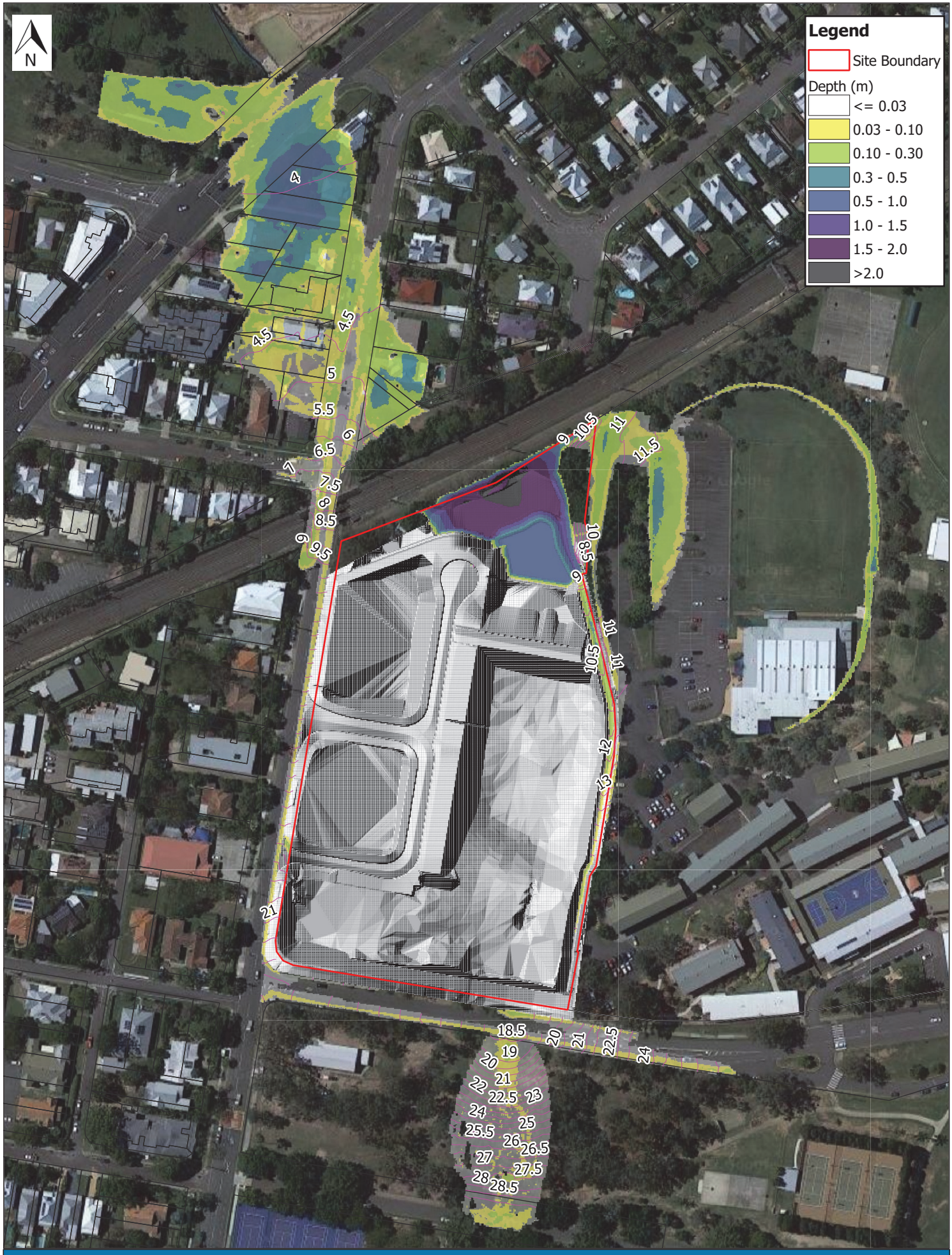
Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:19.665



Scale: 1:1,600 0 20 40 60 80 100 m

2% AEP Maximum Flood Depth and Level - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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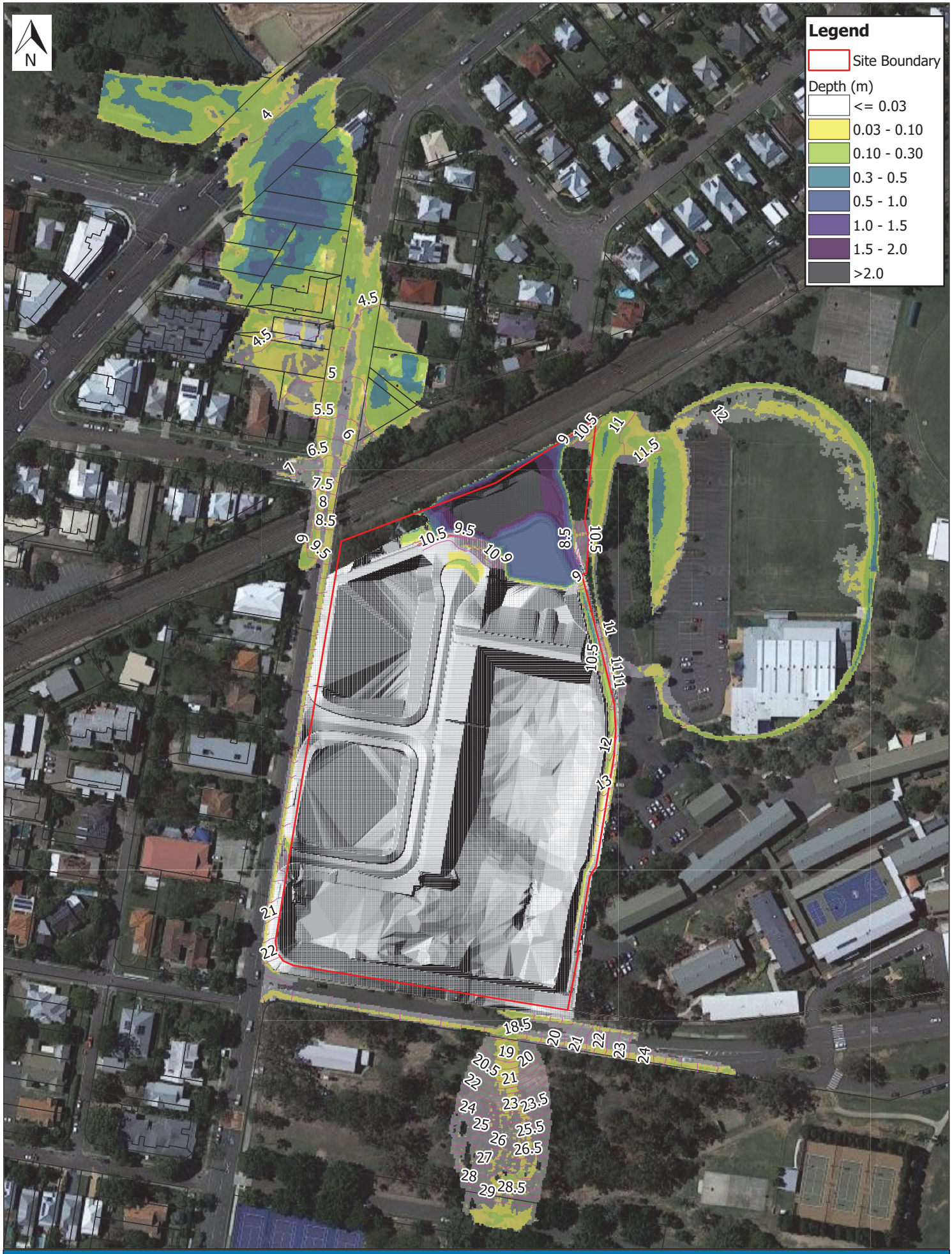
Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:21.497



Scale: 1:1,600 0 20 40 60 80 100 m

1% AEP Maximum Flood Depth and Level - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
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Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:23.333



Scale: 1:1,600 0 20 40 60 80 100 m

63.2% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:25.282



Scale: 1:1,600

0 20 40 60 80 100 m

50% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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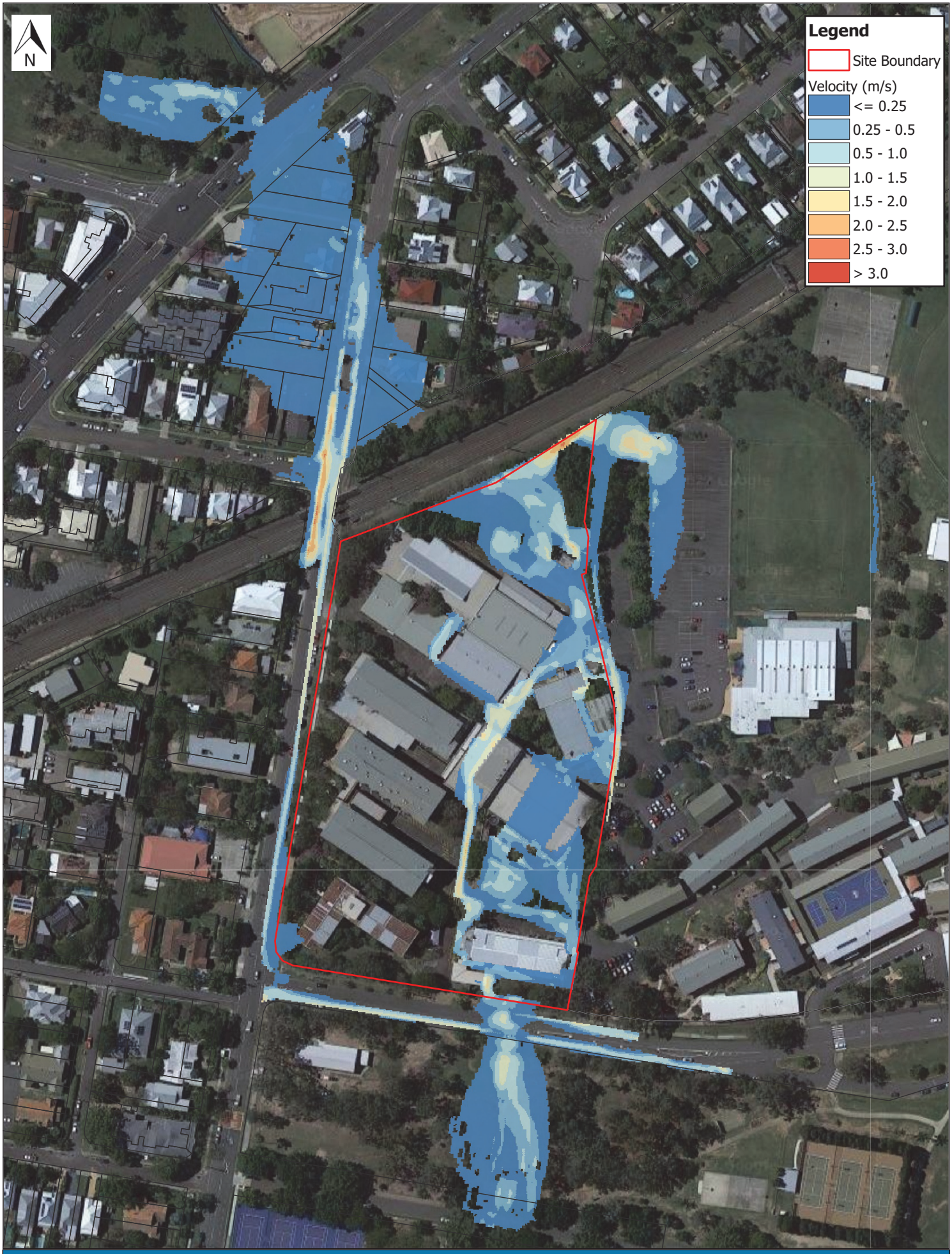

Scale: 1:1,600

0 20 40 60 80 100 m

20% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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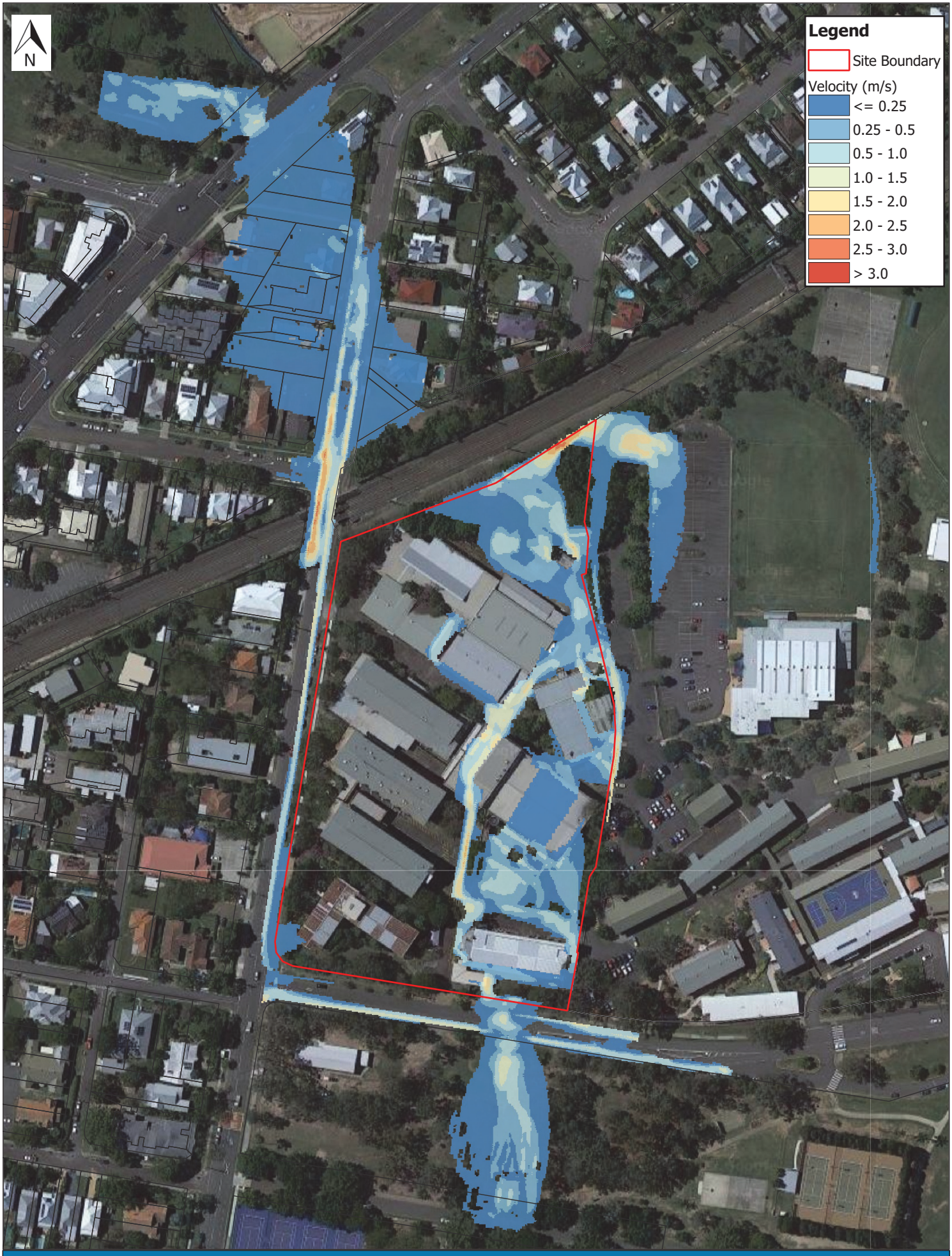

Scale: 1:1,600

0 20 40 60 80 100 m

10% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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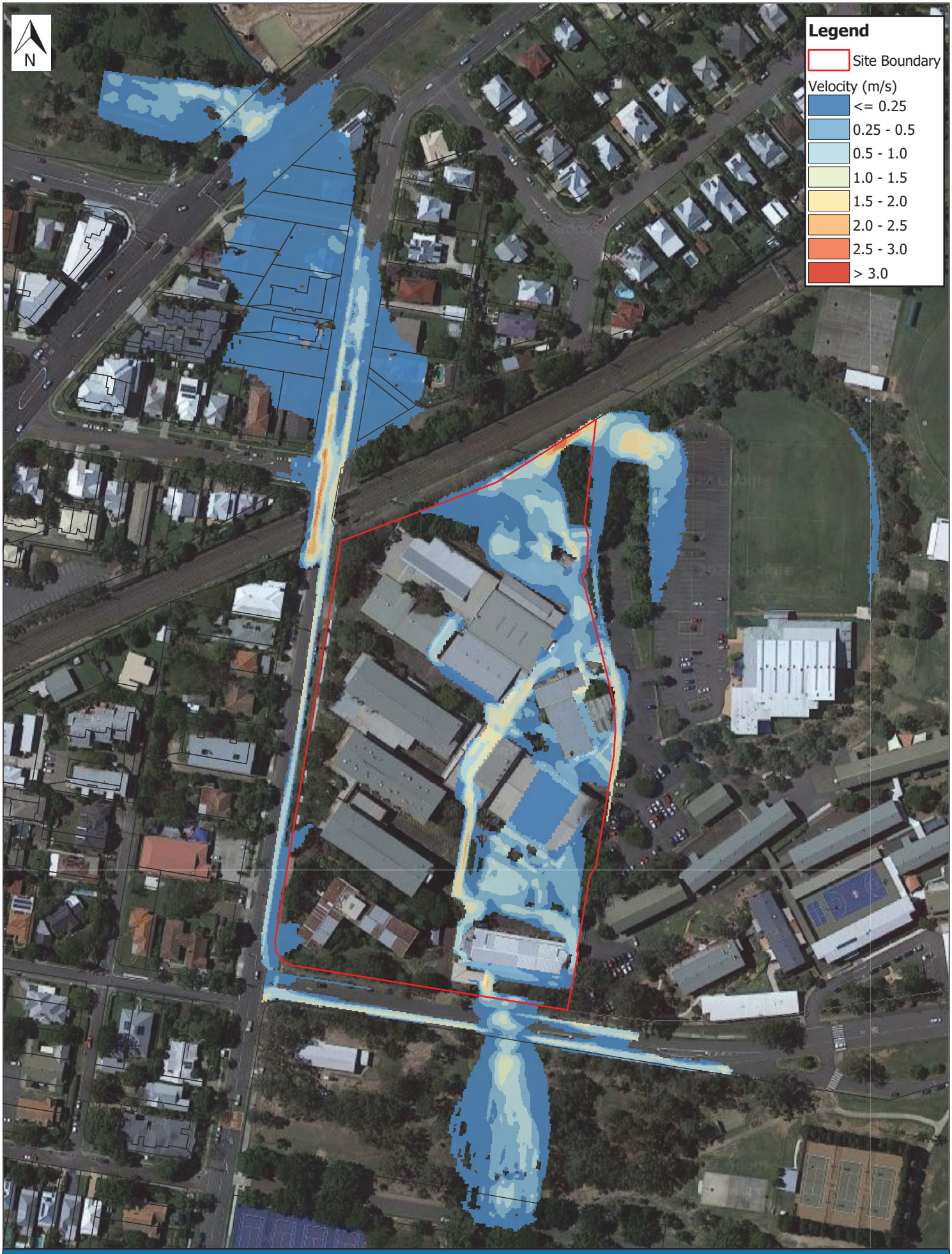

Scale: 1:1,600 0 20 40 60 80 100 m

5% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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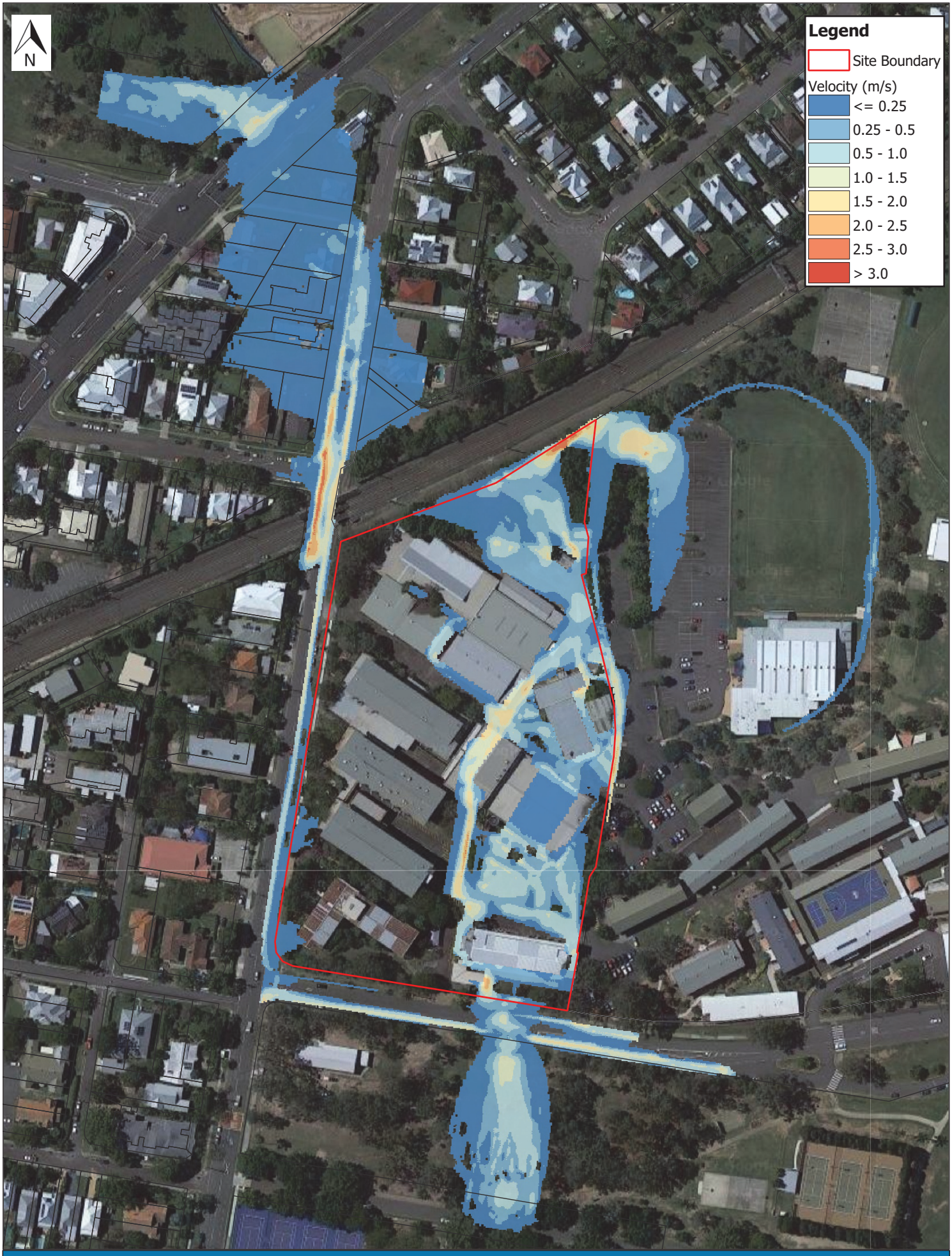

Scale: 1:1,600

0 20 40 60 80 100 m

2% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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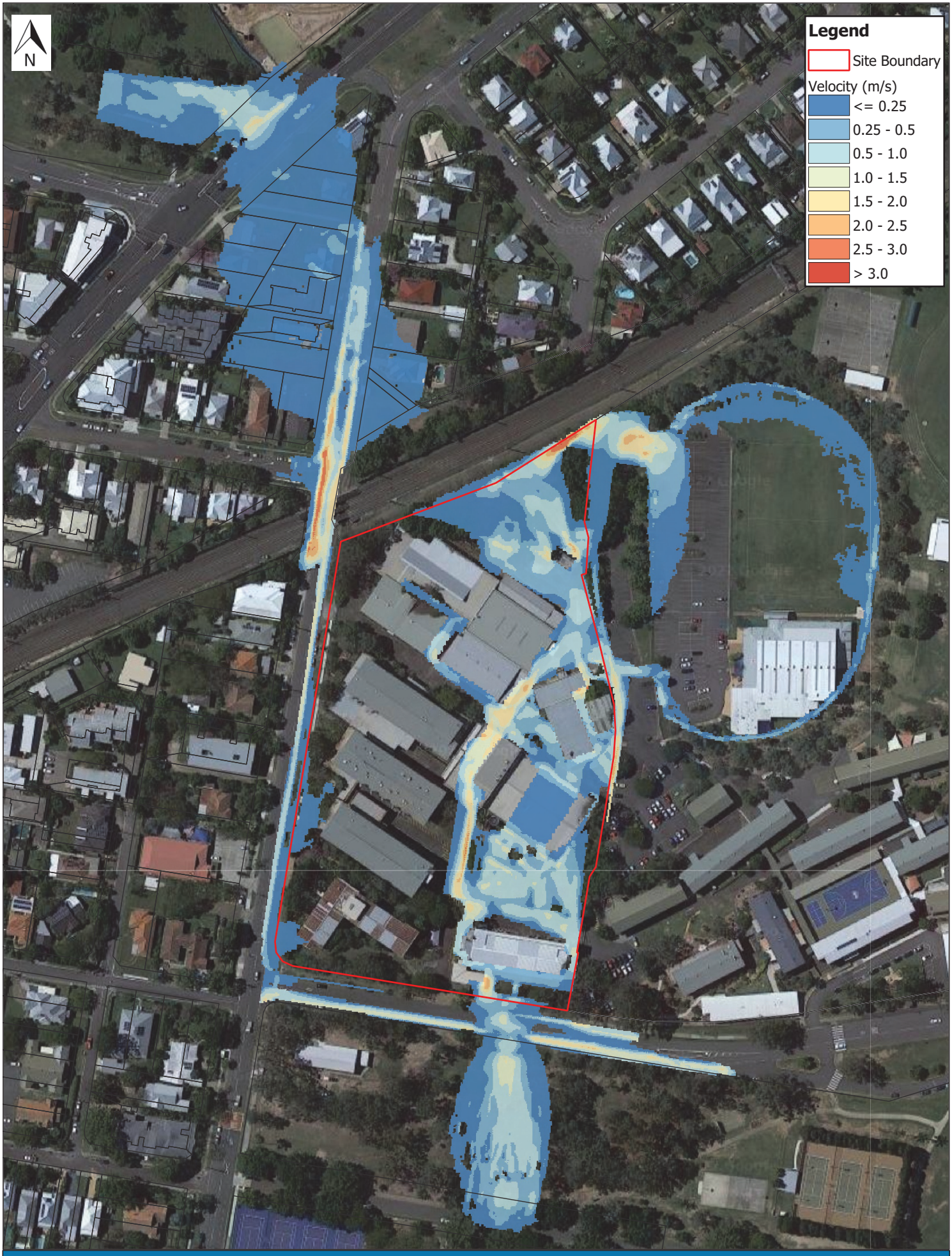

Scale: 1:1,600

0 20 40 60 80 100 m

1% AEP Maximum Flood Velocity - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

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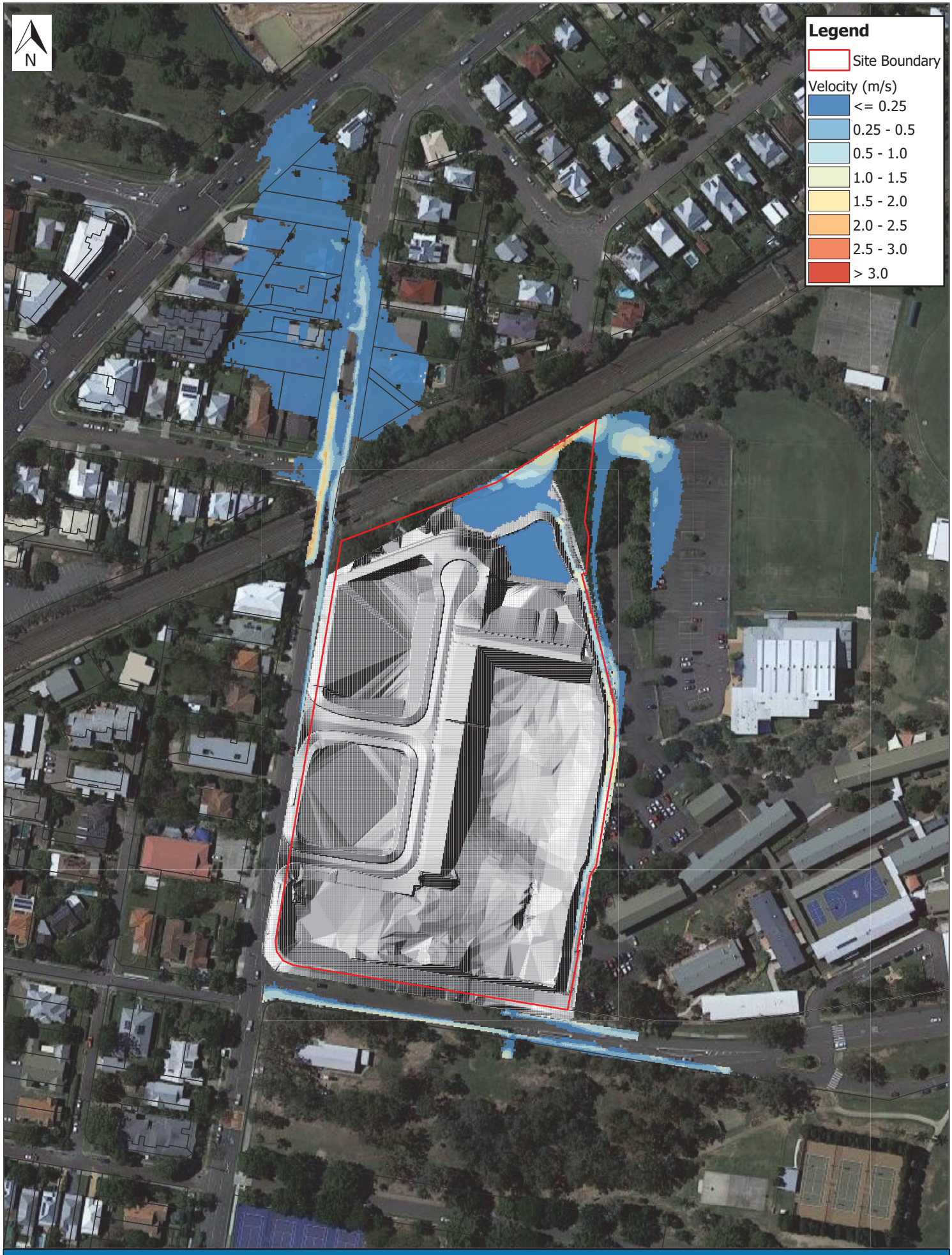

Scale: 1:1,600 0 20 40 60 80 100 m

63.2% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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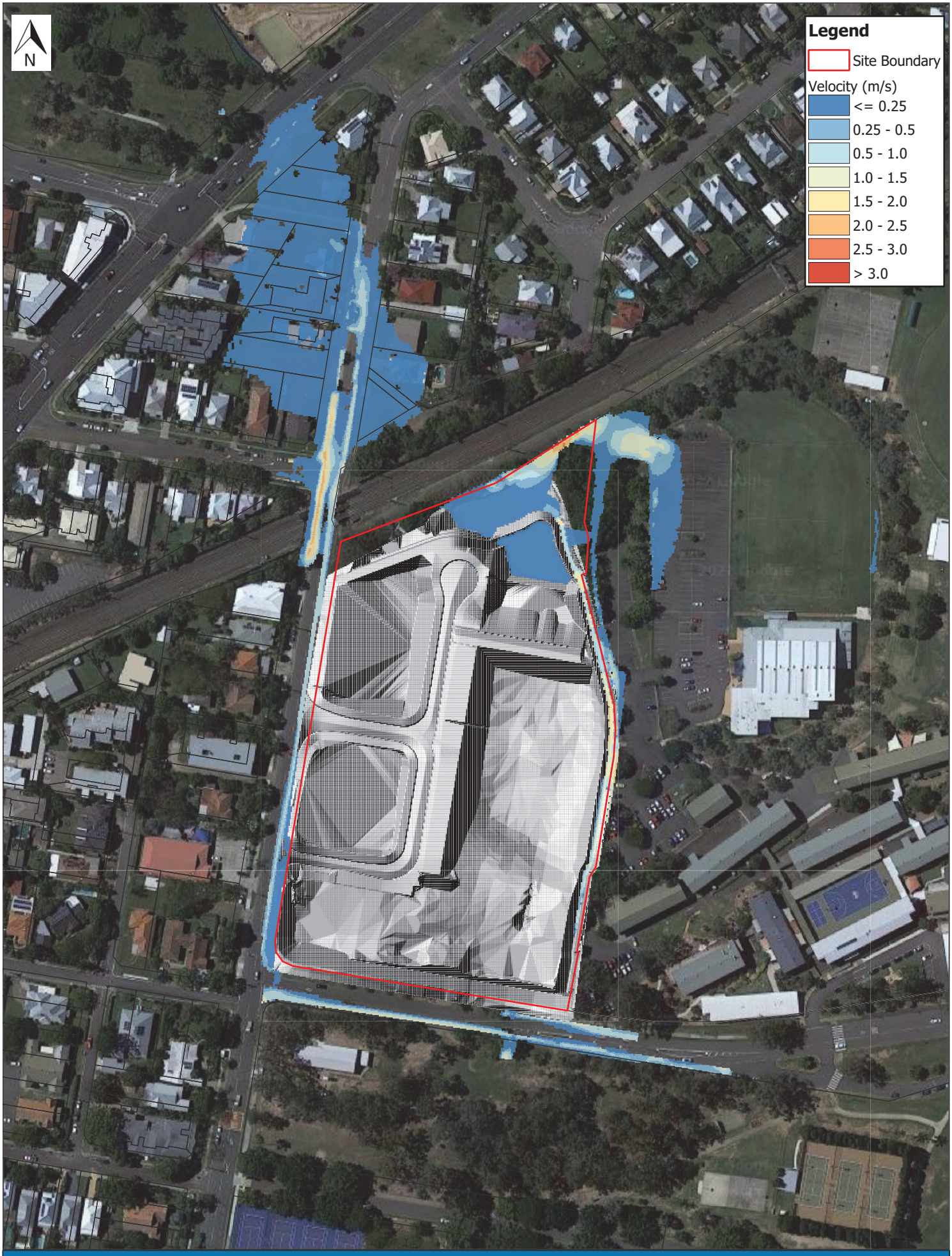

Scale: 1:1,600

0 20 40 60 80 100 m

50% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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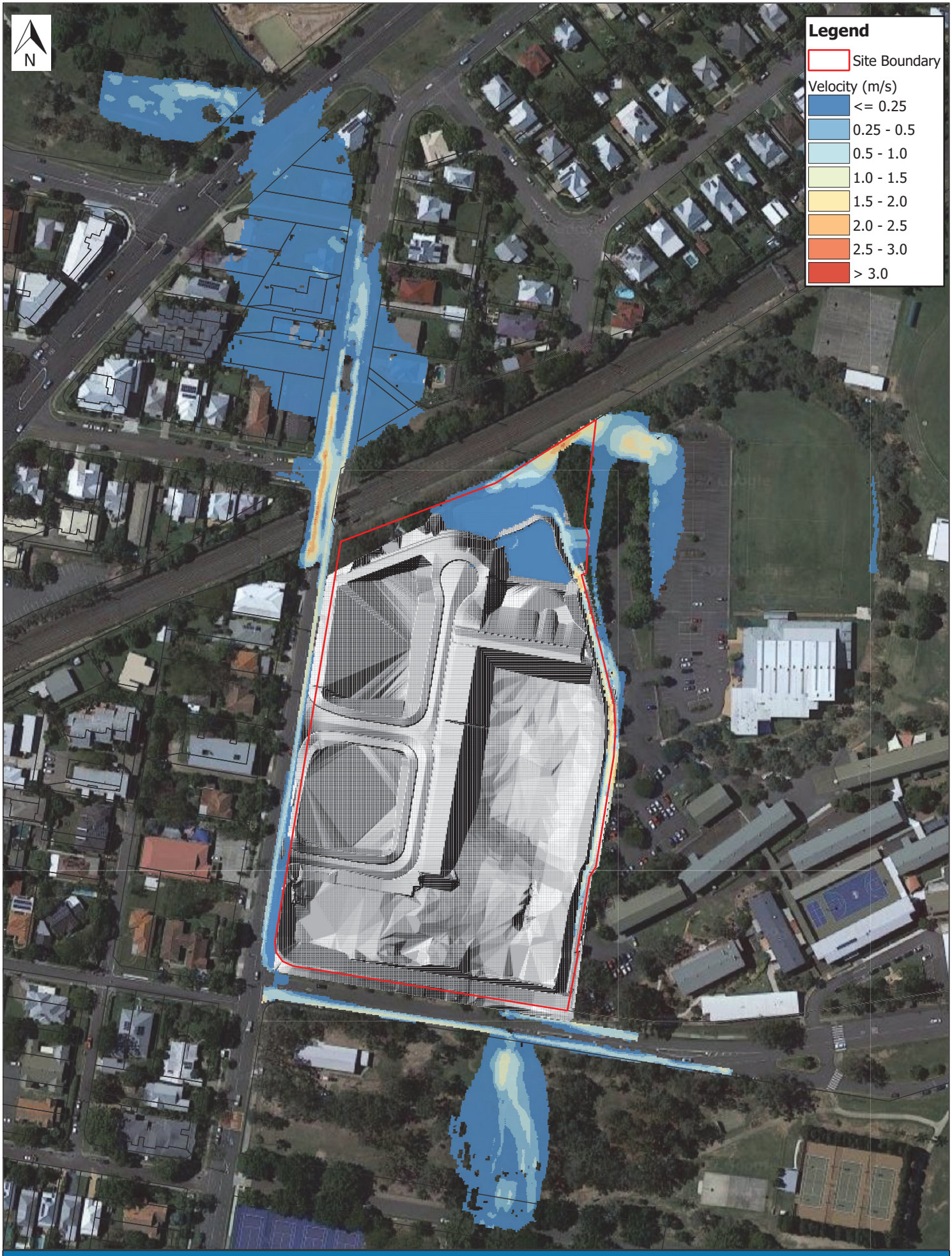

Scale: 1:1,600 0 20 40 60 80 100 m

20% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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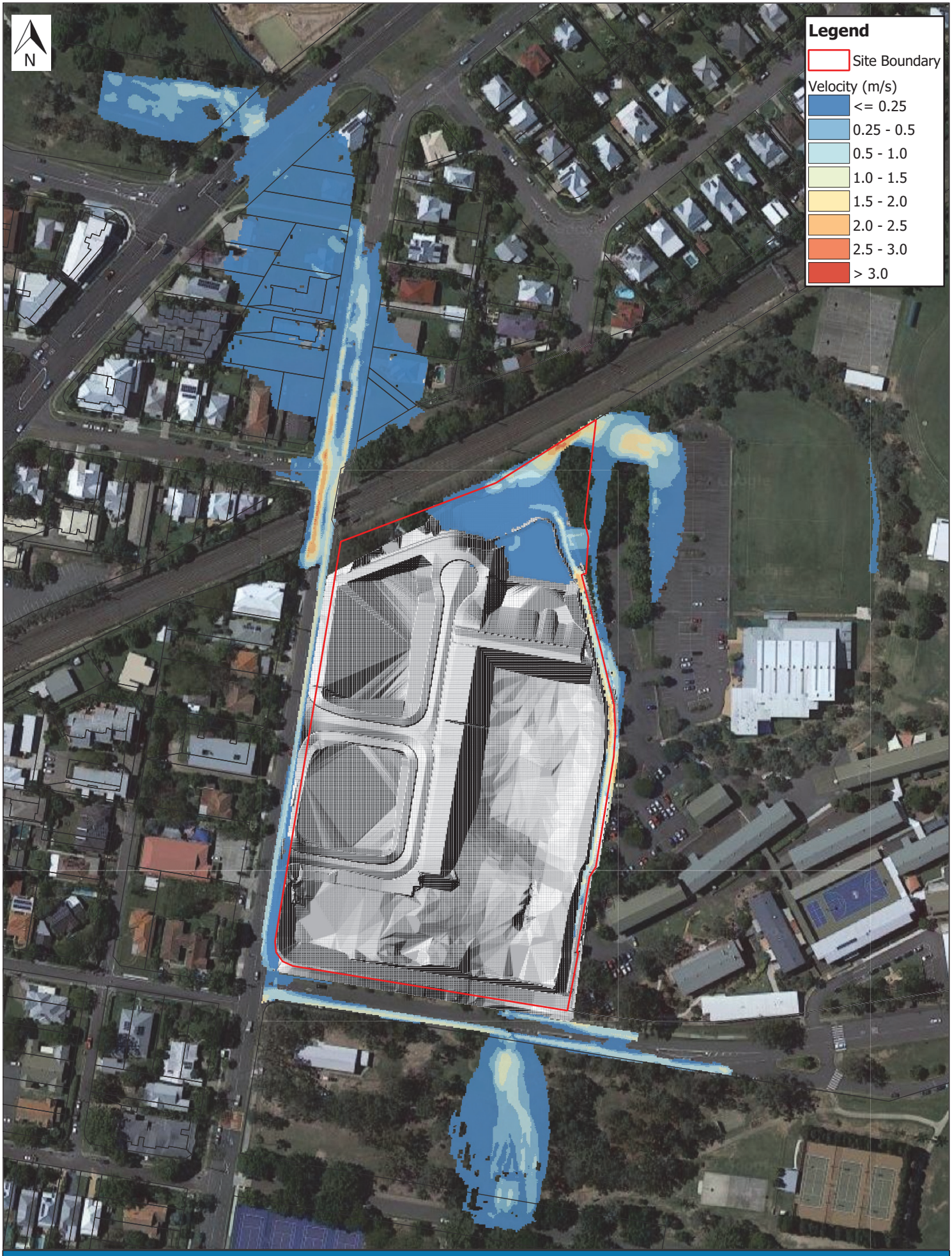

Scale: 1:1,600 0 20 40 60 80 100 m

10% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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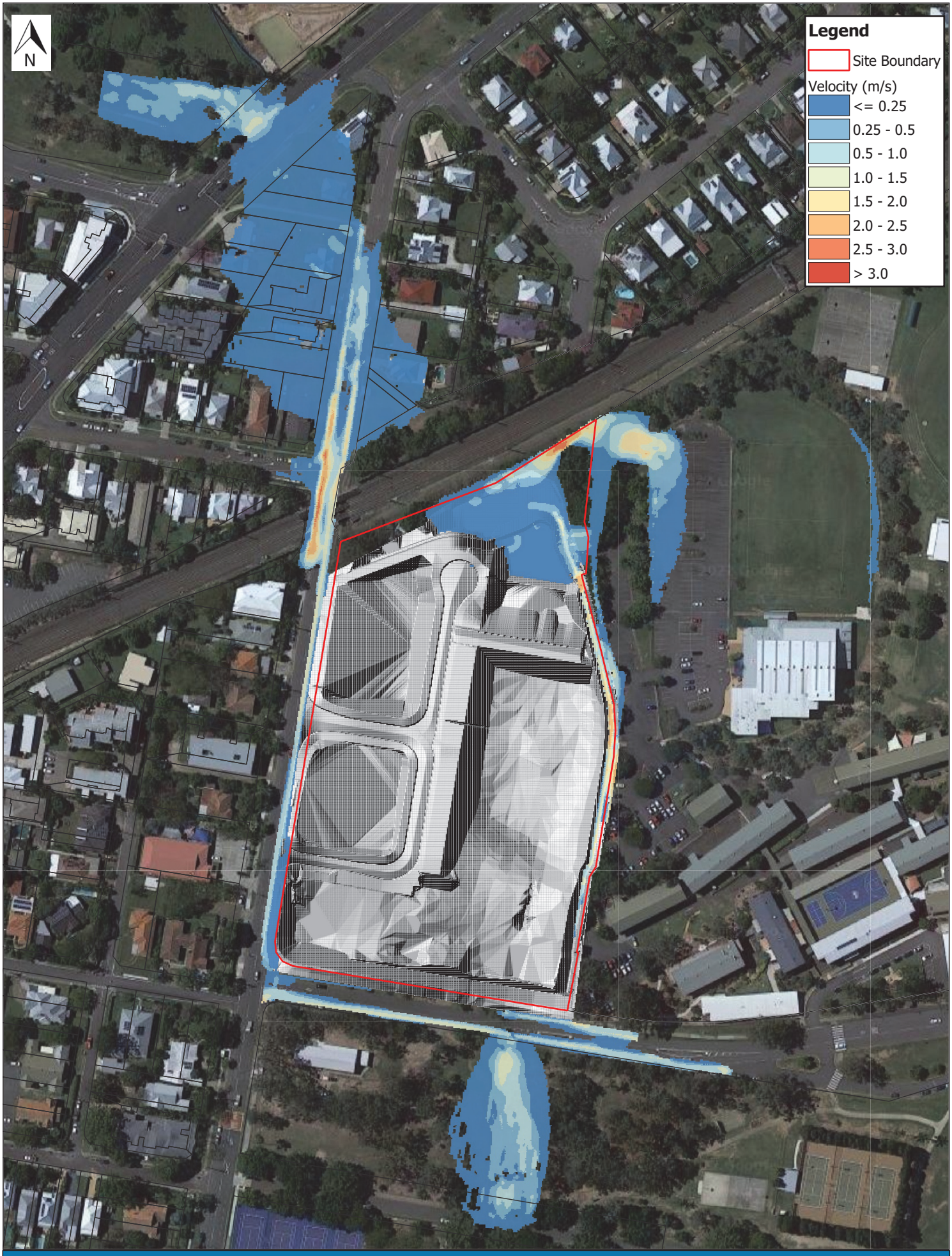

Scale: 1:1,600

0 20 40 60 80 100 m

5% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

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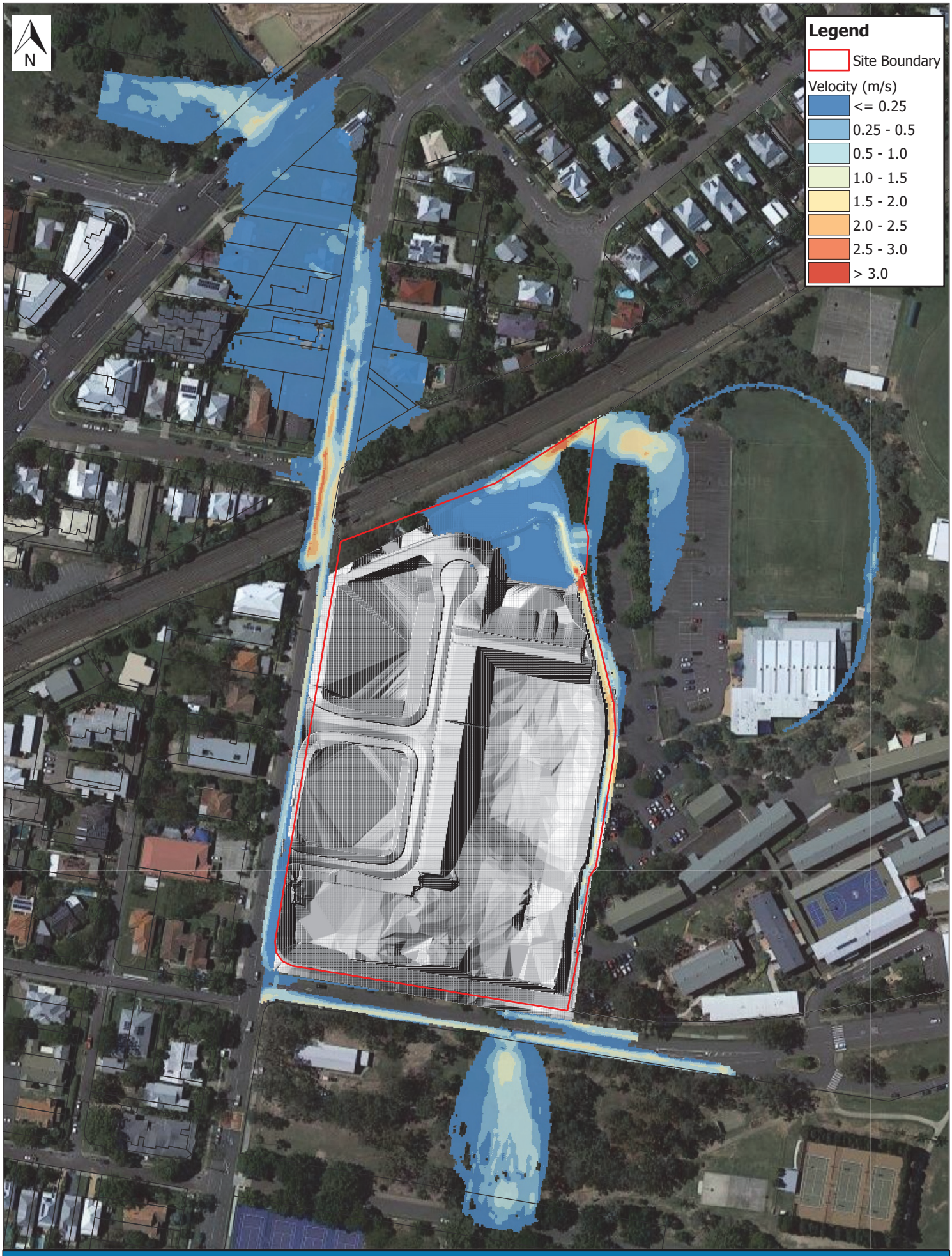

Scale: 1:1,600

0 20 40 60 80 100 m

2% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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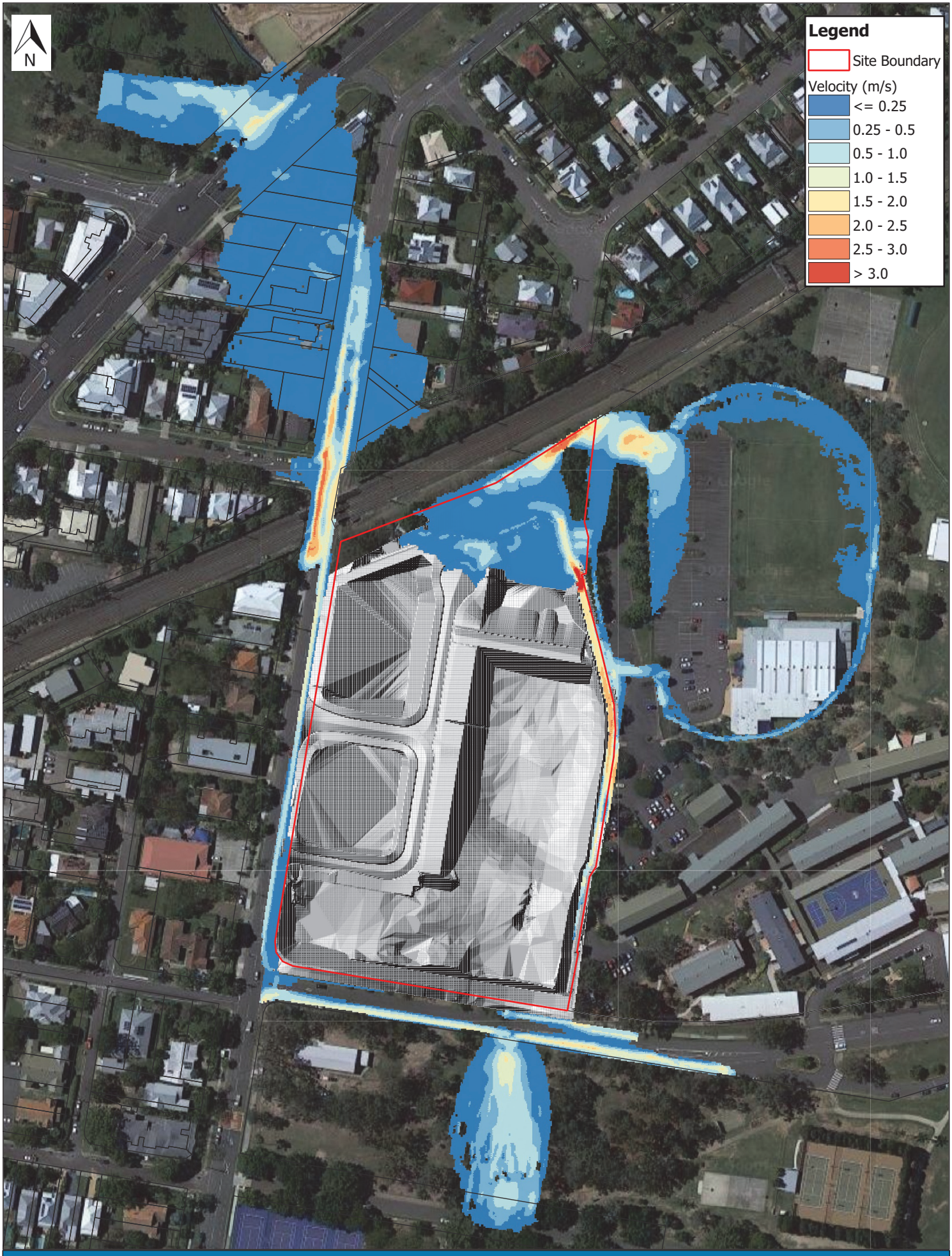

Scale: 1:1,600

0 20 40 60 80 100 m

1% AEP Maximum Flood Velocity - Post Development Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:49.421



Scale: 1:1,600

0 20 40 60 80 100 m

63.2% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:51.115



Scale: 1:1,600

0 20 40 60 80 100 m

50% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:52.833



Scale: 1:1,600

0 20 40 60 80 100 m

20% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:54.525



Scale: 1:1,600

0 20 40 60 80 100 m

10% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:27:56.332



Scale: 1:1,600 0 20 40 60 80 100 m

5% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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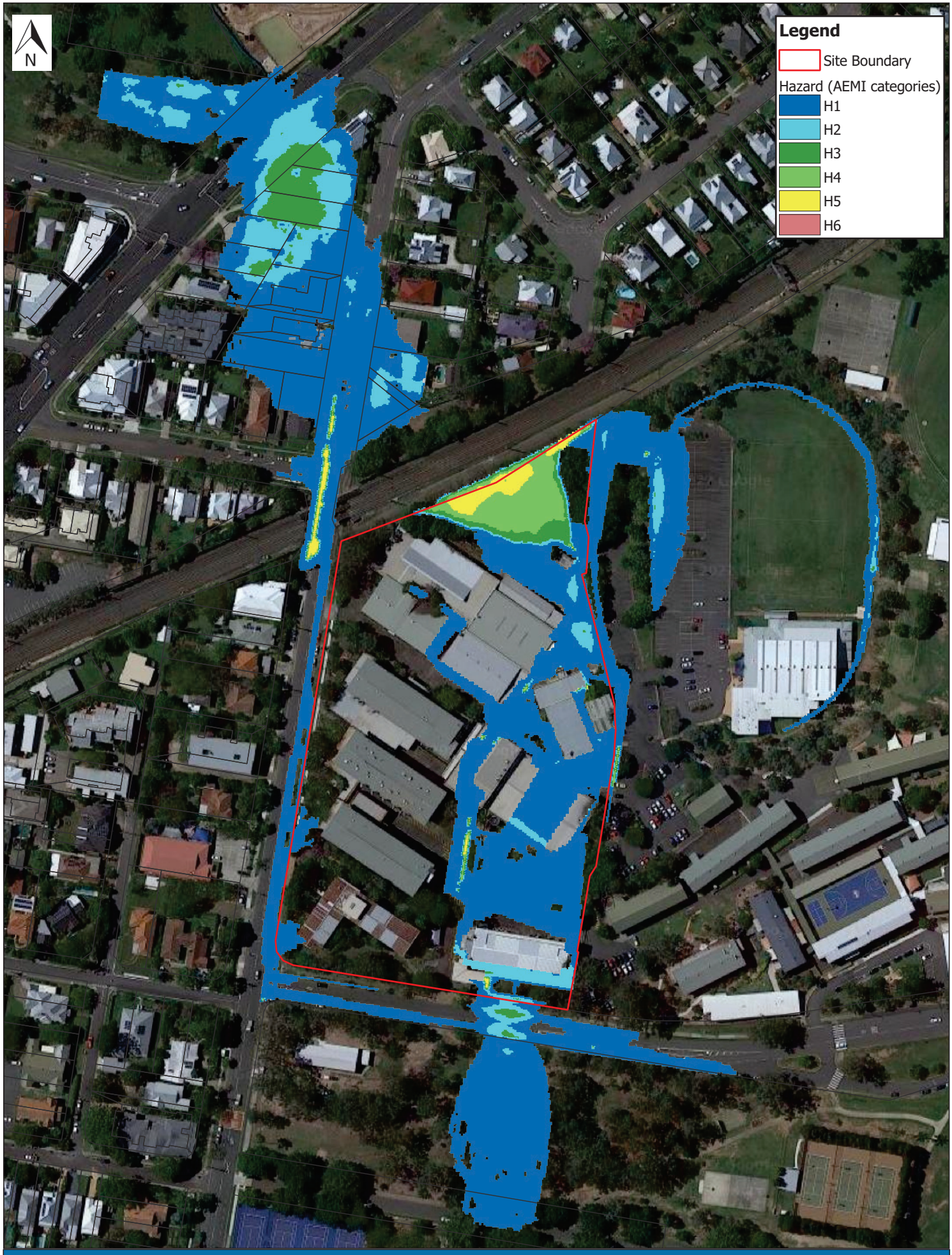

Scale: 1:1,600 0 20 40 60 80 100 m

2% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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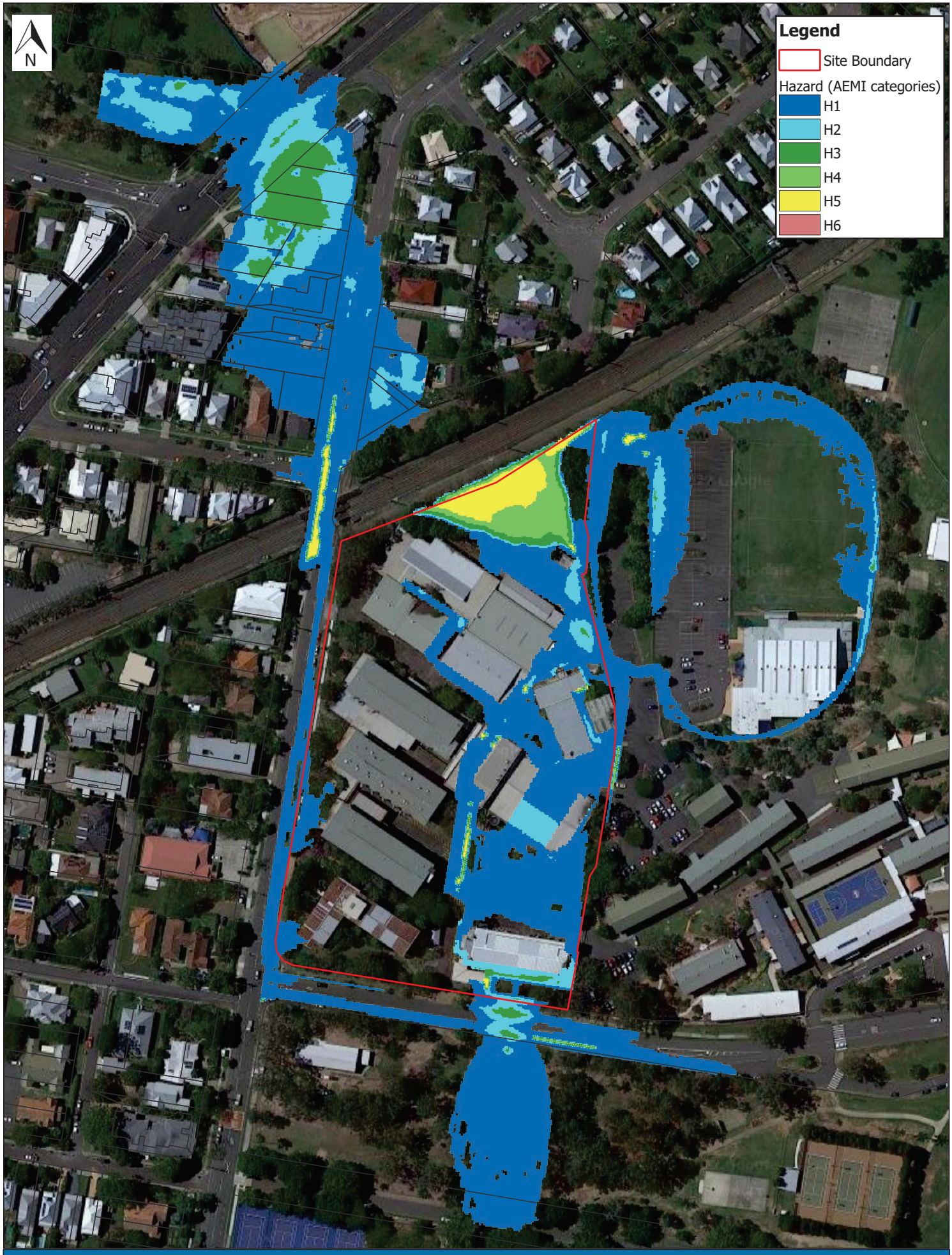

Scale: 1:1,600 0 20 40 60 80 100 m

1% AEP Maximum Flood Hazard - Base Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:28:01.765



Scale: 1:1,600 0 20 40 60 80 100 m

63.2% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Workspace: R:\Jobs\22020120_Yeronga_PDA\Spatial\Workspaces\Yeronga_PDA_Working006.qgs

022-06-15T13:28:03.760



Scale: 1:1,600

0 20 40 60 80 100 m

50% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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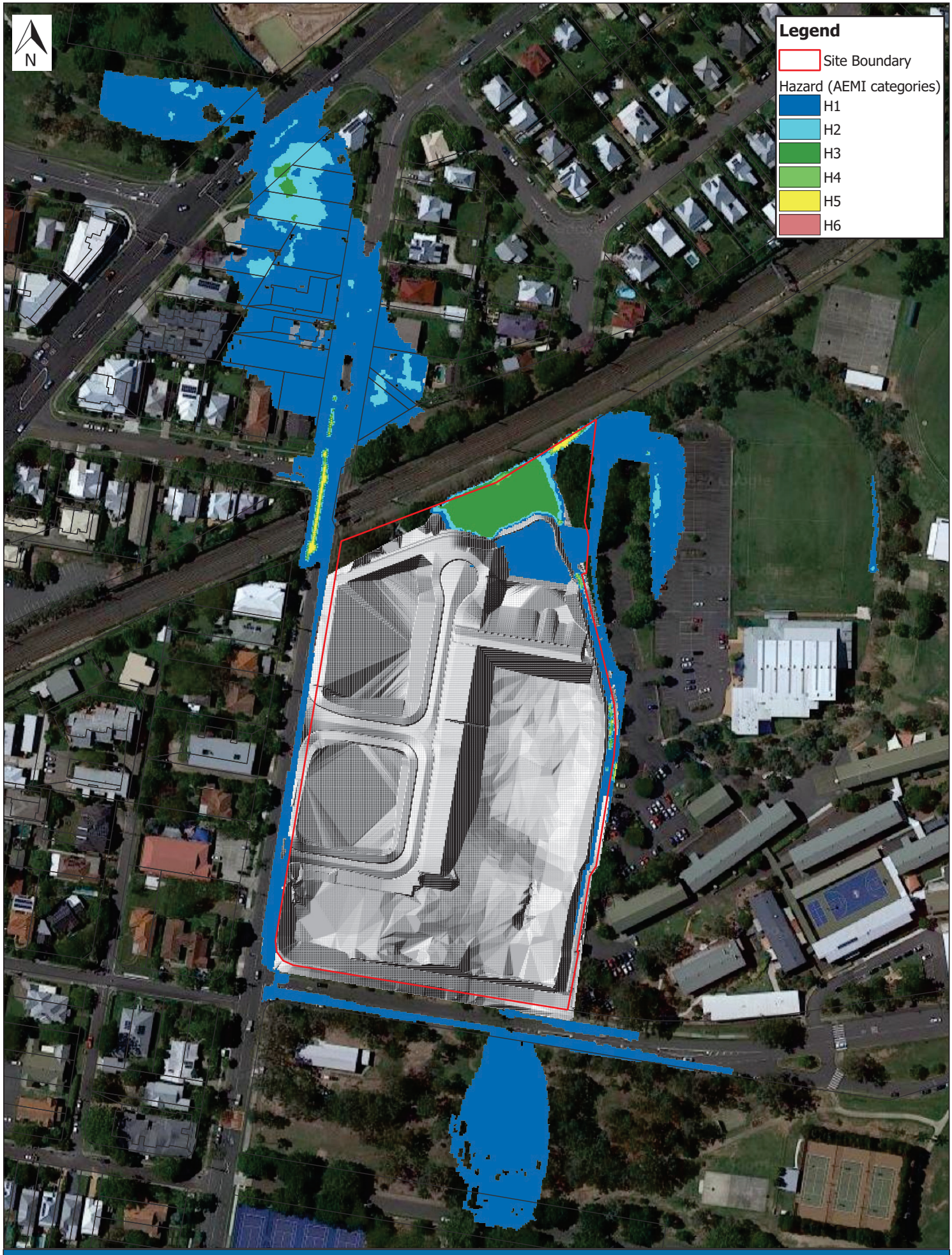

Scale: 1:1,600 0 20 40 60 80 100 m

20% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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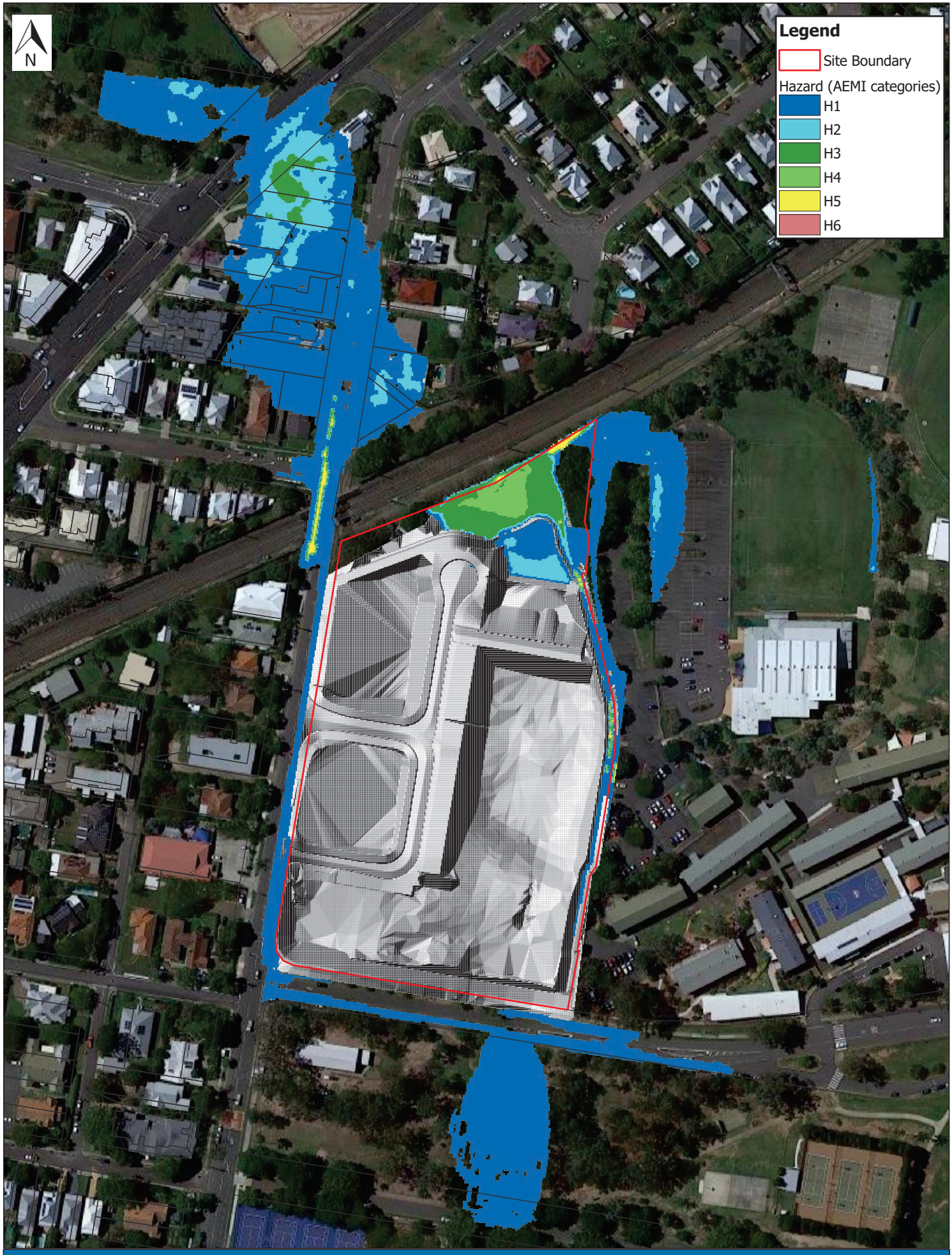

Scale: 1:1,600 0 20 40 60 80 100 m

10% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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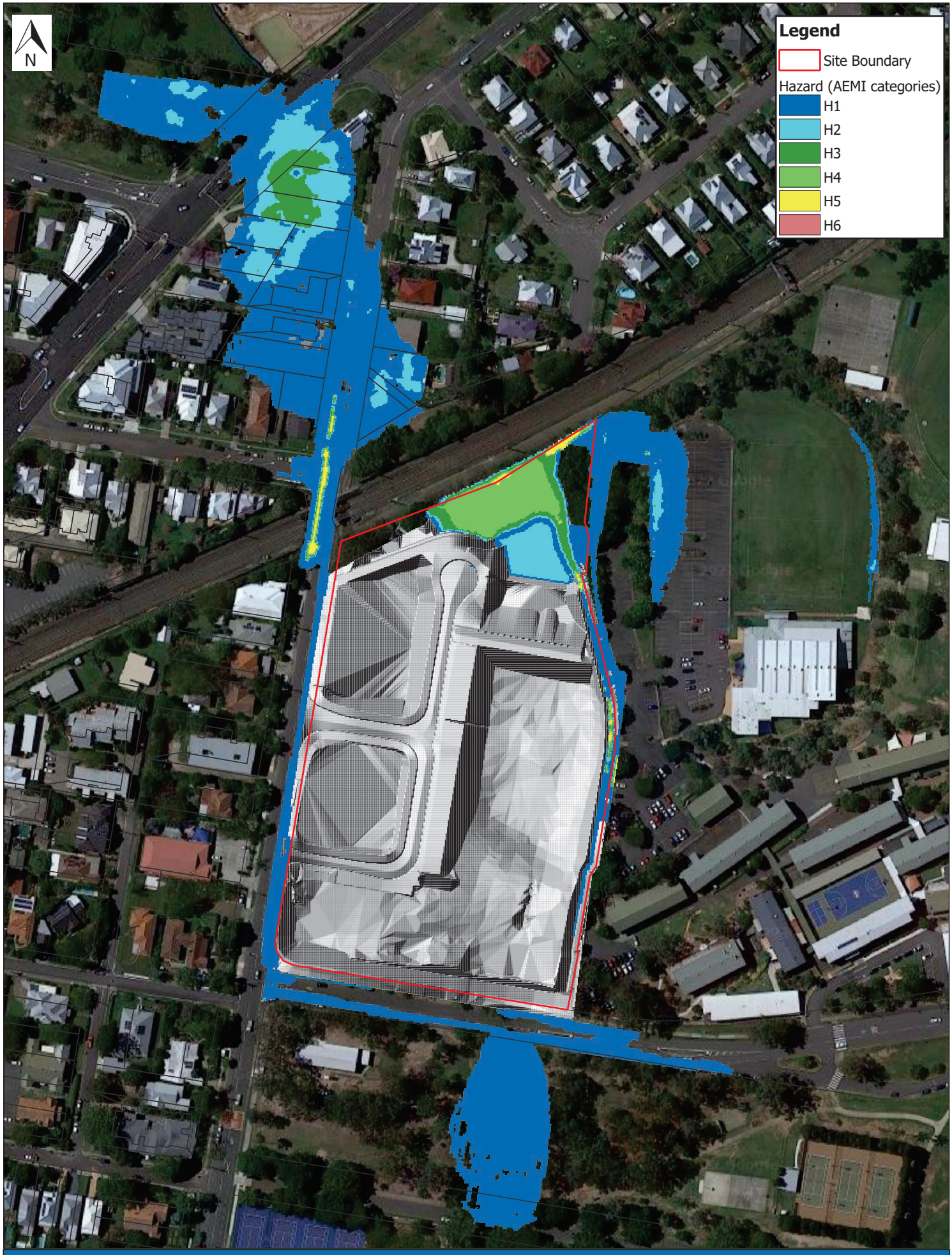

Scale: 1:1,600 0 20 40 60 80 100 m

5% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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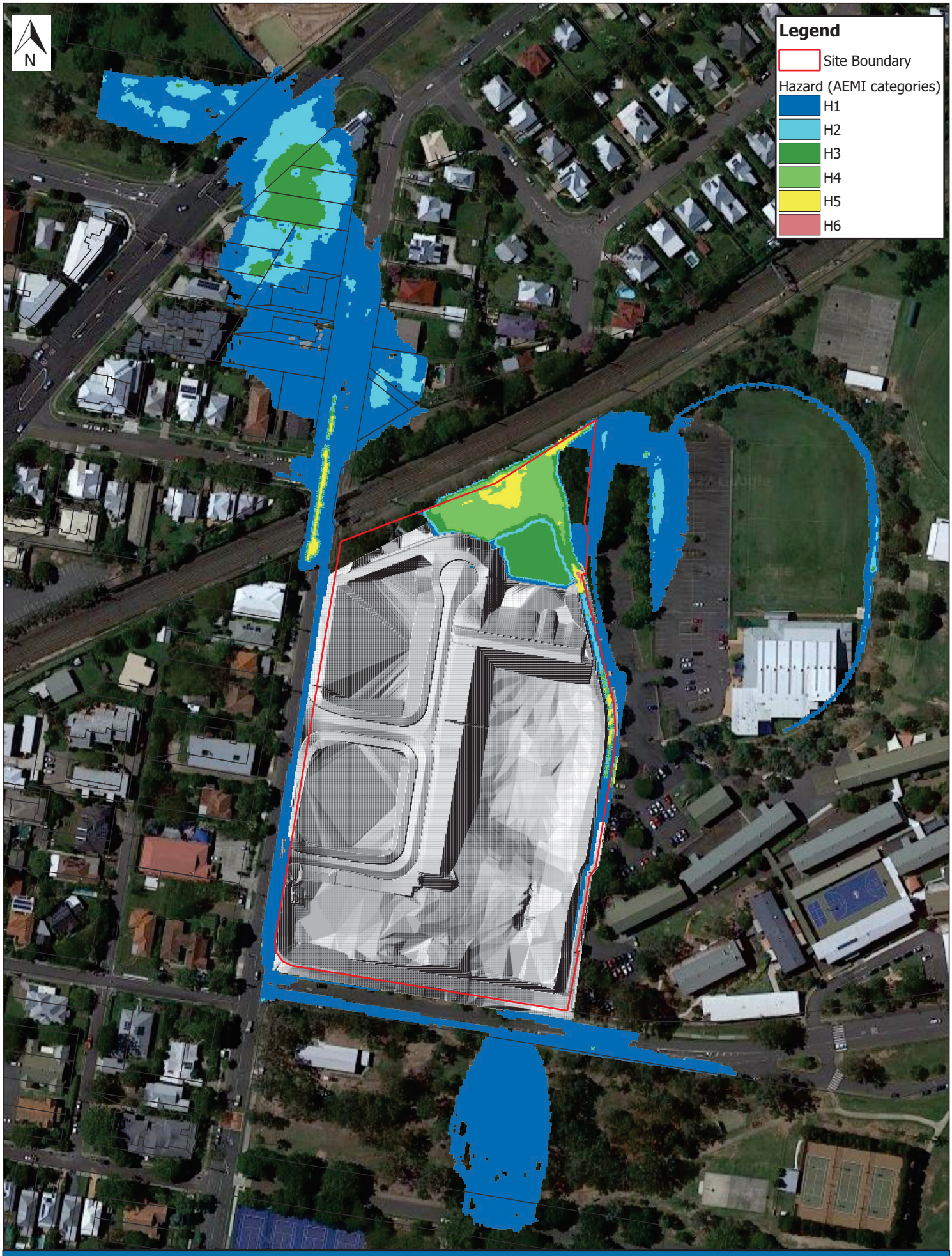

Scale: 1:1,600 0 20 40 60 80 100 m

2% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

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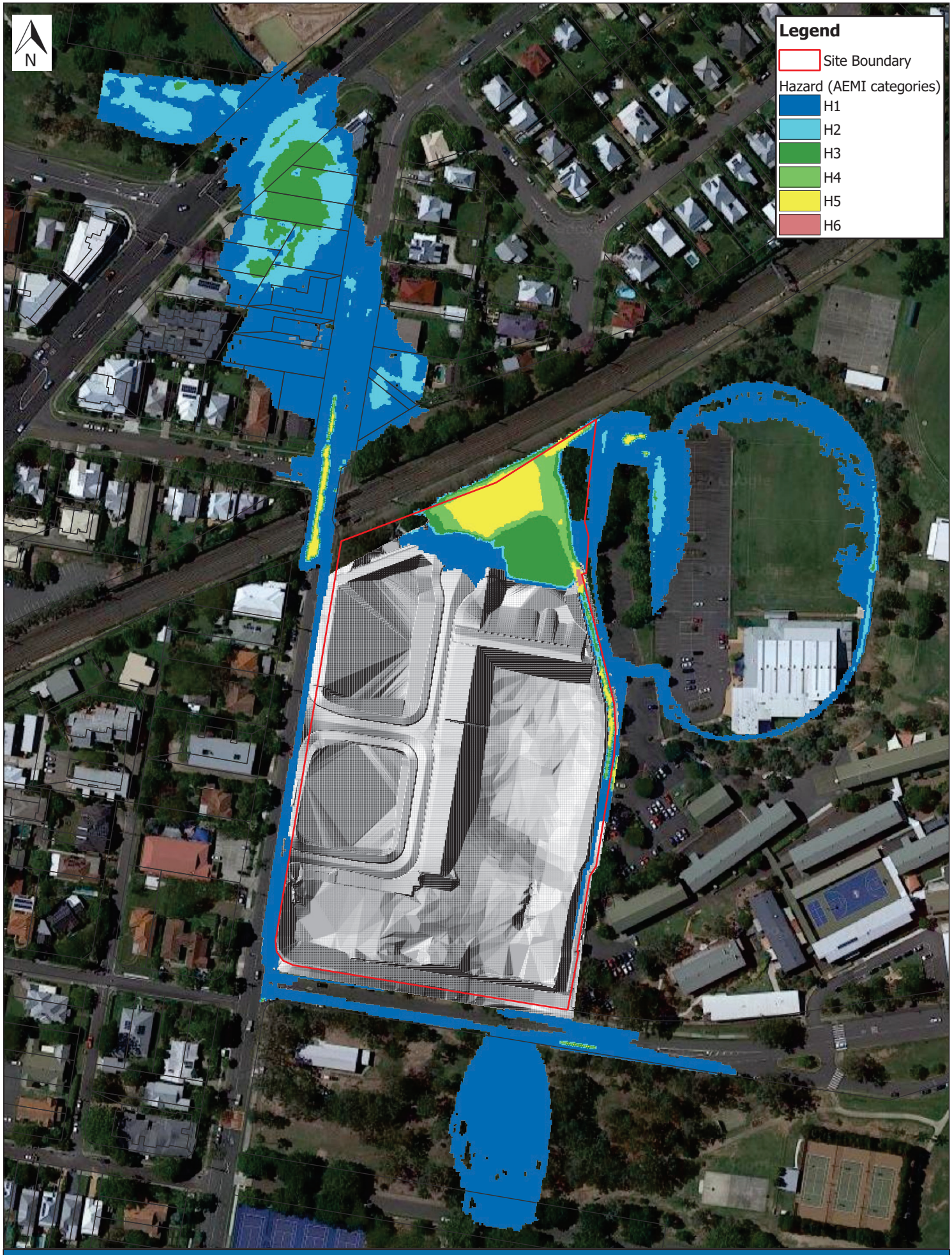

Scale: 1:1,600 0 20 40 60 80 100 m

1% AEP Maximum Flood Hazard - Post Development Case

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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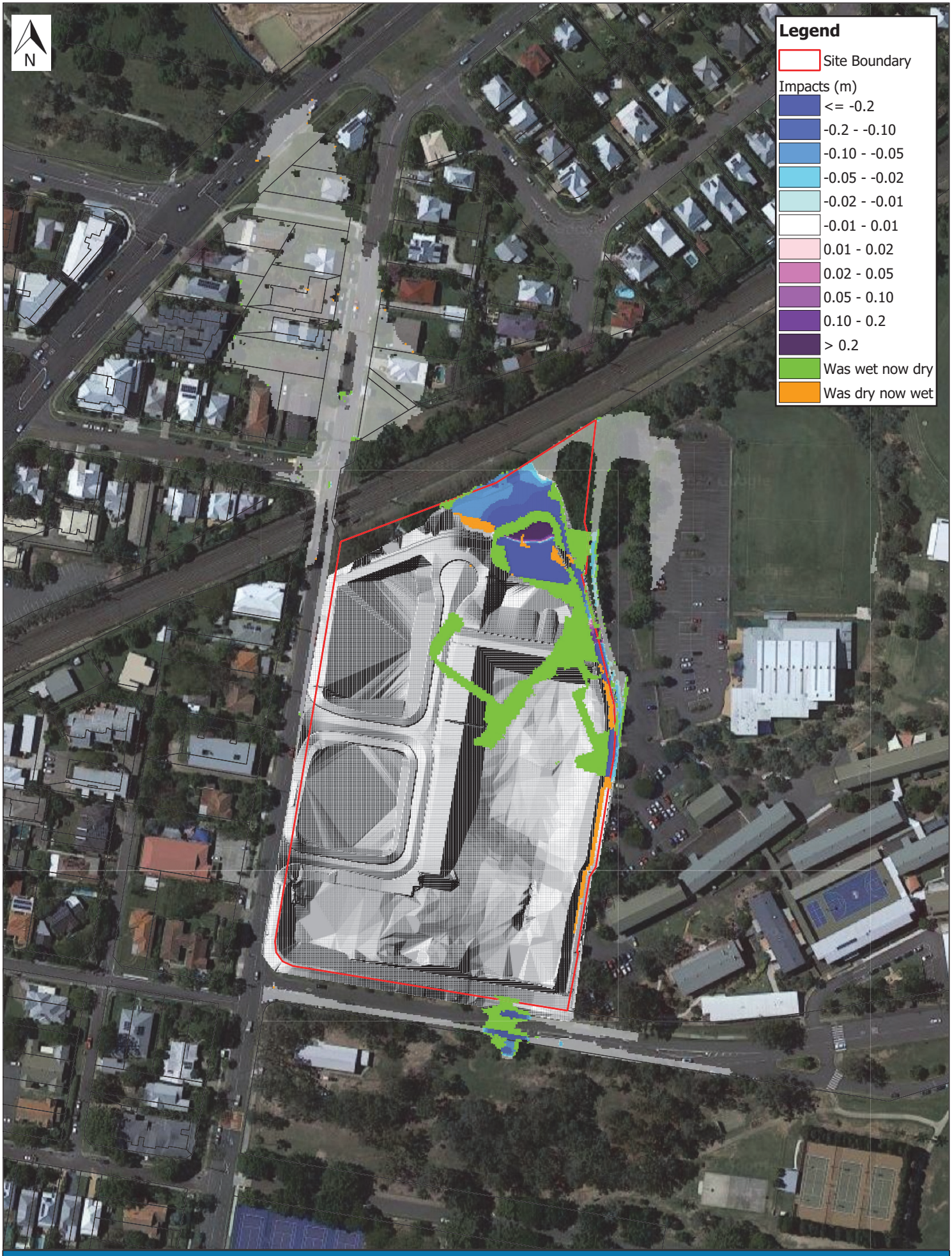
APPENDIX F
FLOOD CHANGE MAPPING





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63.2% AEP Flood Level Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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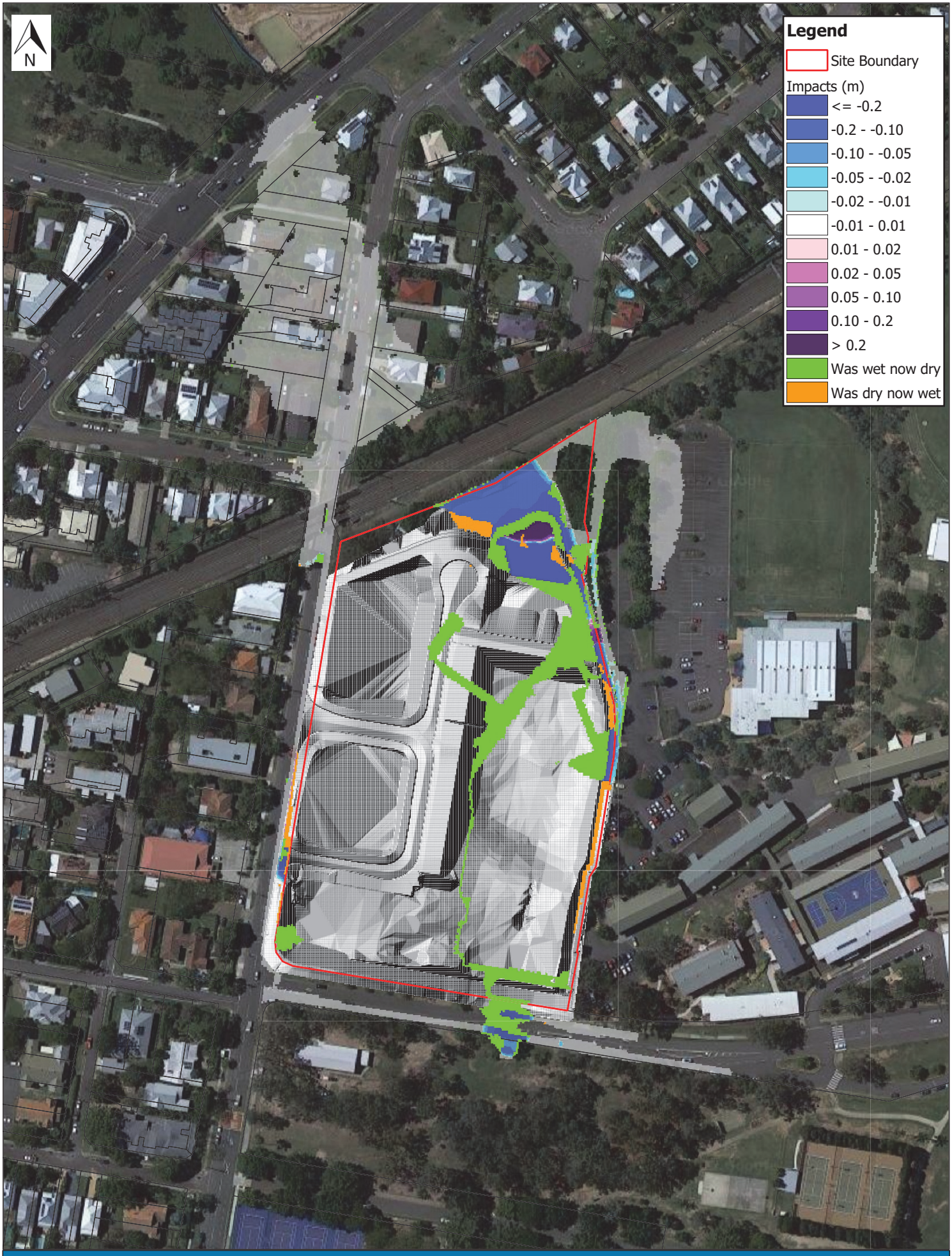

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50% AEP Flood Level Change

Parkside Yeronga
Stantec co- EDQ

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Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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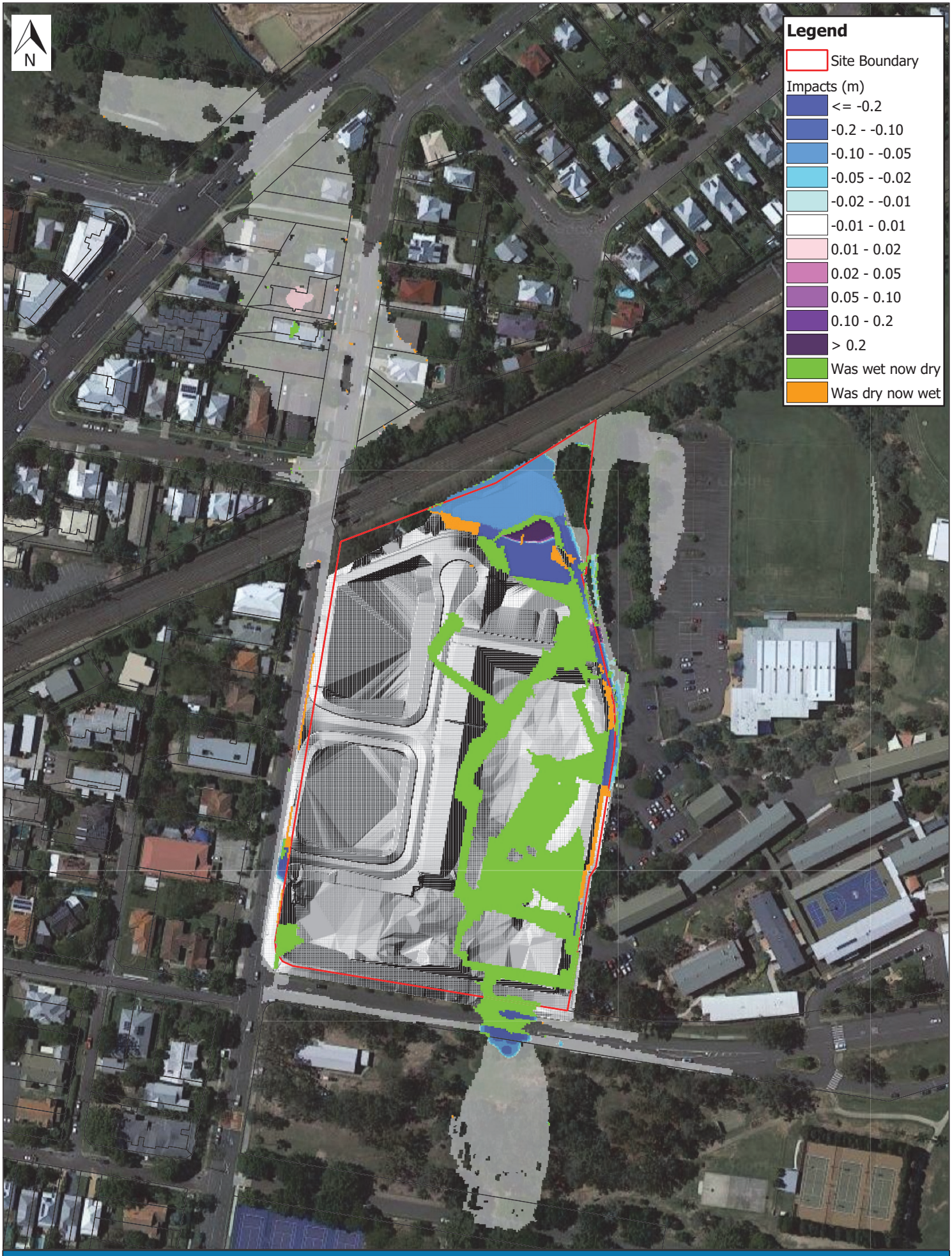

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20% AEP Flood Level Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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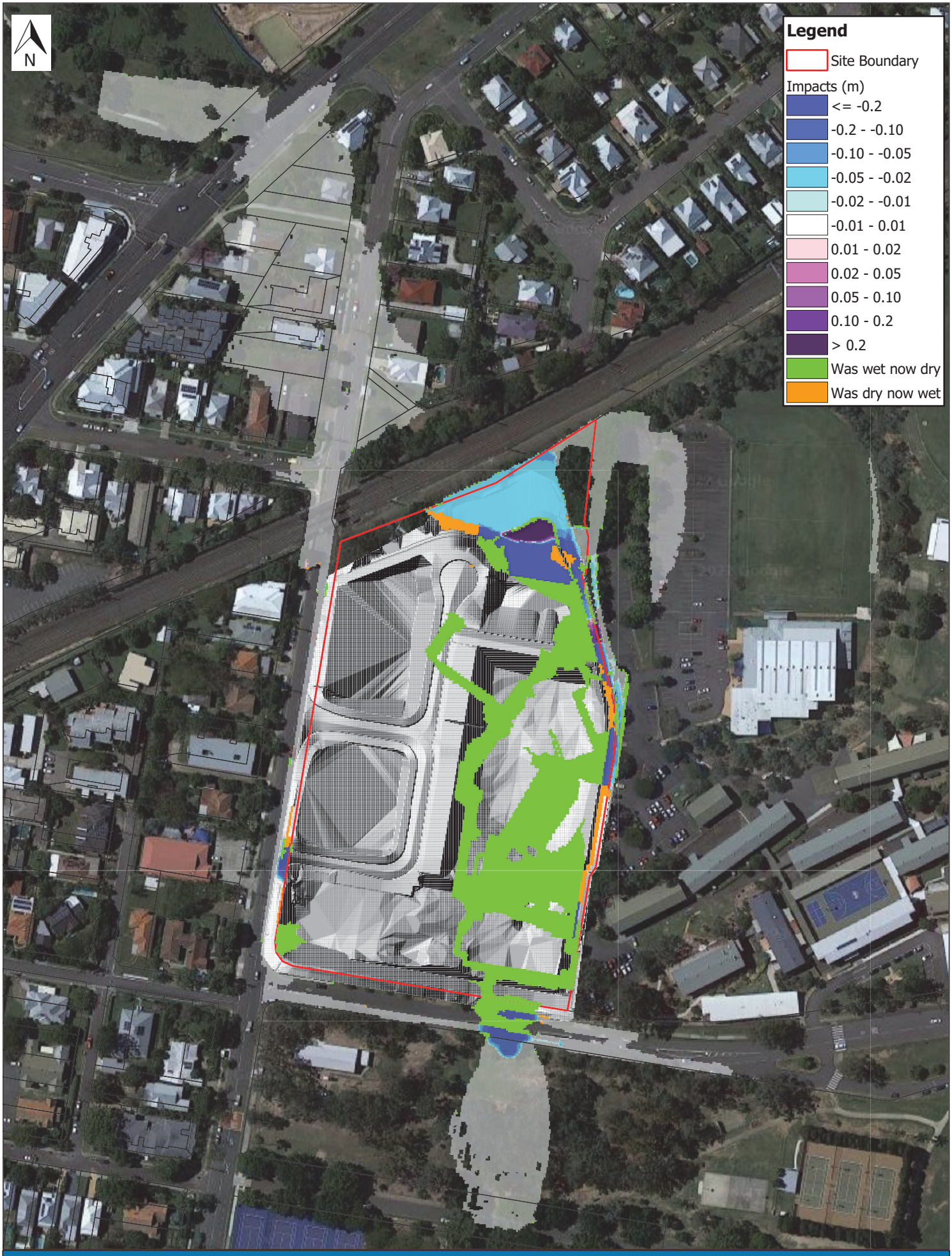

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10% AEP Flood Level Change

Parkside Yeronga
Stantec co- EDQ

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Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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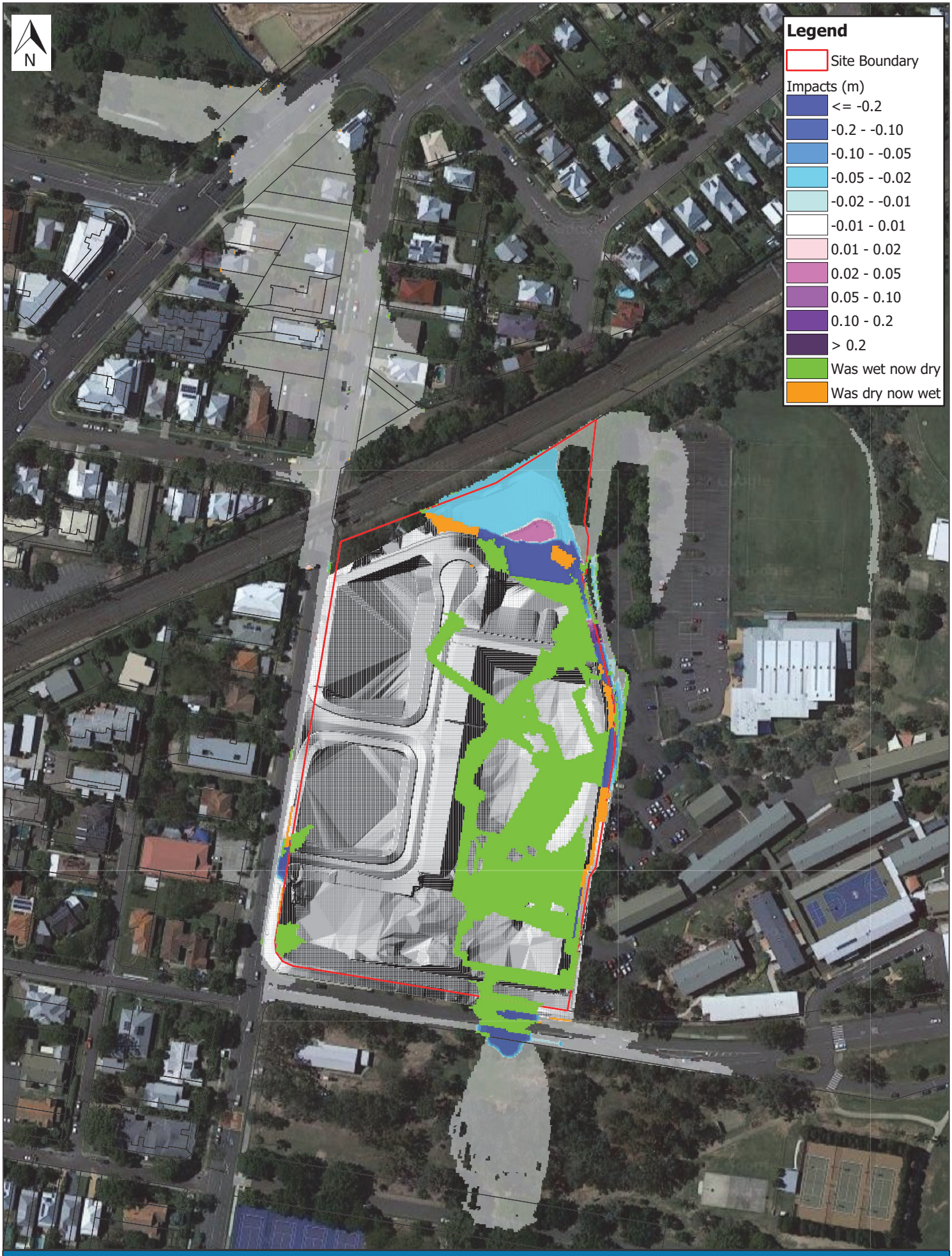

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Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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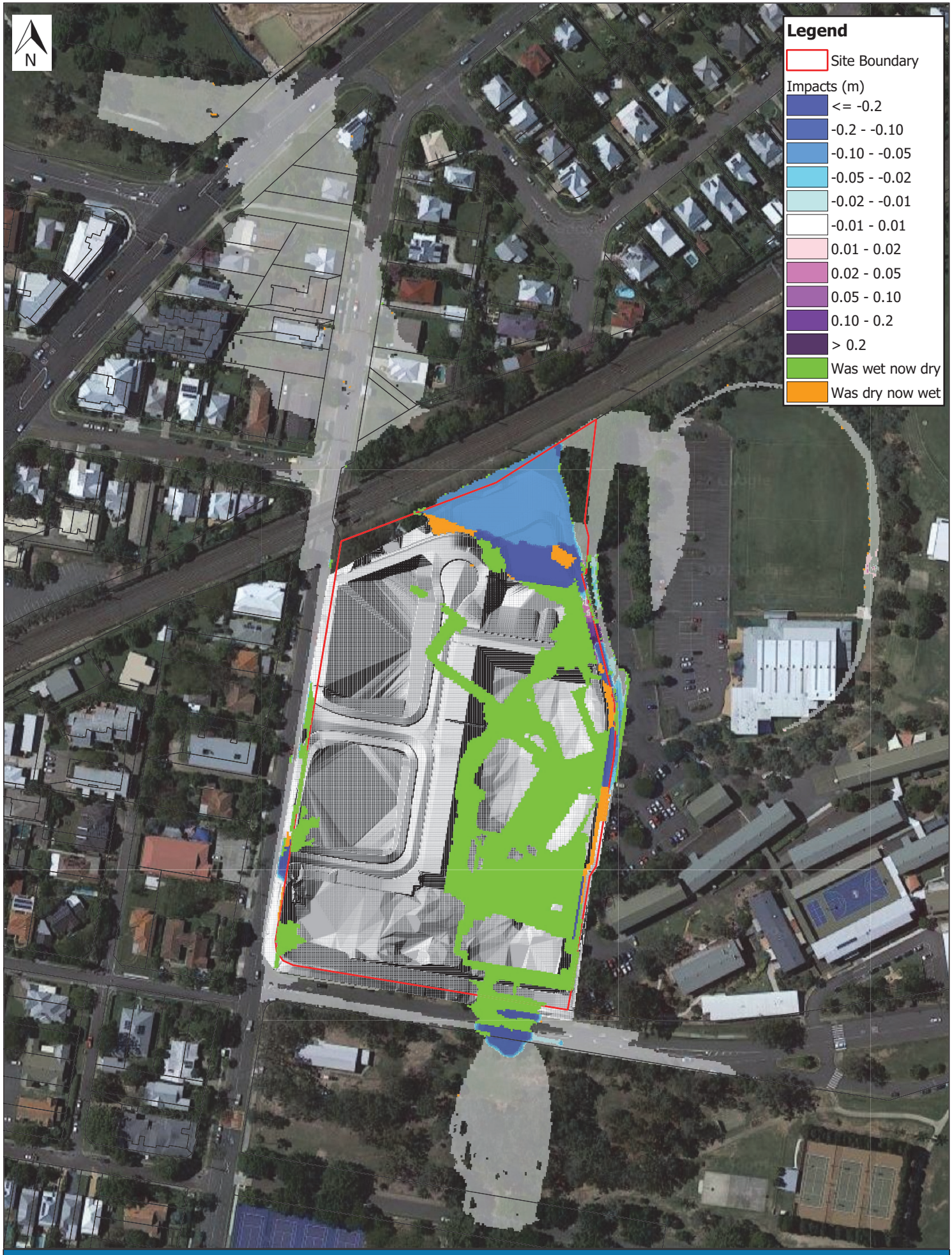

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2% AEP Flood Level Change

Parkside Yeronga

Stantec co- EDQ

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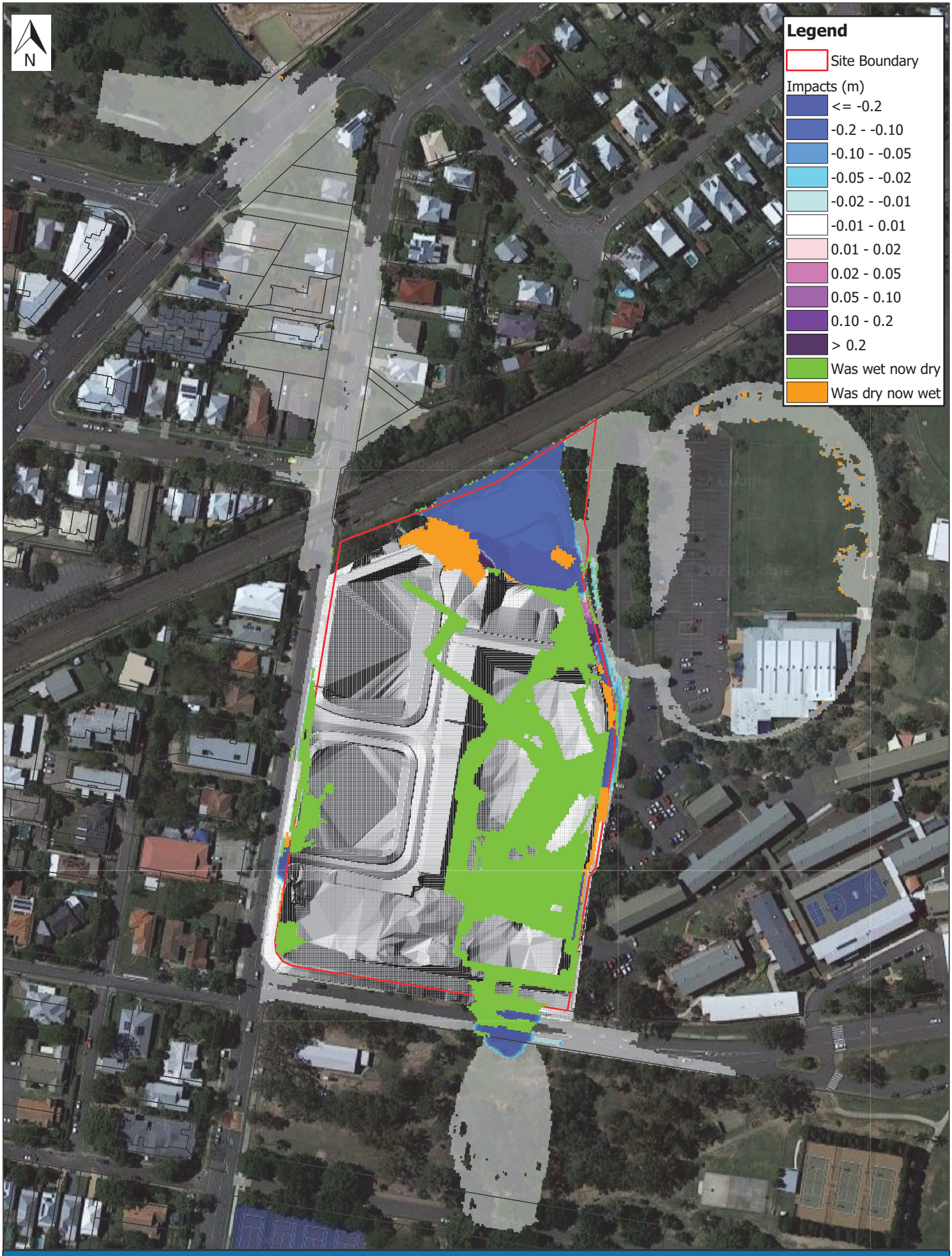

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1% AEP Flood Level Change

Parkside Yeronga
Stantec co- EDQ

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Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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63.2% AEP Velocity Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
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Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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50% AEP Velocity Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
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Projection: GDA/MGA94 Zone 56					
Imagery Source: Google Earth 2021					
Local Authority: Brisbane City Council					

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20% AEP Velocity Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
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10% AEP Velocity Change

Parkside Yeronga
Stantec co- EDQ

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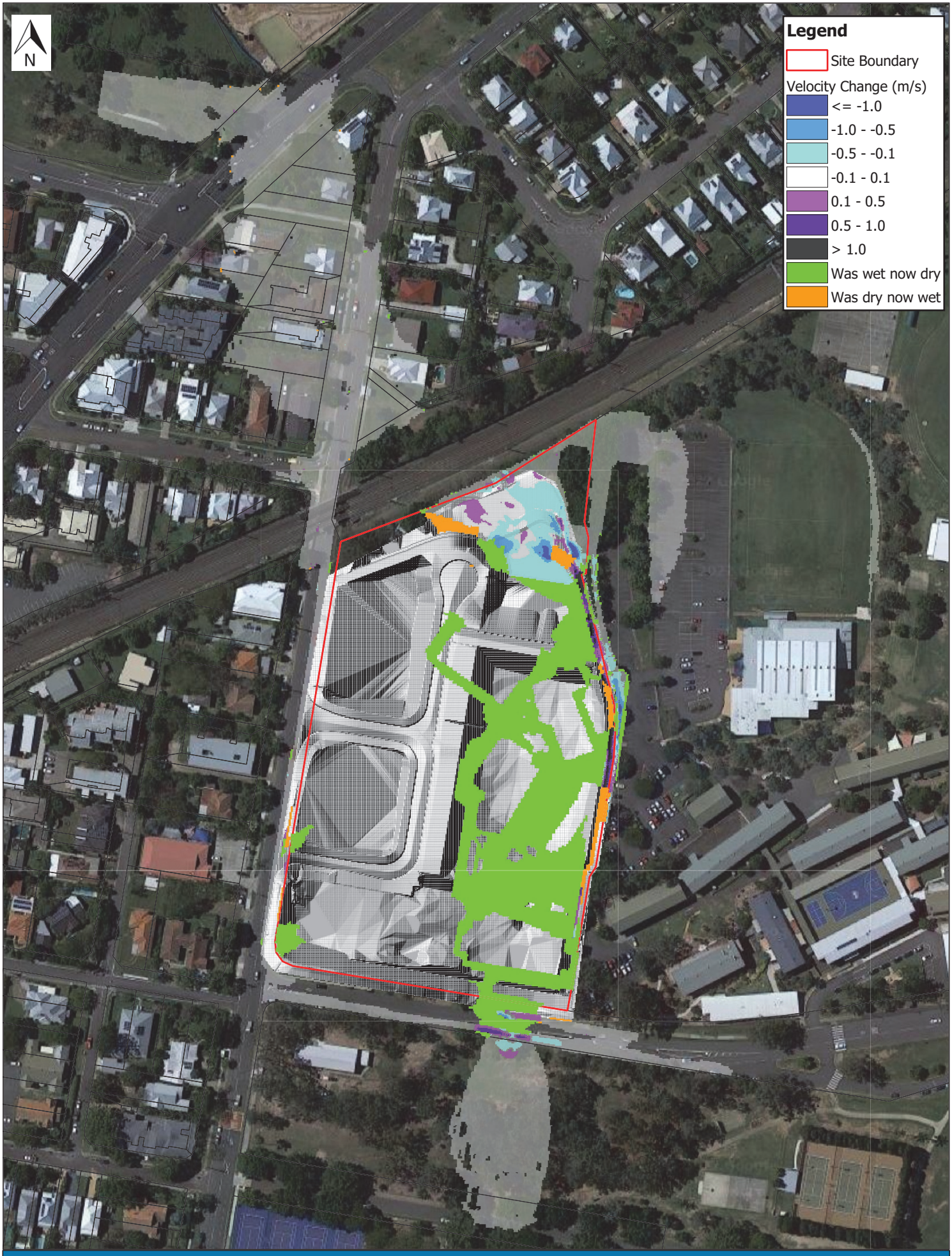

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5% AEP Velocity Change

Parkside Yeronga

Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
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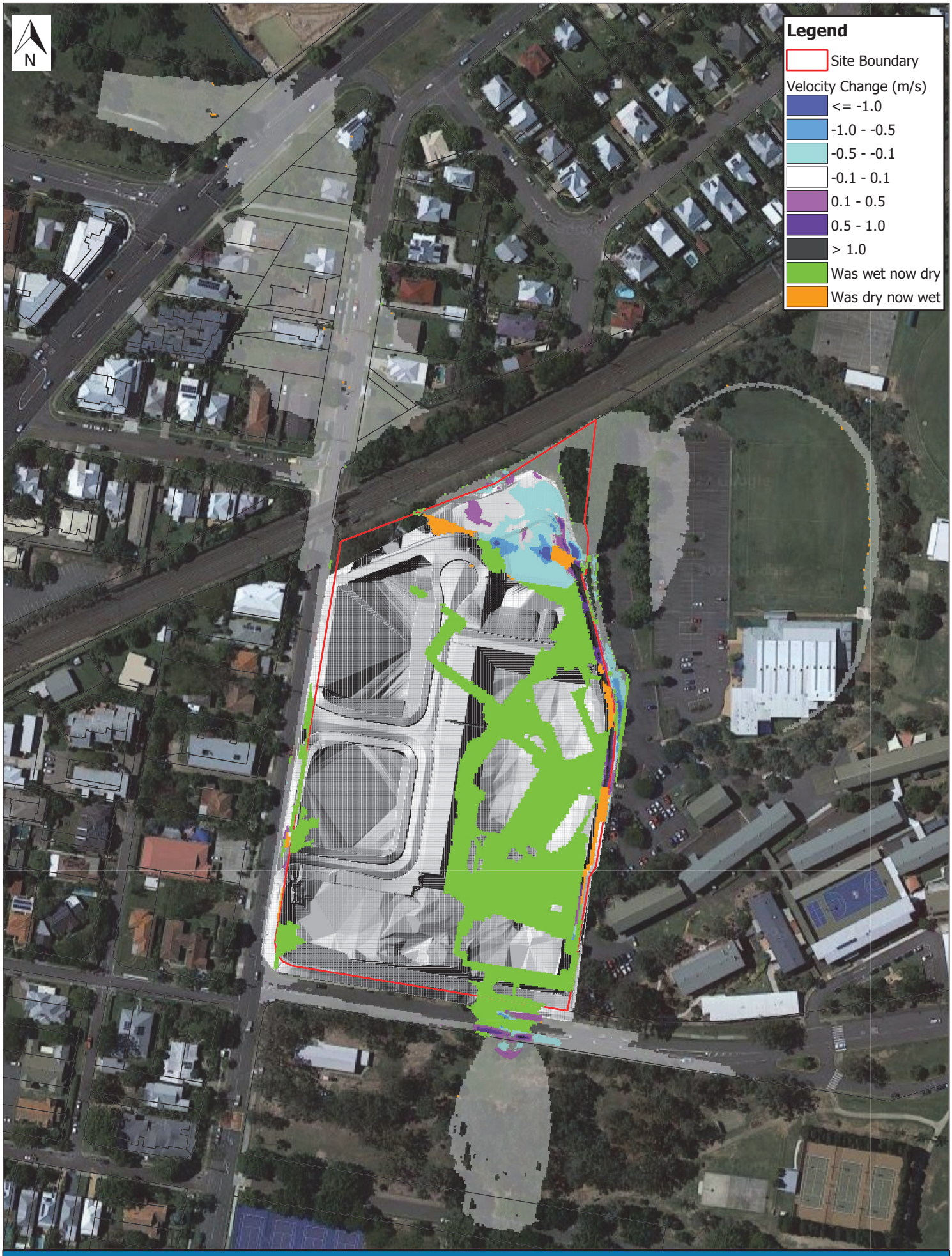

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2% AEP Velocity Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
Original Size A3	2	Final	JMW	AMD	15/06/2022
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Local Authority: Brisbane City Council					

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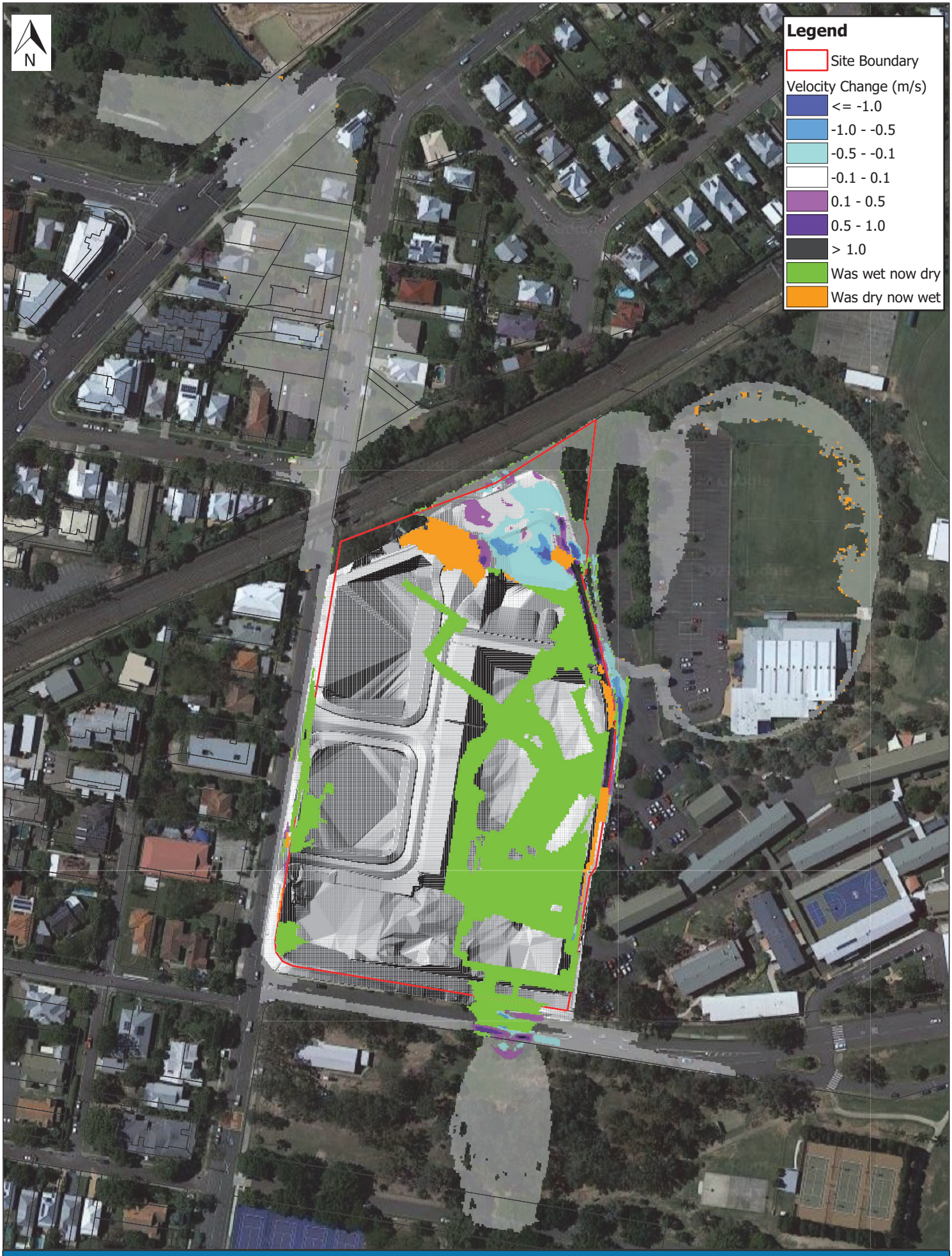

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1% AEP Velocity Change

Parkside Yeronga
Stantec co- EDQ

Details	Rev	Description	Drawn	Checked	Date
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Local Authority: Brisbane City Council					

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info@watertech.com.au

Parkside Yeronga

Site Based Stormwater Management Plan (SBSMP)

Development Application

Prepared for: Economic Development Queensland

Date: 07/07/2022

Prepared by: Anthony Raadschelders

Ref: 301048272_D

Stantec Australia Pty Ltd
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Revision

Revision	Date	Comment	Prepared By	Approved By
A	8/9/21	Draft Issue for comment	BM/ AR	AR
B	15/9/21	Issued for Approval	BM/ AR	AR
C	14/2/22	Further Issues Response	AR	AR
D	7/7/22	Flood Modelling Updates	BM	AR

Site Address: 70 Park Road, Yeronga, QLD, 4104
Real Property Description: Lot 3 on SP300888
Proposed Development: PDA Preliminary Approval for a material change of use and a PDA Development Permit for a reconfiguring a lot (1 into 11 lot subdivision, easements and road)

Client: Economic Development Queensland
Local Authority: Minister for Economic Development Queensland
Authority Reference #: DEV2021/1221
Wood & Grieve Reference: 301048272-BRI-C



Anthony Raadschelders RPEQ 19881
For and on behalf of
Stantec Australia Pty Ltd

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1. Introduction

Stantec have been commissioned by Economic Development Queensland (EDQ) to prepare this Stormwater Management Plan to accompany a development application for the proposed Parkside Yeronga Masterplan ('the masterplan'). The development application will focus on a Preliminary Approval to give effect to the masterplan to act as a framework for subsequent development applications made in respect of the individual sites within the master plan area. The application will also include a Reconfiguring a Lot (RoL) to establish the master lots for the project.

This report outlines the concept stormwater servicing strategy to support the Development Application for the proposed subdivision being lodged with EDQ. It will outline the stormwater management strategy proposed to meet the runoff quantity and quality objectives outlined in the Development Scheme for the Yeronga PDA, and the EDQ Technical Guideline No. 13.

1.1 Purpose

The purpose of this Report is to evaluate the quantity and quality of stormwater associated with the proposed development so as to demonstrate to MEDQ that an appropriate stormwater management strategy can be accommodated.

This report specifically addresses the following items for both the construction and operational phases of the development:

- An appropriate stormwater quality management strategy can be implemented that meets Water Sensitive Urban Design (WSUD) best management practices, state and local government planning and guideline requirements,
- An appropriate stormwater quantity management strategy can be implemented to ensure that the developed site's stormwater runoff meets Council requirements, and
- Maintenance of water quality treatment devices.

1.2 Revision Update

This Conceptual Site Based Stormwater Management Plan has been updated to reflect changes required by conditions of the EDQ Development Approval Ref DEV2021/1221. Specifically, Condition 10 required an update to the Flood Impact Assessment to reflect changed flood criteria. Consequently, Condition 11a, required that an updated Stormwater Quality Management plan was provided that reflected the outcomes specified in the updated Flood Impact Assessment.

We note that Revision D of this report, incorporated updates to the Stormwater Quantity Management Section (Section 4) and minor updates to Stormwater Quality (Section 5), each to align with the Flood Assessment Report prepared by Watertech on behalf of Stantec, dated 8 July 2022.

2. Existing Site Characteristics

2.1 Property Detail

Address: 70 Park Road, Yeronga

Real Property Description: Lot 3 on SP300888

For the purpose of the development application, the Parkside Yeronga site relates to all land within the Yeronga Priority Development Area. In broad terms, the site can be described as the land bounded by Villa Street, Park Street, the railway line and Yeronga State School. This is pictured in Figure 2-1 and Figure 2-2 below.

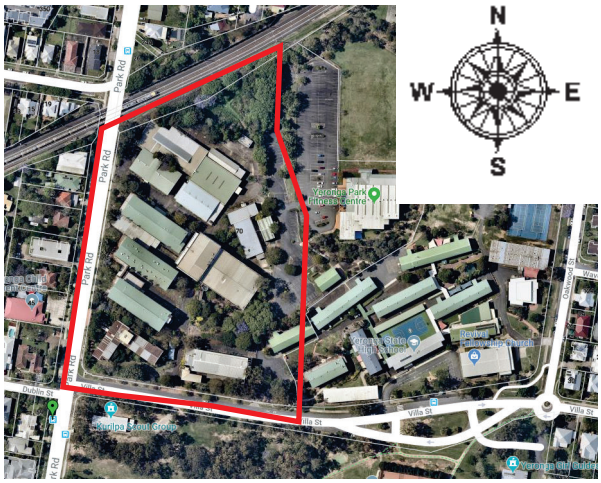


Figure 2-1: PDA Boundary (Source: DSDMIP, 2018)

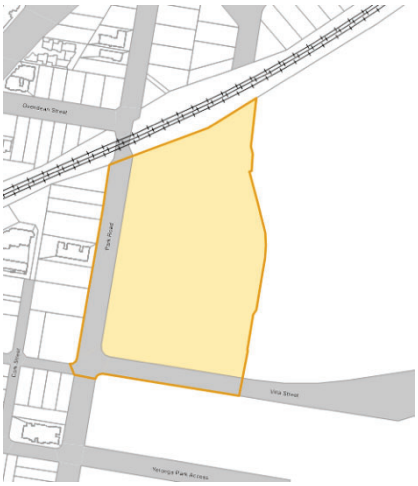


Figure 2-2: Site Location Plan (Source: Nearmap Australia 2018)

2.2 Existing Site Conditions

The site was formerly occupied by the Yeronga TAFE until it closed in 2010. All buildings on the site have been demolished and the site cleared. However, for the purposes of assessing development impacts, the site's former use should be considered as the baseline position.

2.3 Proposed Development

The proposal seeks a PDA Preliminary Approval for a material change of use and a PDA Development Permit for a reconfiguring a lot (1 into 11 lots, easements and road). The proposed Plan of Subdivision is included in Appendix 2.

The proposal seeks a PDA preliminary approval for a material change of use in accordance with a masterplan for the development of 4 precincts as follows:

1. Residential Precinct
2. Community Precinct
3. Commercial Precinct
4. Open Space Precinct

The land uses sought in each precinct are outlined within Table 2-1 below.

Residential Precinct	Community Precinct	Commercial Precinct	Open Space Precinct
Care co-located uses	Childcare centre	Childcare centre	Park
Dwelling house	Club	Community care centre	
Dual occupancy	Community care centre	Food and drink outlet	
Multiple dwelling	Community use	Health care service	
Park	Food and drink outlet	Office	
Residential care facility	Shop	Shop	
Retirement facility			

Table 2-1: Precinct land uses

The PDA Development Permit for reconfiguring a lot (1 into 11 lots, easements and road) will be undertaken in the following stages:

- **Stage 1**: 3 lot subdivision to establish lots 1, 11 easements and balance lot (lot 500).
- **Stage 2**: 8 lot subdivision of balance lot (lot 500) to establish lots 3, 4, 5, 6, 7, 8, 10, 21, 22 and easements.

There will be subsequent stages for separate applications associated with Material Change of Use applications for each of the newly created lots (not part of this application).

The proposed Masterplan in Appendix 2 has been used to develop a potential composition. This will demonstrate the proposed servicing has adequate capacity to support the proposed development.

It is noted that the Masterplan layout is illustrative of the intended development but is subject to design development and associated approvals. Therefore, depicted civil works, should be interpreted as pictorial only, and not necessarily an engineering requirement.

2.4 Topography

As shown in the combined detail feature survey completed by Wolter Consulting Group on 31/03/2021 (Appendix 1). The sites ground level ranges from a minimum of 5.5m AHD adjacent to the rail line embankment, to a maximum ground level of 22.3m AHD on Villa St. The site generally grades from the southern boundary to the northern boundary. The topography is characterised as steep or retained towards Villa St, with general grade on average of 6% towards the railway line. Batters are located adjacent to the railway line adjacent to the stormwater inlet pit.

3. Flooding/ Overland Flow Impacts

3.1 General Site Characteristics

3.1.1 Flooding

The Brisbane City Council (BCC) Interactive Mapping 2014 and the BCC FloodWise Property Report (Appendix 3) indicates that the northern section of the development site is located within the Brisbane River Flood Planning Area overlay. The northern end of the site, including the park/open space area, is located within the Brisbane River Flood Planning Area 5.

In addition, the site is impacted by overland flow which traverses through the centre of the site during major storm events and is directed to the existing Lawful Point of Discharge (LPD) at the railway line. These flows originated from the now demolished internal roads of the TAFE site. An analysis of the existing flooding and hydrology characteristics pertinent to the site, and the proposed stormwater management requirements are addressed below.

3.1.2 Waterways

Reviewing BCC Interactive Mapping 2014 identifies that the subject site does not have a defined waterway within the site, neither is the site located adjacent to a defined waterway where stormwater flow would discharge directly to. The Brisbane City Plan Interactive Mapping 2014 identifies that the closest defined waterway ends at Fairfield Road and consequently has no impact on the development site.

3.1.3 Referable Dams

A “referable dam’ is defined within the Water Supply (safety and Reliability) Act 2008 and is referred to under the State Development Assessment Provisions No.20. Essentially a dam is referable if a failure impact assessment was required for the dam, an assessment found the dam has a failure impact rating, and the assessment has been accepted by the chief executive administering the Act.

A dam is required to be failure impact assessed if after its construction, or as a result of modification works, the dam will be:

- More than 10m in height and have a storage of more than 1500ML, or
- More than 10m in height and a storage of more than 750ML and a catchment area more than 3 times its maximum surface area at full supply level.

No existing or proposed water bodies meet the above criteria; thus a failure impact assessment is not required, and therefore the SDAP No.20 is not applicable to this development.

3.2 Riverine Flooding

3.2.1 Background Data

Information retrieved from BCC Interactive Mapping 2014 and BCC Flood awareness mapping identifies that the site is affected by riverine flooding. The following information was established:

- The development is affected by the Brisbane River Flood Planning Area 5. Refer to Figure 3 below. It is noted that a earlier ROL plan (dated 07/09/2021) has been overlaid, but the findings are not impacted.
- BCC’s flood awareness mapping identifies that the site is affected by low likelihood and very low likelihood flood events. Refer to Figure 4 below.
- The FloodWise Property Report (contained within Appendix 3) for the property prepared by BCC outlines that the site is impacted by the 1% Annual Exceedance Probability (AEP) event to a flood level of 8.3m AHD.
- The FloodWise report also identifies that during the January 2011 flood event, the site was impacted to a flood level of 7.8m AHD.

- The Brisbane River Catchment Flood Study (BRCFS) (Version 803) identified a flood level of RL11.80m AHD for a 0.2% AEP (1 in 500yr ARI) event.



Figure 3: Riverine Flooding to Parkside Yeronga Overlay with ROL Plan (Source: Brisbane City Council Interactive Mapping 2014)

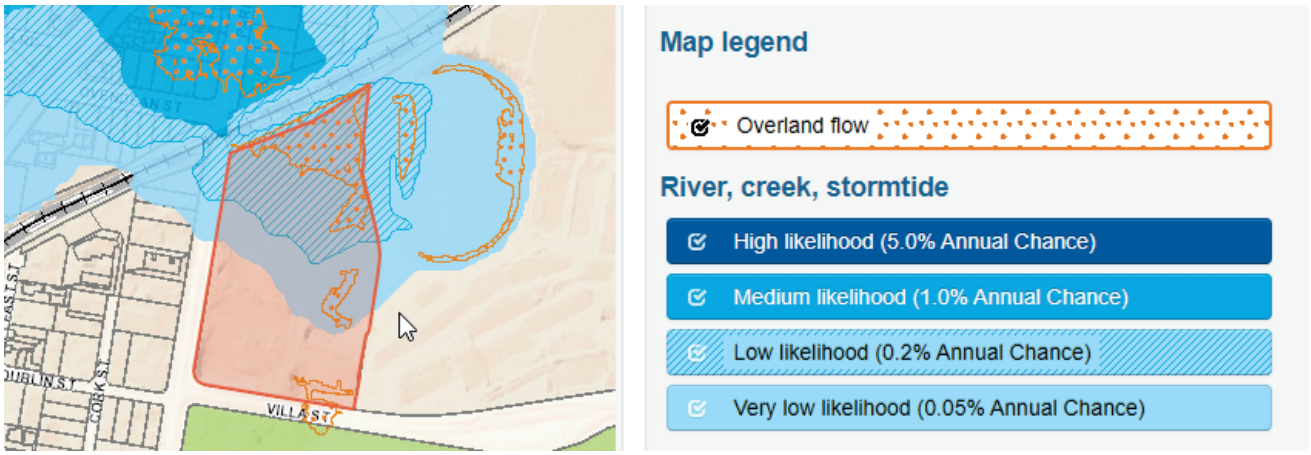


Figure 4: Riverine Flooding to Parkside Yeronga (Source: Brisbane Flood Awareness Mapping 2014)

3.2.2 Brisbane River Catchment Flood Study Use Note

In accordance with the use license with the State of Queensland as represented by the Department of Environment and Science (DES), it is noted that the flood levels associated with Riverine Flooding are *based on or contains data provided by the State of Queensland (Department of Environment and Science) 2021. In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.*

3.2.3 Riverine Flood inundation assessment

As identified in Section 3.1.1, the subject site is impacted by inundation from the Brisbane River. As the Brisbane River flood levels rise, water backs up through existing stormwater infrastructure along Hyde Park and across Fairfield Road. Eventually, this back flow of stormwater enters the site via existing stormwater infrastructure located at the lawful point of discharge (LPD) in the northern extents of the site near the railway overpass.

Flood Storage

The flood storage available on-site under inundation from the backwatering from the Brisbane River is:

- Base case: 2,830m³
- Post Development: 3,527m³

However, it should be noted that the flood storage on the site will have a negligible impact on Brisbane River Flood. Further, it appears that the Brisbane River Catchment Flood Study hasn't contemplated the available flood storage on the subject site, so it will not impact on their derived flood planning levels downstream. As such, while this has been achieved, we believe any changes will not impact on Riverine Flood inundation in the site, or external to the site.

Flood Planning Area 5

As presented in Figure 3, portions of the site are impacted by the Brisbane River Flood Planning Area (FPA) 5. BCC identifies that FPA 5 is regarded as areas where there is no recent flooding history but there is potential for flooding within very rare events. As per the BCC Flood Overlay Code, the following land uses are incompatible with FPA 5:

- Residential care facility
- Hospital
- Detention facility
- Emergency services
- Major electricity infrastructure

The Masterplan is proposing the following uses, which are considering compatible with the FPA5 overlay:

- Childcare centre
- Club
- Community care centre
- Community use
- Dwelling houses
- Food and drink outlet
- Health care service
- Multiple dwelling
- Office
- Park
- Retirement facility; and
- Shop

The Masterplan includes a proposed Residential care facility use, which is not considered compatible with the FPA5 overlay. It is noted that only the lower portion of the site is affected by the FPA5 overlay, specifically Lots 3, 4, 5, 6 and 7. Further, the FPA5 is based on the baseline site levels current when the TAFE was in operation. The FPA5 overlay is the result of the backflow from the Brisbane River Flooding in a 0.2% AEP event and is estimated to be RL 11.8m AHD based on the BRCFS. There is filling proposed within the FPA5 overlay, which will change the area expected to be impacted by the relevant very rare flood event. The Yeronga PDA Development Scheme references the BCC Flood Overlay Code, which recommends a flood risk assessment in accordance with the requirements of the BCC Flood Planning Scheme Policy to assess the appropriate risk and mitigation measures to demonstrate that vulnerable uses are not located in areas where the risk from flooding is unacceptable or intolerable and cannot be mitigated. Section 3.2.4 undertakes a high-level risk assessment for the Residential Care facility use.

3.2.4 Flood Risk Assessment – Residential Care Facility

Stantec have undertaken a high-level flood risk assessment in reference to the Residential Care Facility use that that could be applied for on Proposed Lot 7. As per the previous section, this proposed lot is impacted by FPA5 for which a Residential Care Facility use is not deemed to be compatible without an appropriate Flood Risk Assessment as per the BCC Flood Overlay Code and the BCC Flood planning scheme policy.

Stantec have made the following considerations in reference to the potential for a Residential Care Facility use on proposed Lot 7:

- The FPA5 overlay corresponds to a 0.2% AEP flood event, which is a very rare flood event, which correlates with ~RL11.8m AHD.
- Only the northern portion of Lot 7 is impacted by the FPA5 overlay
- There is filling proposed in the impacted area of Lot 7, which will lift the minimum podium level of any potential development (assumed to be higher than the proposed minimum adjacent road level of RL12.5m AHD), which is above associated estimated flood level
- The flood planning area is associated with the impacts of backflow from the Brisbane River Flooding event. Brisbane River is a long river which has long time to peak flood levels and is monitored, and has an established warning system throughout the relevant Local Government Authorities. As such, there is a low risk associated with inadequate warning times or notifications with existing notification processes in place by the relevant authorities.
- Safe access and egress from Lot 7 will be available via the shared access easement in Lot 10, which is unimpacted by flooding.

Based on the above, the following recommendations are proposed where a Residential Care Facility Use is proposed on Lot 7:

1. The Residential Care facility uses are located outside the FPA5 impacted areas of the site where possible
2. Critical infrastructure that supports the Residential Care Facility use such as transformers, main switchboards, etc, should be located above the 0.2% AEP flood level, or where in a basement below the 0.2% AEP flood level, the lowest opening or basement entry should be located above this flood level.
3. The proposed development should prepare flood emergency management plans and flood warning systems will be put in place as a part of the facilities operations plans.
4. An emergency access/ egress should be incorporated above the FPA5 overlay
5. A development specific Flood Risk Assessment should be undertaken in conjunction with the relevant development application to EDQ for the respective use.

3.3 Local/Overland Flow Flooding

3.3.1 Background data

Information retrieved from BCC Interactive Mapping 2014 and BCC Flood awareness mapping identifies that the site is also affected by overland flow. The information identified in Figure 5 and Figure 6 below (retrieved from BCC Interactive Mapping and Flood awareness mapping respectively), indicates the site experiences overland flow generated from major storm ev

ents that traverses the now demolished internal road network within the site and is discharged via existing stormwater infrastructure to the LPD.



Figure 5:Overland Flooding to Parkside Yeronga (Source: BCC Interactive Mapping 2014)

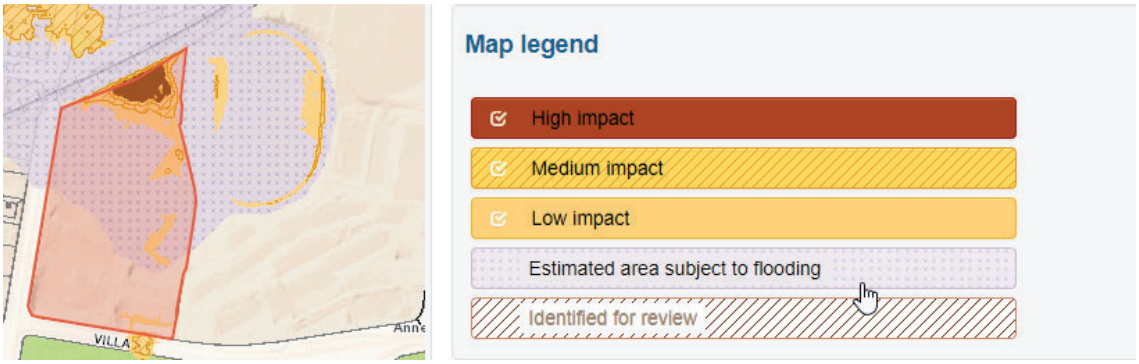


Figure 6: Overland Flooding to Parkside Yeronga (Source: BCC Flood Awareness Mapping)

3.3.2 Overland flow Flood inundation assessment

The Parkside Yeronga development is influenced by local/overland flooding from three separate catchments. As identified in drawing 520-P02 in Appendix 4, Catchment 1 represents stormwater overland flow generated from the east of the Parkside Yeronga development, Catchment 2 represents stormwater overland flow generated within the site and Catchment 3 represents stormwater overland flow generated from the south. Table 3-1, below presents a summary of the catchments currently influencing the subject site.

Catchment	Area (Ha)	Location
Catchment No.1	12.97	East of the Parkside Yeronga
Catchment No.2	3.43	Internal to the Parkside Yeronga
Catchment No.3	5.22	South of the Parkside Yeronga

Table 3-1: External Catchments Summary

Catchment 1 largely contains the Yeronga State High School and a portion of Oakwood St, Waverly St and Villa St and private dwellings on these streets to the east of the subject site. A majority of the runoff from this catchment is intercepted by the rail line, and the access road/car park along the common boundary with the Parkside Yeronga site, and is directed to the north west of the high school site. The runoff is conveyed to the field inlet located within the subject site, adjacent to the rail line. Therefore, a significant portion of this catchment has limited impact on the proposed layout. Stormwater flows that overtop the kerb along the School's carpark, and localised areas of sheet flow, enter the site over the eastern boundary.

Catchment 2 is the proportion of runoff that is contributed to by the subject site. This stormwater and its management are assessed within Section 4.

Catchment 3 is primarily the existing park facilities on the southern side of Villa St with minor contributions from the Yeronga Primary School and the area of Villa St to the south of the site. They are collected at the existing sag in Villa St located directly to the south of the subject site. There is currently an existing field inlet in the adjacent park which intercepts surface runoff within the park, and road gullies in Villa St intercept existing road flows. These captured flows are conveyed via an existing 525/600 dia. stormwater pipe that runs through the subject site. When the pipe's capacity is exceeded and/or the inlets become blocked, stormwater would surcharge and flow through the subject site. During site visual inspections, there was evidence of regular debris blockage occurring at these inlets in the park and in the sag in Villa St.

3.3.3 Proposed mitigation measures

The following mitigation measures are proposed to address the existing overland flow constraints:

- Overland flow path located along the eastern boundary of the subject site, along the common boundary with the Yeronga State High School, within the proposed development site to intercept surface flows from Catchment 1 and convey surcharge flows from Catchment 3.
- Upgrade of the existing pipe network draining the trapped sag in Villa St to a DN1050 and realigning it under the proposed overland flow path
- Upgrade inlet capacities in Villa St to achieve the minimum levels of serviceability and trafficability criteria for a minor road.
- Direct surface flows not captured by the proposed pipe network in Villa St, across Lot 10 to the eastern landscaped overland flow path.
- The internal pit and pipe network, and roadways will capture and convey stormwater associated with Catchment 2.
- Increase flood storage within Lot 4 to ensure that the flood storage removed from Villa St does not increase water surface levels against the railway line, or in upstream or downstream properties.

The overland flow path proposed along the eastern boundary is proposed to have the following characteristics:

  - 5.5m minimum width contained in a 6m drainage easement
  - 1.2m wide Concrete lined invert channel
  - Landscaped batters

The overland flow path is proposed to be a staged construction:

- Reconfiguration of a Lot (RoL) development permit will deliver:
  - Establishment of the drainage easement

- DN1050 pipe and pit system
- retaining walls (if required) along the common boundary with the Yeronga State High School
- finished surface profile of the drain section within the proposed drainage easement
- Concrete lined invert
- batters as required from the edge of the easement to the surface levels within the proposed lots

- Future developments on the respective lots (Material Change of Use) will deliver:

  - Landscaped batters, in accordance with the approved Site-based Stormwater Management Plan and Illustrative Landscaping Masterplan
  - Edge treatment adjacent to but located outside the easement boundary with the respective lots, which may (or may not) involve a wall (for example a basement wall, retaining wall or other built-form).
  - Preclusion fencing to ensure access is only available authorised individuals
  - Access provisions for maintenance

The proposed details of overland flow path are depicted in the Engineering drawings contained in Appendix 4. However, generally, the ultimate form of the overland flow path is shown in Figure 7.

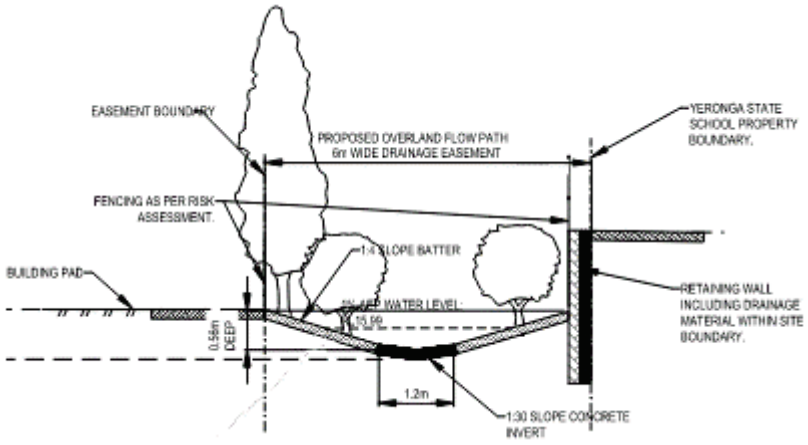


Figure 7: Overland Flow Path Section

The design has allowed for the landscaping of the batters to include trees (dia <200mm) and shrubs at max 1m spacing, some vines, low branches, difficult and slow to walk through. No grasses. This correlates with a manning's roughness of n=0.1 in accordance with the Infrastructure Design Planning Scheme Policy in the Cityplan 2014.

It is further proposed to reduce the frequency of overland flow entering the site, by upgrading and realigning the existing BCC stormwater trunk infrastructure that traverses the site to a 1050mm diameter stormwater pipe that runs along the alignment of the proposed overland flow path, with field inlets located along the stormwater pipe in the invert of the cut-off drain. Necessary upgrades to the inlet pits in Villa St and the existing field inlet located in the park adjacent to the Villa St have also been proposed to accommodate additional inlet capacity.

3.3.4 Local/ Overland flow Flood Assessment

Watertech have prepared a separate Flood Assessment Report on behalf of Stantec, which incorporates a 1d/2d Hydraulic assessment.

These proposed works described in Section 3.3.3 have been modelled in the Flood Assessment in the Post Development Case. The proposed works are shown conceptually in drawing 520-P02 in Appendix 4.

The Flood Assessment report demonstrates that:

1. Non-worsening on peak flood levels for all downstream and upstream private properties and within the rail corridor (using a modelling tolerance of +/-10mm) for the critical duration for the following storm events 63.2%, 50%, 20%, 10%, 5%, 2% and 1% AEP; and
2. Non-worsening of velocities downstream and upstream properties or within the railway corridor (using a modelling tolerance of +/-10mm) for critical durations for each storm event between the 63.2%, 50%, 20%, 10%, 5%, 2% and 1% AEP
3. The modelling must consider Lot 10 to be fully developed without Easement 5 as an overland flow
4. QUDM safety criteria and requirements for fencing and warning signage
5. Trafficability and acceptable pedestrian safety within Villa Street for 1% AEP storm event in accordance

with QUDM. The Flood Assessment has estimated a flood level of RL8.41m AHD for the 1% AEP event associated with overland flow/ local catchments.

This report is provided under separate cover and should be referred to for further details and recommendations in relation to the assessment.

3.4 Flood Risk Recommendations

In reference to the critical flood levels noted in the previous sections, the following Flood mitigation strategies are proposed to be adopted as part of the development:

1. Minimum floor levels shall be adopted in line with the BCC Flood Planning Scheme Policy, including minimum 500mm freeboard to the relevant flood levels. This will be achieved by filling. Minimum proposed development levels are as per Table 3-2 in reference to the estimated flood levels in the Watertech Flood Assessment report dated 8 July 2022.

Table 3-2: Minimum Development Levels

LOT	USE	MIN LEVEL (mAHD) (FREEBOARD)
1	All uses	N/A
3	NCC Class 1-4 building - habitable room	8.91m (500mm)
	NCC Class 1-4 building - basement entry	8.41m (0mm)
	Other NCC Classes	NOT COMPATIBLE
6	NCC Class 1-4 building - habitable room	8.91m (500mm)
	NCC Class 1-4 building - habitable room	8.91m (500mm)
	NCC Class 1-4 building - basement entry	8.41m (0mm)
	NCC Class 9a/c building - building floor level	11.8 (0mm)
	NCC Class 9 building - basement entry	8.41m (0mm)
	NCC Class 9 building – Substation (fully servicing and located within lot 6)	11.8m (0mm)*
8	Open space	8.41m (0mm)
10	All uses (min RL along Villa St frontage)	19.0m (500mm)
11	All uses	N/A
21	All uses	N/A
22	All uses	N/A
Road	Substation	9.85m (0mm) (0.5% AEP)

* Note: Where located in a basement, to ensure flood immunity, basements require a waterproof basement design to prevent flood waters entering basement to the relevant event. Subject to specific Utility Authority Approval.

2. The future developments of the respective lots as part of separate applications will need to ensure their built form provides adequate height of an impermeable barrier above the overland flow path along the western boundary. The minimum height above the top of drain at any point is recommended to be 0.3m or 0.7m above the invert unless noted otherwise. This allows for includes 500mm freeboard to the 2% AEP, and contains the severe storm assessment which assumes blockage of the pipe system in Villa St.
3. The Conceptual Earthworks shown in Appendix 4 have demonstrated the criteria noted in Section 3.3.43.2.4.
4. Public Open Space and Drainage Reserve (Bioretention Basin) will occupy the area inundated by the 1% AEP
5. Warning signage will be erected to warn the public of areas that may be impacted by a 1% AEP.
6. Residential Care Facility uses shall not occur on Lots 22, 3, 4, 5, 6 and 8.
7. Other recommendations as per the Flood Assessment dated 8 July 2022 by Watertech.

4. Stormwater Quantity

4.1 Stormwater Discharge/Lawful Point of Discharge

The lawful point of discharge (LPD) for the Parkside Yeronga development is currently located near the northern boundary of the site and given the natural typography of the site and the proposed development layout, the LPD for the proposed development will be maintain in the same position. The LPD is an existing field inlet and piped drainage (ex 1200mm dia. pipe) discharging under the rail line. This is also proposed to be retained for the purposes of discharging stormwater flow generated within the subject site.

4.2 Proposed Stormwater Network

It is proposed to construct new traditional pit and pipe infrastructure within the site to convey the stormwater runoff to the LPD in accordance with the requirements of the Queensland Urban Drainage Manual (2017). Major storm overland flow paths are expected to generally be the internal roadways but may incorporate some dedicated overland flow paths as appropriate. An indicative stormwater management strategy is included in drawing 520-P02 in Appendix 4.

In reference to the overland flow discussed in Section 3.3.3, it is further proposed to reduce the frequency of overland flow entering the site, by upgrading and realigning the existing BCC stormwater pipe that traverses the site to a nominally 1200mm stormwater pipe (it is currently an existing 525 / 600mm pipe). Necessary upgrades to the inlet pits in Villa St and the existing field inlet located in the park adjacent to the Villa St are also proposed to accommodate additional inlet capacity. These proposed upgrades and alterations have been modelled and the indicative stormwater management strategy is included in drawing 520-P02 in Appendix 4.

4.3 Stormwater Quantity

The former Yeronga TAFE site is characterised by substantially paved surfaces and buildings. An assessment based on the provided survey and available aerial imagery was undertaken to estimate the existing impervious surfaces.

Based on the indicative Masterplan included in Appendix 2, the proposed impervious surfaces were estimated, with notional allowances for hard landscaping. Further, planted areas above constructed basement slabs have been assumed to be impervious.

A comparison of the above assessment is summarised in Table 4-1.

	Impervious (m^2)	Percent Impervious
Pre-Development	23,000	74%
Indicative Masterplan	22,850	74%

Table 4-1: Estimate of impervious areas

The above assessment confirms that proposed Parkside Yeronga development will have less impervious area than its former use.

As per Section 3.3, Watertech have undertaken a Flood Assessment on behalf of Stantec to assess the impacts of the proposed development on the stormwater quantity condition of the site based on the proposed stormwater management measures. It demonstrated that the proposed development will not result in actionable nuisance associated with adverse flooding conditions external to the site. Reference should be made to the report for its full findings and recommendations.

5. Stormwater Quality

5.1 Stormwater Management Strategy – Operational Phase

It is a requirement that the proposed development manages stormwater in such a way that in the long term, the development achieves industry standard Water Quality Objectives thus reducing the impact the development has on receiving waters.

It will be demonstrated that the Water Quality Objectives (WQO's) in accordance with the Brisbane City Council City Plan 2014 can be met by implementing appropriate Stormwater Quality Improvement Devices (SQID's). The proposed system will be assessed by undertaking Pollutant Export Modelling to demonstrate the effectiveness of the treatment train in achieving the WQO's.

It is proposed to construct an end-of-line stormwater quality treatment device to accommodate stormwater quality treatment for the ultimate Masterplan. For the purposes of sizing the device, the indicative masterplan in Appendix 2 has been assumed.

Operational Phase Water Quality Objectives

The WQO's selected for the site are listed in Table 5-1. These are based on Table B in Appendix 2 of the State Planning Policy in accordance with BCC City Plan.

Table 5-1: Site Water Quality Objectives

Minimum Reductions in Mean Annual Loads from Unmitigated Development	
Indicator	**South East QLD**
Total Suspended Solids (TSS)	80%
Total Phosphorus (TP)	60%
Total Nitrogen (TN)	45%
Total Gross Pollutants >5mm (GP)	90%

It should be noted that these WQO's are long term objectives for a fully stabilised catchment with fully established water quality improvement devices throughout.

Water Quality Treatment – Proposed Bio-Retention Basin

It is proposed to provide an end-of-line bio-retention basin located within Lot 5 in the north of the site. This centralised system has been designed to accommodate the stormwater runoff from:

- internal roads
- verges
- green spine
- future development on the proposed lots in line with the Preliminary Approval

The device is designed such that it collects only treatable flows, with larger flows bypassing it to minimise maintenance activities following larger events.

As the basin benefits both public assets and private freehold lots, the basin is proposed to become a donated asset to the Local Government Authority, designed and constructed generally in accordance with the Infrastructure Design Planning Scheme Policy within the BCC City plan 2014.

The device has been designed to the Infrastructure Design PSP for BCC and shall be dedicated to BCC. It should be noted that in a 1% AEP flood event the basin will flood in order to accommodate the developments flood storage requirements.

Water Quality Treatment Train – Operational Phase

Consideration of the requirement for safety, maintenance and visual amenity has been incorporated when establishing the proposed WSUD principles and devices to be utilised within the treatment system for this development.

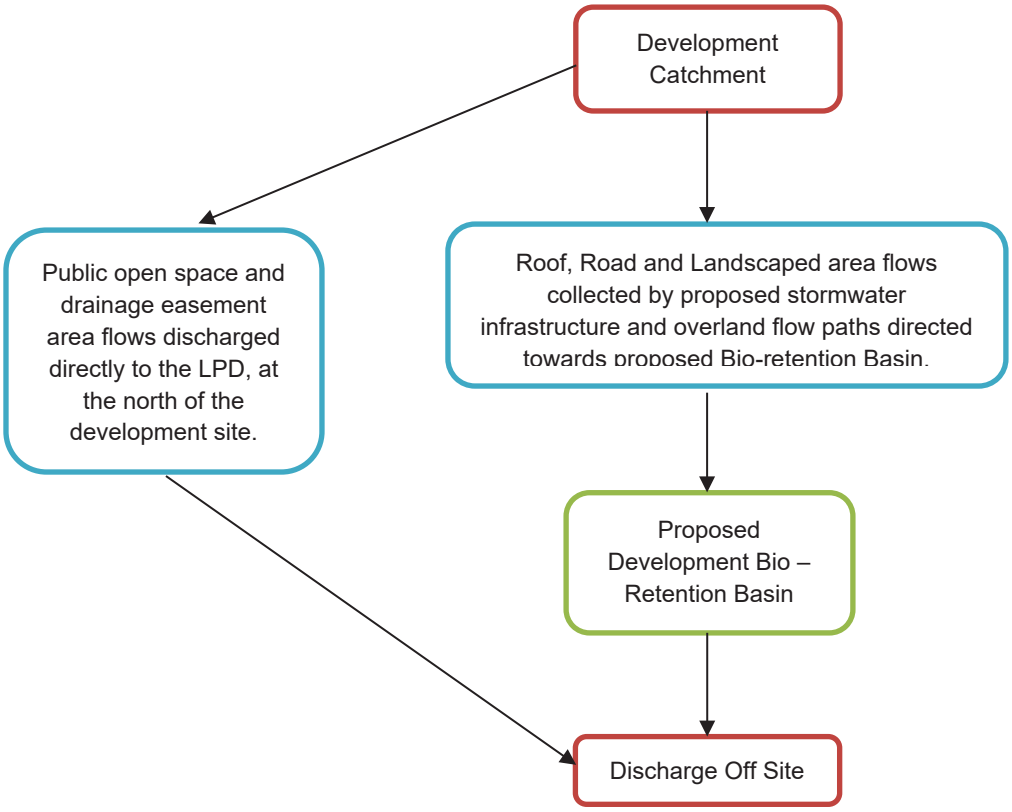


Figure 5-1: Schematic Treatment Train Proposed

5.2 Pollutant Export Modelling

To demonstrate that the proposed treatment train meets the required WQO's, pollutant export modelling has been undertaken using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) Software program Version 6.3 by eWater CRC. As such, Total Suspended Solids (TSS), Total Nitrogen (TN), Total Phosphorous (TP) and Gross Pollutants (GP) have been quantitatively modelled for pollutant exports using MUSIC.

Modelling has only been undertaken on the post-development proposal with SQID's installed to demonstrate the long-term load reductions from a fully established catchment.

The bio-retention basin is proposed to treat the stormwater flows from the subject site. The site and proposed basin have been reviewed to achieve the required treatment train efficiencies; however, it was necessary for the site to allow some site discharge to discharge directly to the LPD at the north of the site, including the public open space area located at the north of the development and the proposed 6m wide drainage easement adjacent to the eastern boundary of the site. For a detailed description of the site's catchments, refer to Table 5-3.

MUSIC Program Setup

This section explains the setup of the MUSIC model with the detailed pollutant export calculations being included in the MUSIC results in Appendix 5.

For MUSIC modelling (using MUSIC 6.3) the following parameters, in accordance with MUSIC Modelling Guidelines (2018), have been used:

Table 5-2: MUSIC Modelling Parameters

Meteorological Data	
MUSIC Link	Brisbane – Central
Rainfall Station	40214 Brisbane QLD
Period	1/1/1980 – 31/12/1989
Time Step	6 Minutes
Evaporation Data	Brisbane Monthly PET

Table 5-3: Catchment Modelling Parameters

Node Description	Area (Ha)	Percentage Impervious (%) / Area Impervious (Ha)		Land Use Rainfall and Pollutant Parameters
Sub-Catchments Directed to Basin for Treatment				
Site Development Catchment				
Lot 10 Ground	0.091	0.70	0.064	Urban Residential
Road (Pavement)	0.174	1.00	0.174	Urban Residential
Lot 10 Roof Area	0.185	1.00	0.185	Urban Residential
Lot 11 Roof Area	0.039	1.00	0.039	Commercial
Lot 1 Roof Area	0.111	1.00	0.111	Commercial
Lot 21 Roof Area	0.152	1.00	0.152	Urban Residential
Lot 7 Roof Area	0.363	1.00	0.363	Commercial
Lot 6 Roof Area	0.06	1.00	0.06	Urban Residential
Lot 3 Roof Area	0.116	1.00	0.116	Urban Residential
Lot 11 Ground	0.054	0.83	0.045	Commercial
Lot 1 Ground	0.123	0.81	0.099	Commercial
Lot 21 Ground	0.083	0.72	0.060	Urban Residential
Lot 3 Ground	0.083	0.75	0.062	Urban Residential
Lot 6 Ground	0.063	0.82	0.052	Urban Residential
Lot 7 Ground	0.404	0.81	0.326	Commercial
Lot 8 Green spine Ground	0.087	0.3	0.026	Urban Residential
Road Verge (Ground)	0.214	0.50	0.108	Urban Residential
Lot 22 Ground	0.056	0.80	0.045	Urban Residential
Lot 22 Roof Area	0.06	1.00	0.060	Urban Residential
Lot 5 Ground	0.132	0.0	0.0	Urban Residential
Sub-Catchment Directed as Bypass without treatment				
Bypass to LPD				
Drainage Easement Ground	0.122	0.25	0.030	Urban Residential
Lot 4 Ground	0.35	0.05	0.018	Urban Residential

The parameters of each Land Use category are based on MUSIC Modelling Guidelines (2010). Copies of the parameters are included Appendix 5.

5.3 Stormwater Quality Improvement Devices

Bio-retention System

Bio-retention systems are vegetated areas where stormwater is passed through densely planted filter media (loamy sand) allowing the plants to absorb the collected and stored nutrients. Bio-retention basins utilise temporary ponding above the vegetated surface to increase the volume of stored water for treatment. Bio-retention systems can take a number of forms, but all have common features including the extended detention depth above the media surface, the filter media and a low level drainage media and subsoil system. These are shown in the figure below.

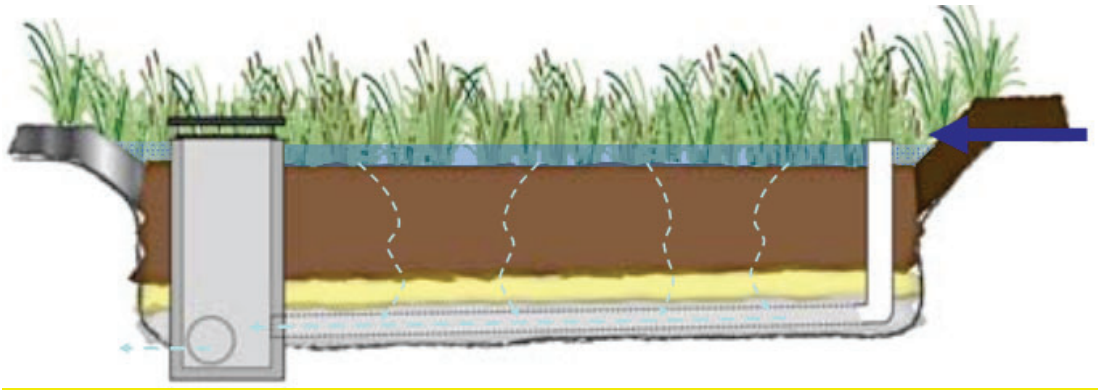


Figure 5-2: Typical Section of a generic Bio-retention system (Source: Water by Design)

For this development it is proposed to utilise a bio-retention basin to achieve the Water Quality Objectives (WQO's). The proposed basin and associated details are presented in Appendix 4 and has been modelled with the properties summarised in Table 5-4.

Table 5-4: Proposed Bio Basin Parameters

Node Description	Surface Area (m^2)	Filter Area (m^2)	Extended Detention Depth (m)	Filter Media Depth (m)	CSTR
Bioretention Basin	569	500	0.25	0.6	3

The proposed bio-retention system is comprised of three layers as outlined below:

- Filter Media – 0.6m depth, Loamy sand with Saturated Hydraulic Conductivity of 200mm/hr.
- Transitional Layer – 0.1m depth, Sand/Course sand material.
- Drainage Layer – min 0.2m depth, coarse material (e.g. fine gravel)
- Saturated Zone = 0.35m depth min

The basin is proposed to be densely vegetated in accordance with Healthy Waterways guidance. Further, the ponded depth is designed not to exceed 300mm in a 10% AEP. Therefore, no fencing is proposed so it is incorporated into the landscape.

It is noted that the basin is expected to be inundated by flooding from the Brisbane River and local flows contained in Lot 4, for only events greater than 10% AEP.

5.4 Post-development Water Quality Results.

Operational Phase

The WSUD principals proposed for stormwater treatment includes the proposed bioretention basin, to achieve the long-term Water Quality Objectives identified in Section 5.1.

The effectiveness of the treatment devices in the above section has been modelled using MUSIC with the overall treatment train efficiency results shown in Table 5-6. It has therefore been confirmed that the use of a bio-retention basin for the primary site catchments achieve the required water quality objectives.

Table 5-5: Catchment Modelling Parameters

Indicator	Total Site Reduction	Load Based Target WQOs	Target Achieved
Total Suspended Solids (TSS)	82.2%	80%	Yes
Total Phosphorus (TP)	61.2%	60%	Yes
Total Nitrogen (TN)	55.7%	45%	Yes
Total Gross Pollutants (GP)	93.9%	90%	Yes

5.5 Maintenance Tasks & Responsibilities

To ensure that the proposed stormwater quality treatment train maintains it treatment effectiveness, maintenance is imperative to be undertaken including monitoring and rectification as required. The maintenance requirements are included in Appendix 6.

The following maintenance responsibilities are proposed for the various Stormwater Quality Improvement Devices to ensure they continue to operate as planned.

Table 5-6: Summary of SQID Maintenance Responsibility

Stormwater Quality Improvement Devices	Maintains Responsibility	
	Defects Period	Ongoing
Proposed Bio-Retention Basin	Developer	Brisbane City Council
Overland Flow Path	Developer of the relevant lot	Landowner

5.6 Acid Sulphate Soils

The subject site is located within the Potential and Actual Acid Sulfate Soils (ASS) Overlay within the Brisbane City Plan 2014. Refer to Figure 5-3 for the respective overlay extents.



Figure 5-3: Potential and Actual Acid Sulfate Soils shown Brown (Source: Brisbane City Plan 2014)

Butler Partners have undertaken an Acid Sulfate Soils Assessment for the site. They concluded that soils encountered in their 26 test locations include zones that are acidic, but are considered to mainly comprise residual soils that be been derived from deep in place weathered rock. Based on their visual assessment, site geology, and the surface elevation, the soils are not considering to be ASS. Further, there was no potential for generation of additional acidity dur to oxidsation of pyrite. As such, an Acid Sulfate Soils Management Plan is not required.

It was noted that due to the presence of some acidic soils, it is recommended that any stormwater discharge leaving the site should be checked prior to discharge to ensure the pH is within the range of 6.5pH to 8.5pH units, or treated to achieve this range prior to discharge.

5.7 Erosion and Sediment Control (ESC) – Construction

Stantec have undertaken an Erosion Hazard Assessment utilised the Brisbane City Council form. The proposed works for Stage 2 has been identified as a High Erosion Hazard Risk.

Therefore, an Erosion and Sediment Control programme will be developed in accordance with International Erosion Control Association Australiasia (IECA) guidelines and EDQ PDA Guideline 13. The design shall be prepared by a suitably qualified consultant, and shall address in particular:

- Upstream catchment conveyance from the existing Regional Park, Villa St and Yeronga State School
- Large areas of disturbance
- Protection of the rail corridor

6. Conclusion

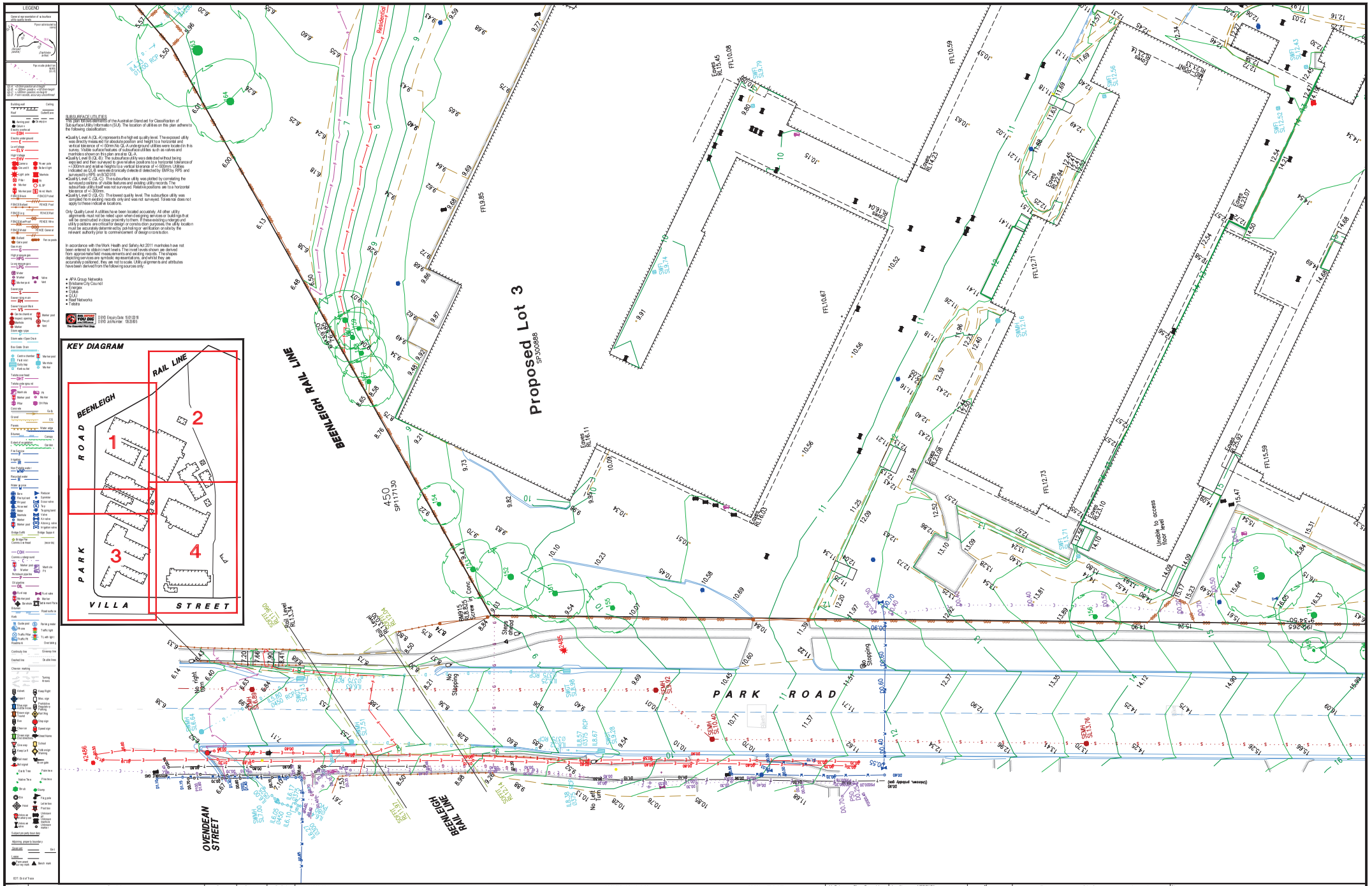
This Site Based Stormwater Management Plan has been prepared for the proposed Parkside Yeronga development on the property situated at 70 Park Rd, Yeronga.

This report has confirmed that the Stormwater Water Quality Objectives (WQO's) will be met by the treatment train, incorporating the proposed Bio-retention system.

The report has also demonstrated that the proposed development can implement an appropriate stormwater management strategy for both internal flows and the effects of overland flow flood inundation from external catchments. It is anticipated that stormwater flow arriving at the LPD and rail line will not cause an actionable nuisance as part of the proposed development with the proposed stormwater management measures outlined in this report.

We therefore recommend that EDQ support the Compliance Assessment against Condition 11a.

APPENDIX 1 – Existing Detailed Site Survey



SUBSURFACE UTILITIES

This plan has been prepared in accordance with the Australian Standard for Classification of Subsurface Utility Information (SUI). The location of utilities on this plan adhere to the following classification:

- Quality Level A (QL-A) represents the highest quality level. The exposed utility was directly measured for absolute position and height to a horizontal and vertical tolerance of +/-50mm.No QL-A underground utilities were located in this survey. Visible surface features of underground utilities such as valves and covers were surveyed to obtain their position.
- Quality Level B (QL-B): The subsurface utility was detected without being exposed and then surveyed to given relative positions to a horizontal tolerance of +/-300mm and relative heights to a vertical tolerance of +/-300mm. Utilities indicated as QL-B were electronically detected/ detected by EMR by RPS and surveyed by RPS on 8/3/2018.
- Quality Level C (QL-C): The subsurface utility was plotted by correlating the surveyed positions of visible features and existing utility records. The subsurface utility itself was not surveyed. Relative positions are to a horizontal tolerance of +/-300mm.
- Quality Level D (QL-D): The lowest quality level. The subsurface utility was compiled from existing records only and was not surveyed. Tolerance does not apply to these indicative locations.

Only Quality Level A utilities have been located accurately. All other utility alignments must not be relied upon when designing services or buildings that will be constructed in close proximity to them. If these existing underground utility positions are critical for design or construction purposes, the utility location must be accurately determined by potholing or verification on site by the relevant authority prior to commencement of design or construction.

In accordance with the Work Health and Safety Act 2011 manholes have not been entered to obtain invert levels. The invert levels shown are derived from approximate field measurements and existing records. The shapes depicting services are symbolic representations, and while they are accurately positioned, they are not to scale. Utility alignments and attributes have been derived from the following sources only:

- APA Group Networks
- Brisbane City Council
- Energex
- Optus
- QUU
- Roof Networks
- Telstra

DIAL BEFORE YOU DIG 1100 The Smarter First Step.
DBYD Enquiry Date: 15/01/2018
DBYD Job Number: 1353845

Amendment	Description	Date	Surveyor	Drafted
A	First Issue	26/03/2018	SD&JL	BJS

PURPOSE OF PLAN

The plan represents a ground survey of the site to enable architectural and engineering design.

As the area in detail 2 on RP142343 is to be demolished, only minimal detail has been located, however the contours and Triangulated Irregular Network are accurate. Items such as footpaths, stairs, seats and so forth have not been located. Outside the property on the surrounding streets and verges, comprehensive detail has been located.

Only the connections of subsurface utilities entering the site have been located. Minor subsurface utilities inside the site have not been traced.

For reason of clarity, certain information is not shown on this plan. Please refer to the accompanying digital data for all survey information and attributes.

CONTOURS

The contours shown represent the state as it was at the time of survey. This is not necessarily the "natural surface" or "ground level" as defined by some councils and thus cannot be used to calculate compliance with some council's building height limits.

Minor Contour Interval: 0.5m

VEGETATION

Only trees greater than or equal to 150mm breast height diameter have been located. Tree heights are approximate only. The species of trees shown are layman's estimates and were not determined by experts.

PROPERTY BOUNDARIES

The property boundaries and dimensions shown on this plan are plotted from original title records (SP300888). Not registered at the date of survey). Accurate boundary locations can only be determined by completing a cadastral survey as defined by the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003.

The property boundaries and dimensions shown on this plan must not be relied upon when designing services, buildings or other structures that will be constructed in close proximity to them. Designs of services, buildings or structures that require critical boundary offsets will require accurate boundary locations determined by completing a cadastral survey as defined by the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003.

Boundary corners were not marked at the time of survey.

COORDINATE SYSTEM

The coordinate system for this digital data is a plane system with a scale factor of 1.0.

To transform to MGA94 Zone 56, scale by 1.000401831483362 about PM23976 (501976917, 6956280.184).

FLOOD DATA

Flood information from BCC Floodwise Report 2203/2016

Residential Flood Level: RL7.8 — F

January 2011 Flood: RL 7.8

Defined Flood Level: RL 6.7 — F

Hz Datum:	Plane (See note)	Locality:	YERONGA
Hz Origin:	PM13297	Local Authority:	Brisbane City Council
Vt Datum:	AHD	Lat Long:	27°31'38.25" E153°01'17.29"
Vt Origin:	PM23976	DWG:	13924DIET
Origin RL:	21.413m	12D:	13924MASTER

SCALE IN METERS AT ORIGINAL REDUCTION RATIO

PAGE SIZE: A1

SCALE: 1:200

NORTH

CLIENT: Department of Infrastructure, Local Government and Planning

RPS Australia a Asia Pacific
743 Ann Street
Fortitude Valley
QLD 4006
PO Box 1059
Fortitude Valley
QLD 4006
t (07) 3237 8899
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PROJECT: YERONGA TAFE

Contour and Utility Investigation Survey, Yeerongа TAFE
70 Park Road, Yeronga
(Part of lot 2 on SP142343)

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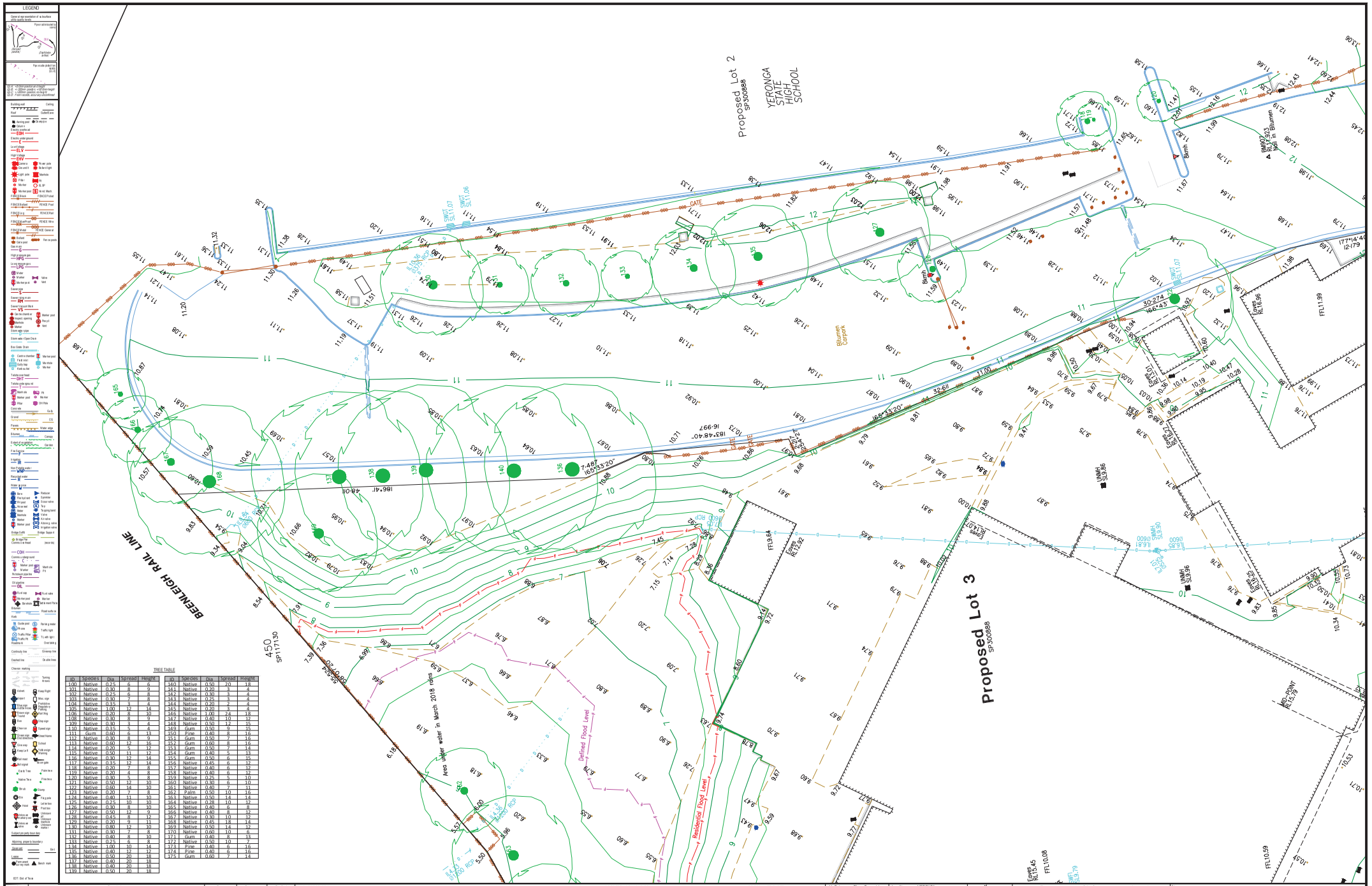
SHEET: 1 of 4 | PR139204 | 1 | A



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102	Native	0.25	6	8
103	Native	0.30	7	8
104	Native	0.35	3	4
105	Native	1.00	12	14
106	Native	0.20	8	10
108	Native	0.30	8	9
109	Native	0.30	3	4
110	Native	0.35	5	6
111	Gum	0.60	6	13
112	Native	0.30	8	9
113	Native	0.60	12	16
114	Native	0.20	5	6
115	Native	0.50	11	12
116	Native	0.30	12	14
117	Native	0.35	12	14
118	Native	0.20	7	8
119	Native	0.20	6	8
120	Native	0.30	5	8
121	Native	0.50	12	10
122	Native	0.60	14	10
123	Native	0.20	7	8
124	Native	0.40	11	10
125	Native	0.35	10	10
126	Native	0.50	8	10
127	Native	0.50	12	9
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131	Native	0.30	7	8
132	Native	0.40	8	10
133	Native	0.25	6	8
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135	Native	0.40	12	12
136	Native	0.50	20	18
137	Native	0.40	20	18
138	Native	0.60	20	18
139	Native	0.50	20	18

ID	Species	Dia	Spread	Height
140	Native	0.50	20	18
141	Native	0.20	3	4
142	Native	0.30	3	4
143	Native	0.25	3	4
144	Native	0.20	3	4
145	Native	0.20	3	4
146	Native	1.00	24	18
147	Native	0.60	10	12
148	Native	0.50	12	15
149	Gum	0.50	9	15
150	Pine	0.60	8	16
151	Gum	0.50	7	16
152	Gum	0.60	8	16
153	Gum	0.50	7	14
154	Gum	0.40	5	13
155	Gum	0.50	6	15
156	Native	0.45	6	12
157	Native	0.60	6	12
158	Native	0.60	6	12
159	Native	0.25	5	10
160	Native	0.30	6	10
161	Native	0.60	7	11
162	Palm	0.50	10	16
163	Native	0.50	14	14
164	Native	0.28	10	12
165	Native	0.40	6	8
166	Native	0.60	8	12
167	Native	0.30	10	12
168	Native	0.45	18	14
169	Native	0.50	14	12
170	Native	0.60	10	6
171	Gum	0.40	8	13
172	Native	0.50	10	7
173	Pine	0.40	6	16
174	Pine	0.40	6	16
175	Gum	0.60	7	14

Amendment	Description	Date	Surveyor	Drafted
A	First Issue	26/03/2018	SD&JL	BJS

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Boundary corners were not marked at the time of survey.

COORDINATE SYSTEM
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To transform to MGA94: Zone 56, scale by 1.000401831403362 about PM120976 (501797.6917, 6966280.184).

FLOOD DATA
Flood information on from BCC Floodwise Report 2203/2016
Residential Flood Level: RL7.8 — F
January 2011 Flood: RL 7.8
Defined Flood Level: RL 6.7 — F

Hz Datum:	Plane (See note)	Locality:	YERONGA
Hz Origin:	PM132397	Local Authority:	Brisbane City Council
Vt Datum:	AHD	Lat Long:	027°30'38.25" E 153°01'17.29"
Vt Origin:	PM20976	DWG:	13924DET
Origin RL:	21.413m	12D:	13924MASTER

SCALE IN METERS AT ORIGINAL REDUCTION RATIO

PAGE SIZE: A1
SCALE: 1:200

Department of Infrastructure, Local Government and Planning

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PO Box 1559, Fortitude Valley QLD 4006
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www.rpsgroup.com.au

PROJECT: YERONGA TAFE

Contour and Utility Investigation Survey, Yeerongpilly TAFE
70 Park Road, Yeronga
(Part of lot 2 on SP142343)

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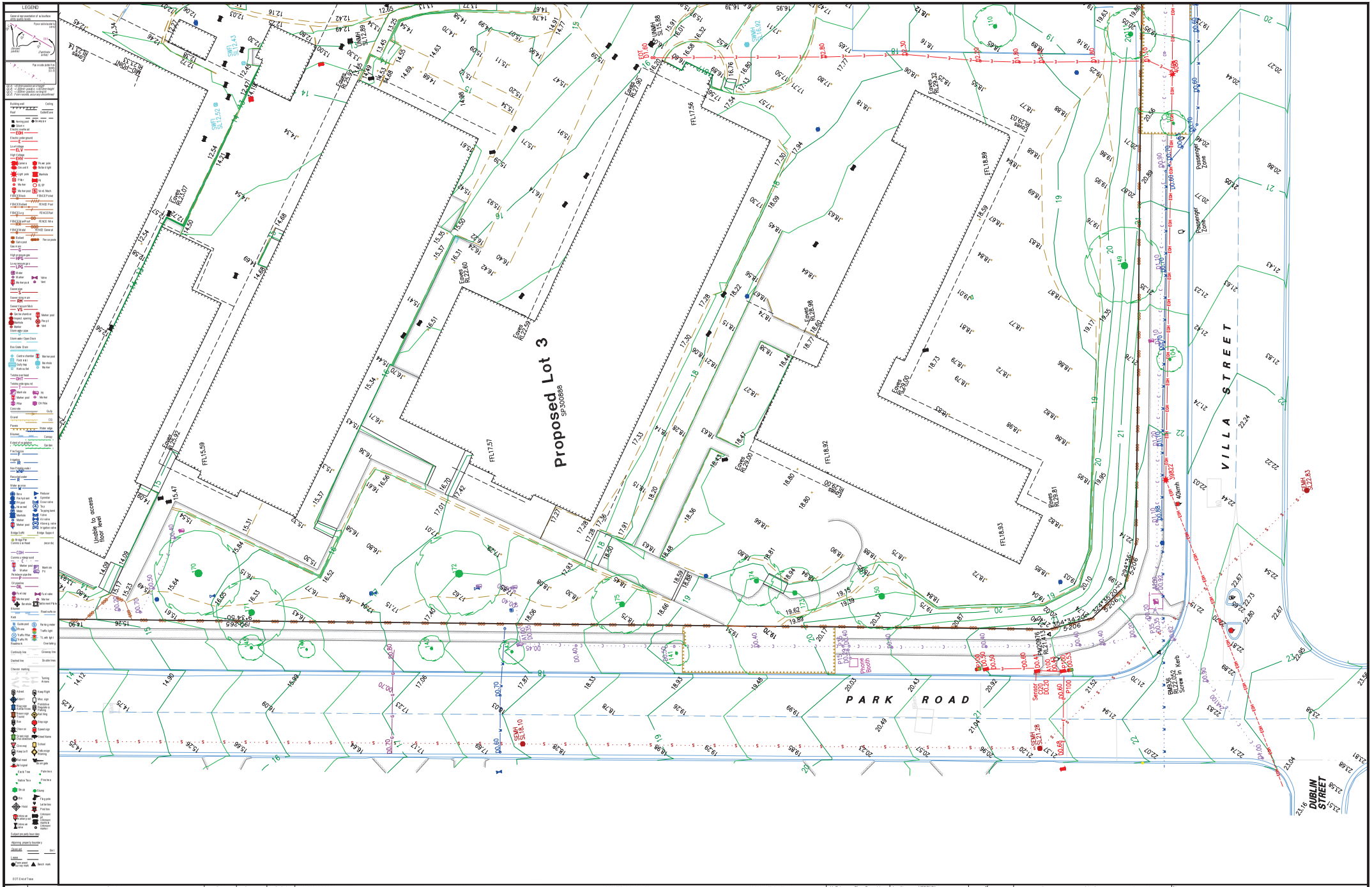
SHEET: 2 of 4 | PR139204 | 1 | A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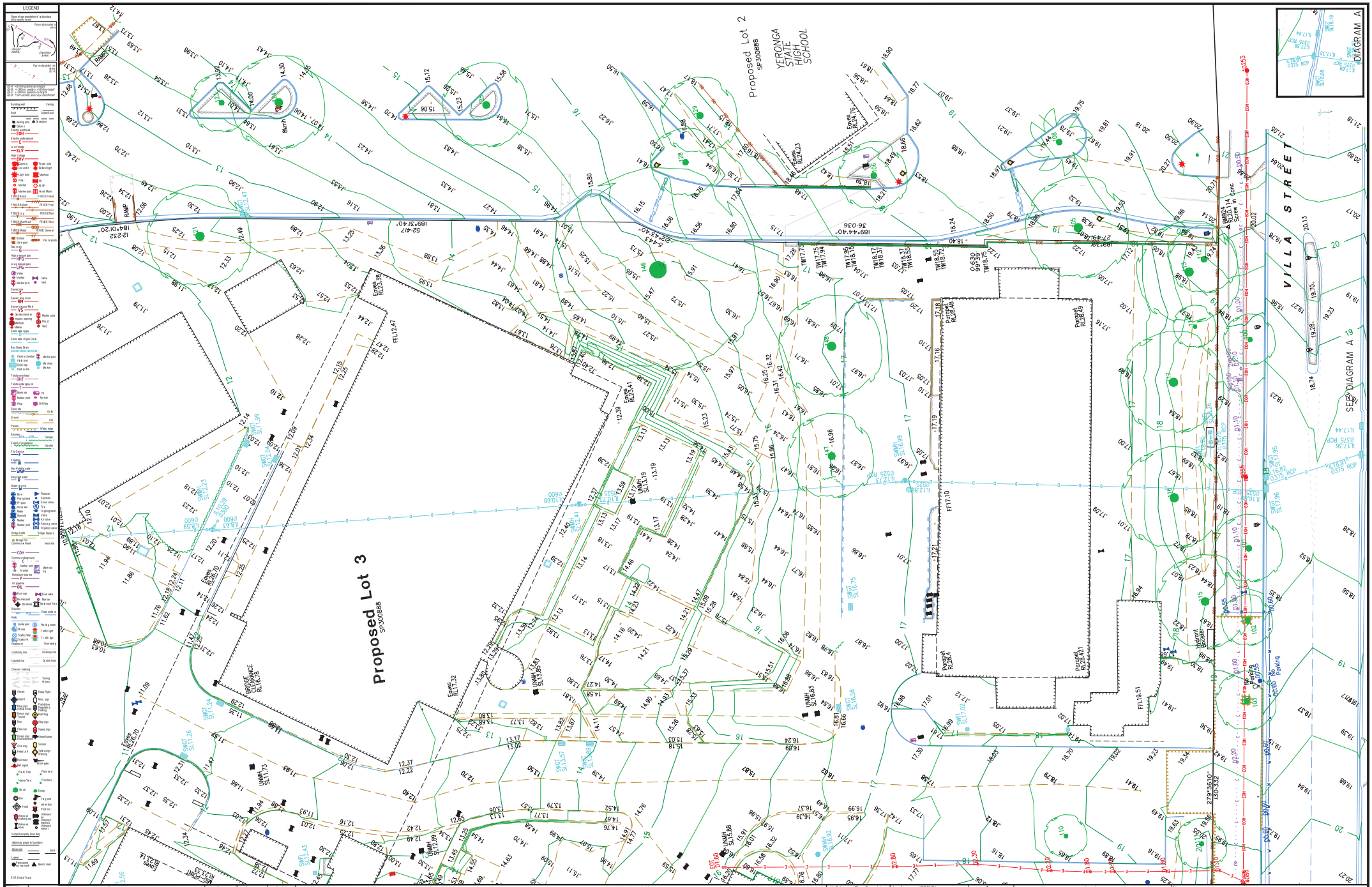
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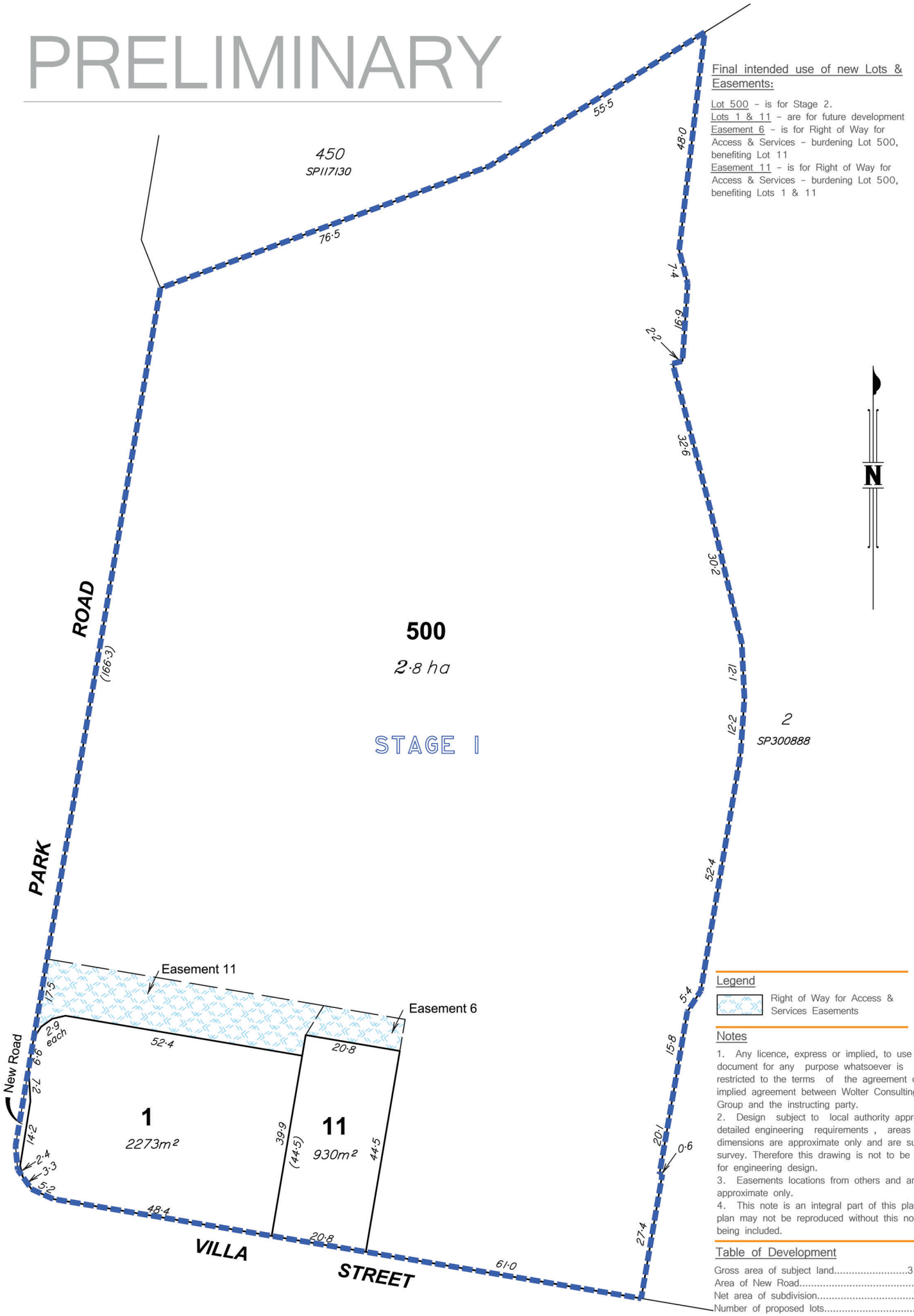
APPENDIX 2 – Proposed Development Layout

PRELIMINARY



Final intended use of new Lots & Easements:

Lot 500 - is for Stage 2.
Lots 1 & 11 - are for future development
Easement 6 - is for Right of Way for Access & Services - burdening Lot 500, benefiting Lot 11
Easement 11 - is for Right of Way for Access & Services - burdening Lots 1 & 11

Legend

Right of Way for Access & Services Easements

Notes

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

Table of Development

Gross area of subject land	3.123 ha
Area of New Road	28 m²
Net area of subdivision	3.12 ha
Number of proposed lots	3
Number of existing lots	1

WOLTER consulting group
Planning Urban Design Landscape Environment Surveying
Brisbane: Level 2, 1 Breakfast Ck Road, Newstead, QLD 4006 Phone: (07) 3666 5200

Scale 1:750 @ A3
Lengths are in Metres.
10 0 10 20 30

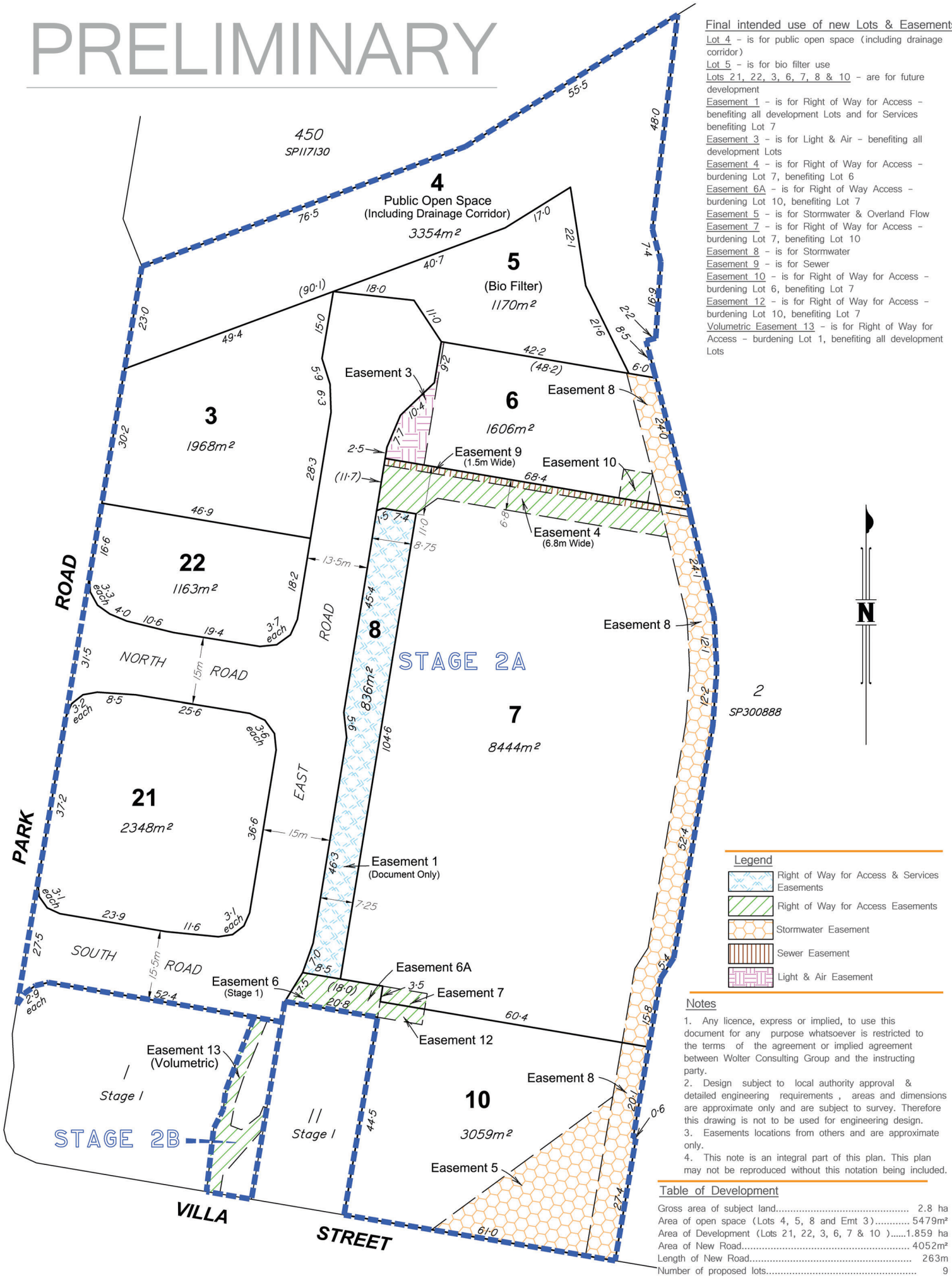
Plan of Reconfiguration - Stage 1

70 Park Road, Yeronga Tafe Site

Description Lot 3 on SP300888
Local Authority Brisbane City

DRAWING NO. 18-0765P-02
VERSION S
DATE DRAWN 22-06-2022
SHEET NO. 1 of 2

PRELIMINARY



Final intended use of new Lots & Easements:

Lot 4 – is for public open space (including drainage corridor)
Lot 5 – is for bio filter use
Lots 21, 22, 3, 6, 7, 8 & 10 – are for future development
Easement 1 – is for Right of Way for Access – benefiting all development Lots and for Services benefiting Lot 7
Easement 3 – is for Light & Air – benefiting all development Lots
Easement 4 – is for Right of Way for Access – burdening Lot 7, benefiting Lot 6
Easement 6A – is for Right of Way Access – burdening Lot 10, benefiting Lot 7
Easement 5 – is for Stormwater & Overland Flow
Easement 7 – is for Right of Way for Access – burdening Lot 7, benefiting Lot 10
Easement 8 – is for Stormwater
Easement 9 – is for Sewer
Easement 10 – is for Right of Way for Access – burdening Lot 6, benefiting Lot 7
Easement 12 – is for Right of Way for Access – burdening Lot 10, benefiting Lot 7
Volumetric Easement 13 – is for Right of Way for Access – burdening Lot 1, benefiting all development Lots

Legend

- Right of Way for Access & Services Easements
- Right of Way for Access Easements
- Stormwater Easement
- Sewer Easement
- Light & Air Easement

Notes

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3. Easements locations from others and are approximate only.
4. This note is an integral part of this plan. This plan may not be reproduced without this notation being included.

Table of Development

Gross area of subject land	2.8 ha
Area of open space (Lots 4, 5, 8 and Emt 3)	5479m²
Area of Development (Lots 21, 22, 3, 6, 7 & 10)	1.859 ha
Area of New Road	4052m²
Length of New Road	263m
Number of proposed lots	9
Number of existing lots	1

WOLTER consulting group
Planning Urban Design Landscape Environment Surveying
Brisbane: Level 2, 1 Breakfast Ck Road, Newstead, QLD 4006 Phone: (07) 3666 5200

Scale 1:750 @ A3
Lengths are in Metres.
10 0 10 20 30

Plan of Reconfiguration – Stages 2A & 2B

70 Park Road, Yeronga Tafe Site

Description: Part of Lot 3 on SP300888
Local Authority: Brisbane City

DRAWING NO. 18-0765P-02
VERSION S
DATE DRAWN 22-06-2022
SHEET NO. 2 of 2

APPENDIX 3 – Authority Flood Report

Brisbane City Council

FloodWise Property Report

Report Reference
1630896727760
06/09/2021 12:52:07

Dedicated to a better Brisbane

THIS REPORT IS FOR BUILDING AND DEVELOPMENT PURPOSES ONLY

The FloodWise Property Report provides property or lot-based flood information for building and development requirements. This report provides information on estimated flood levels, habitable floor level requirements and more technical information on the four sources of flooding: river, creek / waterway, storm tide and overland flow. Refer to the Useful Definitions section for a glossary of terms.

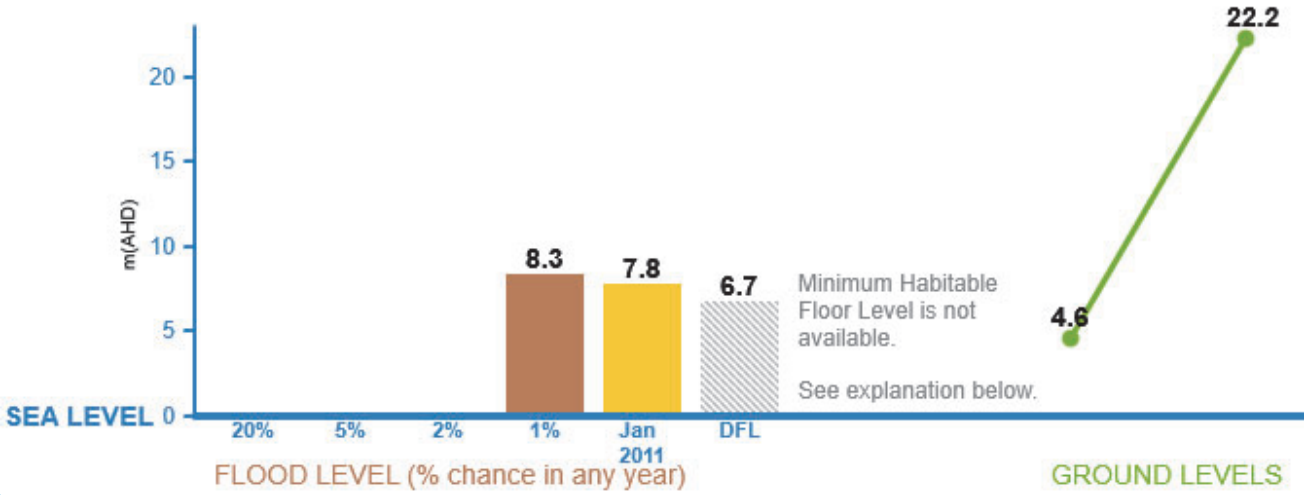
To find out more about how the contents of this report may affect building or development on this property, please visit www.brisbane.qld.gov.au/planning-building.For more general information about understanding your flood risk and how to prepare your property, family or business for potential flooding visit www.brisbane.qld.gov.au/beprepared

THIS IS A REPORT FOR:

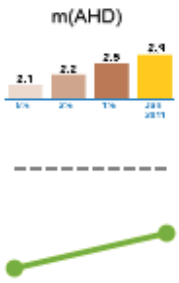
Rateable Address: 70 PARK RD, YERONGA QLD 4104

Lot Details: L.3 SP.300888

FLOOD LEVEL INFORMATION



EXPLANATION



m(AHD) - Metres Australia Height Datum. The level of 0.0m AHD is approximately mean sea level.

Flood Levels - The Flood level bar chart above shows the possible flooding level and percentage chance of that level being reached or exceeded in any year. If an orange bar shows, it is the calculated January 2011 flood level at this address or lot. Refer to 'Useful Definitions' for further information.

Minimum Habitable Floor Level - Applies to residential development only. Please refer to Council's planning scheme to learn how this may affect you. If a property is in an overland flow path, or a large allotment, a minimum habitable floor level cannot be provided. Refer flood and planning development flags below.

Ground Levels- The green line above shows this property's approximate lowest and highest ground levels based on latest available information (2019 airborne laser survey) to Council. If you are building, please confirm with a surveyor.

For further information and definitions please refer to the Useful Definitions page

FLOOD AND PLANNING DEVELOPMENT FLAGS

DEVELOPMENT FLAG(S)

This property may also be affected by one or more flood or property development overlays or flags. These include: OVERLAND FLOW PATH,LARGE ALLOTMENT

Please review the technical summary over page and refer to Council's planning scheme for further information.

Brisbane City Council

FloodWise Property Report

Report Reference
1630896727760
06/09/2021 12:52:07

Dedicated to a better Brisbane

TECHNICAL SUMMARY

This section of the FloodWise Property Report contains more detailed flood information for this property so surveyors, builders, certifiers, architects and engineers can plan and build in accordance with Council's planning scheme. For more information about building and development in Brisbane please visit www.brisbane.qld.gov.au/planning-building or talk to a Development Assessment Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

THIS IS A REPORT FOR:

Rateable Address: 70 PARK RD, YERONGA QLD 4104

Lot Details: L.3 SP.300888

PROPERTY INFORMATION (Summary)

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

PROPERTY SUMMARY	LEVEL (mAHD)
Minimum Ground Level	4.6
Maximum Ground Level	22.2
Min Habitable Floor Level	Contact Council
Residential Flood Level (RFL)	8.3
Residential Flood Level Source	RIVER
Flooding may also occur from	RIVER,OVERLAND FLOW

ESTIMATED PEAK FLOODING LEVELS

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning Development Information.

Note that the overland flow flooding level maybe higher than the levels below from other sources.

DESCRIPTION	LEVEL (mAHD)	SOURCE
20% AEP	N/A*	
5% AEP	N/A*	
2% AEP	N/A*	
1% AEP	8.3	RIVER
January 2011	7.8	RIVER
DFL	6.7	RIVER
RFL	8.3	RIVER

* Council does not hold flood levels for this probability event.

FLOOD PLANNING DEVELOPMENT INFORMATION

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

FLOOD OVERLAY CODE

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the Flood Planning Areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in Council's planning scheme, which is available from www.brisbane.qld.gov.au/planning-building.

FLOOD PLANNING AREAS (FPA)		
RIVER	CREEK/WATERWAY	OVERLAND FLOW
FPA5		Applicable

COASTAL HAZARD OVERLAY CODE

There are currently no Coastal Hazard Overlays that apply to this property.

PROPERTY DEVELOPMENT FLAGS

Overland Flow Path - Mapping indicates this property may be located within an overland flow path. Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. It is recommended you consult a Registered Professional Engineer of Queensland to determine this property's habitable floor level and flooding depth. Please refer to Council's planning scheme for further information.

Large Allotment - This property is either a Large Allotment of over 1000 square metres or is located within a Large Allotment. Flood levels may vary significantly across allotments of this size. Further investigations may be warranted in determining the variation in flood levels and the minimum habitable floor level across the site. For more information or advice, it is recommended you engage a Registered Professional Engineer of Queensland.

Brisbane City Council

FloodWise Property Report

Report Reference
1630896727760
06/09/2021 12:52:07

Dedicated to a better Brisbane

Useful Definitions

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

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

Defined Flood Level (DFL) - The DFL for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m^3/s.

Maximum and Minimum Ground Level – Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum Habitable Floor Level – The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family and rumpus rooms) must be constructed.

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

Residential Flood Level (RFL) – Residential flood level (RFL) for the Brisbane River flooding equates to the 1% Annual Exceedance Probability flood level.

Rateable Address - A Lot or Property may have more than one street address. The address shown on this report is the address used by Council for the Lot or property selected.

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

Brisbane City Council's Online Flood Tools

Council provides a number of online flood tools:

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

Planning and Development Online Flood Tools

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

- FloodWise Property Report
- Flood Overlay Code

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

- phone 07 3403 8888 to talk to a Development Assessment Customer Liaison Officer
- visit www.brisbane.qld.gov.au/planning-building
- visit a Regional Business Centre.

Helping residents and businesses be prepared for flooding

Council has a range of free tools and information to help residents and businesses understand potential flood risks and how to be prepared. This includes:

- Flood Awareness Map
- Flooding in Brisbane – A Guide for Residents
- Flooding in Brisbane – A Guide for Businesses
- Early Warning Alert Service. Visit www.brisbane.qld.gov.au/earlywarning to register for email, home phone or SMS severe weather alert updates.

Note: The Flood Awareness Map shows four levels of flood likelihood from high likelihood (flooding is very likely to occur) through to very low likelihood (very rare and extreme flood events).

For more information on Council's online flood tools for residents and business:

- Visit www.brisbane.qld.gov.au/beprepared
- Phone (07) 3403 8888.

Brisbane City Council

FloodWise Property Report

Report Reference
1630896727760
06/09/2021 12:52:07

Dedicated to a better Brisbane

Disclaimer

1. Defined Flood Levels and Residential Flood Levels, and the Minimum Habitable Floor Levels are determined from the best available information to Council at the date of issue. These flood levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating flood levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property report. Council disclaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit **www.brisbane.qld.gov.au/planning-building**

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

APPENDIX 4 – Engineering Drawings

ECONOMIC DEVELOPMENT QUEENSLAND
PARKSIDE YERONGA - SUBDIVISION
70 PARK ROAD, YERONGA, BRISBANE



DEVELOPMENT LAYOUT PLAN

1:1000 10 0 10 20 30 40 50 A1
1:2000 A3

DRAWING REGISTRY	
DRAWING NUMBER	DRAWING DESCRIPTION
CI-001-P01	COVER SHEET, DRAWING REGISTRY AND LOCALITY PLAN
CI-100-P01	BULK EARTHWORKS PLANCONCEPTUAL MASTER PLAN
CI-500-P01	CONCEPTUAL STORMWATER EXTERNAL CATCHMENT PLAN
CI-500-P02	CONCEPTUAL STORMWATER QUALITY CATCHMENT PLAN
CI-520-P01	CONCEPTUAL STORMWATER DRAINAGE PLAN
CI-520-P02	CONCEPTUAL STORMWATERMANAGEMENT PLAN
CI-526-D01	STORMWATER DRAINAGE DETAILS SHEET 1 OF 3
CI-526-D02	STORMWATER DRAINAGE DETAILS SHEET 2 OF 3
CI-526-D03	STORMWATER DRAINAGE DETAILS SHEET 3 OF 3
CI-700-P01	COMBINED SERVICES PLAN CONCEPTUAL MASTER PLAN

Notes

Issued/Revision	By	Appd	YYYY.MM.DD
D UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
B FURTHER ISSUE LETTER	TJ	AR	2021.11.10
A ISSUED FOR APPROVAL	BM/VI	AR	2021.09.15

Issue Status

PRELIMINARY

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AUTHORISED:

A RAADSCHELDERS (RPEQ: 19881)

Stantec

Stantec Australia Pty. Ltd.
Level 3, 52 Merivale St,
South Brisbane, QLD 4101
Tel: +61 7 3811 4500

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Client/Project Logo

Client/Project

ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name:	CI-001-P01.DWG	MK	JW/SBJ	AR	2022.07.07
		Dwn.	Dsgn.	Chk'd.	YYYY.MM.DD

Title

COVER SHEET AND DRAWING REGISTRY

Project No. 301048272

Scale 1:1000 @A1

Revision D

Drawing No. **CI-001-P01**

Plotted: 2022.07.07 11:07:39 AM by MIKE BIN
\\WGB-BRIS-FS1\Projects\PROJECTS\301048272\4 PROJECT DOCUMENTATION\CIVIL\1 WIP\PARKSIDE YERONGA - SUBDIVISION - DA RFI 5 (FINAL)\CAD\CI-001-P01.DWG

ORIGINAL SHEET - ISO A1 COORD - MGA/MYZone DATUM - mAHD



SERVICES NOTES

1. DRAWINGS ARE CONCEPTUAL ONLY AND HAVE BEEN PREPARED AS AN ILLUSTRATION OF THE CONCEPTS DISCUSSED WITHIN THIS REPORT AND ARE INTENDED TO ASSIST RESPONSE TO A REQUEST FOR PROPOSAL.
2. ALL ITEMS ON THIS DRAWING ARE SUBJECT TO CONFIRMATION FROM RELEVANT SUPPLY AUTHORITY.
3. WHERE LEVELS OR SIZES OF ANY WORKS ARE SHOWN, THESE ARE INDICATIVE ONLY TO DEMONSTRATE THE CAPABILITY OF THE SERVICING OPTION PROPOSED AND ARE SUBJECT TO DETAILED DESIGN (OPERATIONAL WORKS DESIGN). THIS IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE LATEST VERSIONS OF THE AUTHORITY STANDARDS, AUSTRALIAN STANDARDS AND OTHER INDUSTRY REFERENCE DOCUMENTS AT TIME OF DESIGN.
4. DRAWINGS ARE NOT INTENDED TO BE USED FOR TENDER, ESTIMATING OR CONSTRUCTION.
5. ALL LOTS SHALL BE PROVIDED WITH CONNECTION TO SEWER, WATER, ELECTRICITY, TELECOMMUNICATIONS AND A LAWFUL POINT OF STORMWATER DISCHARGE.
6. IN GENERAL, ALL CONTOURS SHOWN ARE BULK EARTHWORKS CONTOURS ONLY AND DO NOT REPRESENT FINAL FINISHED SURFACE LEVELS. TEMPORARY BATTERS WILL BE CONSTRUCTED TO ALLOW BUILT FORM AND LOT DEVELOPMENTS TO BE ESTABLISHED.

LEGEND

- 10.5 — INDICATIVE PROPOSED BULK EW DESIGN CONTOURS 0.5m
- 20.0 — EXISTING CONTOURS
- PROPOSED RETAINING WALL
- POTENTIAL FUTURE RETAINING WALL
- PROPOSED SWALE
- INDICATIVE TOP OF BATTER

CUT/FILL LEGEND

- AREA OF CUT DEPTH >2.5m
- AREA OF CUT DEPTH 2.5m - 2.0m
- AREA OF CUT DEPTH 2.0m - 1.5m
- AREA OF CUT DEPTH 1.5m - 1.0m
- AREA OF CUT DEPTH 1.0m - 0.5m
- AREA OF CUT DEPTH 0.5m - 0.05m
- AREA OF FILL DEPTH 0.05m - 0.5m
- AREA OF FILL DEPTH 0.5m - 1.0m
- AREA OF FILL DEPTH 1.0m - 1.5m
- AREA OF FILL DEPTH 1.5m - 2.0m
- AREA OF FILL DEPTH 2.0m - 2.5m
- AREA OF FILL DEPTH >2.5m

LOCAL CATCHMENT FLOOD STORAGE COMPARISON (1% AEP SCENARIO)

PRE-DEMO (RPS SURFACE) FLOOD STORAGE BELOW RL8.41m AHD: 297.3m³

DESIGN SURFACE FLOOD STORAGE BELOW RL8.41m AHD: 397.4m³

BUILDING PADS SHOWN ARE INDICATIVE IN FORM AND LEVEL. THEY ARE SUBJECT TO FUTURE DEVELOPMENT AS PART OF THE RESPECTIVE LOTS FUTURE APPLICATIONS.

BULK EARTHWORKS VOLUMES (DESIGN SURFACE TO PRE-DEMO SURFACE):
CUT = -5310m³
FILL = +11322m³
BALANCE = 6012m³

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
B	FURTHER ISSUE LETTER	TJ	AR	2021.11.10
A	ISSUED FOR APPROVAL	BM/VI	AR	2021.09.15
Issued/Revision		By	Appd	YYYY.MM.DD

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AUTHORISED:

A.RAADSCHELDERS (RPEQ:19881)

Stantec

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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-100-P01.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

BULK EARTHWORKS PLAN
CONCEPTUAL MASTER PLAN

Project No. 301048272

Scale 1:500 @A1

Revision D

Drawing No. **CI-100-P01**

Plotted: 8/07/2022 11:27 AM by MIKE BIN
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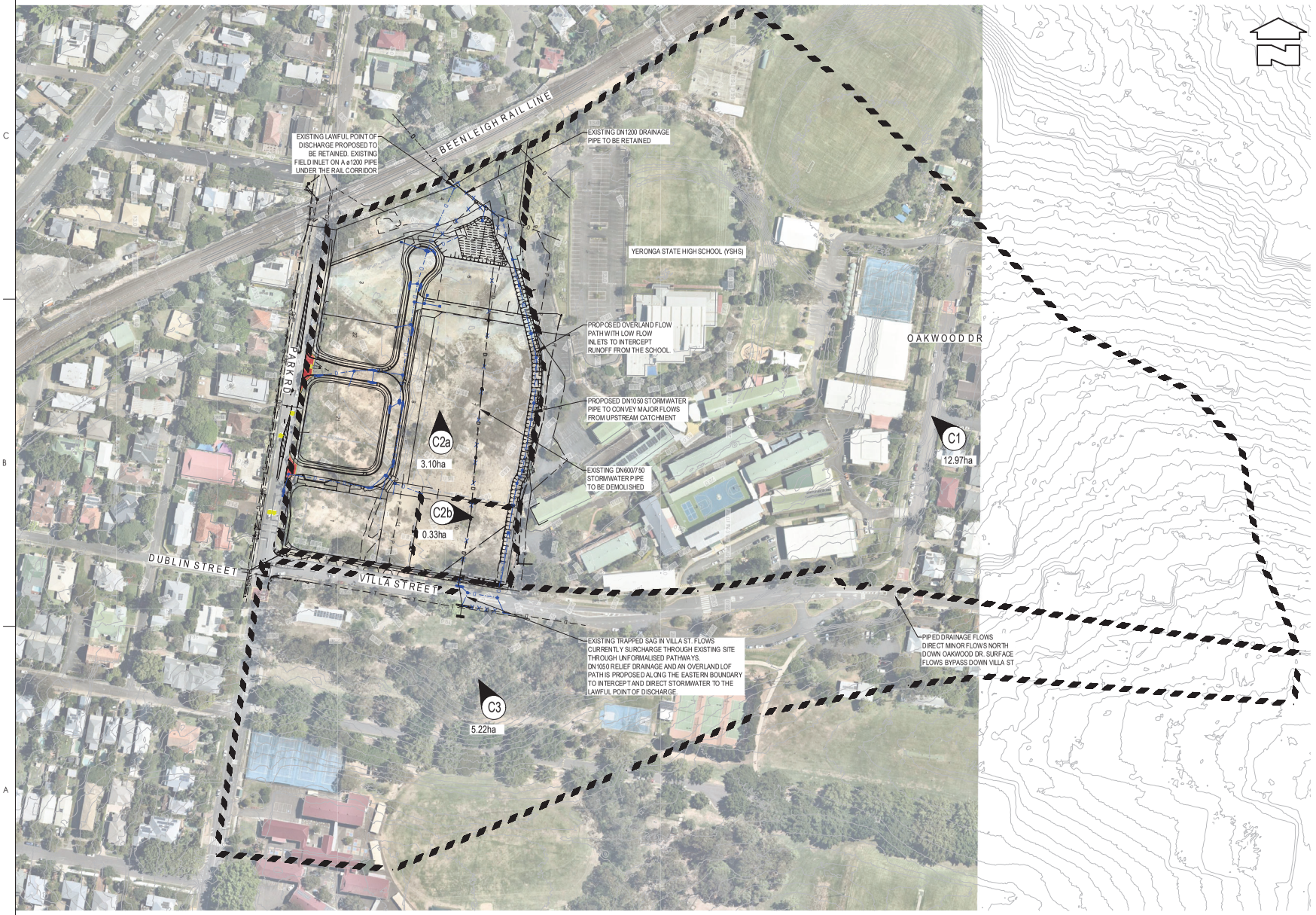
ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



LEGEND

- EXISTING 0.5m CONTOURS & HEIGHT
- PROPOSED CATCHMENT BOUNDARY
- INDICATIVE STORMWATER LINE & MANHOLE
- INDICATIVE STORMWATER LINE & PIT
- INDICATIVE STORMWATER OVERLAND FLOW PATH
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- EXISTING STORMWATER LINE TO BE REMOVED

12.97ha C1 — PROPOSED CATCHMENT LABEL

SCALE 1:1250 (A1) 0 10 20

SCALE 1:2500 (A3) 0 10 20

Notes

D	UPDATED FOR FLOOD IMPACT ASSESSMENT	MK	AR	2022.07.08
C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
B	FURTHER ISSUE LETTER	TJ	AR	2021.11.10
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Issued/Revision		By	Appd	YYYY.MM.DD

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Client/Project Logo

Client/Project

ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-500P01.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chk'd.	YYYY.MM.DD

Title

CONCEPTUAL STORMWATER EXTERNAL CATCHMENT PLAN

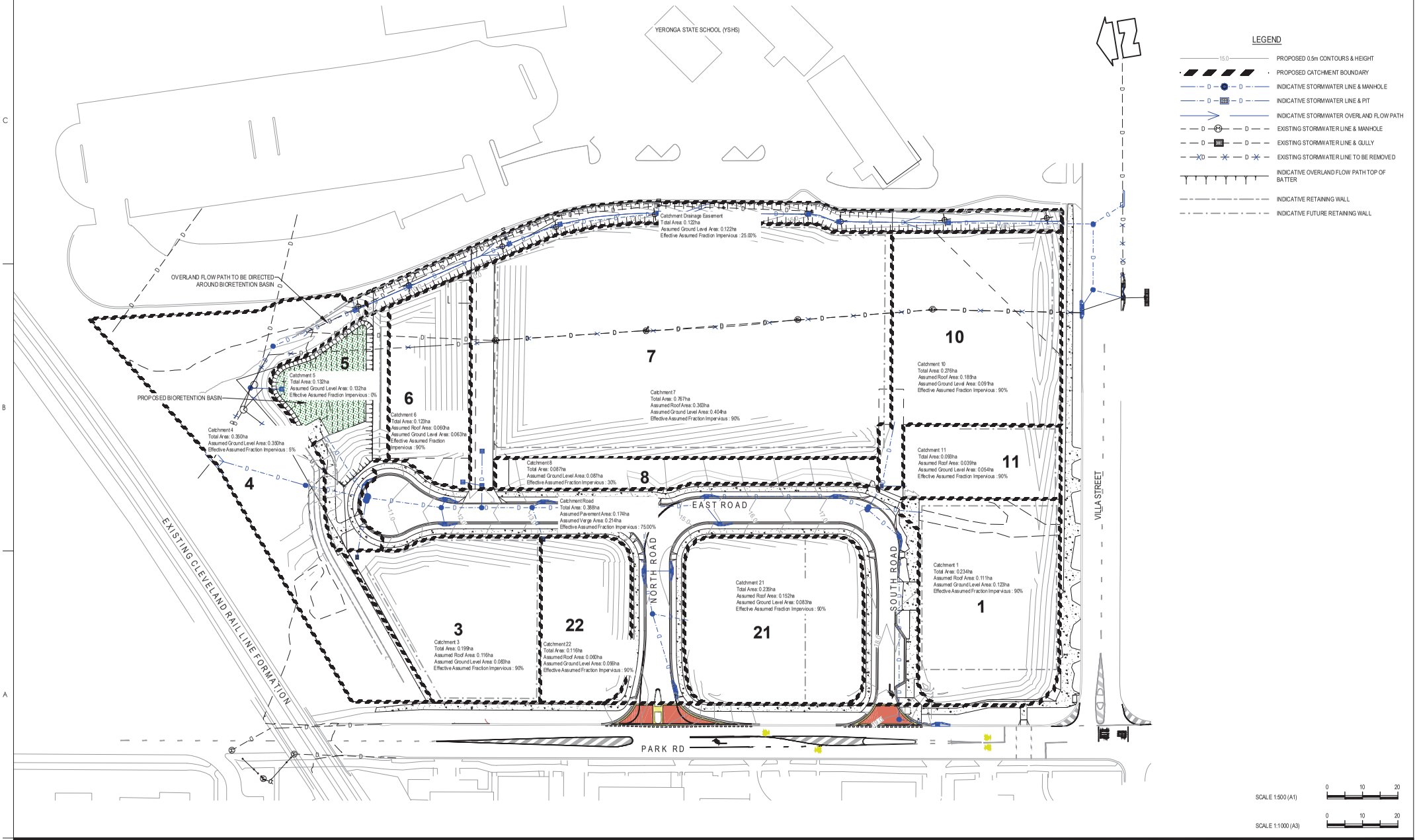
Project No. 301048272

Scale 1:1250 @A1

Revision D

Drawing No. **CI-500-P01**

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



Notes

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B	FURTHER ISSUE LETTER	TJ	AR	2021.11.10
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PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-500P02.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

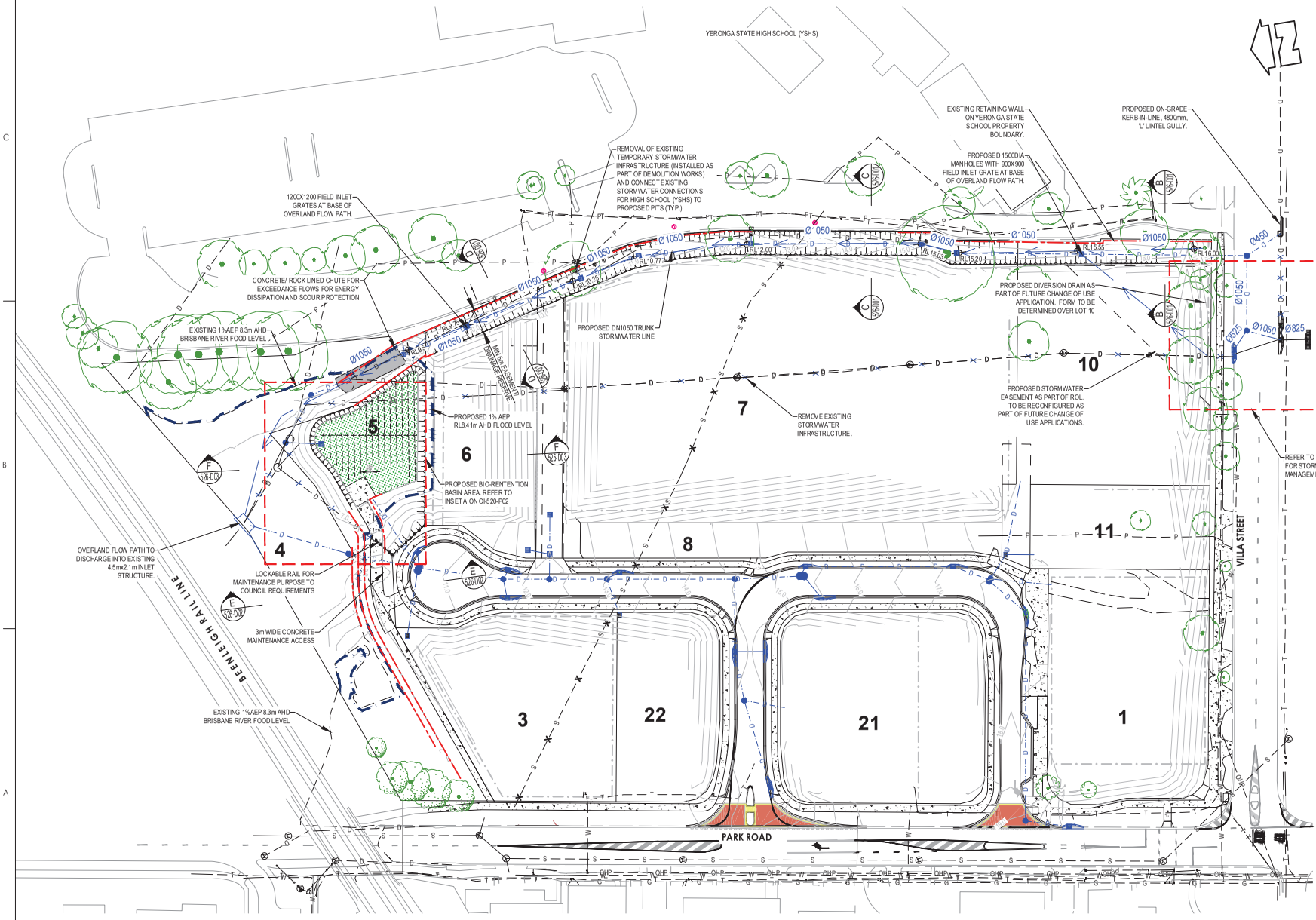
CONCEPTUAL STORMWATER QUALITY CATCHMENT PLAN

Project No. 301048272

Scale 1:500 @A1

Revision D

Drawing No. **CI-500-P02**



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5. ALL LOTS SHALL BE PROVIDED WITH CONNECTION TO SEWER, WATER, ELECTRICITY, TELECOMMUNICATIONS AND A LAWFUL POINT OF STORMWATER DISCHARGE.
6. ACTUAL SIZING AND LAND DEDICATION IS SUBJECT TO DESIGN DEVELOPMENT OF EARTHWORKS AND STORMWATER DESIGNS.

LEGEND

- PROPOSED 0.5m CONTOURS & HEIGHT
- INDICATIVE STORMWATER LINE & MANHOLE
- INDICATIVE STORMWATER LINE & PIT
- INDICATIVE STORMWATER OVERLAND FLOW PATH
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING GAS PIPE LINE
- EXISTING OVERHEAD LINE
- EXISTING TELECOM
- EXISTING UNDERGROUND POWER
- EXISTING STORMWATER LINE TO BE REMOVED
- EXISTING SEWER LINE TO BE REMOVED
- INDICATIVE OVERLAND FLOW PATH TOP OF BATTER
- INDICATIVE RETAINING WALL
- POTENTIAL RETAINING WALL AS PART OF RELEVANT LOTS FUTURE DEVELOPMENT
- PROPOSED OVERFLOW PATH INVERT LEVEL

MINIMUM LEVELS FOR FLOOD IMMUNITY

1% AEP FLOOD LEVEL (LOCAL CATCHMENT*): RL8.41m

1% AEP FLOOD LEVEL (BRISBANE RIVER): RL8.30m

*BASED ON FLOOD ASSESSMENT REPORT PREPARED BY WATERTECH DATED 10/2/22 1% AEP FLOOD LEVEL: RL8.56m (LOCAL CATCHMENT)

LOT	USE	MIN LEVEL (mAHD) (FREEBOARD)
1	ALL USES	N/A
3	NCC CLASS 1-4 BUILDING - HABITABLE ROOM	8.91m (500mm)
	NCC CLASS 1-4 BUILDING - BASEMENT ENTRY	8.41m (0mm)
	OTHER CLASSES	NOT COMPATIBLE
6	NCC CLASS 1-4 BUILDING - HABITABLE ROOM	8.91m (500mm)
	NCC CLASS 1-4 BUILDING - HABITABLE ROOM	8.91m (500mm)
	NCC CLASS 1-4 BUILDING - BASEMENT ENTRY	8.41m (0mm)
	NCC CLASS 9a/c BUILDING - BUILDING FLOOR LEVEL	11.80 (0mm)
	NCC CLASS 9 BUILDING - BASEMENT ENTRY	8.41m (0mm)
8	OPEN SPACE	8.41m (0mm)
10	ALL USES (MIN RL ALONG VILLA ST FRONTAGE)	19.00m (500mm)
11	ALL USES	N/A
21	ALL USES	N/A
22	ALL USES	N/A

NOTE:
THE FUTURE DEVELOPMENTS ON THE RESPECTIVE LOTS AS PART OF SEPARATE APPLICATIONS WILL NEED TO ENSURE THEIR BUILT FORM PROVIDES ADEQUATE HEIGHT OF AN IMPERMEABLE BARRIER ABOVE THE OVERLAND FLOW PATH ALONG THE WESTERN BOUNDARY. THE MINIMUM HEIGHT ABOVE THE TOP OF DRAIN AT ANY POINT IS RECOMMENDED TO 0.3m OR 0.7m ABOVE THE INVERT UNO (2% AEP 500mm FREEBOARD, AND CONTAINS THE SEVERE STORM ASSESSMENT WHICH ASSUMES BLOCKAGE OF THE PIPE SYSTEM IN VILLA ST.)

1:500 1:1000 2 0 2 4 6 8 10 A1 A3

Notes

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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-520P01-P02.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
CONCEPTUAL STORMWATER DRAINAGE PLAN

Project No. 301048272

Scale 1:500 @A1

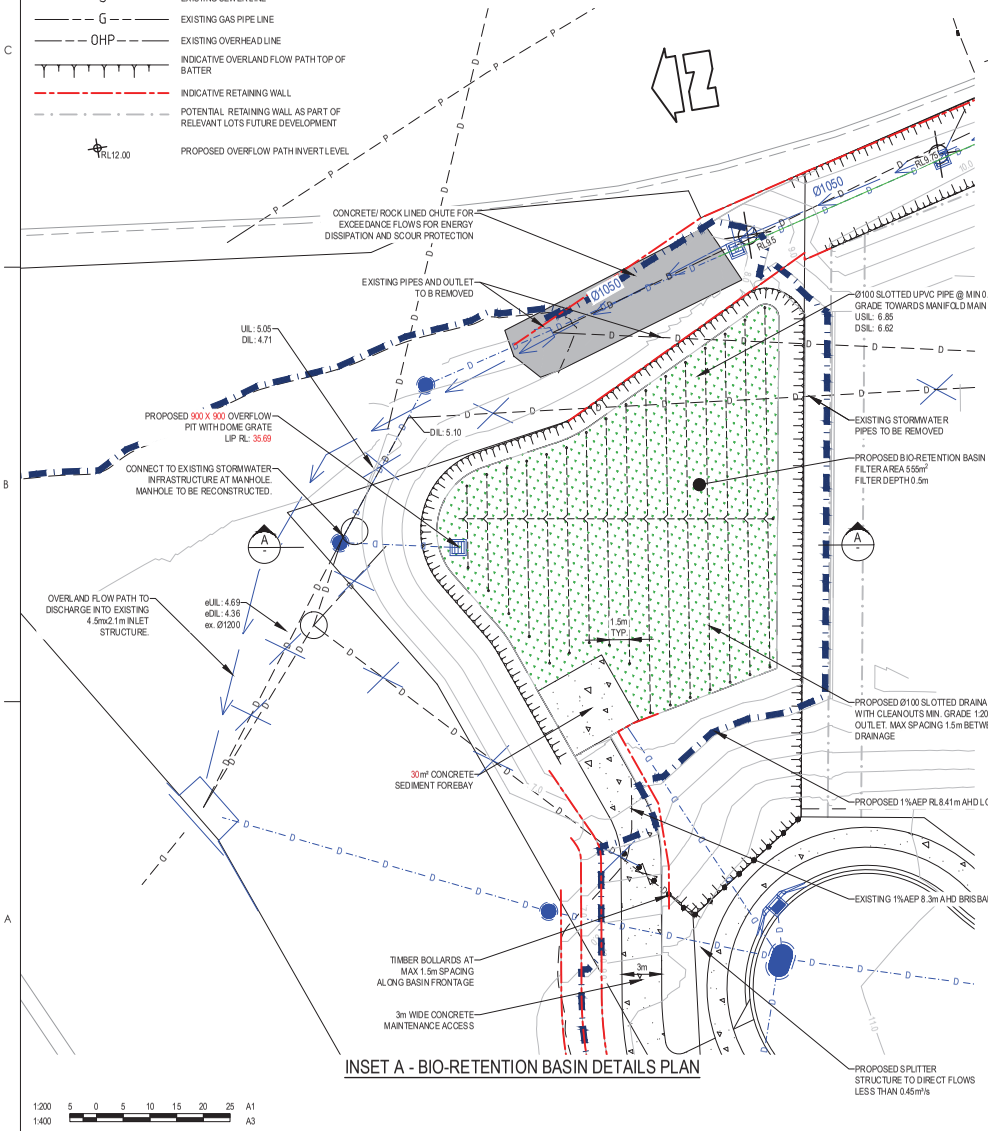
Revision D

Drawing No. CI-520-P01

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD

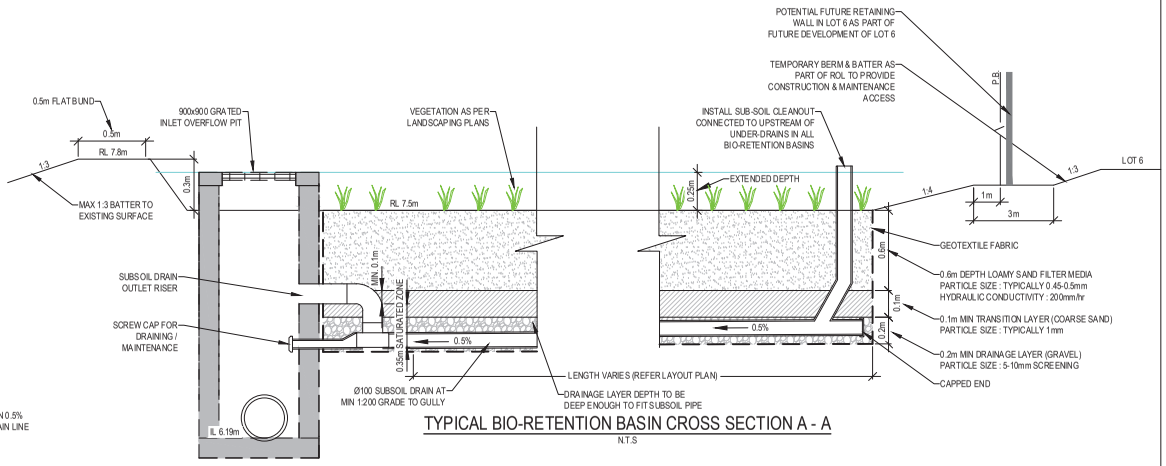
LEGEND

- INDICATIVE STORMWATER LINE & MANHOLE
- INDICATIVE STORMWATER LINE & PIT
- INDICATIVE STORMWATER OVERLAND FLOW PATH
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING GAS PIPE LINE
- EXISTING OVERHEAD LINE
- INDICATIVE OVERLAND FLOW PATH TOP OF BATTER
- INDICATIVE RETAINING WALL
- POTENTIAL RETAINING WALL AS PART OF RELEVANT LOTS FUTURE DEVELOPMENT
- RL12.00 PROPOSED OVERFLOW PATH INVERT LEVEL



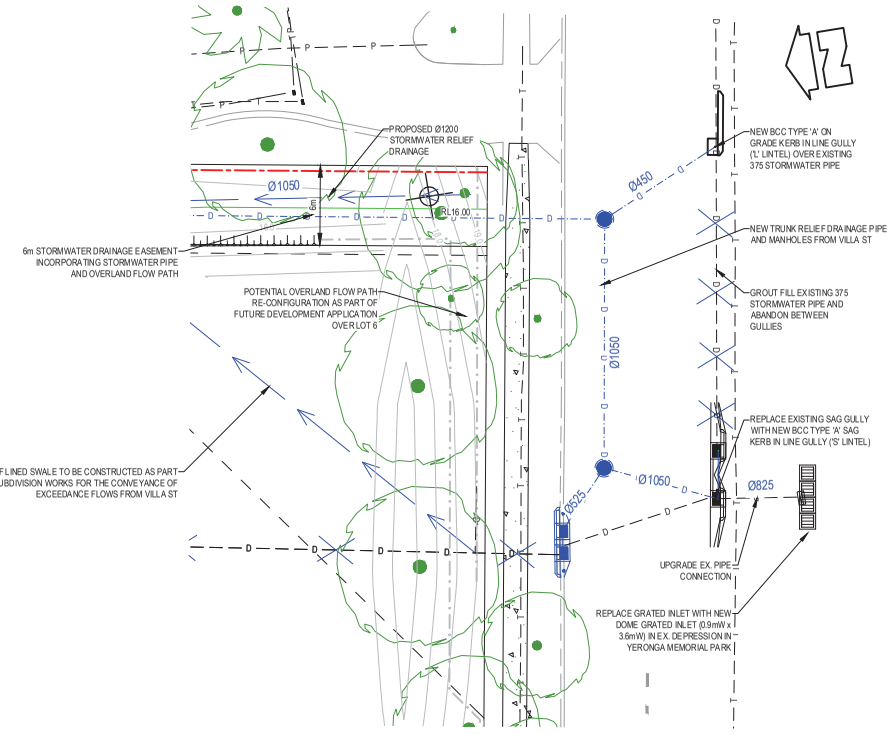
INSET A - BIO-RETENTION BASIN DETAILS PLAN

1:200 5 0 5 10 15 20 25 A1
1:400 A3



TYPICAL BIO-RETENTION BASIN CROSS SECTION A - A

N.T.S



INSET B - VILLA ST RELIEF DRAINAGE UPGRADE

Notes

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C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
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ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

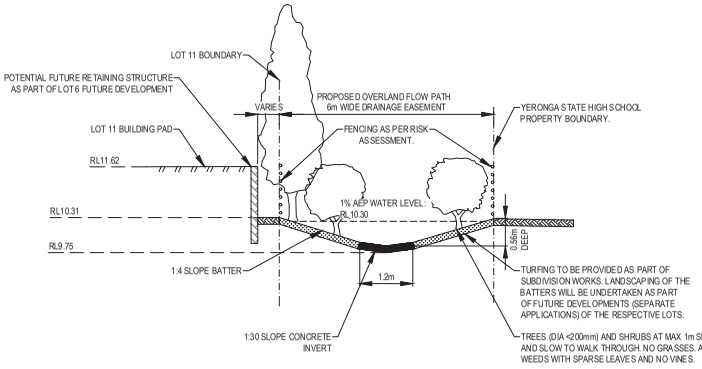
File Name:	CI-520P01-P02.DWG	MK	JW/SBJ	AR	2022.07.07
		Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

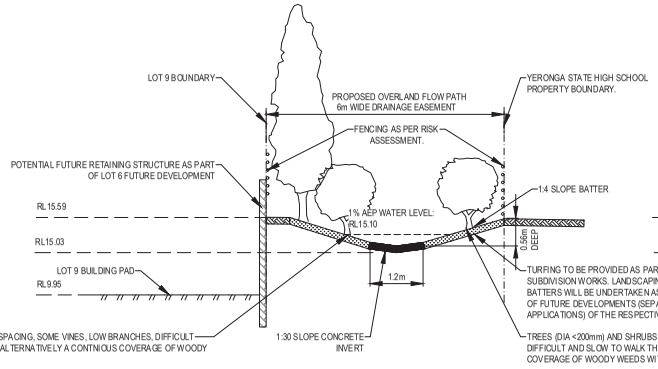
CONCEPTUAL STORMWATER MANAGEMENT PLAN

Project No.	Scale
301048272	1:200 @A1
Revision	Drawing No.
D	CI-520-P02

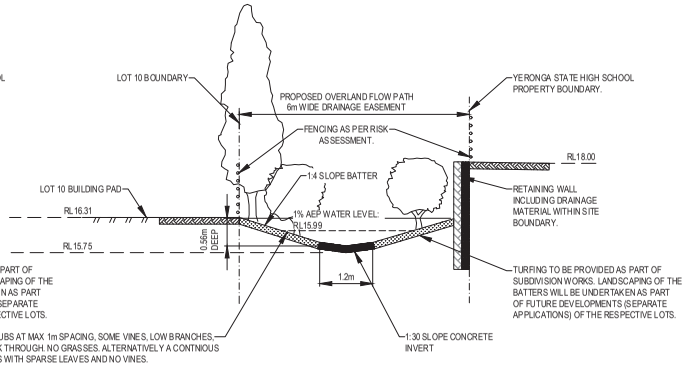
ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD



TYPICAL OVERLAND FLOW PATH
SECTION D-D
N.T.S.



TYPICAL OVERLAND FLOW PATH
SECTION C-C
N.T.S.



TYPICAL OVERLAND FLOW PATH
SECTION B-B
N.T.S.

Notes

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C	FURTHER ISSUE RESPONSE	MK	AR	2022.02.10
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File Name: CI-526-D01-003.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

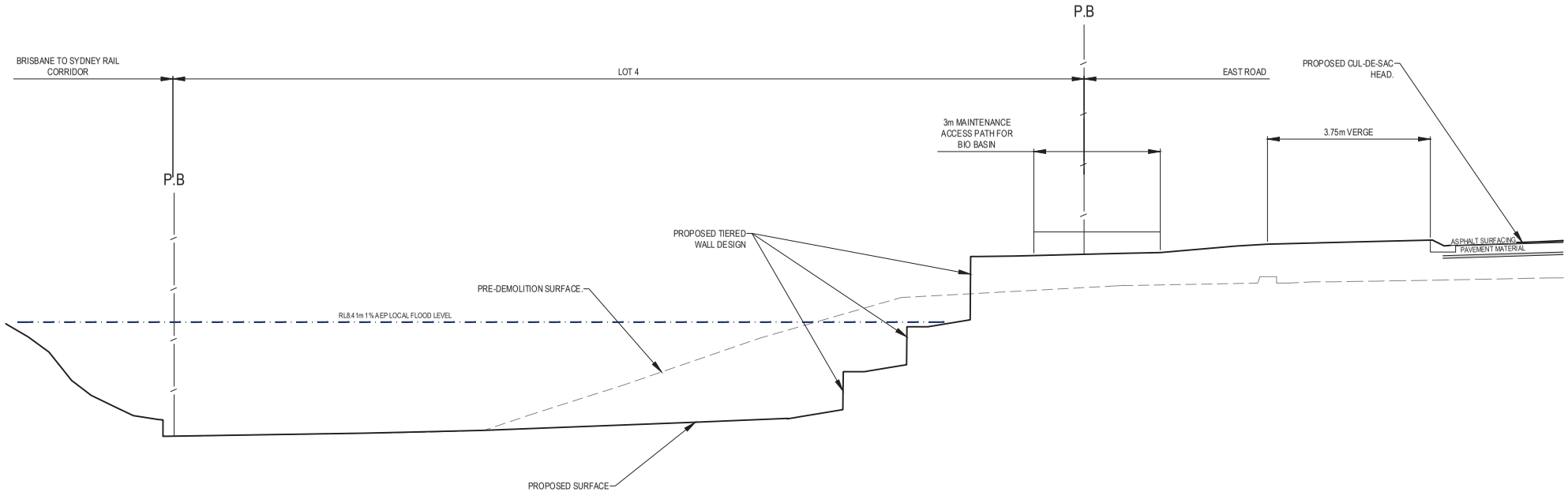
Title
STORMWATER DRAINAGE DETAILS
SHEET 1 OF 3

Project No.
301048272

Scale

Revision
D

Drawing No.
CI-526-D01



SECTION E-E 520-P01
SCALE 1:50 (A1)
1:100 (A3)

SCALE 1:50 (A1) 0 1 2

SCALE 1:100 (A3) 0 1 2

Notes

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File Name: CI-526-D01-D03.DWG

MK	JW/SBJ	AR	2022.07.07	
Dwn.	Dsgn.	Chk'd.	YYYY.MM.DD	

Title

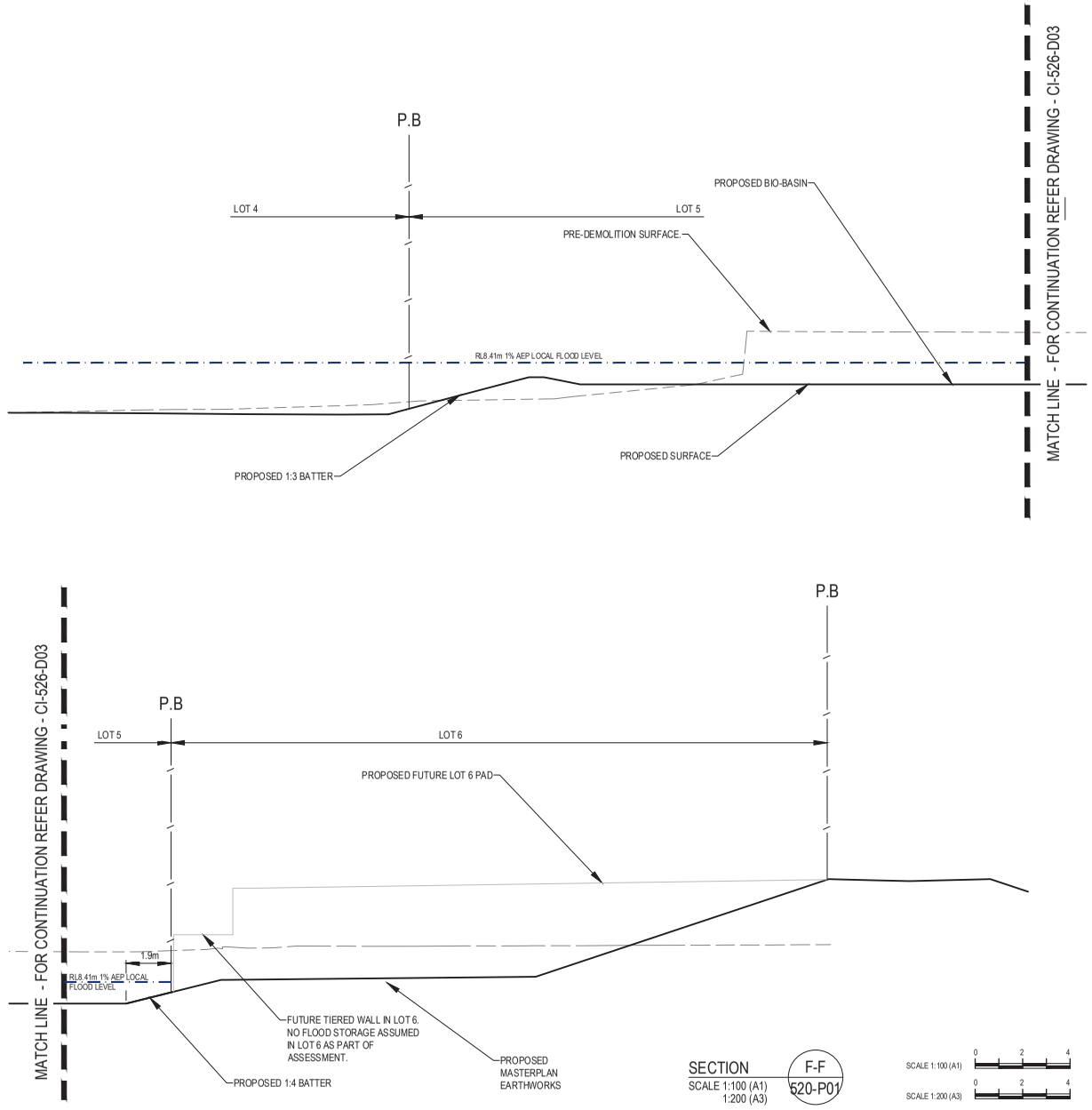
STORMWATER DRAINAGE DETAILS
SHEET 2 OF 3

Project No. 301048272

Scale AS SHOWN

Revision D

Drawing No. **CI-526-D02**



SECTION F-F
SCALE 1:100 (A1)
1:200 (A3)
520-P01

SCALE 1:100 (A1) 0 2 4
SCALE 1:200 (A3) 0 2 4

Notes

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PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

File Name: CI-526-D01-D03.DWG

MK	JW/SBJ	AR	2022.07.07
Dwn.	Dsgn.	Chk'd.	YYYY.MM.DD

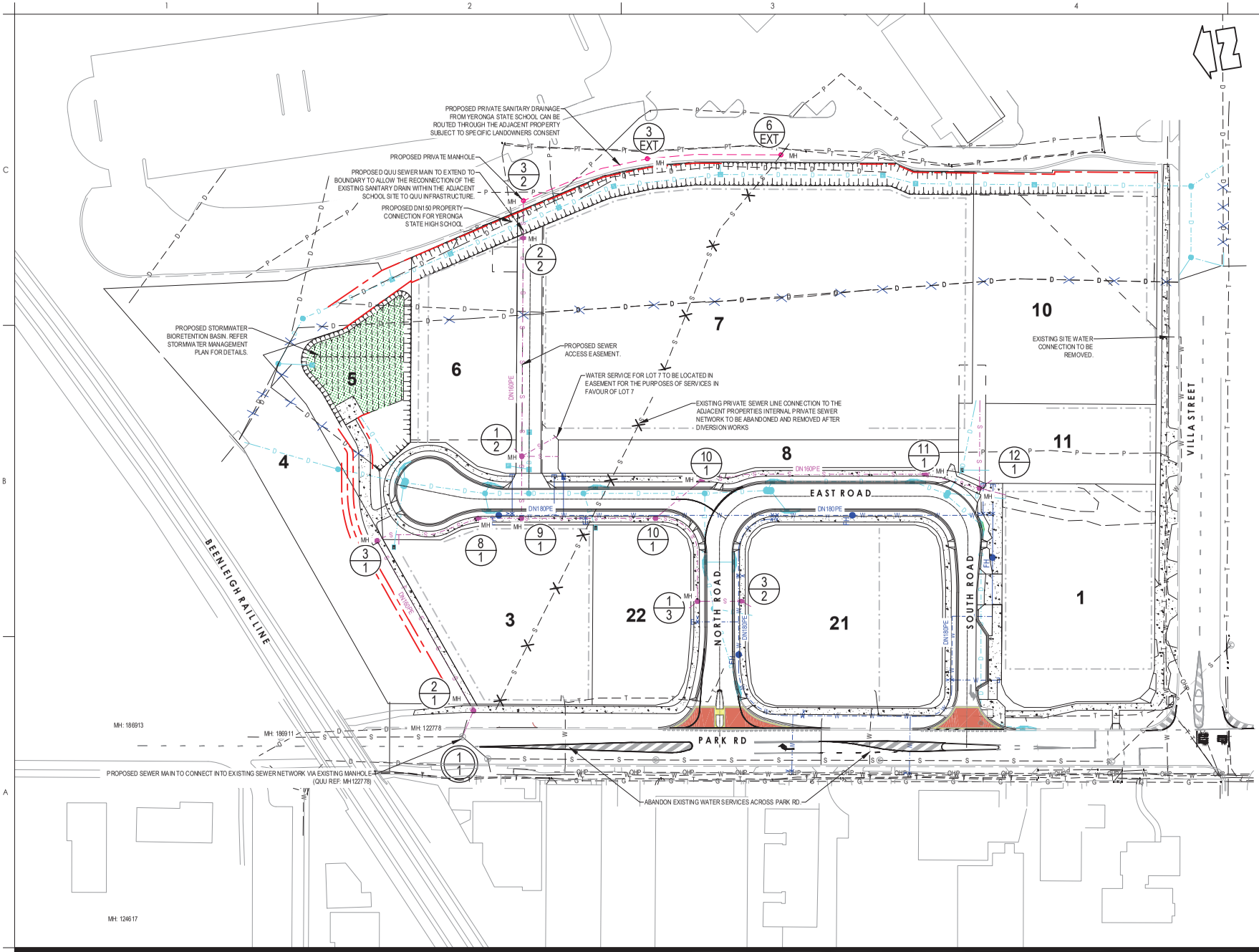
Title
STORMWATER DRAINAGE DETAILS
SHEET 3 OF 3

Project No.
301048272

Scale
AS SHOWN

Revision
D

Drawing No.
CI-526-D03



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LEGEND

- INDICATIVE RETAINING WALL
- INDICATIVE FUTURE RETAINING WALL
- PROPOSED DN160PE SEWER LINE, PROPERTY CONNECTION & MANHOLE
- PROPOSED PRIVATE SANITARY DRAINAGE & MANHOLE
- PROPOSED SEWER LINE & MAINTENANCE SHAFT
- EXISTING SEWER LINE & MANHOLE
- PROPOSED DN180PE WATER LINE & FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED END CAP
- PROPOSED WATER METER
- PROPOSED STORMWATER LINE & MANHOLE
- PROPOSED STORMWATER MANHOLE
- PROPOSED STORMWATER KERB INLET
- PROPOSED STORMWATER SAG GULLY
- EXISTING WATER LINE
- EXISTING SEWER LINE TO BE DEMOLISHED
- EXISTING STORMWATER LINE TO BE REMOVED
- EXISTING GAS PIPE LINE
- EXISTING OVERHEAD LINE
- EXISTING TELECOM
- EXISTING UNDERGROUND POWER
- EXISTING STORMWATER LINE & MANHOLE
- EXISTING STORMWATER LINE & GULLY
- SEWER MANHOLE NUMBER

SCALE 1:500 (A1) 0 10 20

SCALE 1:1000 (A3) 0 10 20

Notes

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Client/Project

ECONOMIC DEVELOPMENT QUEENSLAND

PARKSIDE YERONGA - SUBDIVISION

70 PARK ROAD, YERONGA, BRISBANE

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Title

COMBINED SERVICES PLAN
CONCEPTUAL MASTER PLAN

Project No.	Scale
301048272	1:500 @A1
Revision	**Drawing No.**
D	**CI-700-P01**

ORIGINAL SHEET - ISO A1 COORD - MGA/YY zone DATUM - mAHD

APPENDIX 5 – MUSIC Model Parameters & Output

- MUSIC Model
- MUSIC Output
- MUSIC Runoff Generation Parameters
- MUSIC Concentration Parameters

MUSIC Model

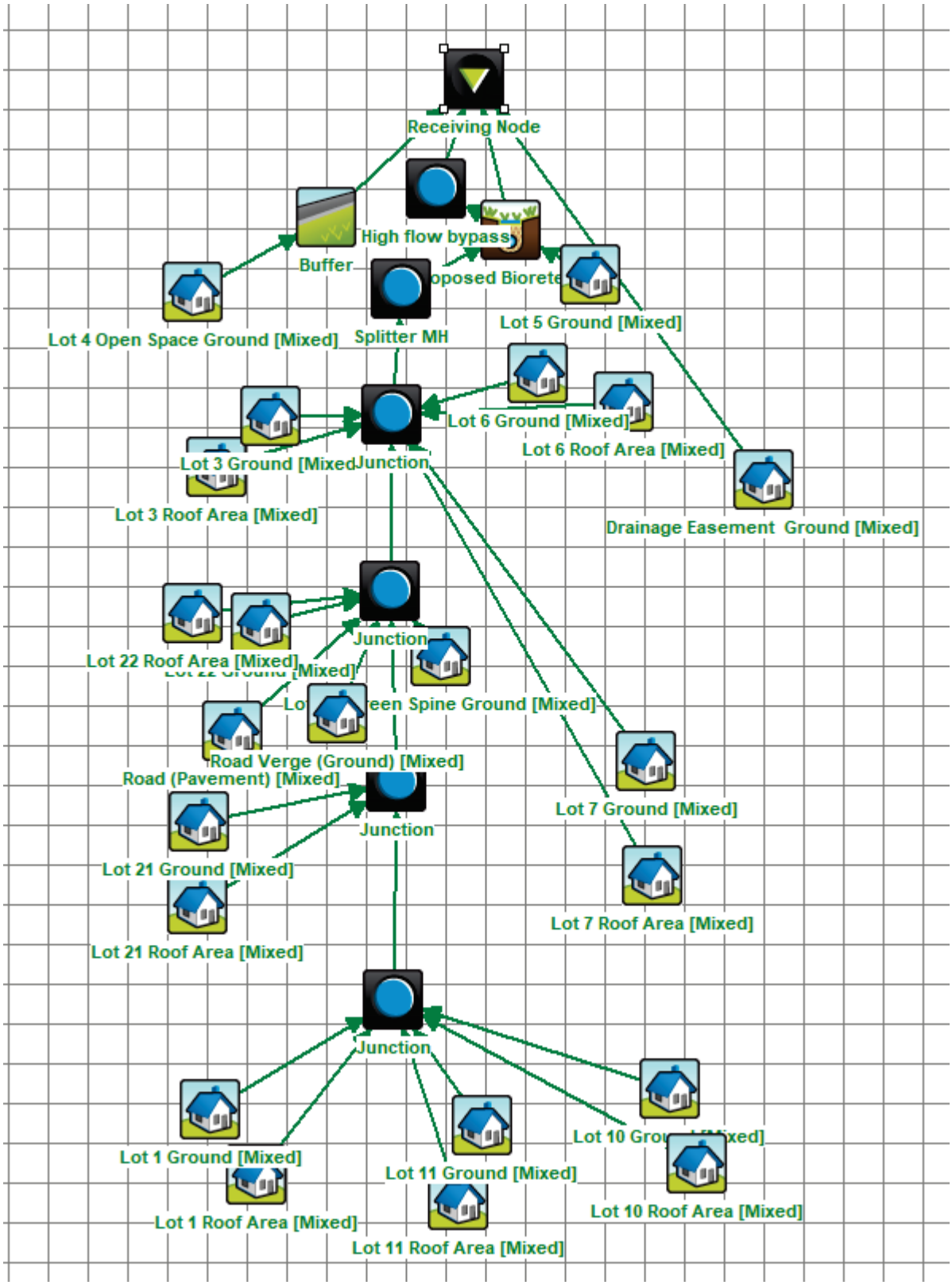

Figure 6-1: MUSIC Model

MUSIC Model Treatment Train Effectiveness

	Sources	Residual Load	% Reduction
Flow (ML/yr)	26.7	25.3	5
Total Suspended Solids (kg/yr)	4020	796	80.2
Total Phosphorus (kg/yr)	8.93	3.47	61.2
Total Nitrogen (kg/yr)	58.4	26	55.5
Gross Pollutants (kg/yr)	511	31.2	93.9

Figure 6-2: Treatment Train Effectiveness

MUSIC Runoff Generation Parameters

The following properties have been used in the MUSIC Modelling based on the Land Use Rainfall and Pollutant Parameters.

Table 6-1: Recommended MUSIC Runoff Generation Parameters (MUSIC Modelling Guidelines, 2018)

Parameter	Urban Residential	Commercial and Industrial
Rainfall Threshold (mm)	1	1
Soil Capacity (mm)	500	18
Initial Storage (%)	10	10
Field Capacity	200	80
Infiltration Capacity Coefficient a	211	243
Infiltration Capacity Coefficient b	5.0	0.6
Initial Depth (mm)	50	50
Daily Recharge Rate (%)	28	0
Daily Drainage Rate (%)	27	31
Daily Deep Seepage Rate (%)	0	0

MUSIC Concentration Parameters

LANDUSE	FLOW TYPE	TSS log^{10} values		TP log^{10} values		TN log^{10} values	
		Mean	St. dev.	Mean	St. dev.	Mean	St. dev.
Urban residential	Baseflow	1.00	0.34	-0.97	0.31	0.20	0.20
	Stormflow	2.18	0.39	-0.47	0.32	0.26	0.23
Industrial	Baseflow	0.78	0.45	-1.11	0.48	0.14	0.20
	Stormflow	1.92	0.44	-0.59	0.36	0.25	0.32
Commercial	Baseflow	0.78	0.39	-0.60	0.50	0.32	0.30
	Stormflow	2.16	0.38	-0.39	0.34	0.37	0.34

Table 6-2: MUSIC Concentration Parameters (MUSIC Modelling Guidelines, 2018)

APPENDIX 6 – Stormwater Quality Maintenance Requirements

This Appendix is intended to be representative of a manual to assist with the handover of proposed stormwater quality treatment devices in respect to maintenance requirements.

- Bioretention Systems Information Sheet

Bio-Retention Systems

Minimising Long Term Maintenance

The Facility for Advancing Water Bio-filtration (FAWB) describes three key elements in the design and construction of bio-retention systems which strongly influence the amount of long term maintenance that is required. Adequately addressing these three key elements ensures that the long term maintenance of these systems is predictable, and therefore minimal. The elements are:

- Correct filter media specification and installation
- Correct vegetation specification and cover
- Protection during construction phases

The filter media for the bio-retention system must meet certain specifications. It is crucial that the filter media installed maintains its hydraulic conductivity (i.e. it's ability to pass water through the media) in the long term. When an inappropriate filter media is installed (e.g. when it contains high levels of fine silt and clay materials) it may result in compaction or even structural collapse of the media. This leads to a substantial reduction in the treatment capacity of the system because water will not filter through the media but will pond on the surface instead and spill out through the overflow. A symptom of this compaction is often the loss of vegetation within the system. Similarly, the filter media must be correctly installed with an appropriate level of compaction during installation. Guidelines currently recommend that filter media be lightly compacted during installation to prevent migration of fine particles. In small systems, a single pass with a vibrating plate should be used to compact the filter media (FAWB 2009).

Nutrients have been identified as a key pollutant in stormwater, particularly nitrogen and phosphorus. The nutrient removal efficiency of bio-retention systems is related to the root structure and density of the plants within the system. Early analysis carried out by FAWB suggests that dense fibrous roots provide the most efficient pollutant removal. Furthermore, as plants mature and their roots penetrate the filter media, they play a role in maintaining the hydraulic conductivity of the media. Root growth helps to maintain the surface porosity and the infiltration capacity of the filter media. As a result, it is important that dense vegetation cover is established at an early stage to prevent compaction or surface sealing by promoting extensive root penetration. Some bio-retention systems are designed without understorey vegetation. In these instances, it is likely that additional maintenance will be required to maintain the porosity of the surface of the filter media (e.g. physical removal of any fine sediments accumulating on the surface).

Long Term Maintenance Tasks

The following long term maintenance plan is taken from the FAWB Raingarden and Bio-retention Tree Pit Maintenance Plan example.

Schedule of Bio-Retention Maintenance Visits

Schedule of Site Visits	
Purpose of Visit	Frequency
Inspection **Maintenance**	Regular inspection and maintenance should be carried out to ensure the system functions as designed. It is recommended that these checks be undertaken on a three monthly basis during the initial period of operating the system. A less frequent schedule might be possible after the system has established.

Bio-Retention Maintenance Tasks

Filter Media Tasks	
Sediment deposition	Remove sediment build up from the Bio-Retention System Frequency - 3 MONTHLY AFTER RAIN
Holes or Scour	Infill any holes in the filter media. Check for erosion or scour and repair, provide energy dissipation (e.g. rocks and pebbles at inlet) if necessary. Frequency - 3 MONTHLY AFTER RAIN
Filter media surface porosity	Inspect for the accumulation of an impermeable layer (such as oily or clayey sediment) that may have formed on the surface of the filter media. A symptom may be that water remains ponded in the system for more than a few hours after a rain event. Repair minor accumulations by raking away any mulch on the surface and scarifying the surface of the filter media between plants. For bio-retention systems without understorey vegetation, any accumulation of leaf litter should be removed to help maintain the surface porosity of the filter media. Frequency - 3 MONTHLY AFTER RAIN
Litter Control	Check for litter (including organic litter) in and around treatment areas. Remove both organic and anthropogenic litter to ensure flow paths and infiltration through the filter media are not hindered. Frequency - 3 MONTHLY OR AS DESIRED FOR AESTHETICS
Horticultural Tasks	
Pests and Diseases	Assess plants for disease, pest infection, stunted growth or senescent plants. Treat or replace as necessary. Reduced plant density reduces pollutant removal and infiltration performance. Frequency - 3 MONTHLY OR AS DESIRED FOR AESTHETICS
Maintain original plant densities	Infill planting: Between 6 and 10 plants per square metre should (depending on species) be adequate to maintain a density where the plant's roots touch each other. Planting should be evenly spaced to help prevent scouring due to a concentration of flow. Frequency - 3 MONTHLY OR AS DESIRED FOR AESTHETICS
Weeds	It is important to identify the presence of any rapidly spreading weeds as they occur. The presence of such weeds can reduce dominant species distributions and diminish aesthetics. Weed species can also compromise the systems long term performance. Inspect for and manually remove weed species. Application of herbicide should be limited to a wand or restrictive spot spraying due to the fact that bio-retention systems are directly connected to the stormwater system. Frequency - 3 MONTHLY OR AS DESIRED FOR AESTHETICS

Drainage Tasks	
Slotted subsoil drains	Ensure that perforated pipes are not blocked to prevent filter media and plants from becoming waterlogged. A small steady clear flow of water may be observed discharging from the perforated pipe at its connection into the downstream pit some hours after rainfall. Note that smaller rainfall events after dry weather may be completely absorbed by the filter media and not result in flow. Remote camera (e.g. CCTV) inspection of pipelines for blockage and structural integrity could be useful. Frequency - 6 MONTHLY AFTER RAIN
High flow inlet pits, overflow pits and other stormwater junction pits	Ensure inflow areas and grates over pits are clear of litter and debris and in good and safe condition. A blocked grate would cause nuisance flooding of streets. Inspect for dislodged or damaged pit covers and ensure general structural integrity. Remove sediment from pits and entry sites etc. (likely to be an irregular occurrence in mature catchment). Frequency - MONTHLY AND OCCASIONALLY AFTER RAIN
Other Routine Tasks	
Inspection after rainfall	Occasionally observe the bio-retention system after a rainfall event to check infiltration. Identify signs of poor drainage (extended ponding on the filter media surface). If poor drainage is identified, check landuse and assess whether it has altered from design capacity (e.g. unusually high sediment loads may require installation of a sediment forebay). Frequency - TWICE A YEAR AFTER RAIN

Included are the Healthy Waterways Bio-retention Basin Construction and Establishment Guidelines and Sign Off Forms. These are included to assist the contractor and the developer to understand their obligations and responsibilities in regards to both the Construction and Operational Phases of the device

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Appendix D Erosion Hazard Assessment Form

BRISBANE CITY COUNCIL ABN 72 002 765 795

Erosion Hazard Assessment - June 2014

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

What is an Erosion Hazard Assessment?

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

When is the EHA required?

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

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

Privacy Statement

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

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

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

☐ ***A 'low' risk site***

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

☑ ***A 'medium' risk site***

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

☐ ***A 'high' risk site***

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

3 Site Information and Certification

Application number (if known)

Site address

Part of 70 Park Road, Yeronga QLD

Postcode 4104

I certify that:

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

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

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

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

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

Certified by *Print name*

HEATH SIELY

Certifier's signature

Date

16 / 08 / 2022

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Stock Code no. 262006

Assessment Table

Table 1: Low Risk Test

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

	Yes	*No*	
Have you answered 'yes' to any of the questions in Table 1?	☑	☐	**If '*No*' then site is <u>low risk</u> with respect to erosion and sediment control**

If '*Yes*' then proceed to Table 2

Table 2: Medium Risk Test

		Yes	*No*	
2.1	is the area of land disturbance > 1 hectare	☐	☑	**If '*No*' then site is <u>medium risk</u> with respect to erosion and sediment control**

If '*Yes*' then proceed to Table 3

Table 3: High Risk Test

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

	Yes	*No*	
Have you answered 'yes' to any of the questions in Table 3?	☐	☐	**If '*No*' then site is <u>medium risk</u> with respect to erosion and sediment control**

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

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