PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Queensland Government

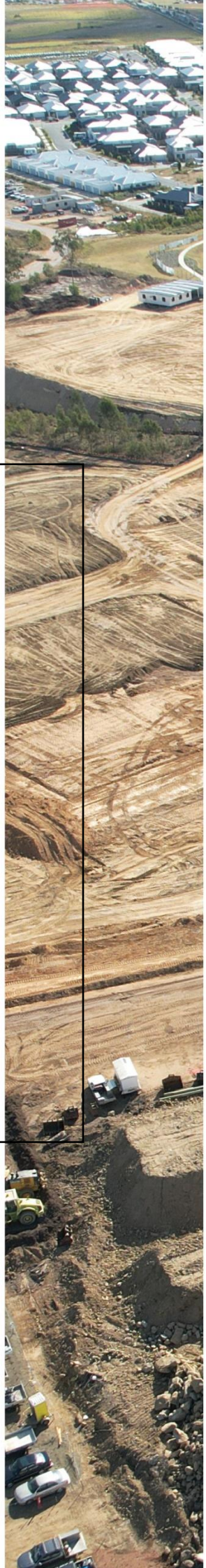
Approval no: DEV-2026-WAR-4926

Date: 27 October 2026

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RIVERMONT – PRECINCT 4

ENGINEERING SERVICES REPORT



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DOCUMENT REGISTER

Version	Status	Date of Issue	Authors	Reviewers
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3	FOR APPROVAL	13/08/26	AL	MS

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INTRODUCTION

KN Group was commissioned by Stockland Development Pty Ltd to prepare an engineering services report for the proposed development located at 67-177 Litherland Road, Wagtail Grove to support the RAL submission for Precinct 4 to the City of Moreton Bay (CoMB).

Stockland Development Pty Ltd seek a development approval for a residential development on land at 67-177 Litherland Road, Wagtail Grove. The subject site is more properly described as part of Lot 15 on C31239. Refer to Appendix C for submitted Proposal Plans.

SITE CHARACTERISTICS

The proposed development site is located within the Caboolture West Emerging Community Area. Part of lot 15 on C31239 within NDP2. The existing condition of the proposed development site is predominantly cleared and utilized for rural uses (cattle grazing), refer Figure 1 below for locality and Structure Plan for the application.

The Caboolture River runs near the south eastern corner of Precinct 4. The existing Litherland Road which currently comprises a rural road formation runs along the northern boundary of the site.



Figure 1: Locality Plan

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LAND TOPOGRAPHY AND SITE DRAINAGE

Three dams exist within the centre of the site, collecting flows from the surrounding areas via sheet flow from all directions. There is a ridgeline at the top of this catchment that runs roughly parallel to the western and southern boundaries. Runoff on the other side of these ridgelines, discharges into the adjacent land via sheet flow.

The overall grading strategy for Precinct 4 was to grade the site from south west, to the north east. Refer Figure 2 below. This would avoid any stormwater outlets directly discharging into adjoining private land. This runoff will ultimately discharge into a bio basin in the north eastern corner of the site and then into the adjacent TMR Bruce Highway Western Alternative (BHWA). The north western corner of the site is excluded from this application and will remain as per existing conditions and discharge runoff as sheet flow across the western boundary. The sub-arterial connecting the precinct to the existing site to the east will be graded to a sag at the existing gully within the adjacent TMR corridor. Runoff from this road will discharge directly into the corridor as per existing conditions.

Further details of this grading is contained within Appendix A, KN Precinct 4 Functional Engineering Drawings.

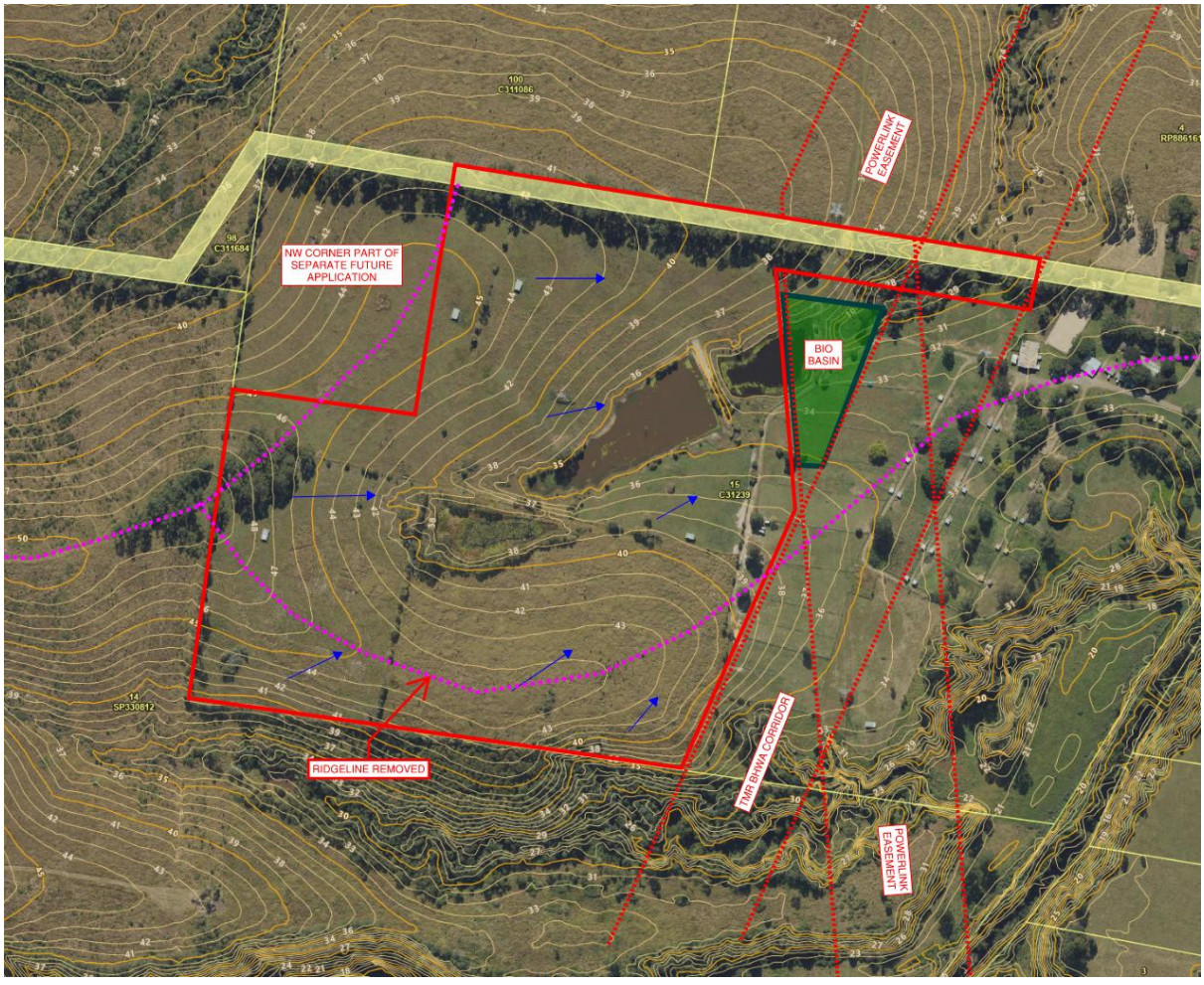


Figure 2: Natural Terrain and High Level Grading Strategy Precinct 4

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INFRASTRUCTURE FOR DEVELOPMENT

EARTHWORKS

Due to the natural landform of the site, bulk earthworks will be required throughout the site to make the allotments suitable for residential development construction. Batters will be constructed where there is a level difference between adjoining lots, with retaining walls installed in areas where the height difference exceeds 0.5m.

Due to the steepness of the land around the edges of the development, retaining walls are proposed along both the western and eastern sides of the development site. The western boundary will include both a cut retaining wall south of the park, and a fill wall to the north through to the sub-arterial corridor. The height of this wall will vary between 0.5m and 2.5m.

Preliminary discussions with TMR regarding the eastern boundary have already occurred via a SARA approval for works within the BHWA corridor (Ref: 2508-47898 SPD). The retaining wall in question will be maximum 1.5m in height so as not to impose an excessive burden on the future construction of the BHWA. Cut batters will be implemented along this boundary instead of retaining walls due to the level interface of the adjacent roadway being lower, and therefore not impacting future construction works in that area.

Preliminary bulk earthworks plan has been included in Appendix A. These plans show indicative areas of cut and fill for the proposed development. Earthworks will be required for the road grades throughout the proposed development site and for finished surface levels to tie into the surrounding land.

There are three existing dams within the development site that will be filled as part of the proposed works. These dams will be de-watered, with the base of the dams worked/replaced as necessary to allow filling in accordance with AS3798 under level 1 supervision. These works will be completed as part of the earthworks for precinct 2/3.

Preliminary bulk earthworks volumes broadly indicate the site to be a fill site, however a large portion of the fill required will be sourced from the adjacent precinct 2/3 currently under construction. Localised filling of a

Road and earthworks grading has been designed where possible to minimise retaining walls across the entire development footprint. In particular, roads have been graded with a fall of minimum of 0.5% and a maximum of 5%.

All allotments and roads have been design in accordance with the required QUDM freeboards.

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EROSION AND SEDIMENT CONTROL

Erosion and Sediment Control will be undertaken in accordance with industry best practice guidelines and state and local policy and planning schemes. This includes:

- Best Practice Erosion and Sediment Control (IECA, 2008)
- State Planning Policy (DILGP, 2017)
- Appendix B (IECA, 2018)
- Complying with the SPP – Technical Note for Government Development Assessment & Compliance Officers (Healthy Land and Water, 2018)

In accordance with the State Planning Policy (DILGP, 2017), Type 1 sediment controls (sediment basins) are designed to achieve 80% hydrologic efficiency (HE) and are deemed to comply. A range of approaches are considered acceptable to achieve compliance with the 80% HE objective, being:

- High Efficiency Sediment (HES) Basins in accordance with IECA (2018);
- Large Traditional Sediment Basins (in accordance with Table 2 of HLW,2018);
- Total Capture – hold all water on site;
- Alternative Innovative Measures; and
- Erosion Control.

As discussed above, bio 1 will be constructed and will be utilised during construction as a High Efficiency Sediment (HES) Basin in accordance with IECA (2018) Guidelines.

The sediment control standard proposed will be in accordance with and determined using Table 4.5.1 (IECA, 2008) which defines the sediment control standard based on catchment area and soil loss rate. The revised Table 4.5.1 (IECA, 2008) provided in Appendix B (IECA, 2018) includes an additional area limit trigger of 1 hectare to increase the sediment control standard for large sites with an estimated soil loss exceeding 75 t/ha/yr.

Table 1: Sediment Control Standard (Table B1 Appendix B IECA 2018)

AREA LIMIT (m^2)	SOIL LOSS RATE LIMIT (T/HA/YR)		
	TYPE 1	TYPE 2	TYPE 3
1000	N/A	N/A	All cases
2500	N/A	> 75	75
> 2500	> 150	150	75
> 10000	>75	N/A	75

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ROADWORKS

A traffic impact statement has been developed by others and builds upon current CoMB IA Traffic and Transport obligations. These include the sub-arterial connection across from Precinct 3, and the contemporary residential road extending from the main roundabout into the centre of the precinct.

Appendix A indicated the proposed road network and hierarchy for the proposed development. The design of roadworks will be in accordance with CoMB requirements, Austroads Guidelines and all other relevant standards and requirements.

STORMWATER QUALITY

Stormwater Quality has been provided in accordance with Stormwater Quality Management Plan (SQMP) by Designflow.

The key treatment elements of include construction of the sediment and bio basin infrastructure at the north-eastern corner of the site. Catchments have been confirmed to ensure these catchment in total remain un-changed from Designflow report.

STORMWATER DRAINAGE INFRASTRUCTURE

A complete underground piped stormwater system for the developable area will be provided as a part of the proposed development. The stormwater system will capture stormwater runoff in gullies and field inlets and convey it through underground infrastructure. The design of all stormwater infrastructure will be in accordance with Queensland Urban Design Manual (QUDM) and CMB Scheme Policies. A preliminary stormwater layout plans is included in Appendix A, this shows the proposed layout of stormwater infrastructure for the proposed development. The below summarises the proposed stormwater strategy:

- The internal site will be captured and conveyed via underground infrastructure to the north eastern bio-basin for treatment.
- 1% AEP flows will also be directed to this corner.
- Low flows will be treated via the sediment and bio-retention basins, with high flows bypassing via an overflow weir.
    - The bio basin is located partially within the Powerlink easement in the north east corner of the site. The basin and related earthworks however sit outside the CSA + 5m zone from the overhead powerlines, to ensure that Powerlink can access their infrastructure through the life of the project.
    - The access track down to the basin will provide additional access from the development down to the Powerlink easement.
    - The western side of the basin is proposed to be constructed with a tiered boulder retaining wall or similar approved wall. The size of the wall is consistent with other approved tiered wall within bio-basins in NDP1. The toe of the proposed wall also sits above the 1% AEP level within the basin to reduce operational impacts to the wall itself.
- All flows from the basin will be directed to a pipe culvert located within the TMR BHWA corridor. The intent of this infrastructure is to convey the Q100 from the development directly into Small Creek to the north, mitigating any impacts to the BHWA construction and ultimate functionality

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- This stormwater strategy has been agreed with TMR in principle via the SARA approval for works within the BHWA corridor (Ref: 2508-47898 SPD) which allows the entirety of precinct 4 to be conveyed by this infrastructure to Small Creek.
- A separate culvert will be installed beneath the sub-arterial crossing of the TMR corridor to convey surface runoff from the TMR land north into Small Creek also, as per existing conditions. This culvert conveys runoff from within the TMR corridor itself and not Precinct 4. Once construction of the BHWA commences, this culvert will be removed and managed onsite during construction, and then ultimately replaced by the highway drainage system

Further to the above, the proposed development plan is consistent with the previous Egis Flood Report approved under DA/2024/2263.

Lawful points of discharge are achieved at the stormwater outlets. Appropriate drainage easements in favour of the City of Moreton Bay will be created as part of the survey plan creating the relevant stage, where required.

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FLOOD MANAGEMENT

A comprehensive Flood Management Plan was previously undertaken by Egis and approved under DA/2024/2263. The development conditions assessed in the FMP included the proposed works for Precinct 4 as shown in the image below. The proposed extent of works and allotment levels within precinct 4 are in keeping with the approved Flood Report.

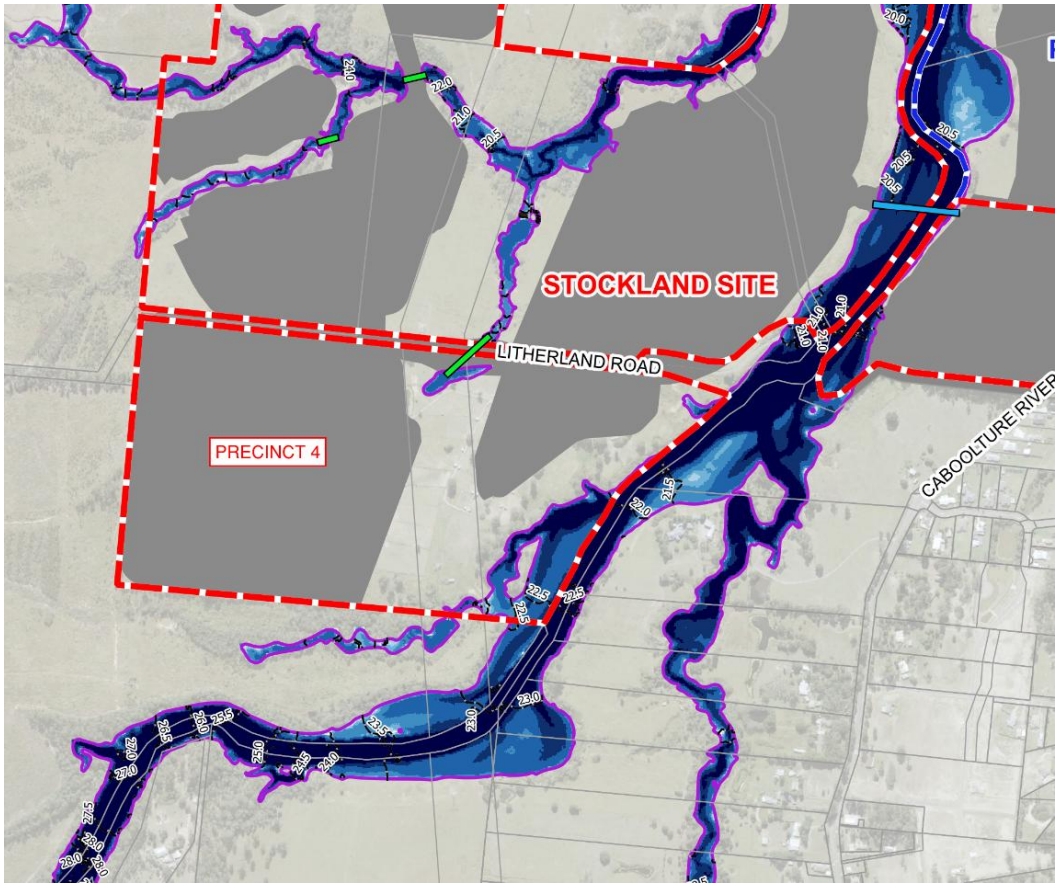


Figure 3: Egis Flood Report – 1% AEP Flood Maximum Depths

The culvert crossing the sub-arterial road is located in the same position as nominated in the report. It should be noted that the size of the proposed culvert does differ from the approved report. As mentioned above, through discussions with TMR, it is proposed to capture and convey the runoff from Precinct 4 into an underground pipe culvert to discharge directly into Small Creek. This pipe will ensure that any runoff from Precinct 4 does not impact the construction or functionality of the future BHWA roadway. The culvert crossing the sub-arterial road has therefore been sized to convey the upstream surface runoff from within the TMR land itself. Refer to the KN functional layout plans attached in Appendix A for further details.

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WATER AND WASTEWATER

Water & Wastewater Trunk Infrastructure Planning for the development has been finalised with Unitywater. The provided functional servicing layouts align with the current infrastructure agreement requirements. These include

- Extension of the DN800 PE100 watermain along the proposed sub-arterial to the entry roundabout in the north of the site
- Connection to the DN250 PE100 sewer crossing the TMR BHWA corridor (Note: This sewer crossing will be constructed as part of the adjacent precinct 3 works)
- Refer to Figure 4 and Figure 5 for the respective Water and Sewer Infrastructure agreement layouts

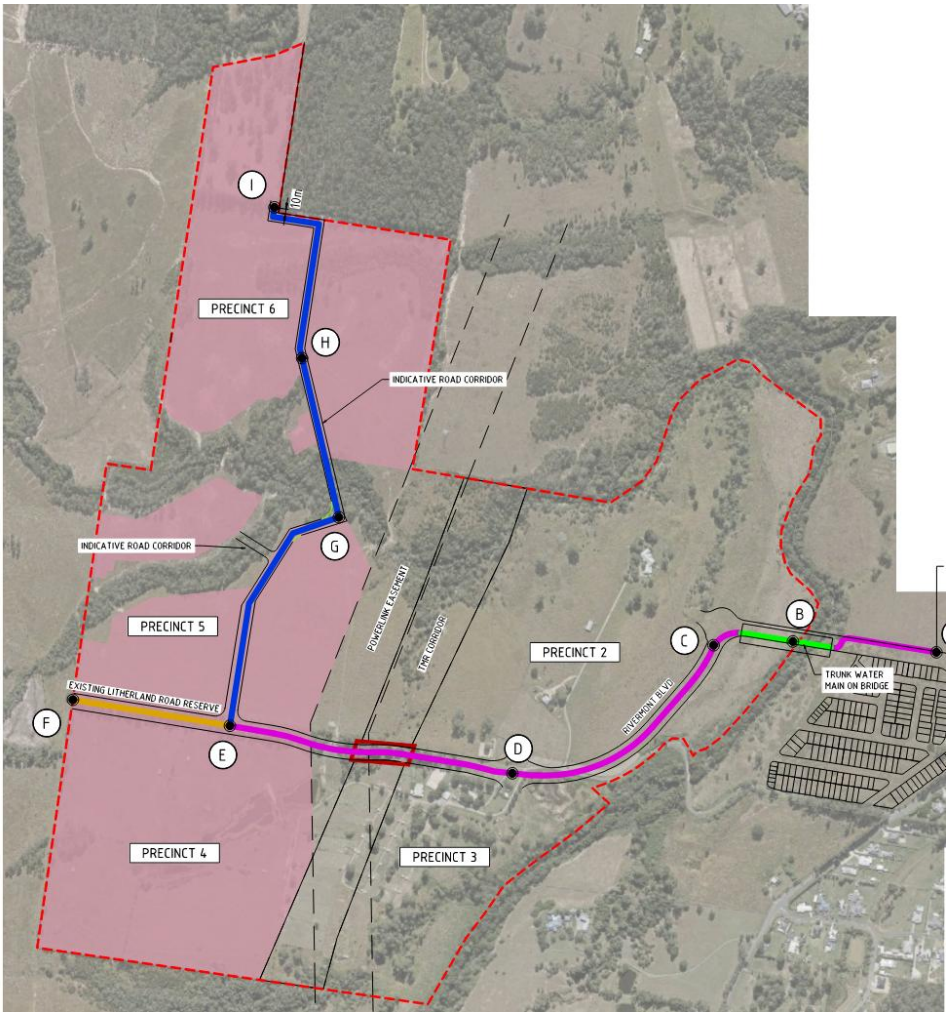


Figure 4: Water Infrastructure Agreement – Water Supply Network

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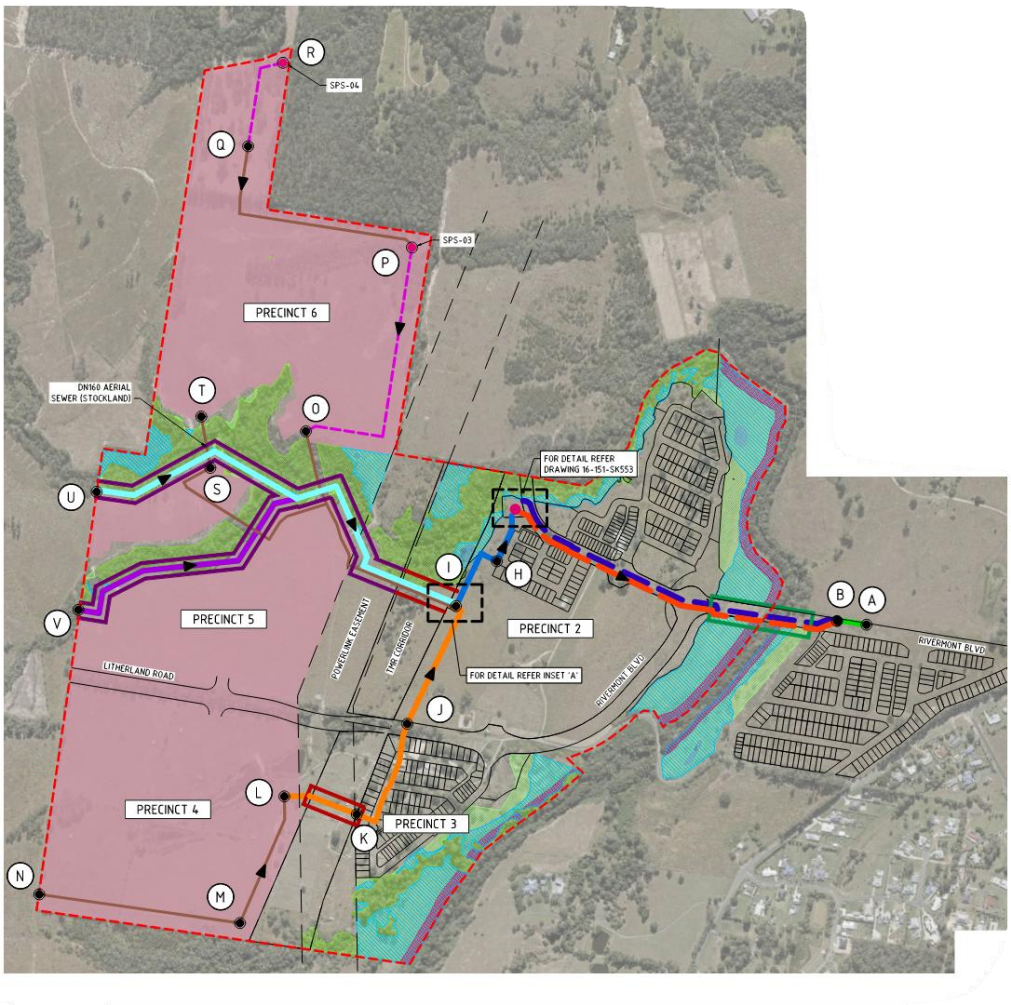


Figure 5: Water Infrastructure Agreement – Sewer Network

A preliminary water and sewer reticulation layout has been included in Appendix A.

ELECTRICAL, TELECOMMUNICATIONS

All proposed allotments will be serviced with underground electricity and telecommunication services. New infrastructure in relation to these utilities will be constructed as a part of the proposed development to service individual allotments. All electrical and telecommunications infrastructure will be constructed in accordance with the relevant authorities and service providers. Further information in regards to the services will be provided as a part of the Operational Works application.

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SUMMARY

This engineering services report relating to the proposed development demonstrates:

- The proposed road network is consistent with CMB requirements, IA and UW IA.
- Each individual allotment will have access onto the proposed road network;
- Earthworks will be necessary throughout the proposed development area to satisfy design lot pad levels, road grades and for the installation of underground infrastructure;
- Stormwater Quality Management is in accordance with the Designflow SQMP.
- The site layout is consistent with what is documented in the original Egis Flood Report which resulted in non-worsening to surrounding properties
- New stormwater infrastructure will be constructed as a part of the new development. Stormwater flows will be conveyed through the proposed development site into proposed bio-basins and treated prior to discharging;
- New sewerage infrastructure will be created to service individual allotments consistent with UW IA; and
- New water reticulation infrastructure will be constructed to service individual allotments consistent with UW IA.

The above assessment demonstrates the subject site can satisfy the relevant engineering and government authority requirements to adequately service the site.

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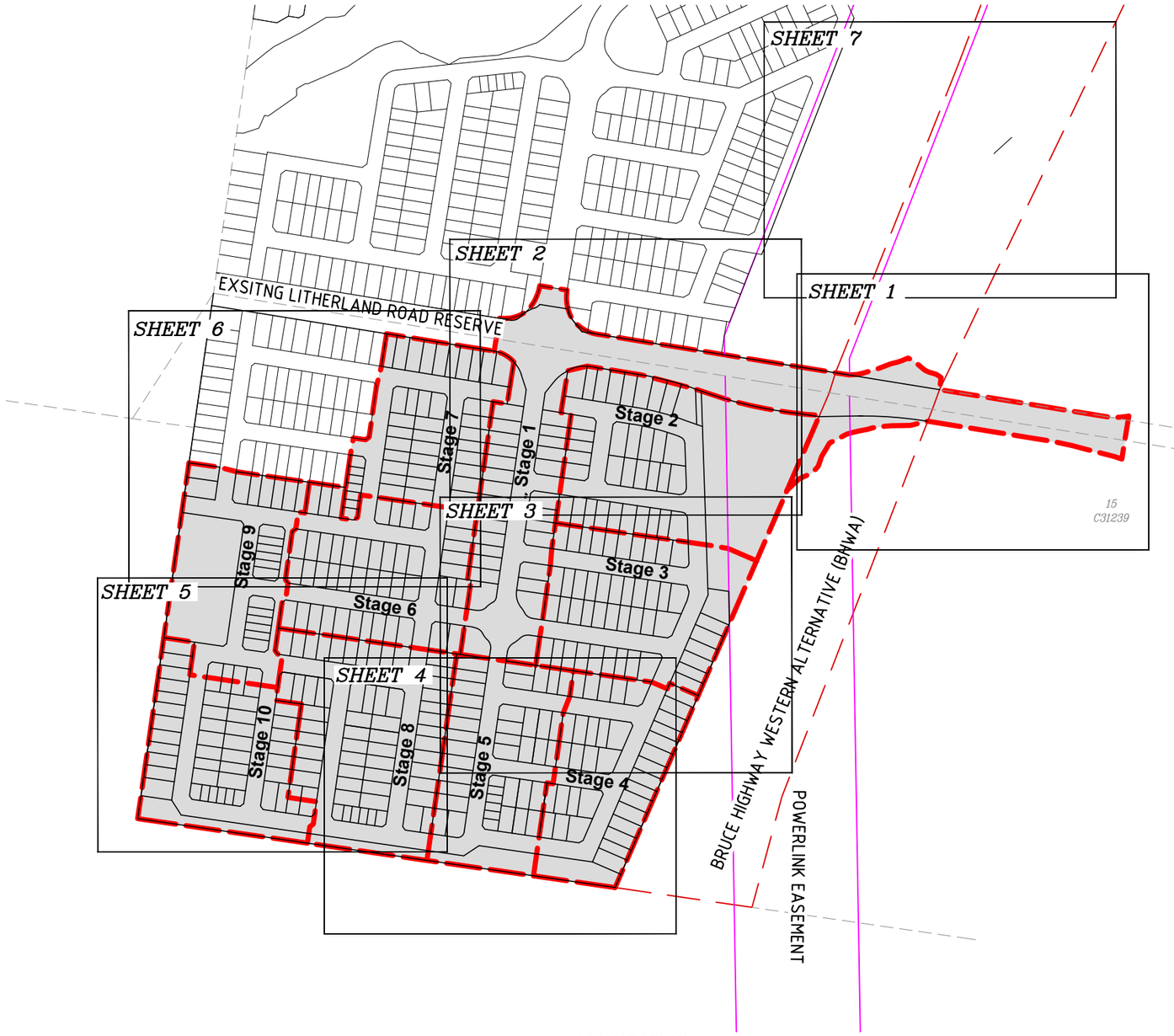
APPENDICES

APPENDIX A PRELIMINARY ENGINEERING DRAWINGS

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RIVERMONT PRECINCT 4
FUNCTIONALS



LOCALITY PLAN
SCALE 1:2500

DRAWING INDEX

DRAWING NO.	DRAWING TITLE
25-190-01	LOCALITY PLAN AND - DRAWING INDEX
25-190-02	ROADWORKS - GENERAL ARRANGEMENT
25-190-03	ROADWORKS - ROADS TYPICAL SECTIONS SHEET 1
25-190-04	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 1
25-190-05	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 2
25-190-06	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 3
25-190-07	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 4
25-190-08	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 5
25-190-09	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 6
25-190-10	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 7
25-190-11	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 8
25-190-12	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 9
25-190-13	FUNCTIONAL LAYOUT - OVERALL SERVICES SHEET 10
25-190-14	FUNCTIONAL LAYOUT - OVERALL CUT FILL DIAGRAM
25-190-15	FUNCTIONAL LAYOUT - SUB-ARTERIAL LONGITUDINAL SECTION - SHEET 1
25-190-16	FUNCTIONAL LAYOUT - SUB-ARTERIAL LONGITUDINAL SECTION - SHEET 2
25-190-17	FUNCTIONAL LAYOUT - SUB-ARTERIAL CROSS SECTIONS SHEET 1
25-190-18	FUNCTIONAL LAYOUT - SUB-ARTERIAL CROSS SECTIONS SHEET 2
25-190-19	FUNCTIONAL LAYOUT - SUB-ARTERIAL CROSS SECTIONS SHEET 3

SCALE
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LOCALITY PLAN

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Drawing Title: LOCALITY PLAN AND DRAWING INDEX

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ROADWORKS - LAYOUT PLAN
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LOCALITY PLAN

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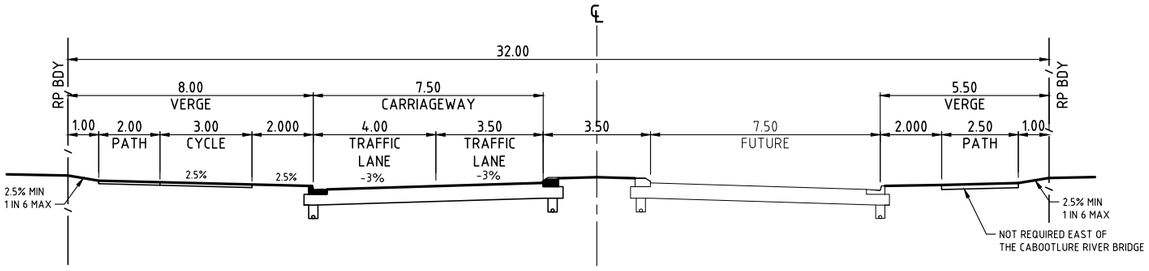
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GENERAL ARRANGEMENT

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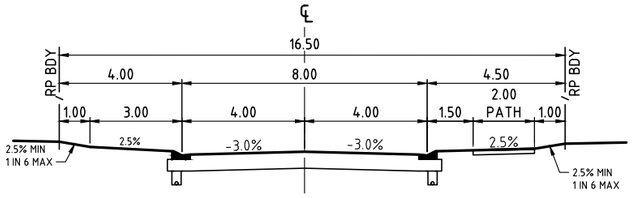
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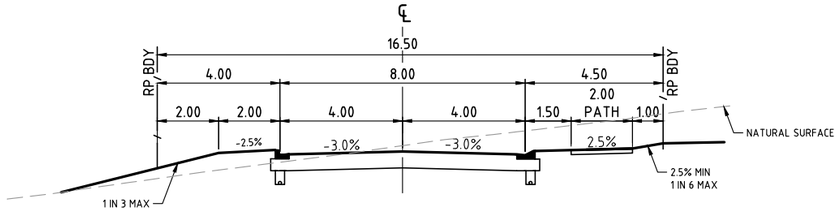
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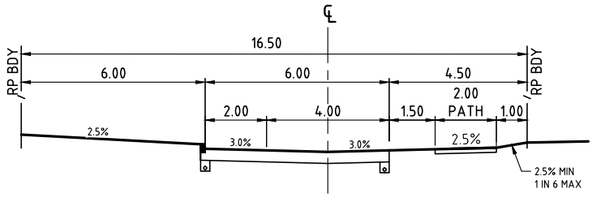
IA SUB-ARTERIAL ROAD (32m WIDE)
TYPICAL CROSS SECTION



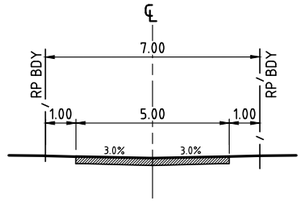
MODIFIED CMB LIVING RESIDENTIAL ROAD
(16.5m ROAD RESERVE)



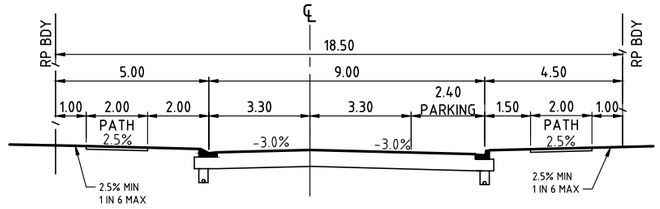
MODIFIED CMB LIVING RESIDENTIAL ROAD
(16.5m ROAD RESERVE)



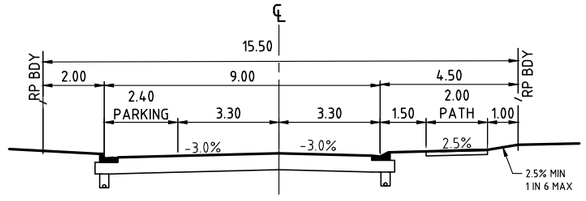
DRIVEWAY
(16.5m ROAD RESERVE)



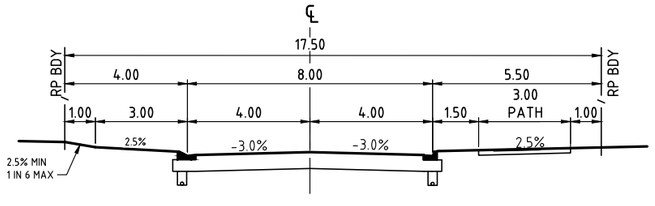
CMB LANEWAY
(7.0m ROAD RESERVE)



IA CONTEMPORARY RESIDENTIAL ROAD
(18.5m ROAD RESERVE)



ESPLANADE ROAD LIVING RESIDENTIAL ROAD WITH PARKING
(15.5m ROAD RESERVE)



ESPLANDE LIVING RESIDENTIAL ROAD WITH 3m PATH
(18.0m ROAD RESERVE)

SCALE
1 0.5 0 1 2 3 4 5 6 7 8 9 10m
1 : 100 (A1 UNREDUCED)

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LOCALITY PLAN

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A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

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PRECINCT 4
FUNCTIONALS

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Drawing Title
ROADWORKS
ROADS TYPICAL SECTIONS
SHEET 1

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VS	VS	MAS	OCT' 25

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A1	Drawing No	Revision
	25-190- 03	B

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REFER KNg DWG 25-190-10

REFER KNg DWG 25-190-05

POWERLINK CORRIDOR

FUTURE BHWA CORRIDOR

PIPE CULVERT TO HAVE MINIMUM 1.5m COVER THROUGH TMR BHWA CORRIDOR

HEADWALL TO BE ULTIMATELY REMOVED AS PART OF BHWA CONSTRUCTION

TIE INTO EXISTING ROUNDABOUT CONSTRUCTED AS PART OF PRECINCT 2/3

RIVERMONT BOULEVARD P2

CULVERT TO CONVEY TMR LAND SURFACE RUNOFF. CULVERT TO BE REMOVED AS PART OF CONSTRUCTION OF BHWA WORKS WITHIN CORRIDOR

PIPE CULVERT TO CONVEY Q100 FROM PRECINCT 4 THROUGH TMR BHWA CORRIDOR DIRECTLY TO SMALL CREEK

BUND TO ENSURE NO RUNOFF ENTERS BHWA CORRIDOR

Q100 FROM PRECINCT WILL ENTER BASIN. MAJOR FLOWS TO BYPASS BIO-RETENTION VIA OVERFLOW WEIR

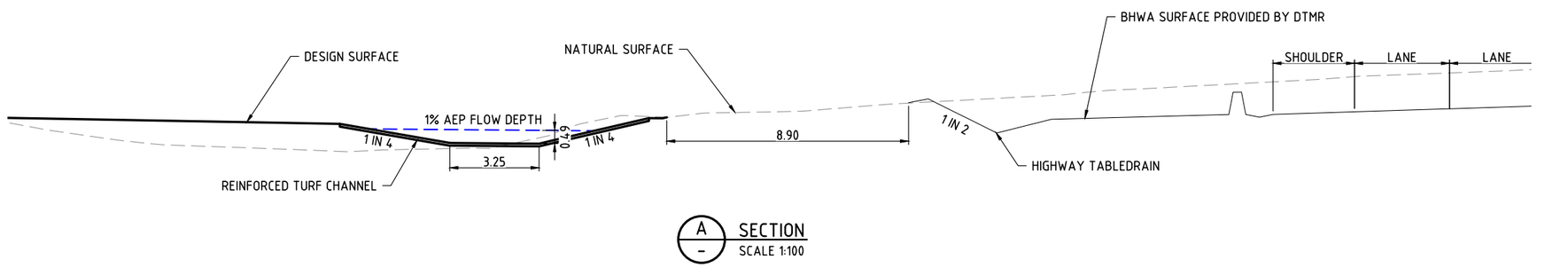
CTP876.386

LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
- SM5 SEMI-MOUNTABLE KERB
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- FINISHED CONTOUR
- PROPOSED WATER SERVICE
- PROPOSED ELECTRICAL PILLARS (BY OTHERS
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER RETICULATION
- 0 - 0.5m BATTER
- 0.5 - 1.0m RETAINING WALL
- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

ROADWORKS - LAYOUT PLAN

SCALE 1:500



A - SECTION

SCALE 1:100

SCALE 10 5 0 10 20 30 40 50m

1 : 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!

NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

Stockland

Project

RIVERMONT
PRECINCT 4
FUNCTIONALS

kn group

L1, 62 Astor Terrace, Spring Hill, QLD 4000
www.kngroup.com.au | 07 3017 1900

Approved Director - RPEQ 17544

Drawing Title

FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 1

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	04 of cc

	Drawing No	Revision
A1	25-190-04	B

M:\2025\25190 Rivermont P4 and P5 RAL Support\Engineering\Acad\0 Series Precinct 4\25-190-04-13_SERVICES.dwg Plotted by: AL on 13/08/2026 3:48:15 PM

LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
- SM5 SEMI-MOUNTABLE KERB
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- FINISHED CONTOUR
- PROPOSED WATER SERVICE
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- 0 - 0.5m BATTER
- 0.5 - 1.0m RETAINING WALL
- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

ALL WEATHER ACCESS TRACK TO EXTEND TO WESTERN BOUNDARY

EXISTING POWERLINK TOWER

ROCK RETAINING WALL

DRIVEWAY 04

DRIVEWAY 05

ROAD 76

ROAD 70

ROAD 109

Stage 2

REFER KNg DWG 25-190-09

REFER KNg DWG 25-190-04

REFER KNg DWG 25-190-06

ROADWORKS - LAYOUT PLAN

SCALE 1:500

SCALE 10 5 0 10 20 30 40 50m

1 : 500 (A1 UNREDUCED)

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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client: Stockland

Project: RIVERMONT PRECINCT 4 FUNCTIONALS

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Drawing Title: FUNCTIONAL LAYOUT OVERALL SERVICES SHEET 2

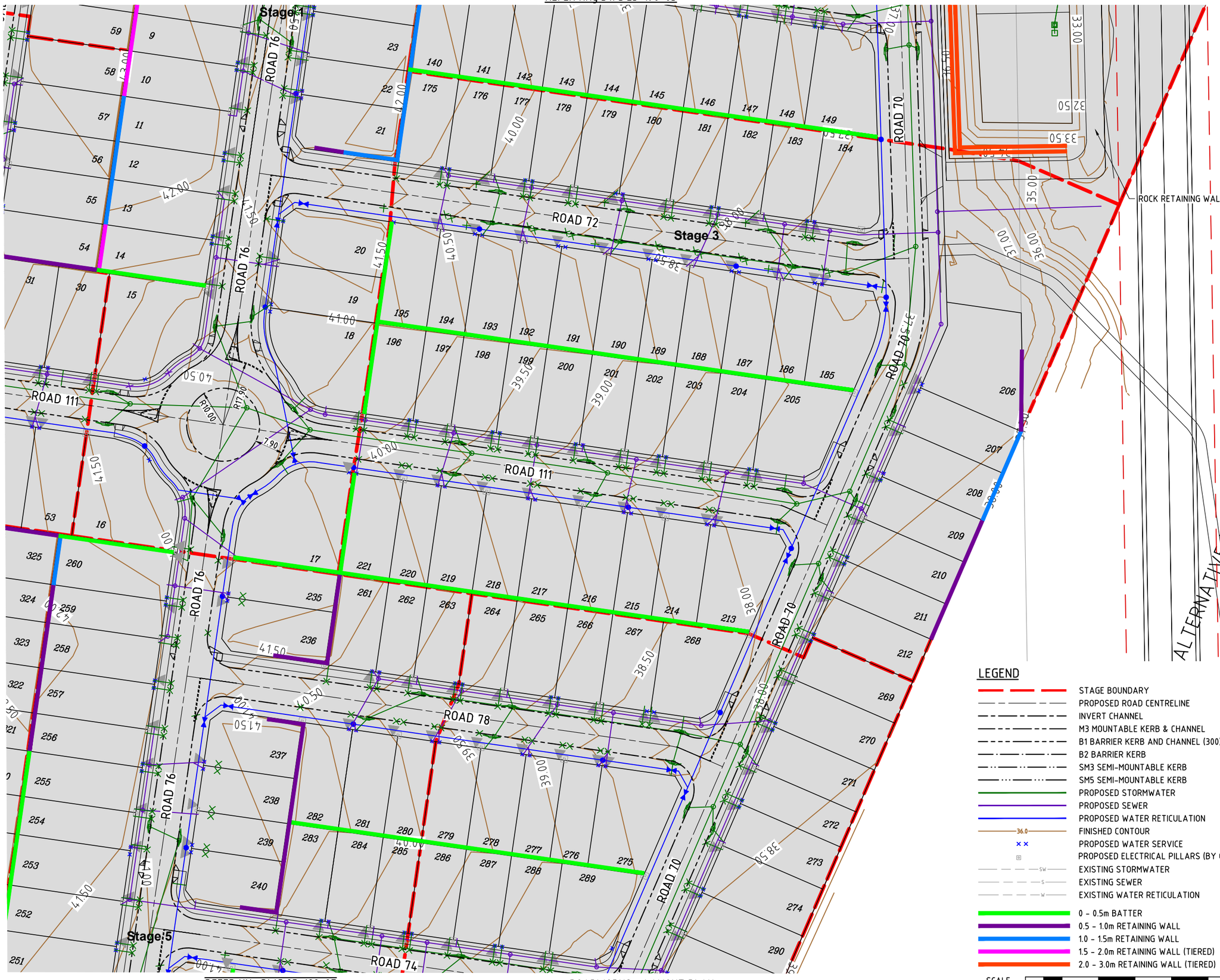
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VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	05 of cc

	Drawing No	Revision
A1	25-190-05	B

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REFER KNg DWG 25-190-05



REFER KNg DWG 25-190-07

ROADWORKS - LAYOUT PLAN
SCALE 1:500

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN

LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
- SM5 SEMI-MOUNTABLE KERB
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- FINISHED CONTOUR
- PROPOSED WATER SERVICE
- PROPOSED ELECTRICAL PILLARS (BY OTHERS)
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER RETICULATION
- 0 - 0.5m BATTER
- 0.5 - 1.0m RETAINING WALL
- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

SCALE 10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

Stockland

Project

RIVERMONT
PRECINCT 4
FUNCTIONALS

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Drawing Title
FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 3

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	06 of cc

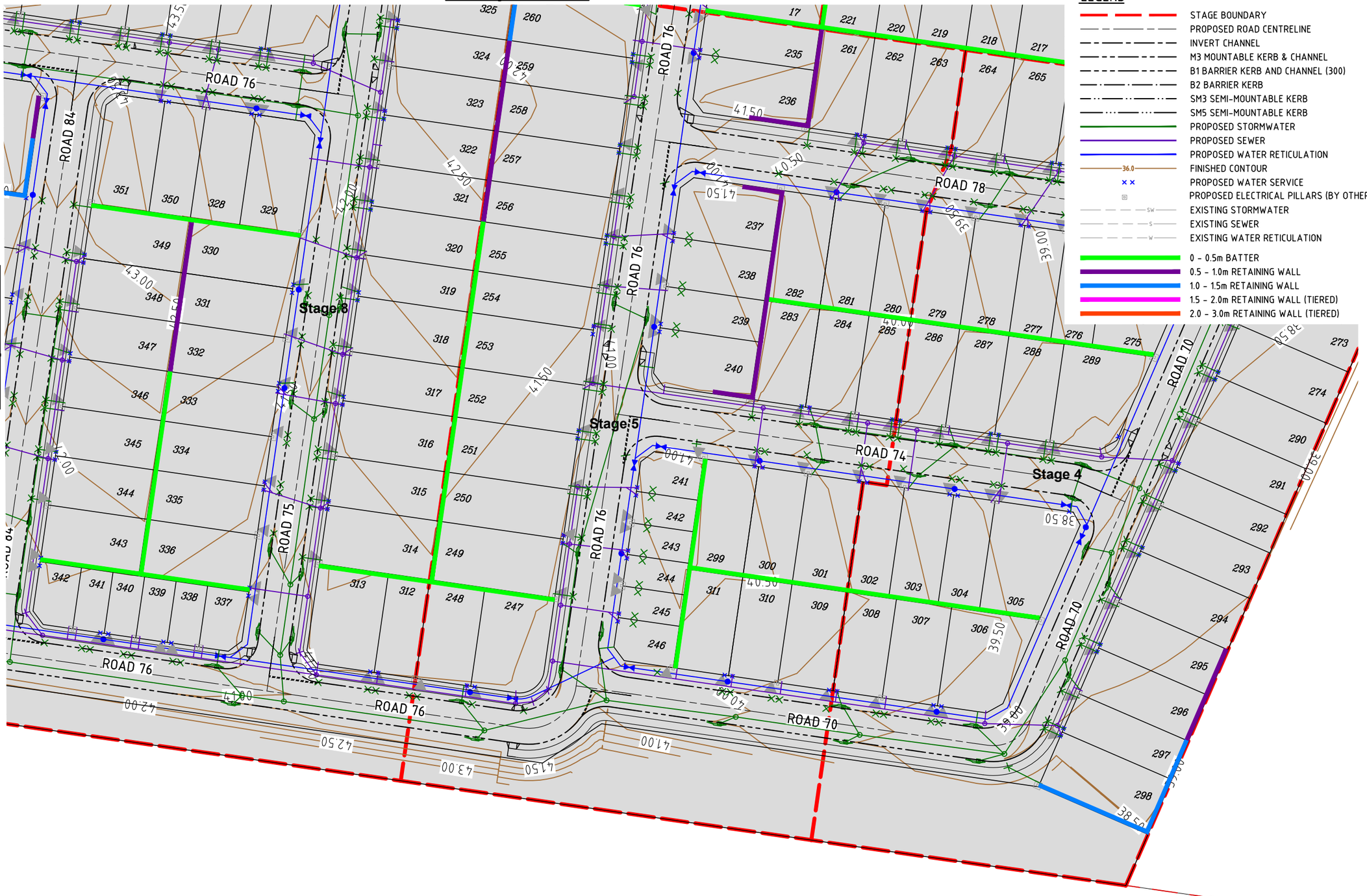
Drawing No	Revision
25-190-06	B

A1

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REFER KNg DWG 25-190-06

REFER KNg DWG 25-190-08



LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
- SM5 SEMI-MOUNTABLE KERB
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- 36.0 FINISHED CONTOUR
- PROPOSED WATER SERVICE
- PROPOSED ELECTRICAL PILLARS (BY OTHERS
- SW EXISTING STORMWATER
- S EXISTING SEWER
- W EXISTING WATER RETICULATION
- 0 - 0.5m BATTER
- 0.5 - 1.0m RETAINING WALL
- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

ROADWORKS - LAYOUT PLAN

SCALE 1:500

SCALE 10 5 0 10 20 30 40 50m

1 : 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

Stockland

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RIVERMONT
PRECINCT 4
FUNCTIONALS

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Drawing Title

FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 4

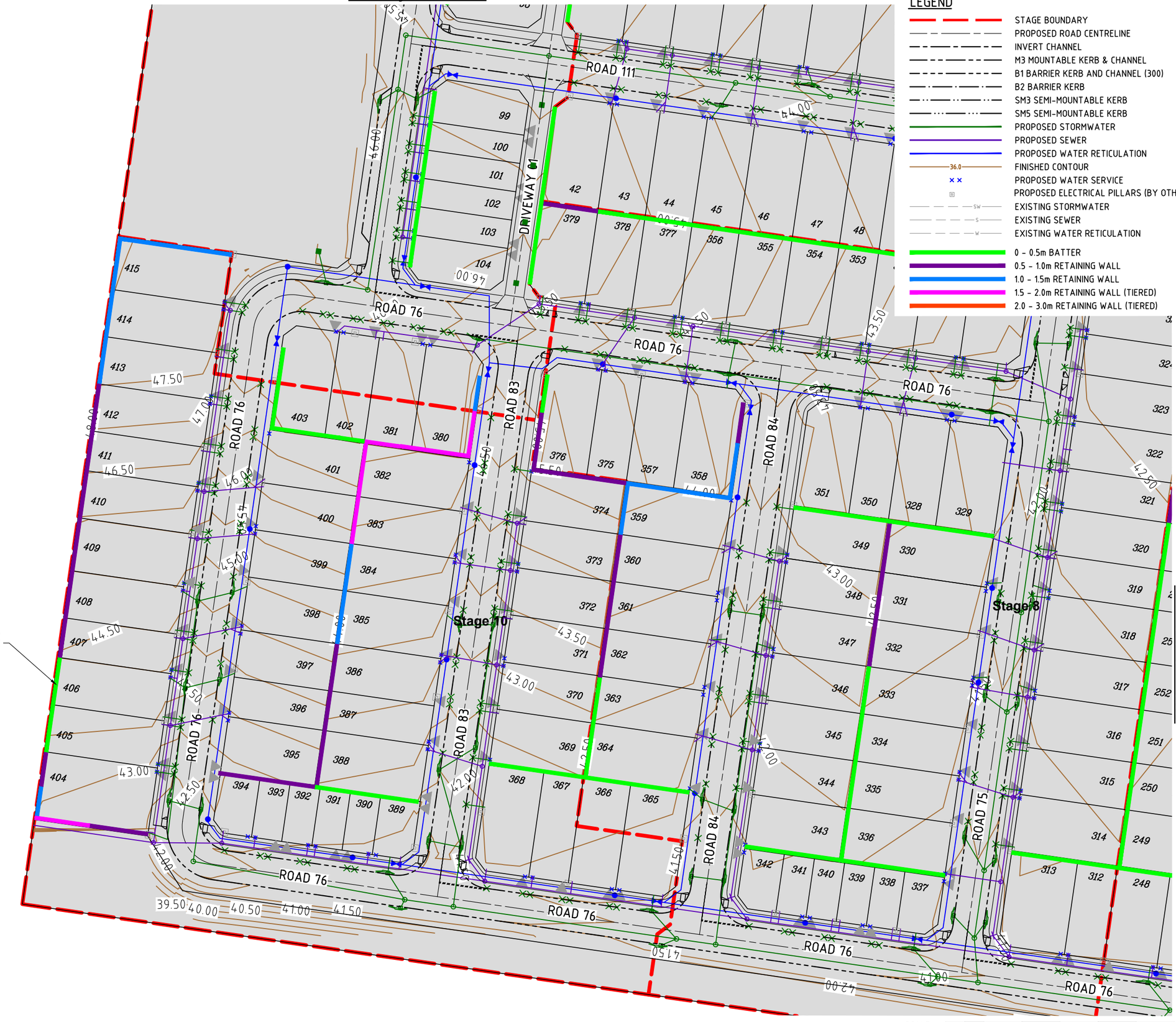
Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	07 of cc

	Drawing No	Revision
A1	25-190-07	B

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REFER KNg DWG 25-190-09



LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
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- 0 - 0.5m BATTER
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- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

ROADWORKS - LAYOUT PLAN

SCALE 1:500

SCALE 10 5 0 10 20 30 40 50m

1 : 500 (A1 UNREDUCED)

REFER KNg DWG 25-190-07

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

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RIVERMONT
PRECINCT 4
FUNCTIONALS

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Drawing Title

FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 5

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	08 of cc

	Drawing No	Revision
A1	25-190-08	B

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LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
- SM5 SEMI-MOUNTABLE KERB
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- 36.0 FINISHED CONTOUR
- PROPOSED WATER SERVICE
- PROPOSED ELECTRICAL PILLARS (BY OTHERS
- SW EXISTING STORMWATER
- S EXISTING SEWER
- W EXISTING WATER RETICULATION

- 0 - 0.5m BATTER
- 0.5 - 1.0m RETAINING WALL
- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

ALL WEATHER ACCESS TRACK TO EXTEND TO WESTERN BOUNDARY

SUB-ARTERIAL EARTHWORKS ONLY AS PART OF PRECINCT 4 CONSTRUCTION. REFER CUT & FILL PLAN FOR EXTENT OF WORKS

WALL ALONG EXTERNAL BOUNDARY TO BE TIERED AS PER CoMB PLANNING SCHEME

ROAD 75 · ROAD 80 · DRIVEWAY 02

Stage 11 · Stage 7 · Stage 9

REFER KNg DWG 25-190-08

REFER KNg DWG 25-190-05

ROADWORKS - LAYOUT PLAN
SCALE 1:500

SCALE 10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

Stockland

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PRECINCT 4
FUNCTIONALS

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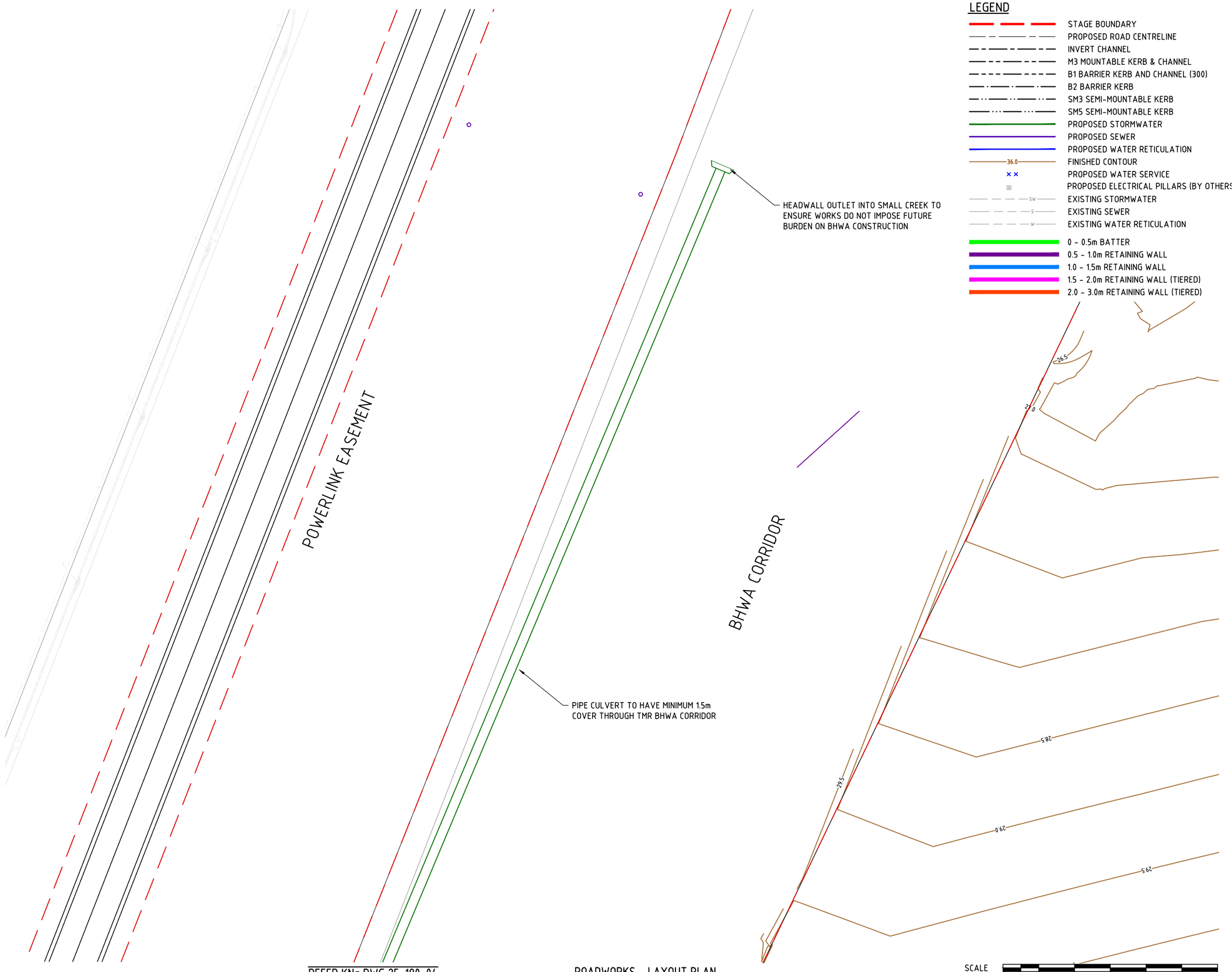
Approved Director - RPEQ 17544

Drawing Title
FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 6

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	09 of cc

	Drawing No	Revision
A1	25-190-09	B



REFER KNg DWG 25-190-04

ROADWORKS - LAYOUT PLAN
SCALE 1:500

LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- INVERT CHANNEL
- M3 MOUNTABLE KERB & CHANNEL
- B1 BARRIER KERB AND CHANNEL (300)
- B2 BARRIER KERB
- SM3 SEMI-MOUNTABLE KERB
- SM5 SEMI-MOUNTABLE KERB
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- 36.0 FINISHED CONTOUR
- PROPOSED WATER SERVICE
- PROPOSED ELECTRICAL PILLARS (BY OTHERS
- SW EXISTING STORMWATER
- S EXISTING SEWER
- W EXISTING WATER RETICULATION
- 0 - 0.5m BATTER
- 0.5 - 1.0m RETAINING WALL
- 1.0 - 1.5m RETAINING WALL
- 1.5 - 2.0m RETAINING WALL (TIERED)
- 2.0 - 3.0m RETAINING WALL (TIERED)

SCALE
10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!

NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS
B	RFI RESPONSE	2025.03.17	AL

Client

Stockland

Project

RIVERMONT
PRECINCT 4
FUNCTIONALS

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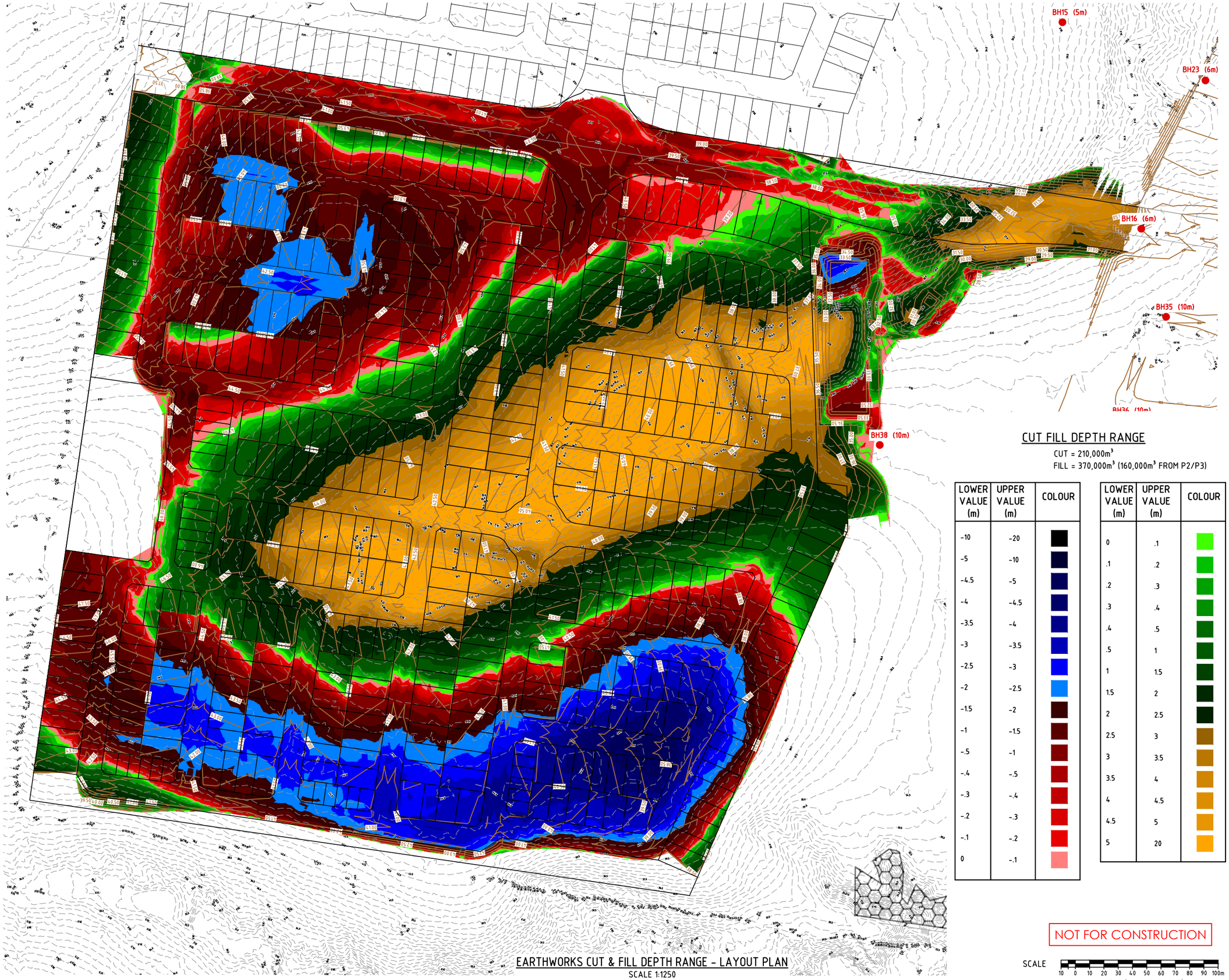
Drawing Title
FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 7

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	10 of cc

	Drawing No	Revision
A1	25-190-10	B

M:\2025\25190 Rivermont P4 and P5 RAL Support\Engineering\Acad\0 Series Precinct 4\25-190-04-13_SERVICES.dwg Plotted by: AL on 13/08/2026 3:48:01 PM



CUT FILL DEPTH RANGE

CUT = 210,000m³
FILL = 370,000m³ (160,000m³ FROM P2/P3)

LOWER VALUE (m)	UPPER VALUE (m)	COLOUR
-10	-20	
-5	-10	
-4.5	-5	
-4	-4.5	
-3.5	-4	
-3	-3.5	
-2.5	-3	
-2	-2.5	
-1.5	-2	
-1	-1.5	
-.5	-1	
-.4	-.5	
-.3	-.4	
-.2	-.3	
-.1	-.2	
0	-.1	

LOWER VALUE (m)	UPPER VALUE (m)	COLOUR
0	.1	
.1	.2	
.2	.3	
.3	.4	
.4	.5	
.5	1	
1	1.5	
1.5	2	
2	2.5	
2.5	3	
3	3.5	
3.5	4	
4	4.5	
4.5	5	
5	20	

NOT FOR CONSTRUCTION

SCALE 10 0 10 20 30 40 50 60 70 80 90 100m
1 : 1250 (A1 UNREDUCED)

EARTHWORKS CUT & FILL DEPTH RANGE - LAYOUT PLAN
SCALE 1:1250

M:\2025\25190 Rivermont P4 and P5 RAL Support\Engineering\Acad\0 Series Precinct 4\25-190-14_CUT & FILL DEPTH.dwg Plotted by: AL on 13/08/2026 3:48:35 PM

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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS

Client

Stockland

Project

RIVERMONT
PRECINCT 4
FUNCTIONALS

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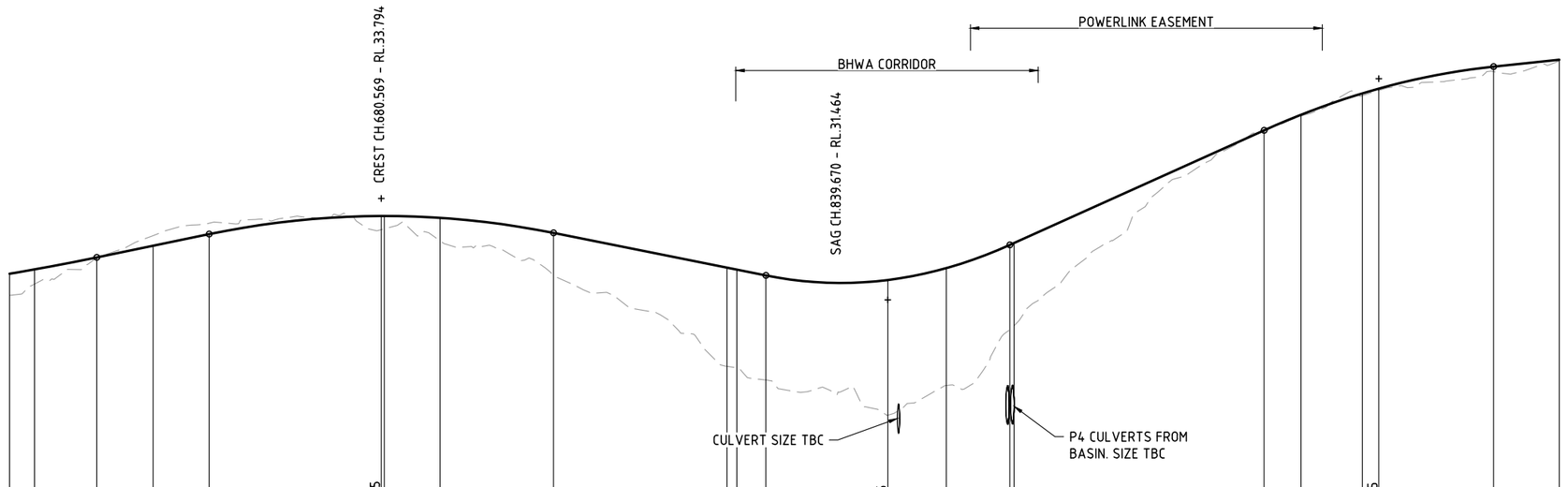
Drawing Title

FUNCTIONAL LAYOUT
OVERALL CUT FILL DIAGRAM

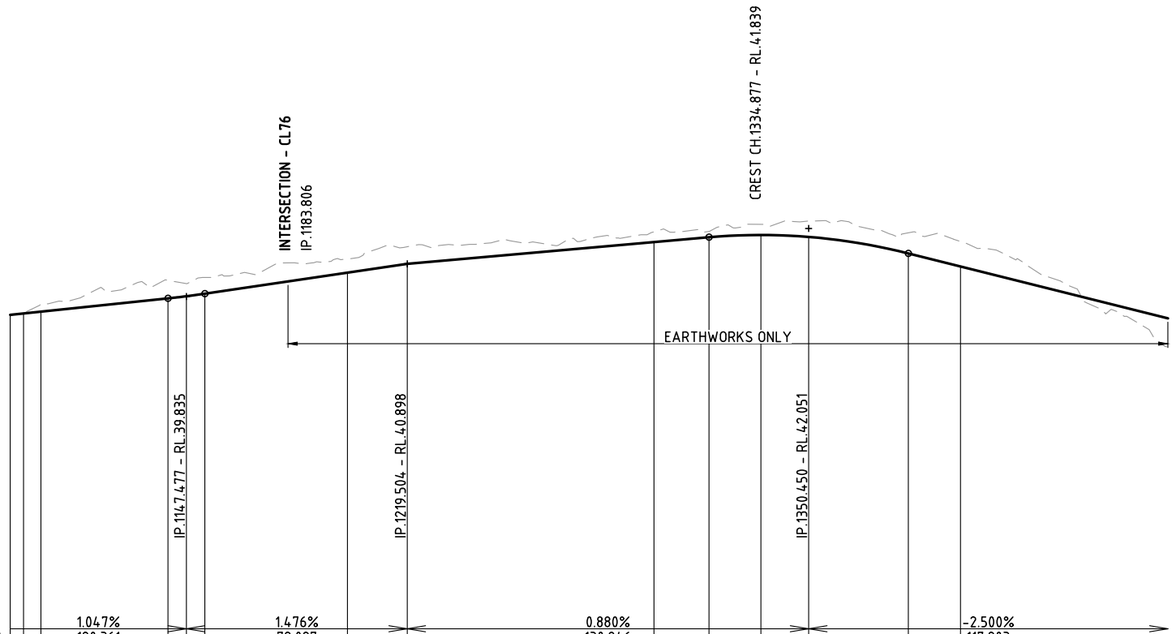
Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	14 of cc

A1	Drawing No	Revision
	25-190-14	A


POWERLINK EASEMENT
BHWA CORRIDOR
+ CREST CH.680.569 - RL.33.794
SAG CH.839.670 - RL.31.464
CULVERT SIZE TBC
P4 CULVERTS FROM
BASIN. SIZE TBC
IP.679.530 - RL.34.405
IP.856.019 - RL.30.875
IP.1027.116 - RL.38.575

| | | |



DATUM R.L.26.000

LIP OF KERB LHS	38.042	38.066	38.095			38.302	38.332	38.362			38.695	38.890			39.680	39.721	39.625	39.421			38.855	38.558		
LIP OF KERB RHS	38.966	39.041	39.155			39.990	40.111	40.546			40.643	41.911			42.800	43.015	43.218	43.344			42.285	41.469		
NATURAL SURFACE	39.194	39.293	39.588			40.359	40.252	40.453			41.057	41.456			41.942	41.954	42.186	42.294			41.908	41.626		
DESIGN SURFACE	39.233	39.279	39.338			39.772	39.841	39.923			40.610	40.898			41.607	41.765	41.839	41.776			41.238	40.812		
PEGGED CHAINAGE	1090.000	1094.346	1100.000			1141.477	1147.477	1153.477			1200.000	1219.504			1300.000	1317.950	1334.877	1350.450			1382.950	1400.000		

Horiz Curve Data

R.-417.25
72.948

LONGITUDINAL SECTION - CL18 - SUB-ARTERIAL

SCALE - 1:1000 (H)
1:100 (V)

SCALE A 1:1000 (Horiz.) 10 5 0 10 20 30 40 50 60 70 80 90 100m

B 1:100 (Vert.) 1 0.5 0 1 2 3 4 5 6 7 8 9 10m

(A1 UNREDUCED)

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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS

Client

Stockland

Project

RIVERMONT
PRECINCT 4
FUNCTIONALS

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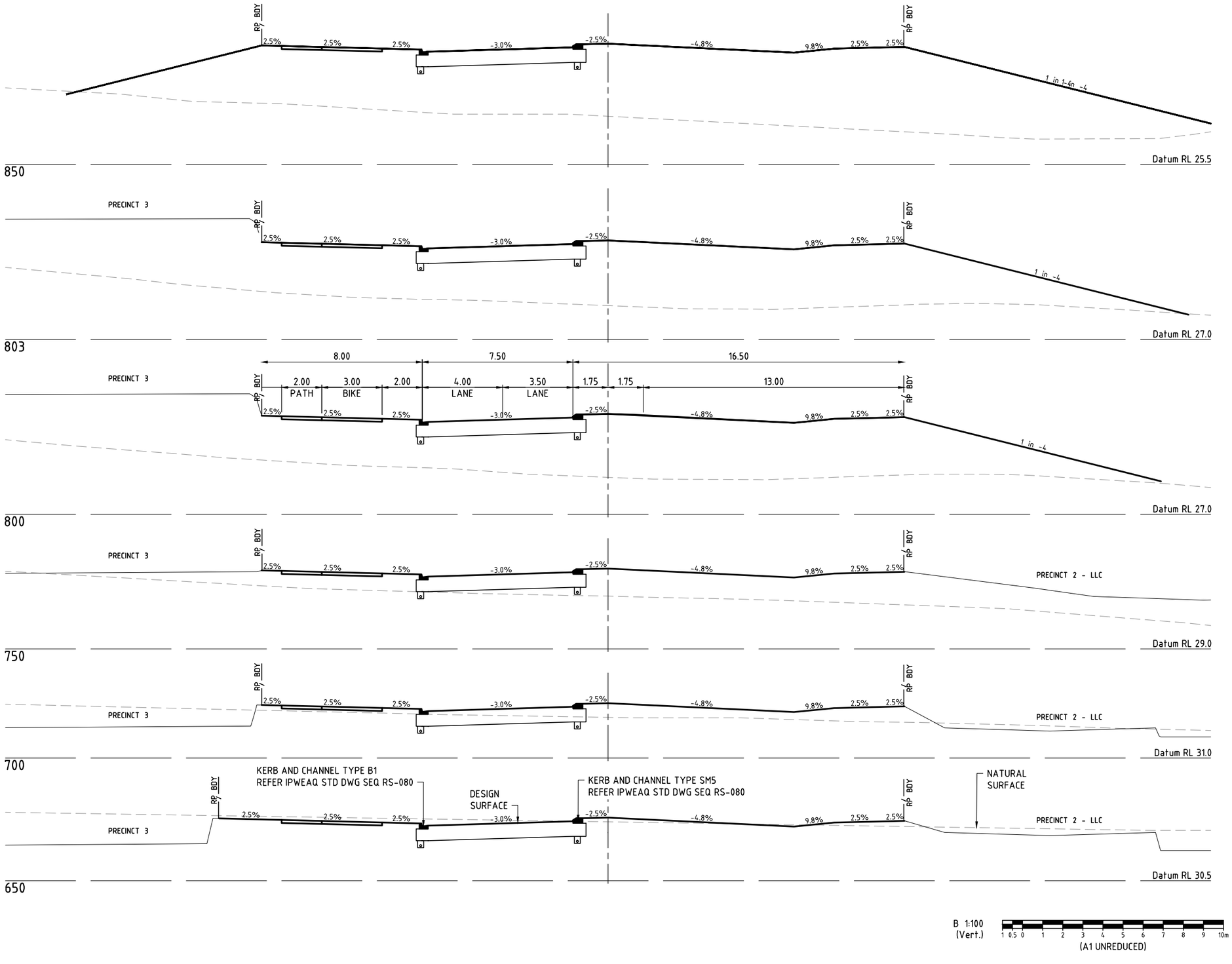
Approved Director - RPEQ 17544

Drawing Title
FUNCTIONAL LAYOUT
SUB-ARTERIAL LONGITUDINAL
SECTION - SHEET 2

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	16 of cc

	Drawing No	Revision
A1	25-190-16	A



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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS

Client

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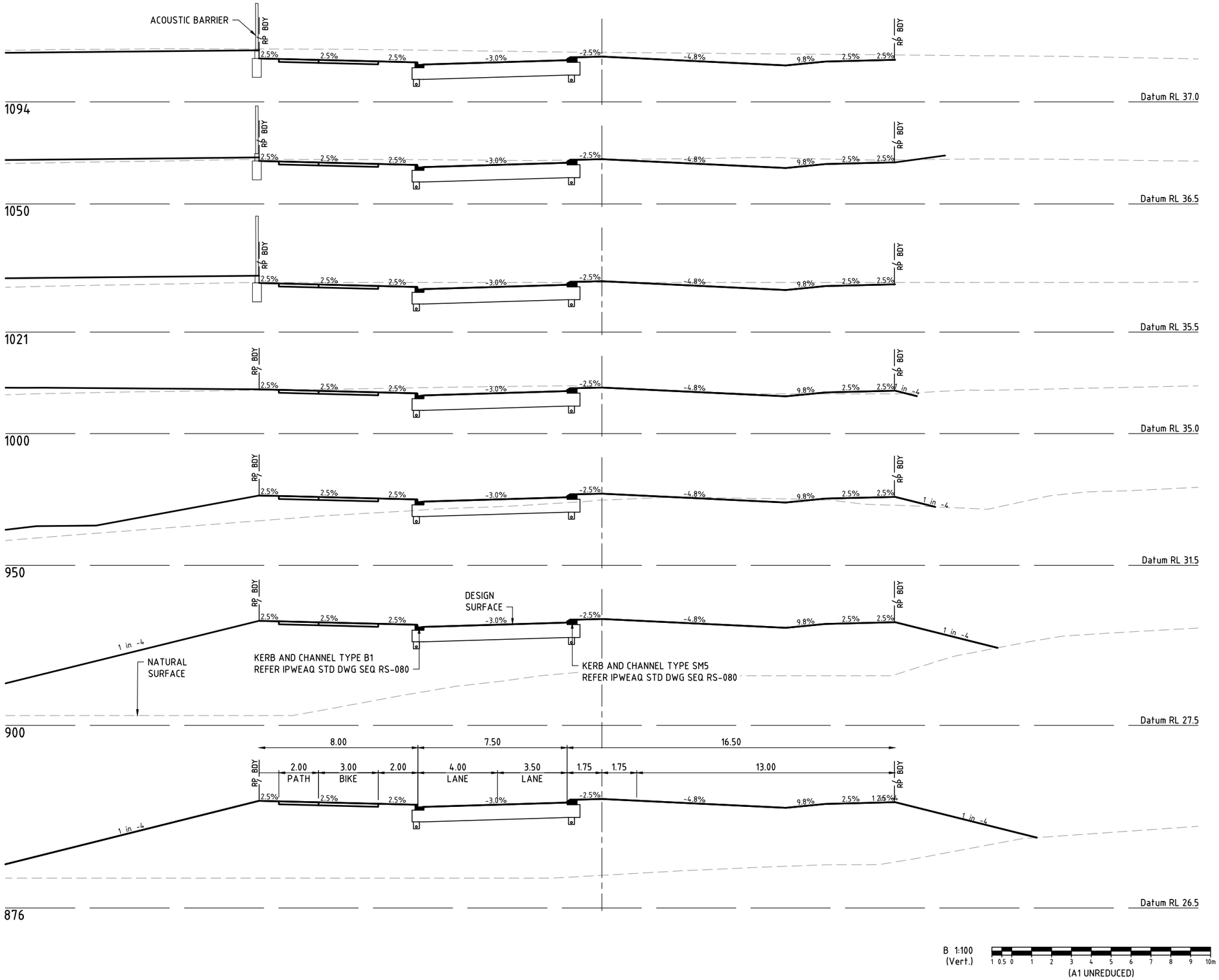
Drawing Title

FUNCTIONAL LAYOUT
SUB-ARTERIAL CROSS SECTIONS
SHEET 1

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	17 of cc

	Drawing No	Revision
A1	25-190-17	A



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LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS

Client

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Approved Director - RPEQ 17544

Drawing Title

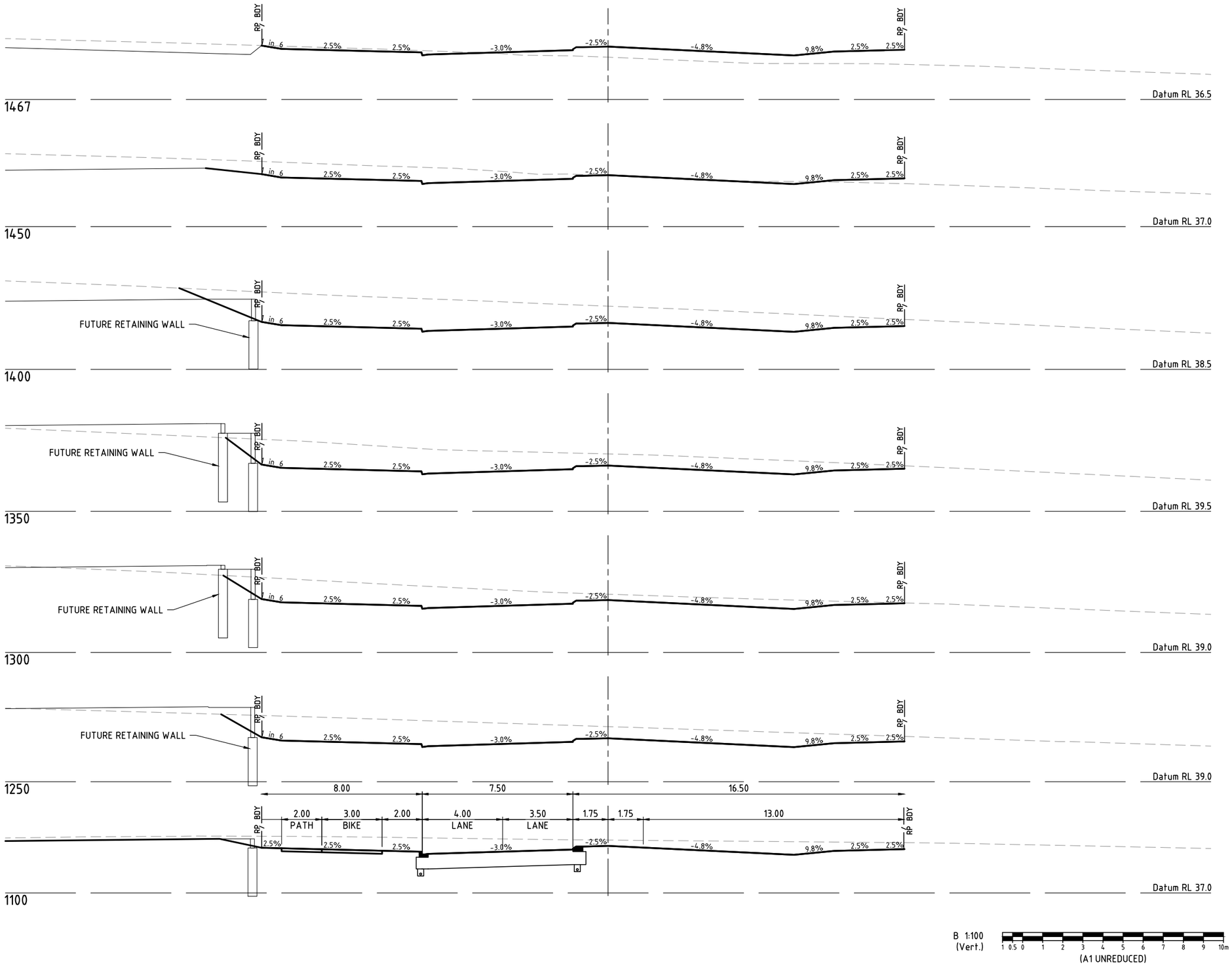
FUNCTIONAL LAYOUT
SUB-ARTERIAL CROSS SECTIONS
SHEET 2

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	18 of cc

	Drawing No	Revision
A1	25-190-18	A

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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR INFORMATION	2025.10.24	VS

Client

Stockland

Project

RIVERMONT
PRECINCT 4
FUNCTIONALS

kn group
L1, 62 Astor Terrace, Spring Hill, QLD 4000
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Approved Director - RPEQ 17544

Drawing Title

FUNCTIONAL LAYOUT
SUB-ARTERIAL CROSS SECTIONS
SHEET 3

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	19 of cc

	Drawing No	Revision
A1	25-190-19	A

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REFER KNg DWG 25-190-04

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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By

Client

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Project

RIVERMONT
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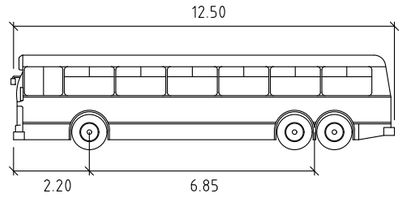
Drawing Title
FUNCTIONAL LAYOUT
TURNING PATHS
SHEET 1

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	20 of cc

A1	Drawing No	Revision
	25-190-20	





BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

ROADWORKS - LAYOUT PLAN
SCALE 1:500

SCALE
10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

REFER KNg DWG 25-190-04

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By

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Drawing Title
FUNCTIONAL LAYOUT
TURNING PATHS
SHEET 2

Drawn	Designed	Checked	Date
VS	VS	MAS	OCT' 25

Scale	Sheet
AS SHOWN	21 of cc

	Drawing No	Revision
A1	25-190-21	

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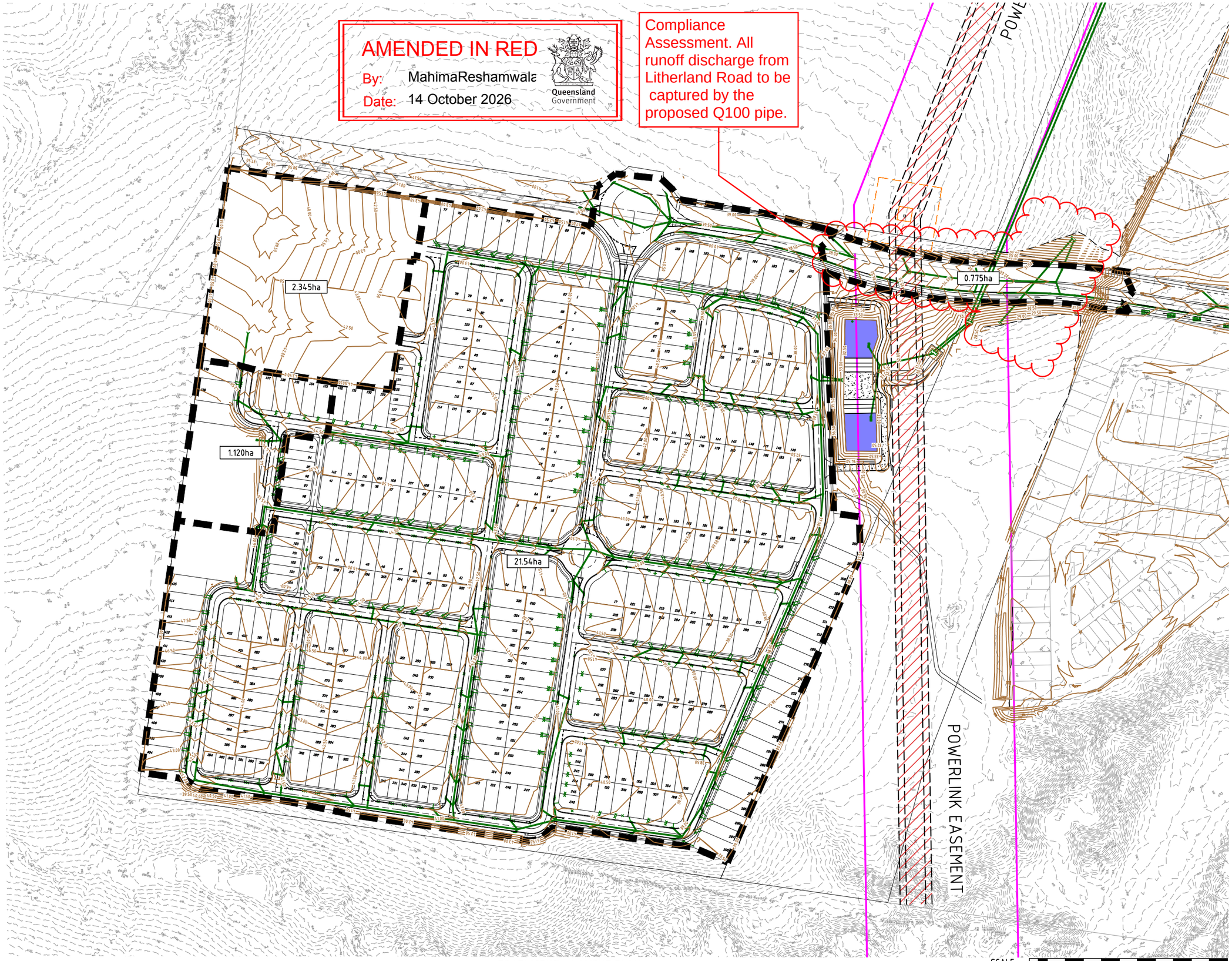
AMENDED IN RED

By: MahimaReshamwala

Date: 14 October 2026

Queensland Government

Compliance Assessment. All runoff discharge from Litherland Road to be captured by the proposed Q100 pipe.



ROADWORKS - LAYOUT PLAN

SCALE 1:2000

SCALE 20 10 0 20 40 60 80 100 120 140 160 180 200m

1 : 2000 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR IMFORMATION	21.10.2025	AL
B	EDQ RFI	13.08.2026	AL

Client

Stockland

Project

RIVERMONT
PRECINCT 4 - 6

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Approved Director - RPEQ 17544

Approved - RPEQ 14549

Drawing Title

PRECINCT 4 - BIO BASIN
OVERALL LAYOUT

Drawn	Designed	Checked	Date
AL	AL	MAS	AUG' 25

Scale	Sheet
AS SHOWN	05 of 04

	Drawing No	Revision
A1	25-190- SK05	B

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Compliance Assessment. All runoff discharge from Litherland Road to be captured by the proposed Q100 pipe.

AMENDED IN RED
By: MahimaReshamwala
Date: 14 October 2026

Queensland Government

MAINTENANCE ACCESS TRACK 3.0m WIDE. CEMENT TREATED ROAD BASE

BIORETENTION
AREA = 750m²
SURFACE = RL.32.50
BASE = RL.31.50

SEDIMENT BASIN
AREA = 500m²
WATER LEVEL RL.32.50

Q100 FROM PRECINCT 4 TO ENTER SEDIMENT POND

DOUBLE TIERED BOULDER RETAINING WALL TO WESTERN SIDE OF BASIN

MAINTENANCE ACCESS TRACK 5.0m WIDE. REINFORCED CONCRETE DRIVEWAY

TOWER BASE

20.00

2 x Ø1200 PIPE CULVERTS

LITHERLAND ROAD

CSA + 5m ZONE

5.00 5.00

SEPARATE CULVERT TO CONVEY SURFACE RUNOFF FROM DTMR CORRIDOR

PIPE CULVERT OUTSIDE POWERLINK CORRIDOR TO CONVEY RUNOFF FROM PRECINCT 4

ROCK SCOUR PROTECTION AT INLET

ROCK SCOUR PROTECTION AT HEADWALL OUTLET

TURF LINED DRAIN TO CONVEY FLOW TO DOWNSTREAM INFRASTRUCTURE

ROCK SCOUR PROTECTION TO BE INSTALLED ON BATTER FROM BASIN OVERFLOW WEIR

BIORETENTION
AREA = 750m²
SURFACE = RL.32.50
BASE = RL.31.50

DTMR CORRIDOR

EXTEND ACCESS TO ALLOW POWERLINK ACCESS TO CABLES

B 07 C 07 D 07

ROADWORKS - LAYOUT PLAN
SCALE 1:500

SCALE 10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

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DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR IMFORMATION	21.10.2025	AL
B	EDQ RFI	13.08.2026	AL

Client

Stockland

Project

RIVERMONT
PRECINCT 4 - 6

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Approved Director - RPEQ 17544

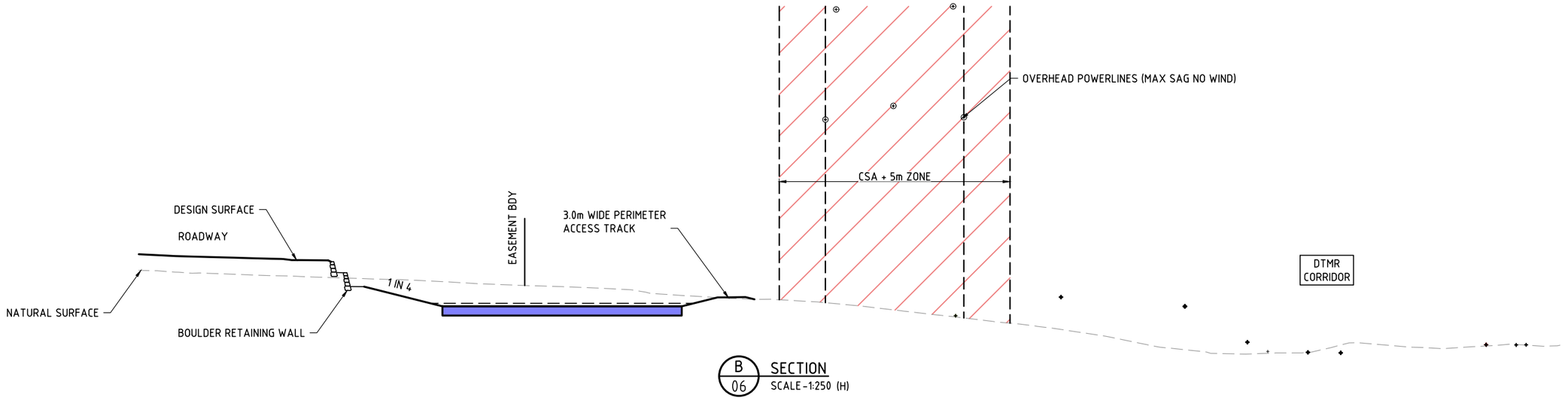
Approved - RPEQ 14549

Drawing Title
PRECINCT 4 - BIO BASIN
DETAILED LAYOUT

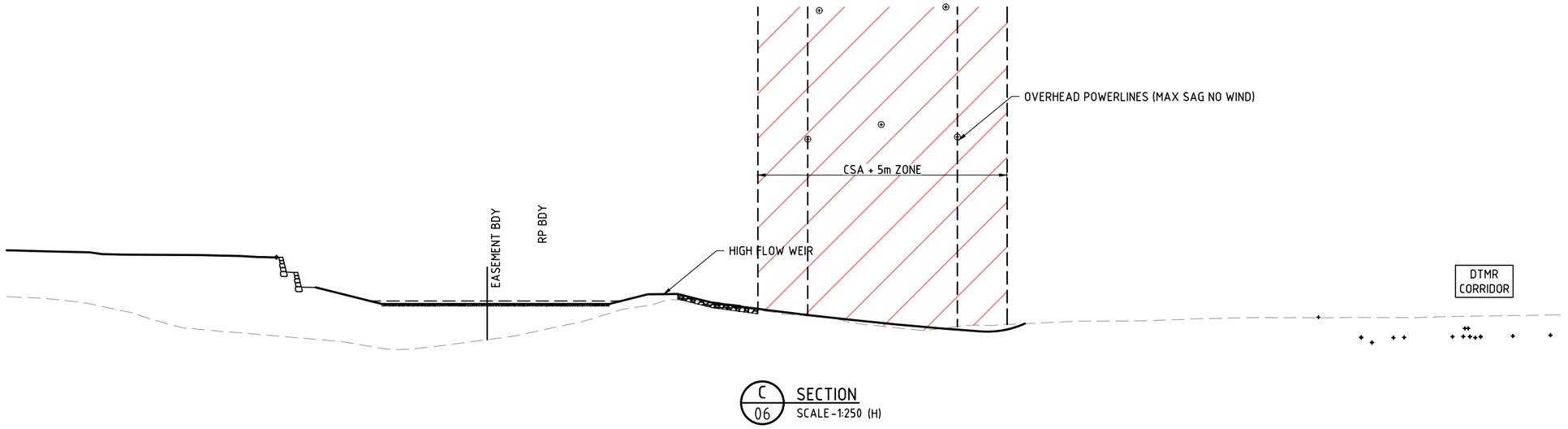
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Scale	Sheet
AS SHOWN	06 of 04

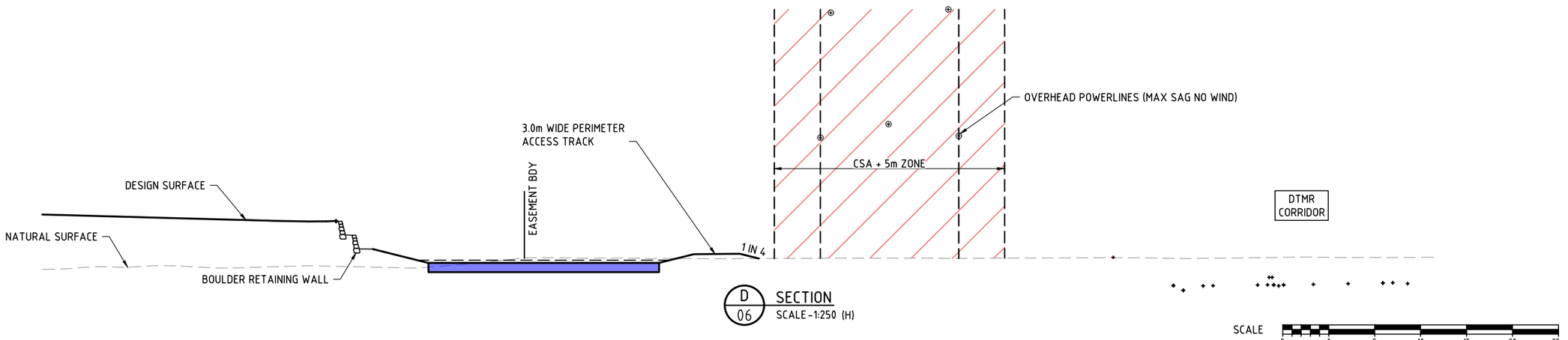
A1	Drawing No	Revision
	25-190-SK06	B



B 06 SECTION
SCALE - 1:250 (H)



C 06 SECTION
SCALE - 1:250 (H)



D 06 SECTION
SCALE - 1:250 (H)

SCALE
5 0 5 10 15 20 25m
1 : 250 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!

NORTH

LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR IMFORMATION	21.10.2025	AL
B	EDQ RFI	13.08.2026	AL

Client

Stockland

Project

RIVERMONT
PRECINCT 4 - 6

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Approved Director - RPEQ 17544

Approved - RPEQ 14549

Drawing Title
PRECINCT 4 - BIO BASIN
SECTIONS SHEET 2

Drawn	Designed	Checked	Date
AL	AL	MAS	AUG' 25

Scale	Sheet
AS SHOWN	08 of 04

	Drawing No	Revision
A1	25-190-SK08	B

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APPENDIX B CMB (CITY OF MORETON BAY) CODES

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WORKS CODE - Moreton Bay Planning Scheme

PO Box 1239
Spring Hill, QLD 4004

L1, 62 Astor Terrace
Spring Hill, QLD 4000
07 3017 1900

Performance Outcomes	Acceptable Outcomes	Solution	Comments
Construction Management			
PO1 All works on-site are managed to: a. minimise as far as practicable, impacts on adjoining or adjacent premises and the streetscape in regards to erosion and sedimentation, dust, noise, safety and light; b. minimise as far as practicable, impacts on the natural environment; c. ensure stormwater discharge is managed in a manner that does not cause nuisance or annoyance to any person or premises; d. avoid adverse impacts on street trees and their critical root zone. Note - Refer to Planning scheme policy - Integrated design for details and examples.	**AO1.1** Works incorporate temporary stormwater runoff, erosion and sediment controls and trash traps designed in accordance with the Urban Stormwater Quality Planning Guidelines, Planning scheme policy - Stormwater management and Planning scheme policy - Integrated design, including but not limited to the following: a. stormwater is not discharged to adjacent properties in a manner that differs significantly from pre-existing conditions; b. stormwater discharged to adjoining and downstream properties does not cause scour and erosion; c. stormwater discharge rates do not exceed pre-existing conditions; d. the 10% AEP storm event is the minimum design storm for all temporary diversion drains; e. the 50% AEP storm event is the minimum design storm for all temporary silt barriers and sedimentation basins.	✓	The erosion and sediment control shall comply with best practice for erosion and sediment control, the pollution control manual for urban stormwater management, the Queensland Urban Drainage manual, the Soil Erosion and Sediment Control - Engineering Guidelines for Queensland (current editions), International Erosion Control Association (ICEA) and CMB (City of Moreton Bay) policies. A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB (City of Moreton Bay) planning scheme policies
	AO1.2 Stormwater runoff, erosion and sediment controls are constructed prior to commencement of any clearing or earthworks and are maintained and adjusted as necessary at all times to ensure their ongoing effectiveness.	✓	The erosion and sediment control shall comply with best practice for erosion and sediment control, the pollution control manual for urban stormwater management, the Queensland Urban Drainage manual, the Soil Erosion and Sediment Control - Engineering Guidelines for Queensland (current editions), International Erosion Control Association (ICEA) and CMB policies.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

PO Box 1239
Spring Hill, QLD 4004

L1, 62 Astor Terrace
Spring Hill, QLD 4000
07 3017 1900

Performance Outcomes	Acceptable Outcomes	Solution	Comments
	Note - The measures are adjusted on-site to maximise their effectiveness.		A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies
	AO1.3 The completed earthworks area is stabilised using turf, established grass seeding, mulch or sprayed stabilisation techniques to control erosion and sediment and dust from leaving the property.	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies
	AO1.4 Where works are proposed in proximity to an existing street tree, an inspection and a root management plan is undertaken by a qualified arborist which demonstrates and ensures that no permanent damage is caused to the tree.	✓	Where works are proposed in proximity to existing vegetation a suitably qualified arborist will be engaged to ensure no permanent damage is caused. Refer Saunders Havil ecological reporting for information/requirement
PO2 Dust suppression measures are implemented during soil disturbances and construction works to protect nearby premises from unreasonable dust impacts.	**AO2** No dust emissions extend beyond the boundaries of the site during soil disturbances and construction works	✓	Construction Management Plan will be submitted at prior to commence of woks which will outline dust emissions reduction methods used during constriction
PO3 The clearing of vegetation on-site: a. is limited to the area of infrastructure works, buildings areas and other necessary areas for the works; b. includes the removal of declared weeds and other materials which are detrimental to the intended use of the land;	**AO3.1** All native vegetation to be retained on-site is temporarily fenced or protected prior to and during development works. Note - No parking of vehicles or storage of machinery or goods is to occur in these areas during development works.	✓	No go fencing will be installed by Civil Contractor as required during construction to protect vegetation if required. Refer Saunders Havil VCFMP for TPZ information/requirements
	AO3.2		

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

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Spring Hill, QLD 4000
07 3017 1900

Performance Outcomes	Acceptable Outcomes	Solution	Comments
c. is disposed of in a manner which minimises nuisance and annoyance to existing premises. Note - No burning of cleared vegetation is permitted.	Disposal of materials is managed in one or more of the following ways: a. all cleared vegetation, declared weeds, stumps, rubbish, car bodies, scrap metal and the like are removed and disposed of in a Council land fill facility; or b. all native vegetation with a diameter below 400mm is to be chipped and stored on-site. Note - The chipped vegetation must be stored in an approved location, preferably a park or public land.	✓	If required vegetation clearing required on site will be disposed on in accordance with CMB planning scheme polices.
PO4 All disturbed areas are rehabilitated at the completion of construction. Note - Refer to Planning scheme policy - Integrated design for details.	**AO4** At completion of construction all disturbed areas of the site are to be: a. topsoiled with a minimum compacted thickness of fifty (50) millimetres; b. grassed. Note - These areas are to be maintained during any maintenance period to maximise grass coverage from grass seeding of these areas.	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies
PO5 Earthworks are undertaken to ensure that soil disturbances are staged into manageable areas of not greater than 3.5 hectares. Note - Soil disturbances of greater than 1 hectare require a site-specific Erosion and Sediment Control Plan (ESCP).	No acceptable outcome provided.	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

PO Box 1239
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L1, 62 Astor Terrace
Spring Hill, QLD 4000
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
Note - Council will consider clearing of larger areas in exceptional circumstances based on the staging of development.			
PO6 All works on-site and the transportation of material to and from the site are managed to not negatively impact the existing road network, the amenity of the surrounding area or the streetscape.	**AO6.1** Construction traffic including contractor car parking is controlled in accordance with a traffic management plan, prepared in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) to ensure all traffic movements to and from the site are safe.	✓	The Civil Contractor will be required to manage all construction traffic in accordance with MUTCD and CMB Planning Policies.
	AO6.2 All contractor car parking is either provided on the development site, or on an alternative site in the general locality which has been set aside for car parking. Note - A Traffic Management Plan may be required for the site in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).	✓	The Civil Contractor will be required to manage all construction traffic in accordance with MUTCD and CMB Planning Policies.
	AO6.3 Any material dropped, deposited or spilled on the road(s) as a result of construction processes associated with the site are to be cleaned at all times.	✓	The Civil Contractor will be required to keep all external roads and external haul roads clean in accordance with CMB Planning Policies.
PO7 Any alteration or relocation in connection with or arising from the development to any service, installation, plant, equipment or other item belonging to or under control of the telecommunications authority, electricity	No acceptable outcome provided.	✓	Any relocation or alterations to existing services (including electrical, gas, comms, irrigation) arisen from the development shall be co-ordinated with the relevant authority.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

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Spring Hill, QLD 4004

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Spring Hill, QLD 4000
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
authorities, the Council or other person engaged in the provision of public utility services, is carried out prior to the approval of the plan of subdivision.			
Earthworks			
PO8 On-site earthworks are designed to consider: a. the natural topographical features of the site; b. short and long-term slope stability; c. soft or compressible foundation soils; d. reactive soils; e. low density or potentially collapsing soils; f. existing fill and soil contamination that may exist on-site; g. the stability and maintenance of steep rock slopes and batters; h. the visual impact of the excavation (cut) and fill and impacts on the amenity of adjoining lots (e.g. residential). Note - Filling or excavation works are to be completed within six months of the commencement date.	**AO8.1** All cut or fill batters are provided with appropriate scour, erosion protection and runoff control measures including catch drains at the top of batters and lined batter drains as necessary.	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies
	AO8.2 Stabilisation measures are provided, as necessary, to ensure long-term stability and low maintenance of steep rock slopes and batters.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase. No steep rock slopes or batters are envisaged within development footprint.
	AO8.3 Inspection and certification of steep rock slopes and batters is required by a suitably qualified and experienced RPEQ.	✓	If steep rock slopes are encountered a suitably qualified Geo-technical RPEQ will undertake an assessment for long term stability and stabilisation measures required.
	AO8.4 All fill batters steeper than 1 (V) in 6 (H) on residential lots are fully turfed to prevent scour and erosion.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase. No steep rock slopes or batters are envisaged within development footprint.
	AO8.5 All fill and excavation are contained in the site.	✓	No earthworks will be required outside site boundaries

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

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L1, 62 Astor Terrace
Spring Hill, QLD 4000
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	AO8.6 All fill and excavation are free draining.	✓	All excavations will be free draining
	AO8.7 All fill placed on-site is: a. limited to that area required for the necessary approved use; b. clean and uncontaminated (i.e. no building waste, concrete, green waste or contaminated material etc. is used as fill).	✓ .	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase.
	AO8.8 The site is prepared and the fill placed on-site in accordance with AS3798. Note - The fill is to be inspected and tested in accordance with Planning scheme policy - Operational works inspection, maintenance and bonding procedures.	✓	Level 1 geo-certification by a suitably qualified Geo-technical RPEQ will be provided in accordance with AS3798 and CMB Planning Policies.
PO9 Fill is not placed on existing or proposed park(57) unless specifically approved in writing by Council's engineer.	No acceptable outcome provided.	✓	No fill will be placed in proposed parks without approval of CMB. If filling approved by council works will be undertake under Level 1 geo-certification by a suitably qualified Geo-technical RPEQ will be provided in accordance with AS3798 and CMB Planning Policies.
PO10 The location and extent of filling or excavation is limited to the extent necessary for the intended use of the site.	**AO10** Filling or excavation does not encroach onto areas which do not form part of the development.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase.
PO11 Filling or excavation does not result in:	No acceptable outcome provided.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase in

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

PO Box 1239
Spring Hill, QLD 4004

L1, 62 Astor Terrace
Spring Hill, QLD 4000
07 3017 1900

Performance Outcomes	Acceptable Outcomes	Solution	Comments
a. adverse impacts on the hydrological and hydraulic capacity of the waterway or floodway; b. increased flood inundation outside the site; c. any reduction in the flood storage capacity in the flood way; and d. any clearing of native vegetation. Note - To demonstrate compliance with this outcome, Planning Scheme Policy - Stormwater Management provides guidance on the preparation of a site-based stormwater management plan by a suitably qualified professional. Refer to Planning Scheme Policy - Integrated Design for guidance on infrastructure design and modelling requirements.			accordance with Site Based Stormwater Management Plan.
PO12 Filling or excavation does not result in land instability. Note - Steep rock slopes and batters are inspected and certified for long-term stability by a suitably qualified and experienced geotechnical engineer with RPEQ qualifications. Stabilisation measures are provided, as necessary, to ensure long-term stability and low maintenance.	No acceptable outcome provided.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase in accordance with Site Based Stormwater Management Plan
PO13 Council is provided with accurate representations of the completed works.	**AO13** On maintenance documentation is provided in accordance with Planning scheme policy - Operational	✓	On maintenance documentation will be provided in accordance with CMB Operational Works Inspection,

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

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Spring Hill, QLD 4000
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	works inspection, maintenance and bonding procedures.		maintenance and bonding procedures.
Street network			
PO14 Development provides for a transport network which is designed to achieve a high level of legibility, permeability and connectivity particularly for pedestrians, cyclists and public transport both within the development and to the surrounding area.	**AO14.1** Development provides for a street network based upon a modified grid pattern.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO14.2 Street design and construction is undertaken in accordance with the street typologies illustrated in Planning scheme policy - Integrated design.		
PO15 Street design and construction between zones has clear distinguishable attributes based on function, legibility, convenience, pedestrian and cyclist movement, street trees, verge widths, traffic volumes, vehicle speeds, public safety and amenity.	**AO15** Street design and construction is undertaken in accordance with the street typologies illustrated in Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO16 Street design prioritises the movement and needs of pedestrians, cyclists, and public transport uses while providing a setting for social interaction and community life.	**AO16** On street facilities for non-vehicular traffic such as concrete footpaths, street furniture, and cycle lanes are designed and constructed in accordance with relevant standards located in Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO17 The street design considers existing and future streetscapes in the surrounding area.	**AO17** All adjoining streets: a. provide consistent footpath width, verge width, and road pavement widths where the street classifications are the same;	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	b. provide landscape themes complimentary to each other that create a seamless transition between development sites.		
PO18 All new Council controlled streets are designed and constructed in accordance with Planning scheme policy - Integrated design. The street design and construction accommodate the following primary functions: a. access to premises, sightlines and public safety; b. on-street carparking for visitors; c. social and activity space; d. stormwater drainage paths and treatment facilities; e. public transport; f. utility services and stormwater drainage location; g. emergency access and waste collection; h. setting and approach (streetscape, landscaping and street furniture) for adjoining residences; i. safe efficient pedestrian and cycle movement; j. vehicle carriageway design; k. providing appropriate vehicle design speeds and volumes.	**AO18.1** Streets and roads are designed and constructed in the appropriate zone and precinct in accordance with Planning scheme policy - Integrated design and Austroads.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO18.2 Street and road typology cross sections provide the design elements detailed in Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO18.3 Road pavement and surfaces are designed and constructed in accordance with Planning scheme policy - Integrated design and Department of Transport and Main Roads standards.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO18.4 Laneways and associated works are designed and constructed in accordance with Planning scheme policy – Integrated design and the following: a. central stormwater drainage systems are to contain the minor storm ARI (piped) and major storm ARI (overland); b. reinforced concrete road pavement with colour and finish resembling a residential driveway in appearance. Concrete to be designed in accordance with rigid road pavement design principles;	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

WORKS CODE - Moreton Bay Planning Scheme

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	c. industrial standard crossover at each end of the laneway, to cater for the turning movements of garbage collection trucks; d. where a laneway provides access to residential lots it must: i. provide grade separation a minimum of 400mm between the laneway lots and the park(57) area; ii. dedicate a minimum 2.0m wide pathway as road reserve along the park(57) frontage of the lots to contain all services and a 1.5m wide concrete path; iii. not locate electrical and water services in the laneway unless necessary to provide street lighting in accordance with the relevant Australian Standard.		
	AO18.5 Stormwater treatment is designed to capture pollutants 'at source' in lieu of end of line where possible.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO18.6 On-street car parking is provided at a rate of no less than the rates identified in Planning scheme policy - Integrated design.		
	AO18.7 Street verge profiles and widths are provided in accordance with Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO18.8 Typical service conduit sections are provided in locations in accordance with IPWEAQ standard drawings in	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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	Planning scheme policy - Integrated design.		Planning Scheme Polices.
	AO18.9 Areas of grass verge are to be graded away from the allotment at 1 in 20. Note - Council may approve a rising grade of 1 in 8 within 1 m of the property boundary.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO18.10 Typical driveway grades extending from the street to within the allotments are provided in accordance with IPWEAQ standard drawings in Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO19 Kerb and channel is provided to adequately convey road surface runoff to catchpits and other drainage features, including subsoil drains.	**AO19.1** Kerb and channel is provided in accordance with Planning scheme policy - Integrated design.	✓	A detailed Road Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
	AO19.2 Subsoil drains are to be provided in accordance with Planning scheme policy - Integrated design. Note - Council will consider Water Sensitive Urban Design alternatives based on their merit.	✓	A detailed Road Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
PO20 All Council controlled frontage roads are designed and constructed in accordance with Planning scheme policy - Integrated design, and are provided with appropriate speed control devices. Note - Frontage roads include streets where no direct lot access is provided.	**AO20** Where existing frontage roads do not form part of the modified grid pattern, and were created prior to the adoption of the current planning scheme, frontage roads are to be designed and constructed to integrate into the existing street network.	✓	Any road frontage works required will be in accordance with CMB Planning Scheme Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO21 Sealed and trafficable road access during the minor storm event is available to the site from the nearest Major Road.	**AO21** Roads or streets giving access to the development from the nearest major road are sealed to a minimum width of 6.0 metres. Note - Roads are defined as flood free when the access road has minor drainage systems for longitudinal flow which conforms to Table 7.3.1 and Table 7.4.1 of QUDM.	✓	A detailed Road Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
PO22 Road cross drainage ensures that roads which provide access to the site from a major road remain trafficable during major and minor storm events without flooding or impacting upon residential properties or other premises.	**AO22.1** Culverts and causeways are considered trafficable when the maximum flow depth within a trafficable lane does not exceed 200mm and the depth* velocity product does not exceed 0.3 m2/s.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
	AO22.2 Culverts and causeways do not increase inundation levels or increase velocities, for all events up to the Defined Flood Event, to upstream properties.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
PO23 New roadworks (new internal roads and frontage roadworks) are extended to join any existing roadworks that are within 20 metres of the end of the new roadwork within and fronting the development.	No acceptable outcome provided.	✓	A detailed Road Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
PO24 Intersections along all streets and roads are located and designed to provide safe and convenient movements for all users.	**AO24.1** Intersections are designed and constructed in accordance with Planning scheme policy - Integrated design.	✓	A detailed Road Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
	AO24.2 Intersection spacing (centreline – centreline) along a through road conforms with the following:	✓	Detailed Road Layout Plan has been with Reconfigure of

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	a. Roads in urban areas i. Where the through road provides an access or residential street function: A. intersecting road located on same side = 60 metres; or B. intersecting road located on opposite side = 40 metres. ii. Where the through road provides a local collector or district collector function: A. intersecting road located on same side = 100 metres; or B. intersecting road located on opposite side = 60 metres. iii. Where the through road provides a sub-arterial function: A. intersecting road located on same side = 250 metres; or B. intersecting road located on opposite side = 100 metres. iv. Where the through road provides an arterial function: A. intersecting road located on same side = 350 metres; or B. intersecting road located on opposite side = 150 metres. v. Block perimeter does not exceed: A. 600 metres in the Coastal community's precinct and Suburban neighbourhood precinct; B. 500 metres in the Next generation neighbourhood precinct;		Lot Application in accordance with CMB Planning Scheme Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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	C. 400 metres in the Urban neighbourhood precinct. b. Roads in rural areas i. Where the through road provides an access or collector function: A. intersecting road located on same side = 100 metres; B. intersecting road located on opposite side = 50 metres. ii. Where the through road provides a sub-arterial function: A. intersecting road located on same side = 300 metres; B. intersecting road located on opposite side = 150 metres. iii. When the through road provides an arterial function: A. intersecting road located on the same side = 500 metres; B. intersecting road located on opposite side = 250 metres. iv. Block perimeter does not exceed 1500 metres in the Rural residential zone. c. Roads in commercial and industrial areas i. Where the through road provides an access function: A. intersecting road located on the same side = 60 metres;		

[1] Solution: ✓ Acceptable Solution
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	B. intersecting road located on opposite side (Left Right Stagger) = 60 metres; C. intersecting road located on opposite side (Right Left Stagger) = 40 metres. ii. Where the through road provides a collector or sub-arterial function: A. Intersecting road located on the same side = 100 metres; B. Intersecting road located on opposite side (Left Right Stagger) = 100 metres; C. Intersecting road located on opposite side (Right Left Stagger) = 60 metres. iii. Where the through road provides an arterial function: A. Intersecting road located on the same side = 300 metres; B. Intersecting road located on opposite side (Left Right Stagger) = 300 metres; C. Intersecting road located on opposite side (Right Left Stagger) = 300 metres; D. Block perimeter does not exceed 1000 metres.		
PO25	**AO25.1** Intersection design identifies the existing location of on-street carparking. New or augmented intersections are	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB

[1] Solution: ✓ Acceptable Solution
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
Existing on-street car parking is retained, wherever practicable, at new or upgraded road intersections and frontage roads.	to ensure there is no loss of on-street car parking due to the intersection configuration.		Planning Scheme Polices.
	AO25.2 Frontage road design and construction retains existing on-street parking wherever practicable.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO26 Vehicular access to existing lots is retained, wherever practicable, at new or upgraded road intersections. Note - Allotment access locations must comply with AS2890.1 Section 3.	No acceptable outcome provided.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO27 New vehicular access locations are provided which are safe and convenient for the future users.	**AO27** Proposed access points to allotments from existing or proposed roads are to be indicated on the drawings. Access locations shall be in accordance with Section 3 AS2890.1.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO28 The existing road network is upgraded where necessary to cater for the traffic impact from the development. Note - An Integrated Transport Assessment (ITA) may be required to demonstrate compliance with this PO. An ITA should be prepared in accordance with Planning scheme policy - Integrated transport assessment.	**AO28.1** New intersections onto existing roads are designed to accommodate traffic volumes and traffic movements taken from a date 10 years from the date of completion of the last stage of the development. Detailed design is to be in accordance with Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices and in accordance with any Transport Infrastructure Agreement.
	AO28.2 Existing intersections external to the site are upgraded as necessary to accommodate increased traffic from the development. Detailed design is in accordance with Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices and in accordance with any Transport Infrastructure Agreement.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	Note - An applicant will be required to submit a Integrated Transport Assessment (ITA), prepared in accordance with Planning scheme policy - Integrated transport assessment, when any of the following occurs; a. Forecast traffic to/from the development exceeds 5% of the two-way flow on the adjoining road or intersection, and congestion currently exists or is anticipated within 10 years of the development completion, or is near a sensitive location. b. Development access onto a sub arterial, or arterial road or within 100m of a signalised intersection, c. Residential development greater than 50 lots or dwellings, d. Commercial offices greater than 4,000m2 Gross Floor Area (GFA), e. Retail greater than 1,000m2 GFA, f. Warehouses(88) greater than 6000m2 GFA, g. On-site carpark greater than 100 spaces. The ITA is to review the development's impact upon the external road network for the period of 10 years from completion of the development. The ITA is to provide sufficient information for determining the impact and the type and extent of any ameliorative works required to cater for the additional traffic. The ITA must include a future structural road layout of adjoining properties that will form part of this catchment and road connecting to these properties. The ITA is to assess the ultimate developed catchment's impacts and necessary		

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	ameliorative works, and the works or contribution required by the applicant as identified in the study.		
PO29 The pedestrian and bikeway network is designed to provide for safe, attractive and convenient movement of pedestrians and cyclists between each residential precinct and major attractions such as neighbourhood hubs, community activities, parks, sporting facilities, bus routes (existing and planned) and railway stations.	**AO29.1** All pathways are provided in accordance with IPWEAQ standard drawings in Planning scheme policy - Integrated design.	✓	A detailed Pathway Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
PO30 The road design facilitates walking and cycling within the neighbourhood and to neighbourhood hubs and local centres.	**AO30.1** All pathways are provided in accordance with IPWEAQ standard drawings and connect with: a. any existing concrete footpaths/cycle paths within 20m of the pathway; b. any proposed concrete footpaths/cycle paths in the development within 20m of the pathway; c. the kerb and channel by way of a kerb ramp; d. where there is no kerb and channel, the carriageway.	✓	A detailed Pathway Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
	AO30.2 Kerb ramps are provided in accordance with Planning scheme policy - Integrated design.	✓	A detailed Pathway Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
PO31 All Council controlled roads contain measures to ensure safety from errant vehicles, where there is a medium to high risk of significant damage or injury.	**AO31** Safety barriers are provided in the following situations: a. fill formations on straights and curves where the height of the shoulder exceeds 4.5m and the slope of the fill batter is steeper than 1(V) in 4(H);	✓	Safety barriers will be designed in accordance with CMB Planning Scheme and Austroads Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
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	b. where the consequences of a vehicle leaving the road would be severe (e.g. adjacent to a railway, river, creek, retaining wall, large structure or large tree); c. where the effective formation width is reduced (e.g. at a bridge or culvert); d. on roads in a rural area on the outside of substandard curves where: i. the curve design speed is 20kph less than the design speed of the road immediately preceding the curve; or ii. height of fill exceeds 2m; or iii. slope of the fill batter is steeper than 1(V) in 4 (H); e. split level roads where the height of fill exceeds 2m; f. medians of divided roads where the slope across the median exceeds 1(V) in 4(H). Note - An RPEQ must design, position and certify that safety barriers are provided in accordance with Austroad Standards.		
PO32 Intersections are controlled to provide a safe environment for all street users.	**AO32.1** All four-way residential street intersections include measures to clearly define priorities.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO32.2 All four-way intersections, where the through road provides a collector or neighbourhood collector	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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	function, or are two lanes wide, provides a roundabout in accordance with the provisions of Austroads standards.		
	AO32.3 All four-way intersections, where one or more of the through roads are 4 lanes, provides a signalised intersection in accordance with Austroads and Department of Transport and Main Roads Standards.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
	AO32.4 Full depth coloured asphaltic concrete (AC) or full depth coloured concrete threshold treatments are provided to differentiate Local Area Traffic Precincts as defined in Department of Transport and Main Road's Manual of Uniform Traffic Control Device (MUTCD)	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Polices.
PO33 Council is provided with accurate representations of the completed works.	**AO33** On maintenance documentation is provided in accordance with Planning scheme policy - Operational works inspection, maintenance and bonding procedures.	✓	On maintenance documentation will be provided in accordance with CMB Operational Works Inspection, maintenance and bonding procedures.
Stormwater management - Quantity			
PO34 The design and construction of the stormwater management system: d. utilises methods and materials to minimise the whole of life cycle costs of the stormwater management system; e. are coordinated with civil and landscaping works.	No acceptable outcome provided.		

[1] Solution: ✓ Acceptable Solution
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N/A Not applicable to this proposal

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Note - To determine the standards for stormwater management system construction refer to Planning scheme policy - Integrated design.			
PO35 Minor stormwater drainage systems have the capacity to convey stormwater flows from frequent storm events whilst ensuring pedestrian and vehicular traffic movements are safe and convenient.	**AO35.1** Fully piped stormwater drainage is provided through existing park[57], or land to be dedicated as park[57], with capacity for the minor stormwater event except where the drainage channel through the park[57] is greater than 50m. The standard of drainage through parks is the same as the standard of drainage through lots.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
	AO35.2 The capacity of all minor drainage systems are designed in accordance with Planning scheme policy - Integrated design.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
	AO35.3 Stormwater pipe network capacity is to be calculated in accordance with the Hydraulic Grade Line method as detailed in Australian Rainfall and Runoff or QUDM.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO36 Major stormwater drainage system(s) have the capacity to safely convey stormwater flows for the 1% AEP event for the fully developed catchment.	**AO36.1** Roads, drainage pathways, drainage features and waterways safely convey the stormwater flows for the 1% AEP event without allowing the flows to encroach upon private lots.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
	AO36.2 Major drainage systems have a minimum design of 1% AEP (ultimate development catchment characteristics upstream).	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.

[1] Solution: ✓ Acceptable Solution
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	AO36.3 The flow velocity in all unlined or soft faced open drains is kept within acceptable limits for the type of material or lining and condition of the channel.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
	AO36.4 Development surface levels are provided in accordance with Planning scheme policy - Integrated design.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO37 Bridges and culverts minimise traffic disruption, allow for terrestrial and aquatic habitat and fauna movements, bikeways and walkways.	**AO37** Road cross drainage is designed and constructed in accordance with the drainage standards as identified in QUDM.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO38 Stormwater management facilities are located outside of riparian areas and prevent increased channel bed and bank erosion.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO39 Stormwater pipes in the road reserve are designed to accommodate the expected construction and operation design loadings and are constructed of durable and adequate materials.	**AO39** Stormwater pipes in the road reserve are constructed of steel or fibre reinforced concrete, except where drainage is contained in any vegetated stormwater management system.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO40 Stormwater pipe layout is efficient and contained in the road reserve.	**AO40** Stormwater pipe layout is in accordance with Planning scheme policy - Integrated design.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO41 Catchpits in Council controlled roads are designed and constructed with lip in line inlets.	**AO41** Kerb in line catchpits are designed and constructed in accordance with IPWEAQ standard drawings in Planning scheme policy - Integrated design.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO42 Stormwater runoff from the site is conveyed to a point of lawful discharge without causing nuisance or annoyance to any person, property or premises. Note - Refer to Planning scheme policy - Integrated design for details and examples. Note - A downstream discharge report in accordance with Planning scheme policy - Stormwater management may be required to demonstrate compliance with this performance outcome. Note - A watercourse as defined in the Water Act may be accepted as a lawful point of discharge providing the drainage discharge from the site does not increase the downstream flood levels during events up to and including the 1% AEP storm An afflux of +20mm may be accepted on Council controlled land and road infrastructure. No worsening is ensured when stormwater is discharged into a catchment that includes State Transport Infrastructure.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO43 Stormwater generated from the development does not compromise the capacity of existing stormwater infrastructure downstream of the site. Note - A downstream drainage discharge report in accordance with Planning scheme policy - Stormwater management may be required to demonstrate compliance with this performance outcome.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
Stormwater management – Quality			
PO44 Stormwater quality management systems are designed and constructed to minimise the environmental impact of stormwater discharge on surface and underground receiving water quality and meet the design objectives in Tables A and B in Appendix 3 of the SPP. Note - To demonstrate compliance with this Performance Outcome a stormwater quality management plan in accordance with Planning scheme policy - Stormwater management is to be prepared by a suitable qualified person demonstrating compliance with the Urban Stormwater Planning Guideline 2010 and considering any local area stormwater management planning prepared by Council.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
Note - Uses exempt under State planning policy, Part D, Water quality are also exempt from this performance outcome.			
PO45 Where the development is Industrial or Commercial in nature, allotment specific stormwater quality treatment devices are not provided on privately owned land (i.e. regional devices must be provided in public land areas to treat industrial and commercial stormwater runoff). Note - A downstream discharge report in accordance with Planning scheme policy - Stormwater management may be required to demonstrate achievement of this performance outcome.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO46 Where located in the Upper Pine, Hays Inlet and Burpengary creek water catchments, development achieves the greater pollutant removal of: f. 100% reductions in mean annual loads from unmitigated development for total suspended solids, total phosphorous, total nitrogen and gross pollutant >5mm; g. the design objectives in Tables A and B in Appendix 3 of the SPP.	No acceptable outcome provided.	**N.A.**	

[1] Solution: ✓ Acceptable Solution
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Note - To demonstrate compliance with this performance outcome a stormwater quality management plan in accordance with Planning scheme policy - Stormwater management is to be prepared by a suitable qualified person demonstrating compliance with the Urban Stormwater Planning Guideline 2010 and considering any local area stormwater management planning prepared by Council. Note - Refer to Overlay map – Stormwater catchments for catchment boundaries.			
PO47 Stormwater infrastructure provided to Council meets its required design life, is safe to the public before, during and after a range of storm events, and is designed to minimise maintenance costs.	**AO47.1** Stormwater quality treatment devices and stormwater quantity devices have a safety inspection undertaken by a RPEQ prior to dedicating the facility over to Council.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
	AO47.2 Stormwater quality devices are provided with a sealed access driveway between the device and the constructed road suitable for Council's maintenance equipment. The design must include provision for a standing area outside the traffic lanes, for a standard MRV vehicle.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO48 Areas constructed as detention basins are adaptable for passive recreation wherever practicable.	**AO48** Large dry detention basins are designed to accommodate passive recreation. The basin includes a low flow drainage system with capacity to carry 3mm/hr rainfall in the catchment. The basin floor is sloped at not less than 1(V) to 100(H) towards its perimeter drains.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO49			

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
Community benefit is maximised through the retention and enhancement of natural streams and vegetation wherever practicable.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO50 Vegetated stormwater management systems are provided to Council with established vegetation growth and the functional elements of the system achieving the design function at the end of the maintenance period.	**AO50** Vegetated stormwater management systems proposed to be dedicated as public assets are established and maintained for a minimum 6 months maintenance period, commencing from a minimum built out of 80% of the catchment which contributes to the design of the vegetated stormwater management system.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO51 Constructed water bodies are not dedicated as public assets.	No acceptable outcome provided.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices and QUDM.
PO52 Council is provided with accurate representations of the completed works.	**AO52** On maintenance documentation is provided in accordance with Planning scheme policy - Operational works inspection, maintenance and bonding procedures.	✓	On maintenance documentation will be provided in accordance with CMB Operational Works Inspection, maintenance and bonding procedures.
Public Transport			
PO53 The road design provides for potential bus routes including safe convenient stops and, where necessary, bus turnaround areas. Note - Consult with Department of Transport and Main Roads on this matter.	**AO53.1** Bus routes are located, designed and constructed in accordance with Planning scheme policy - Integrated design and relevant statutory requirements and regulations.	✓	Refer the Colliers Traffic memo for further information. Bus stops have been provided in locations consistent with the approved SARA bus route plan
	AO53.2 Indented bus bays are provided on roads identified as containing possible bus routes in accordance with Planning scheme policy - Integrated design. Indented bus bays are provided where the bus stop:	✓	A detailed Transport Plan will be prepared and submitted with in accordance with CMB Planning Scheme.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	a. is used as a timing point, where buses may need to wait several minutes if running early; or b. is used as a bus driver change-over point requiring the bus to stop for longer periods; or c. is a particularly high loading bus stop, where the time taken to load passengers can regularly take minutes.		
	AO53.3 Detailed design of bus stops, indented bus bays and relevant infrastructure is provided in accordance with the Transport Planning and Coordination Regulation 2005 and Translink's Public Transport Infrastructure Manual.	✓	A detailed Transport Plan will be prepared and submitted with in accordance with CMB Planning Scheme.
PO54 The road design caters for the extension of existing and future public transport routes to provide sufficient services that are convenient and accessible to the community.	No acceptable outcome provided.	✓	A detailed Transport Plan will be prepared and submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme.
Utilities			
PO55 Street lighting and lighting to public areas is designed and constructed to provide adequate capacity for existing and anticipated development.	**AO55** The development is designed and constructed with street lighting and lighting to public areas in accordance with Planning scheme policy - Integrated design.	✓	Electrical design will be prepared by suitably qualified electrical engineer RPEQ and submitted to CMB.
PO56	**AO56** The design and provisions of the electrical reticulation is in accordance with Energex Specification URD	✓	Electrical design will be prepared by suitably qualified electrical engineer RPEQ and submitted to CMB.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
Development only occurs in locations where there are adequate electricity supply services for the desired use.	(Underground Residential Distribution).		
PO57 The development is connected to an existing reticulated electricity supply system approved by the relevant energy regulating authority.	**AO57.1** The development is connected to an existing electricity supply system approved by the relevant energy regulatory authority.	✓	Electrical design will be prepared by suitably qualified electrical engineer RPEQ and submitted to CMB.
	AO57.2 Underground electricity is provided in urban, commercial, industrial and rural residential areas.	✓	Electrical design will be prepared by suitably qualified electrical engineer RPEQ and submitted to CMB.
PO58 The development has access to telecommunication and broadband services in accordance with current standards.	**AO58** Telecommunications reticulation (i.e. conduits and pits) is installed in accordance with current standards and a provisioning confirmation is provided for the works.	✓	Telecommunications design will be prepared by suitably qualified electrical engineer RPEQ and submitted to CMB.
PO59 All services crossing or traversing existing or proposed roads shall be installed at an appropriate depth with backfill compacted to ensure that the construction does not fail during the life of the development.	**AO59** All services crossing or traversing existing or proposed road pavements, including stormwater pipes, sewer pipes, electrical, telecommunications and water conduits, shall be installed at an appropriate depth and backfilled in accordance with Department of Transport and Main Roads specifications. Services crossing existing Major Roads are to be tunnel bored.	✓	Electrical design will be prepared by suitably qualified electrical engineer RPEQ and submitted to CMB.
PO60 The development provides for the treatment and disposal of sewage and other waste water in a way that will not cause environmental harm or pose a risk to public health.	**AO60.1** Where in a sewered area, the development is connected to a reticulated sewerage network.	✓	Water and Waste Water design shall be in accordance with Unitywater and CMB Planning Polices.
	AO60.2 Where not in a sewered area, the development is serviced by an appropriate on-site sewerage facility. Note - A site and soil evaluation report is generally	✓	Water and Waste Water design shall be in accordance with Unitywater and CMB Planning Polices.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	required to demonstrate compliance with this outcome. Reports are to be prepared in accordance with AS1547 On-site domestic wastewater management and the Queensland Plumbing and Wastewater Code.		
	AO60.3 Trade waste is pre-treated on-site prior to discharging into the sewerage network.	✓	Water and Waste Water design shall be in accordance with Unitywater and CMB Planning Polices.
PO61 The development is provided with an adequate and sustainable supply of potable (drinking and general use e.g. gardening, washing, fire-fighting) water.	**AO61.1** Where in an existing connections area or a future connections area as detailed in the Unitywater Connections Policy, the development is connected to the reticulated water supply system in accordance with the South East Queensland Water Supply and Sewerage Design and Construction Code and the relevant Water Service Association of Australia (WSAA) codes and standards.	✓	Water and Waste Water design shall be in accordance with Unitywater and CMB Planning Polices.
	AO61.2 Where not in an existing connections area or a future connections area as detailed in the Unitywater Connections Policy, the development is provided with an adequate water supply of 45,000 litres by way of on-site storage which provides equivalent water quality and reliability to support the use requirements of the development.	✓	Water and Waste Water design shall be in accordance with Unitywater and CMB Planning Polices.
PO62 Where available, development is to make provision for reticulated gas which is designed to give a safe, cost effective, coordinated and	**AO62** Where available, the development is to safely connect to reticulated gas.	✓	Gas reticulation if supplied will be in accordance with CMB and Gas Retailer Policies and Guidelines.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
efficient supply that supports sustainable development practises.			
PO63 The development is provided with dedicated and constructed road access.	No acceptable outcome provided.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme, DTMR and Translink Polices.
Works within a waterway **Note - Design and construction of prescribed tidal works shall comply with the requirements of the Coastal Protection and Management Act, and Queensland Prescribed Tidal Works Code.**			
PO64 All constructed works avoid conflict with uses in the water, on the foreshore and adjoining lands.	**AO64.1** Pontoons, jetty's and berthed vessels are setback a minimum of 1.5 metres from the water allocation side boundaries.	**N.A.**	
	AO64.2 Boardwalks and decks are setback a minimum of 3 metres from the prolongation of side lot boundaries and extend no more than 3 metres seaward of the property boundary.	**N.A.**	
PO65 Marine structures proposed to rise and fall under tidal influence are designed to suit the installed environment.	**AO65** Floating structures are to maintain the following clearance from a waterway bed during the LAT tide, a. a minimum of 200 mm from the current bank where located outside of a constructed canal; or b. a minimum of 200 mm from the design bank profile of the constructed canal; or c. the floating structure is designed to withstand periodic grounding without damage or detrition of the structure for the design life of the works.	**N.A.**	

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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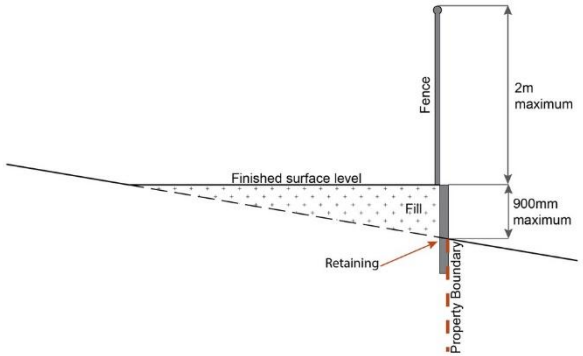
Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO66 A high level of visual amenity is maintained when viewed from the waterway and adjoining lands with minimal impact upon adjoining properties.	**AO66.1** The underside of the jetty/gangway is a maximum of 300mm above the height of the revetment wall.	**N.A.**	
	AO66.2 Pontoons, jetty's, boardwalks and decks are not roofed.	**N.A.**	
	AO66.3 All lighting, other than an aid to navigation, is hooded and directed downwards;	**N.A.**	
PO67 No structural load from the work is permitted to be imposed upon existing canal revetment walls.	No acceptable outcome provided.	**N.A**.	
Structures			
PO68 All earth retaining structures are to be certified as being designed and constructed in accordance with relevant Australian Standards and Building Code requirements.	**AO68** Retaining walls will only be approved following submission of a full detailed design and the design certified by a RPEQ that the design complies with AS4678 – Earth Retaining Structures.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB Planning Scheme Policies and AS4678.
PO69 All earth retaining structures provide a positive interface with the streetscape and minimises impacts on the amenity of adjoining residents.	**AO69.1** Earth retaining structures: a. are not constructed of boulder rocks or timber; b. where height is no greater than 900mm, are provided in accordance with Figure - Retaining on a boundary; **Figure - Retaining on boundary** (Popup full image)	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB Planning Scheme Policies and AS4678.

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	 c. where height is greater than 900mm but no greater than 1.5m, are to be setback at least the equivalent height of the retaining structure from any property boundary; d. where height is greater than 1.5m, are to be setback and stepped 1.5m vertical: 1.5m horizontal, terraced, landscaped and drained as shown below.		

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

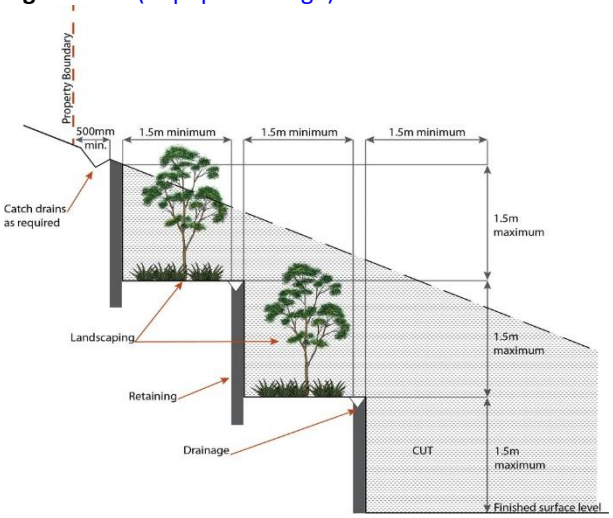
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Performance Outcomes	Acceptable Outcomes	Solution	Comments

Figure - Cut (Popup full image)

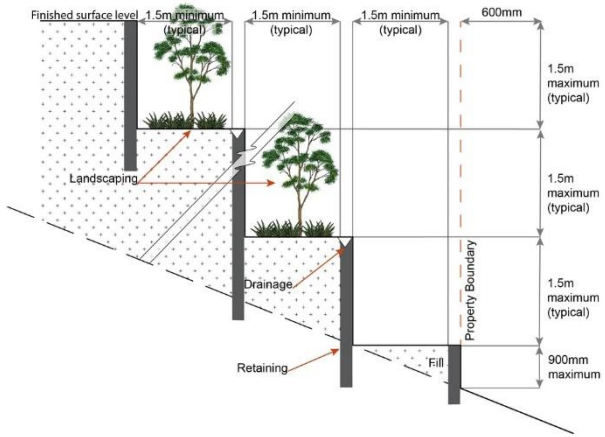


[1] Solution:
- ✓ Acceptable Solution
- A/S Alternative Solution
- N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	Figure - Fill (Popup full image)  		
PO70 All earth retaining structures within the land and around areas of cut on or near the boundaries of the site provide for live and dead loads associated with the current occupancy and use of the adjoining lots.	No acceptable outcome provided.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB Planning Scheme Policies and AS4678.
PO71 All earth retaining structures adjoining land whose use rights or zoning allows for industrial development must provide for a minimum live	No acceptable outcome provided.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
load of 25kPA in the design of the retaining structure for these adjoining premises.			Planning Scheme Policies and AS4678.
PO72 Retaining walls: a. comply with the current edition of AS4678; b. are fully contained in the property boundaries; c. where agricultural drains, are to be provided behind all retaining walls at the base and connected to an approved point of discharge; d. where free draining gravel or filter material, are to be provided behind all retaining walls; e. include a concrete mowing edge strip (minimum width 200mm) provided along the toe of all retaining walls; f. have made provision for all services, including but not limited to, inter allotment and roof-water drainage, water conduits, telecommunication, and power and gas conduits.	No acceptable outcome provided.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB Planning Scheme Policies and AS4678.
PO73 Planning and design of all bridges considers the following: h. overall configuration and the road geometry or planning layout of the bridge and its approaches;	**AO73** Bridges are to be designed and constructed in accordance with recommended best practice design guidelines as provided in Planning scheme policy - Integrated design.	**N.A.**	

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
i. design methodology, design parameters including design loadings, design life (minimum 100 years), materials and finishes and any proposed public utilities and services to run across the bridge; j. where the bridge is over a waterway; design ARI, the freeboard to design flood events or details of overtopping, allowance for debris loading and details of proposed scour and erosion protection to the waterway and embankments; k. where the bridge is proposed to be constructed as a feature of the estate, details of the materials, construction techniques, and a safety review of any architectural features of the bridge is provided. Note - The design shall include an assessment of inspection and maintenance serviceability of the proposed design.			
PO74 All bridge construction activities protect the environmental values of the locality, while ensuring that the public safety is ensured prior to and during the construction of the structure.	**AO74** Construction management plans for the works provides for the following: a. proposed construction procedure and program; b. potential temporary works proposed for the construction; c. identification of all construction risks and methods for reducing these risks; d. public safety, amenity and site security; e. operating hours, noise and vibration controls;	**N.A.**	

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	f. air and dust management; g. stormwater runoff, erosion and sediment control; h. waste and materials refuse management; i. traffic management; j. construction materials delivery and storage; k. location of construction office accommodation.		
Access			
PO75 Rear lot access easements contain a driveway and provision for services appropriate to the use.	**AO75** Rear lot access easements contain all works associated with the access in accordance with Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme, DTMR and Translink Polices.
PO76 Safe access is provided for all vehicles required to access the site.	**AO76.1** Site access and driveways are designed and located in accordance with the following: a. Where for a Council-controlled road, AS/NZS2890.1 section 3; b. Where for a State-Controlled road, the Safe Intersection Sight Distance requirements in AustRoads and the appropriate IPWEAQ drawings, or a copy of a Transport Infrastructure Act 1994, section 62 approval.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme, DTMR and Translink Polices.
	AO76.2 Internal driveways and access ways are designed and constructed in accordance with AS/NZS2890.1 Parking facilities - Off street car parking and the relevant standards in Planning scheme policy - Integrated design. Note This includes queue lengths (refer to Schedule 8 Service vehicle requirement), pavement widths and	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Policies and AS2890.1

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	construction.		
	AO76.3 Access driveways, manoeuvring areas and loading facilities provide for the service vehicles listed in Schedule 8 Service vehicle requirements for the relevant use. The on-site manoeuvring is to be in accordance with Schedule 8 Service vehicle requirements.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Policies and AS2890.1
	AO76.4 The driveway construction across the verge conforms to the relevant standard drawing for the classification of the road in accordance with Planning scheme policy - Integrated design.	✓	Detailed Road Layout Plan has been submitted with Reconfigure of Lot Application in accordance with CMB Planning Scheme Policies and AS2890.1

[1] Solution: ✓ Acceptable Solution
A/S Alternative Solution
N/A Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
Part B - Criteria for assessable development - Site earthworks Where development is code assessable development in the Table of Assessment, the assessment criteria for that development are set out in Part B, Table 9.4.3.2. Where development is impact assessable, the assessment criteria becomes the whole of the planning scheme. **Table 9.4.3.2 Assessable development - Site earthworks**			
Construction Management			
PO1 All works on-site are managed to: a) minimise as far as practicable, impacts on adjoining or adjacent premises and the streetscape in regards to erosion and sedimentation, dust, noise, safety and light; b) minimise as far as practicable, impacts on the natural environment; c) ensure stormwater discharge is managed in a manner that does not cause actionable nuisance to any person or premises; d) avoid adverse impacts on street trees and their critical root zone. Note - Refer to Planning scheme policy - Integrated design for details and examples.	**AO1.1** Works incorporate temporary stormwater runoff, erosion and sediment controls and trash traps designed in accordance with the Urban Stormwater Quality Planning Guidelines, Planning Scheme Policy – Stormwater management and Planning scheme policy – Integrated design including but not limited to the following: a) stormwater is not discharged to adjacent properties in a manner that differs significantly from pre-existing conditions; b) stormwater discharged to adjoining and downstream properties does not cause scour and erosion; c) stormwater discharge rates do not exceed pre-existing conditions; d) the 10% AEP storm event is the minimum design storm for all temporary diversion drains; the 50% AEP storm event is the minimum design storm for all silt barriers and sedimentatino basins.	✓	The erosion and sediment control shall comply with best practice for erosion and sediment control, the pollution control manual for urban stormwater management, the Queensland Urban Drainage manual, the Soil Erosion and Sediment Control Engineering Guidelines for Queensland (current editions), International Erosion Control Association (ICEA) and CMB (City of Moreton Bay) policies. A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB (City of Moreton Bay) planning scheme policies

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

Note - Acceptable solutions that are relevant to Minor Building Work are marked #.

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	AO1.2 Stormwater runoff, erosion and sediment controls are constructed prior to commencement of any clearing or earthworks and are maintained and adjusted as necessary at all times to ensure their ongoing effectiveness. Note – The measures are adjusted on-site to maximize their effectiveness.	✓	All works required by the detailed Erosion and Sediment Control Plan (ESCP) will be constructed prior to the works commencing.
	AO1.3 The completed earthworks area is stabilized using turf, established grass seeding, mulch or sprayed stabilization techniques to control erosion and sediment and dust from leaving the property.	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies
	AO1.4 Where works are proposed in proximity to an existing street tree, an inspection and a root management plan is undertaken by a qualified arborist which demonstrates and ensures that no permanent damage is caused to the tree.	✓	Where works are proposed in proximity to existing vegetation a suitably qualified arborist will be engaged to ensure no permanent damage is caused.
PO2 Dust suppression measures are implemented during soil disturbances and construction works to protect nearby premises form unreasonable dust impacts.	**AO2** No dust emissions extend beyond the boundaries of the site during soil disturbances and construction works.	✓	**C**onstruction Management Plan submitted at prior to commence of woks which will outline dust emissions reduction methods used during constriction

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO3 The clearing of vegetation on-site: a) is limited to the area of infrastructure works, buildings areas and other necessary areas for the works; b) includes the removal of declared weeks and other materials which are detrimental to the intended use of the land; c) is disposed of in a manner which minimizes nuisance and annoyance to existing premises. Note – No burning of cleared vegetation is permitted.	**AO3.1** All native vegetation to be retained on-site is temporarily fenced or protected prior to and during development works. Note – No parking of vehicles of storage of machinery or goods is to occur in these areas during development works.	✓	No go fencing will be installed by Civil Contractor as required during construction to protect native vegetation. Refer the Saunders Havil Vegetation Management Plan for TPZ requirements
	AO3.2 Disposal of materials is managed in one or more of the following ways: a) all cleared vegetation, declared weeks, stumps, rubbish, car bodies, scrap metal and the like are removed and disposed of in a Council land fill facility; or b) all native vegetation with a diameter below 400mm is to be chipped and stored on-site	✓	If required vegetation clearing required on site will be disposed on in accordance with CMB planning scheme polices.
PO4 Earthworks are to be undertaken to ensure that soil disturbances are staged into manageable areas of not greater than 3.5 hectares. Note – Soil disturbances of greater than 1 hectare require a site specific Erosion and Sediment Control Plan (ESCP). Note – Council will consider clearing of larger areas in exceptional circumstances based on the staging of development.	No acceptable outcome provided.	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO5 All works on-site and the transportation of material to and from the sit are managed to not negatively impact the existing road network, the amenity of the surrounding area of the streetscape.	**AO5.1** Construction traffic including contractor car parking is controlled in accordance with a traffic management plan, prepared in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) to ensure all traffic movements to and from the site are safe	✓	A construction traffic management plan will be implemented during works.
Note – where the amount of imported or exported material is greater than 50m3, a haulage route must be identified and approved by council.	**AO5.2** All contractor car parking is either provided on the development site, or on an alternative site in the general locality which has been set aside for car parking. Contractors vehicles are generally not to be parked in existing roads. Note – A Traffic Management Plan may be required for the site in accordance with the Manual or Uniform Traffic Control Devices (MUTCD).	✓	The existing contractor compound will remain in pace for the immediate future. When the compound is required to be relocated, the necessary traffic assessment will be completed.
	AO5.3 Any material dropped, deposited or spilled on the road(s) as a result of construction processes associated with the site are to be cleaned at all times.		
Earthworks			
PO6 On-site earthworks are designed to consider: a) the natural topographical features of the site; b) short and long-term slope stability; c) soft or compressible foundation soils;	**AO6.1** All cut and fill batters are provided with appropriate scour, erosion protection run-off control measures	✓	A detailed Erosion and Sediment Control Plan (ESCP) will be submitted at with Operational Works design Phase in accordance with CMB planning scheme policies

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
d) reactive soils; e) low density or potentially collapsing soils; f) existing fill and soil contamination that may exist on-site; g) the stability and maintenance of steep rock slopes and batters; h) the visual impact of the excavation (cut) and fill and impacts on the amenity of adjoining lots (e.g. residential) i) specific requirement for dams. Note – Filling or excavation works are to be completed within six (6) months of the commencement date.	including catch drains at the top of batters and lined batter drains as necessary.		
	AO6.2 Stabilization measures are provided, as necessary, to ensure long-term stability and low maintenance of steep rock slopes and batters.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase. No steep rock slopes or batters are envisaged within development footprint.
	AO6.3 Inspection and certification of steep rock slopes and batters is required by a suitably qualified and experienced RPEQ.	✓	If steep rock slopes are encountered a suitably qualified Geo-technical RPEQ will undertake an assessment for long term stability and stabilisation measures required.
	AO6.4 All filling or excavation is contained on-site.	✓	No earthworks will be required outside site boundaries
	AO6.5 All filling or excavation is free draining.	✓	All excavations will be free draining
	AO6.6 All fill placed on-site is: a) limited to that required for the necessary approved use; b) clean and uncontaminated (i.e. no building waste, concrete, greenwaste or contaminated material etc. is used as fill).	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	AO6.7 The site is prepared and the fill placed on-site in accordance with AS3798. Note – The fill is to be inspected and tested in accordance with Planning scheme policy – Operational works inspection, maintenance and bonding procedures.	✓	Level 1 geo-certification by a suitably qualified Geo-technical RPEQ will be provided in accordance with AS3798 and CMB Planning Policies
	AO6.8 Stormwater discharge from dams and other water impoundments on the development site is undertaken in a manner that does not: a) concentrate the flow onto adjacent land; or b) cause scour and erosion on adjacent land; or c) increase the flows rates of stormwater over the affected section of the adjacent land above the pre-existing situation; or d) cause nuisance or annoyance to any person or premises.	✓	A detailed Stormwater Layout Plan will be prepared and submitted with Operational Works Application in accordance with CMB Planning Scheme Polices.
	AO6.9 A preliminary geotechnical assessment of the suitability of the dam site in terms of soil and slope stability has been carried out by an appropriately experienced and quality geotechnical engineer to confirm the dam site is stable.		N.A.
	AO6.10		

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	All fill (including the embankment) for dams is setback a minimum of 10 metres from any property boundary.	N.A.	
	AO6.11 The dam embankment is designed by a suitably qualified and experienced RPEQ.	N.A.	
	AO6.12 The dam embankment Is constructed with a clay core and cut-off trench to prevent seepage through the embankment.	N.A.	
	AO6.13 The top water surface is setback a minimum of 10 metres from any property boundary.	N.A.	
	AO6.14 The crest width of the dam embankment is not less than 2.5 metres.	N.A.	
	AO6.15 Dams have a spillway bypass with sufficient flow capacity to prevent floodwater overtopping the dam embankment.	N.A.	
	AO6.16		

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	Dam spillways have surface protection to prevent erosion and scour during all flood events.		N.A.
PO7 a) Filling or excavation is undertaken in a manner that: does not adversely impact on Council or public sector entity-maintained infrastructure or any drainage feature on, or adjacent to the site; b) Does not preclude reasonable access to Council or public sector entity-maintained infrastructure or any drainage feature on, or adjacent to the site for monitoring, maintenance or replacement purposes. Note – Public sector entity is defined in the Sustainable Planning Act 2009.	**AO7.1** No filling or excavation is undertaken in an easement issued in favour of Council or a public sector entity. Note – Public sector entity is defined in the Sustainable Planning Act 2009.	✓	No filling or excavation will be undertaken in an easement in favour of CMB or public utility without prior approval. A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase.
	AO7.2 Filling or excavation that would result in any of the following are not carried out on-site: a) A reduction in cover over any Council or public sector entity infrastructure service to less than 600mm; b) An increase in finished surface grade over, or within 1.5m on each side of, the Council or public sector entity infrastructure above that which existed prior to the filling or excavation works being undertaken. Note – Public sector entity is defined in the Sustainable Planning Act 2009.	✓	No filling or excavation will be undertaken in an easement in favour of CMB or public utility. A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase.

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
N/A = Not applicable to this proposal

Note - Acceptable solutions that are relevant to Minor Building Work are marked #.

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
PO8 Filling or excavation does not result in: a) Adverse impacts on the hydrological and hydraulic capacity of the waterway or floodway; b) Increased floor inundation outside the site; c) Any reduction in the flood storage capacity in the flood way; and d) Any clearing of native vegetation. Note - To demonstrate compliance with this outcomes, Planning Scheme Policy - Stormwater Management provides guidance on the preparation of a site-based stormwater management plan by a suitably qualified professional. Refer to Planning Scheme Policy - Integrated Design for guidance on infrastructure design and modelling requirements.	No acceptable outcome provided.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase in accordance with Site Based Stormwater Management Plan.
PO9 Filling and excavation does not result in land instability. Note - Steep rock slopes and batters are inspected and certified for long-term stability by a suitably qualified and experienced geotechnical engineer with RPEQ qualifications. Stabilisation measures are provided, as necessary, to ensure long-term stability and low maintenance.	**AO9.1** Where the earthworks are associated with a dam or on-site water impoundment (other than swimming pools), batter slopes are no steeper than the following: a) outer slope of dam wall – 1 vertical to 2 horizontals; b) all internal slopes – 1 vertical to 4 horizontals.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase in accordance with Site Based Stormwater Management Plan.
	AO9.2 Cut and fill batters, (other than batters to dams and water impoundments), have a finished slope no steeper than the following: a) any cut batter is no steeper than:		

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Performance Outcomes	Acceptable Outcomes	Solution	Comments
	i. for sand – 2 horizontals to 1 vertical; ii. for silt – 4 horizontals to 1 vertical; iii. for firm clay – 1 horizontal to 1 vertical; iv. for soft clay – 3 horizontals to 2 verticals; b) any fill batter, (other than a compacted fill batter), i. is no steeper than 4 horizontals to 1 vertical; c) any compacted fill batter is no stepper than: i. for sand – 5 horizontals to 2 verticals; ii. for silt – 4 horizontals to 1 vertical; iii. for firm clay – 2 horizontals to 1 vertical.		
PO10 Embankments are stepped, terraced and landscaped to not adversely impact on the visual amenity of the surrounding area.	**PO10.1** Any retaining walls or embankments are setback at least the equivalent height of the wall or embankment from any boundary of the site.	✓	A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB Planning Scheme Policies and AS4678. No retaining structures greater than 1500mm high envisaged within development footprint.
	AO10.2 Any embankments more than 1.5 metres in height are stepped, terraced and landscaped.		

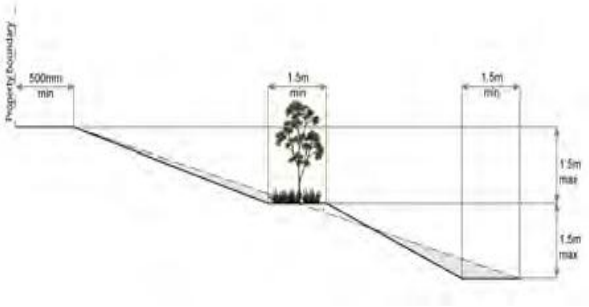
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Performance Outcomes	Acceptable Outcomes	Solution	Comments
		✓ A detailed Bulk Earthworks plan will be prepared and submitted at Operational Works design Phase detailing retaining structures if any in accordance with CMB Planning Scheme Policies and AS4678.	

1. Solution: ✓ = Acceptable Solution
A/S = Alternative Solution
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Note - Acceptable solutions that are relevant to Minor Building Work are marked #.