

CIVIL ENGINEERING
ASSESSMENT REPORT

104-108 Murrays Road, Tanah Merah

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HCE ENGINEERS

REPORT CONTROL SHEET

HCE Ref No:	24164
Site:	**104-108 Murrays Road, Tanah Merah**
Report Title:	Civil Engineering Assessment Report
Prepared For:	RYJAYD Pty Ltd

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1. Introduction

This report has been prepared to support the development application for a Reconfiguration of a Lot to create nine freehold residential lots.

The site is currently vacant with a large amount of vegetation as shown in the image below.

A general description of proposed works and items of note are contained within the body of this report. Tabular responses to each of the performance criteria within the Flood Hazard Overlay Code, Filling and Excavation Code and Infrastructure Code are included as Appendices.



Image 1 – Site Location (image from Nearmap.com)

2. Flooding

The Logan Flood Hazard Overlay has been examined through the PD Hub Interactive Mapping, see image below for flood risk area classifications over and adjacent to the site.

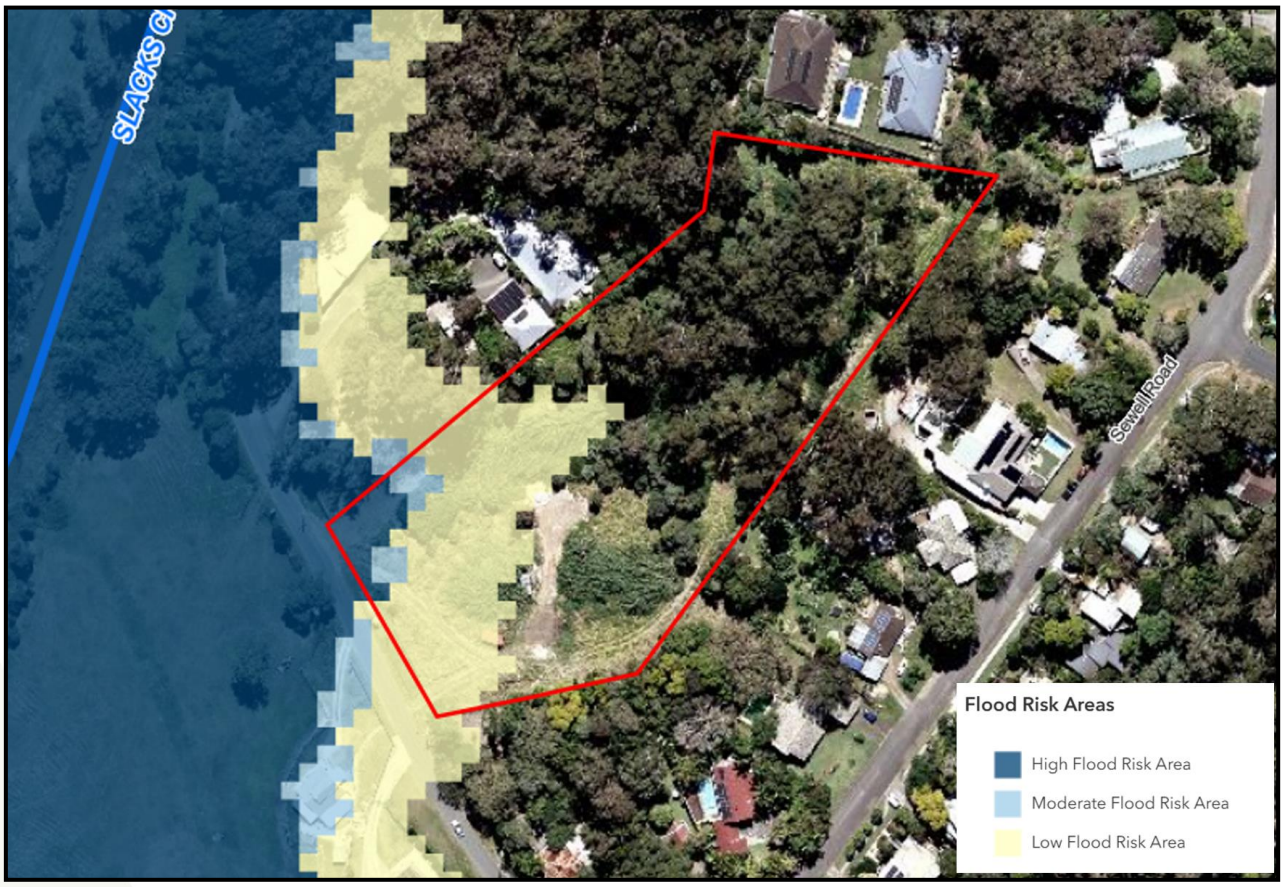


Image 2 – Flood Risk Areas (Source Logan PDHub)

Three flooding sources have been identified as being relevant to the site. They are river (Loagn River), creek (Slacks Creek) and overland flow flooding.

The Logan and Albert Rivers Flood Study 2023, estimates the 1% AEP flood level to be RL10.9m AHD within the site.

The Slacks and Scrubby Creek Flood Study 2023, does not report the 1% AEP flood level at this site, but reports the probable maximum flood level at 10.8m AHD within the site.

Possible overland flow paths, as mapped on the Logan Flood Portal, are shown in Image 3 below.



Image 3 – Possible overland flow paths (Source Logan Flood Portal)

Notwithstanding the above mapping, a review of surface topography over and adjacent to the site, identifies that overland flow entering the site is insignificant.

It is concluded that the river flooding event is the critical flood source.

Assessment against the Flood Hazard Overlay Code is required, given the flood risk mapping over the site.

The flood risk areas and 1% AEP river flooding are shown on Drawing SK17 attached. This drawing identifies that earthworks below the flood line and within the high risk area are proposed. The earthworks are limited to cut and fill for stormwater management infrastructure within the high risk area, and for vehicular access and stormwater management infrastructure outside the high risk area but within a 1% AEP flood extent. Excavation below the 1% AEP flood line exceeds filling, thus providing a net creation of flood storage in the 1% AEP event. Thus, compliance with AO22 & AO23 of the Flood Hazard Overlay Code will be met.

Access to site will be achieved from Murrays Road. As shown on Drawing SK17 access will be made above the 1% AEP flood line (the defined flood event). As shown in Image 4 below a low flood hazard vehicle route to a suitable flood-free area that contains essential goods to service the needs of people will be achieved. Accordingly, compliance with AO17, AO18 & PO19 of the Flood Hazard Overlay Code is met.

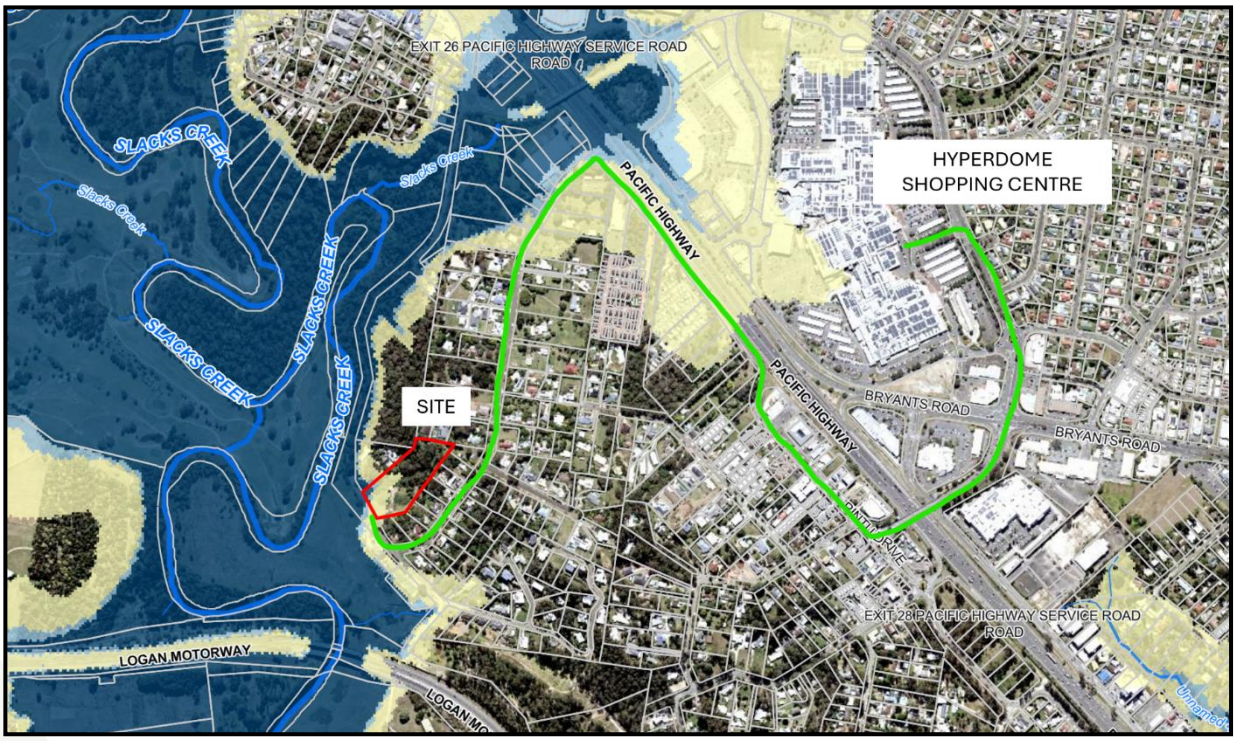


Image 4 – Low Flood Risk Vehicle Path to Hyperdome Shopping Centre (Source Logan PDHub)

3. Earthworks and Retaining

A concept earthworks design is depicted on the accompanying engineering drawings. Factors influencing the design are:

- the desire to provide a flat, ready to build on, building area of 200m^2 on each residential allotments.
- the levels of the existing roads to which connection is to be made.
- new access gradings compliant with the Infrastructure Design PSP.
- avoidance of terraced walls for the betterment of building area and lot maintenance.
- stormwater management requirements.
- levels required to achieve flood immunity,

The existing topographic fold will to be filled in, whilst significant cut is proposed along the eastern boundary, resulting in retaining walls and batters to this boundary.

Cut off drains above retaining walls are proposed to the eastern property boundaries to manage surface runoff from the adjoining properties.

Compliance with A08 cannot be reasonably achieved due to the slope of the existing ground and the market's demand for flat residential land. However, compliance with P08 is achieved as visual impacts are minimised with terracing of wall were deemed desirable for visual amenity.

Geotechnical engineering investigation and ecology reports will be required to support the earthworks proposal.

4. Roadworks

The development site has constructed road to the existing road frontage. No new roads are proposed.

5. Access

Access to Lots 2 – 9 will be achieved via the 5.50m wide shared crossover and driveway from Murrays Road. Lot 1 will be accessed via a separate crossover from Murrays Road.

Maintenance for the bio-retention basin will be achieved via a 3.0m wide crossover from Murrays Road.

The proposed location of the shared crossover and individual crossover for Lot 1 has been designed to allow vehicle access to be achieved outside the 1% AEP flood extents.

6. Refuse Collection

Refuse collection for Lot 1 is proposed to be achieved from Murrays Road directly.

Refuse collection for Lots 2 – 9 is proposed to be achieved via the internal shared driveway. A refuse truck turnaround has been provided, to allow the refuse truck to exit in forward gear.

7. Stormwater Drainage

Existing stormwater infrastructure in the vicinity of the development site is shown in the image below.



Image 4 – Existing Stormwater Infrastructure

Site runoff is to be managed in accordance with the infrastructure Code. Proposed stormwater infrastructure is shown on the accompanying engineering drawings.

The existing cross road culvert is to be retained and utilised or upgraded, subject to the outcomes of detailed design calculations.

Given the discharge location, into a high risk flood area, within road reserve, adjacent to Slacks Creek, no mitigation of peak site runoff is proposed. The development is not expected to result in a detrimental impact on the flooding or flood risk of any area, achieving the principle of "no worsening" as per Section 3.6.2.10 of the Infrastructure Planning Scheme Policy.

Runoff from the external catchment will be managed via swale drains along the south-eastern boundary and north-western boundary, to convey and discharge runoff to Murrays Road.

For stormwater quality improvement, a 70m^2 bio-retention basin is proposed to allow the development to reach target pollutant reduction loads. The proposed bio-retention basin high flow outlet device is located above the 5% AEP flood event. Compliance with AO27 of the Flood Hazard Overlay Code can be met.

8. Sewerage Reticulation

Existing sewerage infrastructure in the vicinity of the development site is shown in the image below.



Image 6 – Existing Sewerage Infrastructure

There is a sewerage pump station located within the road verge along the front of the site.

The existing gravity sewerage mains running along the front and eastern boundaries of the site discharge to this pump station.

It is proposed to provide a new sewerage main with property connections within the access and services easement for Lots 2-9 whilst Lot 1 can be provided with a new property connection from the existing sewerage main that is located just inside the front boundary.

A longitudinal section of the existing sewerage main has been provided to show the impact and change in levels over it. Where possible a minimum 600mm of cover has been achieved whilst some existing areas have less than this. In this case the existing condition is to remain.

Proposed sewerage construction is shown on the accompanying engineering drawings. These works comply with the Gravity Sewerage Code of Australia SEQ Service Providers Edition Version 2.1 (September 2021).

Easements will be established as required, in accordance with Council's requirements..

9. Water Reticulation

Existing water reticulation infrastructure in the vicinity of the development site is shown in the image below taken.



Image 7 – Existing Water Reticulation Infrastructure

As seen in the image above, there is no documented water main within the near vicinity of the site which could be used to service the site. Therefore, it is proposed to extend a 150mm diameter water reticulation main from the existing main at the intersection of Sewell Road and Murrays Road to service the development site.

A fire main is proposed within the access and services easement, to meet the requirements of *Clause 8.8.8* of the Water Supply Code SEQ Edition. The main will be contained within a 6m wide easement.

It is recommended that the council be engaged to undertake Water Supply Modelling for the development to check the adequacy of water pressure and supply to the site.

10. Conclusions

The proposed development has been assessed against Logan Planning Scheme.

Compliance with the Performance Outcomes of the Flood Hazard Overlay, Filling and Excavation Code and Infrastructure Code has been achieved.

Reasonable and relevant conditions can be applied to the development approval to achieve compliant and adequate servicing of the development.

Engineering Drawings

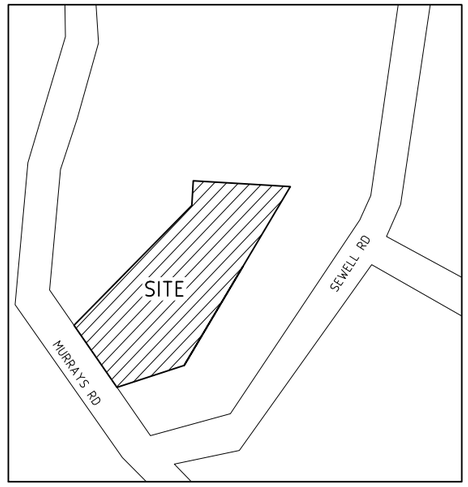
1 INTO 9 LOT SUBDIVISION

LOT 2 ON RP 109991

104-108 MURRAYS ROAD

TANAH MERAH, QLD 4128

DRAWING INDEX	
DRAWING No.	DESCRIPTION
24164-SK20	LOCALITY PLAN, DRAWING INDEX & GENERAL NOTES
24164-SK21	CONCEPT REAR ACCESS AND STORMWATER DRAINAGE PLAN
24164-SK22	CONCEPT BIO RETENTION PLAN, SECTIONS AND SWALE TYPICAL SECTIONS
24164-SK23	CONCEPT SEWERAGE PLAN
24164-SK24	EXISTING SEWERAGE MAIN LONGITUDINAL SECTION
24164-SK25	CONCEPT WATER RETICULATION PLAN SHEET 1 OF 2
24164-SK26	CONCEPT WATER RETICULATION PLAN SHEET 2 OF 2
24164-SK27	CONCEPT EARTHWORKS PLAN
24164-SK28	CONCEPT EARTHWORKS SECTIONS



LOCALITY PLAN

SCALE 1:2500

SCALE 1:2500 (A1) 0 50 100 150m

(SCALE BEFORE REDUCTION)

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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	LOCALITY PLAN AND DRAWING INDEX	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
A	ISSUED FOR COMMENT	23/12/25
B	ISSUED FOR APPROVAL	23/07/26

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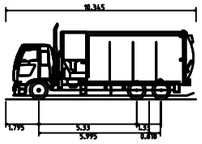
Drawing No.	Rev.
24164-SK20	B



Copy of Logan CC Side Loader (10.35m Recycling)

Overall Length	10.345m
Overall Width	2.800m
Overall Body Height	4.107m
Min Body Ground Clearance	0.207m
Track Width	2.800m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	10.329m

LOT 1 CP 893949

LOT 1 SP 192383

LOT 2 SP 192383

LOT 4 RP 109988

LOT 1 RP 109991

LOT 100

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

LOT 9

MURRAYS ROAD

5.50m WIDE CROSSOVER

70m² BIO

REFER TO 24164-SK12 FOR BIO RETENTION PLAN AND SECTIONS

PROPOSED ROOFWATER CONNECTION LOT 2

PROPOSED ROOFWATER CONNECTION LOTS 3 AND 4

PROPOSED ROOFWATER CONNECTION LOTS 5 AND 6

PROPOSED ROOFWATER CONNECTION LOTS 7 AND 8

PROPOSED ROOFWATER CONNECTION LOT 9

BIN PAD LOT 9

REFUSE TRUCK TURN AROUND. (10.5x6.50m)

PROPOSED ROOFWATER CONNECTION LOT 1

6.5x3.0m SERVICE EASEMENT

3.000m STORMWATER EASEMENT

INLET TO CAPTURE RUNOFF IN SWALE

3.00m WIDE CROSSOVER FOR LOT 1

B SK12

A SK12

FH

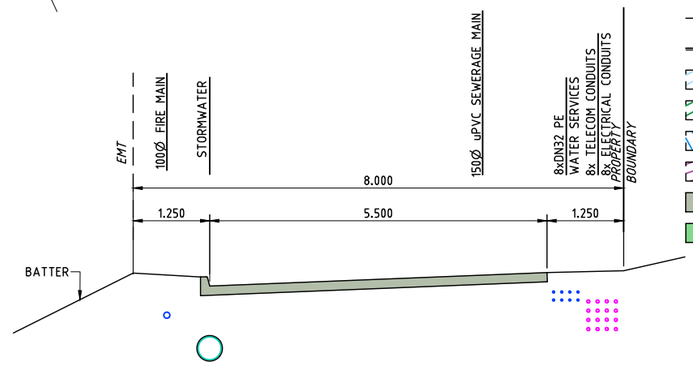
WM

EP

SWD

PLAN

SCALE 1:250



ACCESS AND SERVICE TYPICAL SECTION

SCALE 1:50

SCALE 1:50 (A1) 0 1 2 3m (SCALE BEFORE REDUCTION)

SCALE 1:250 (A1) 0 5 10 15m (SCALE BEFORE REDUCTION)

LEGEND

- EXISTING SURFACE CONTOURS (1.00m INTERVAL)
- FINISHED SURFACE CONTOURS (1.00m INTERVAL)
- PROPOSED STORMWATER DRAINAGE
- EXISTING SEWERAGE
- PROPOSED SEWERAGE
- SERVICES CONDUITS
- PROPOSED WATER RETICULATION
- PROPOSED SWALE DRAIN
- PROPOSED KERB
- SERVICES AND ACCESS EASEMENT
- STORMWATER EASEMENT
- WATER EASEMENT
- SEWERAGE EASEMENT
- PROPOSED CONCRETE
- PROPOSED BIO RETENTION
- PROPOSED WATER METER
- EXISTING ELECTRICAL POLE
- PROPOSED ELECTRICAL PILLAR
- PROPOSED FIRE HYDRANT
- EXISTING WATER METER
- PROPOSED RETAINING WALL

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT REAR ACCESS AND STORMWATER DRAINAGE PLAN	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
A	ISSUED FOR COMMENT	23/12/25
B	ISSUED FOR APPROVAL	23/07/26

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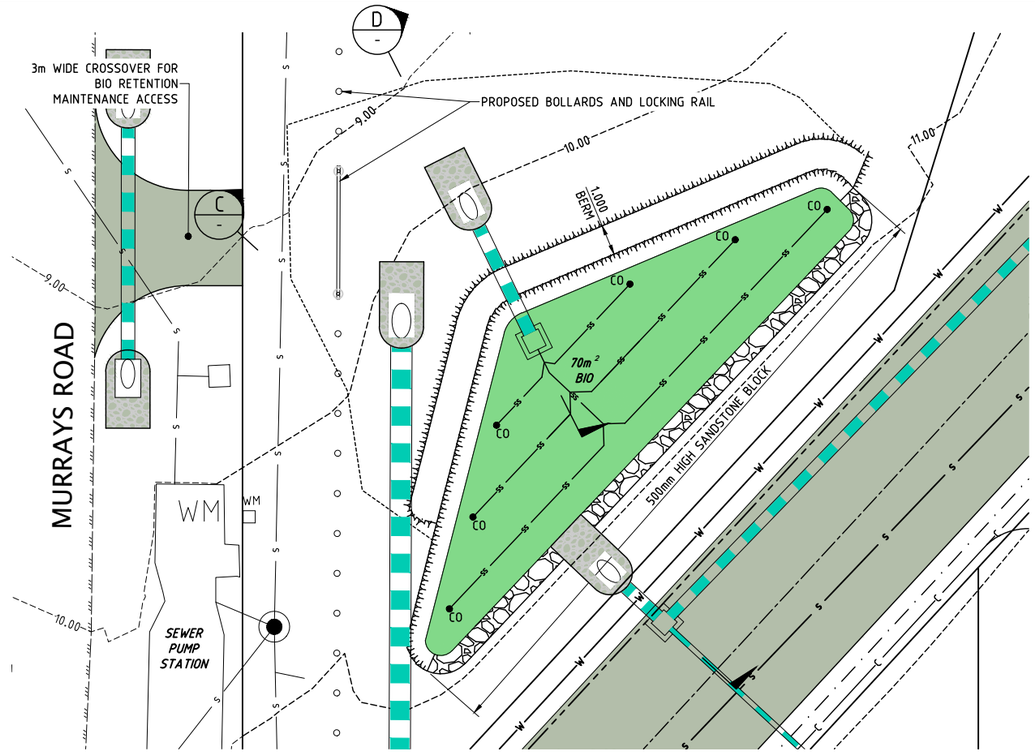
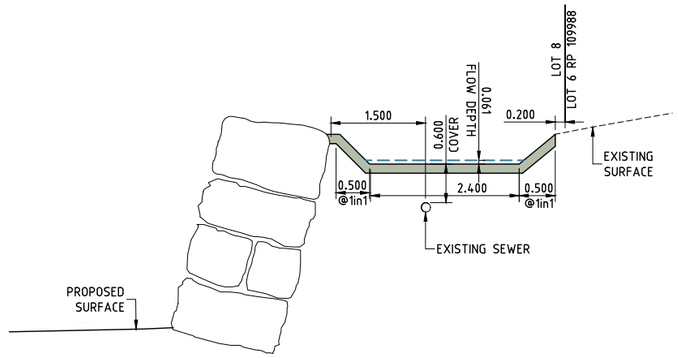
Drawing No. 24164-SK21

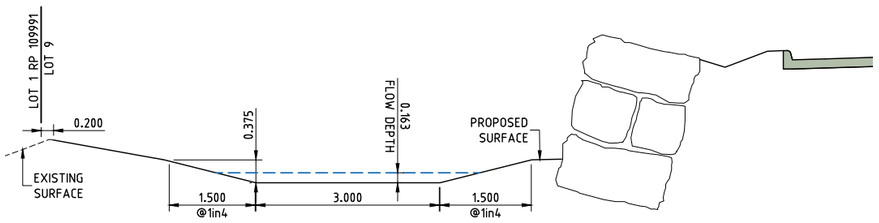
Rev. B



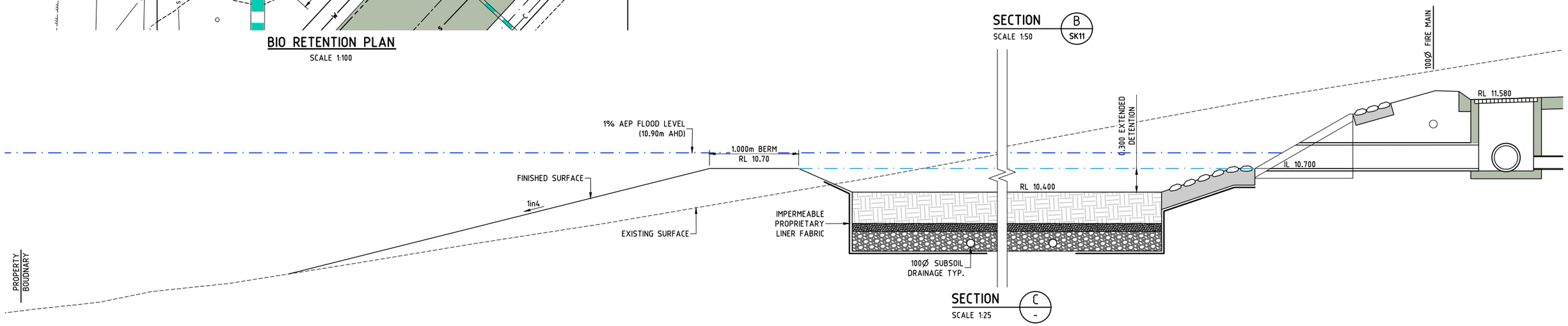
BIO RETENTION PLAN
SCALE 1:100



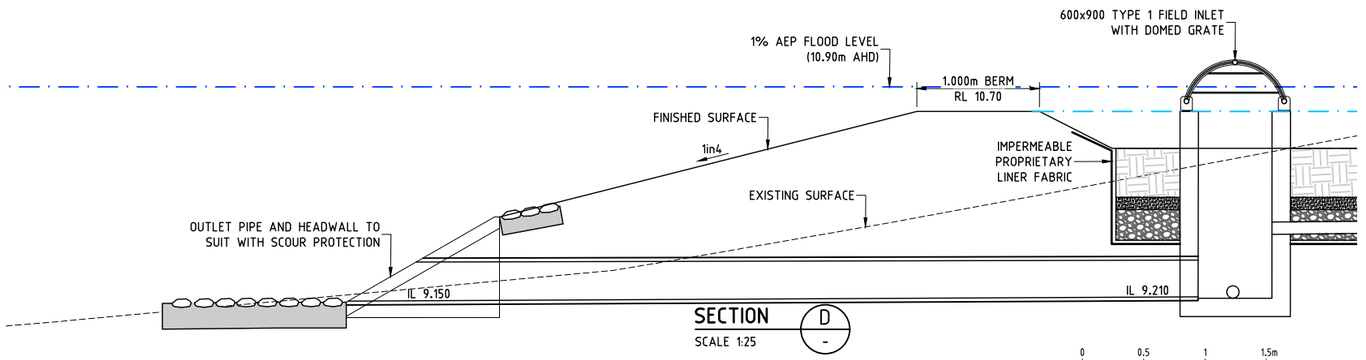
SECTION A
SCALE 1:50 — SK11



SECTION B
SCALE 1:50 — SK11



SECTION C
SCALE 1:25 — -



SECTION D
SCALE 1:25 — -

LEGEND

- EXISTING SURFACE CONTOURS (1.00m INTERVAL)
- PROPOSED STORMWATER DRAINAGE
- EXISTING SEWERAGE
- PRIVATE WATER SERVICE
- SERVICES CONDUITS
- PROPOSED KERB
- PROPOSED CONCRETE
- PROPOSED BIO RETENTION
- FINISHED SURFACE CONTOURS (1.00m INTERVAL)
- EXISTING WATER METER
- PROPOSED SANDSTONE BLOCK

SCALE 1:25 (A1) 0 0.5 1 1.5m (SCALE BEFORE REDUCTION)
SCALE 1:50 (A1) 0 1 2 3m (SCALE BEFORE REDUCTION)
SCALE 1:100 (A1) 0 2 4 6m (SCALE BEFORE REDUCTION)

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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT BIO RETENTION PLAN, SECTIONS AND SWALE TYPICAL SECTIONS	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
A	ISSUED FOR COMMENT	23/12/25
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PLAN
SCALE 1:250

LEGEND

- EXISTING SURFACE CONTOURS (1.00m INTERVAL)
- PROPOSED STORMWATER DRAINAGE
- EXISTING SEWERAGE
- PROPOSED SEWERAGE
- PRIVATE WATER SERVICE
- SERVICES CONDUITS
- PROPOSED SWALE DRAIN
- PROPOSED KERB
- SEWER EASEMENT
- PROPOSED CONCRETE
- PROPOSED BIO RETENTION
- PROPOSED WATER METER
- EXISTING ELECTRICAL POLE
- PROPOSED ELECTRICAL PILLAR
- FINISHED SURFACE CONTOURS (1.00m INTERVAL)
- PROPOSED WATER RETICULATION
- PROPOSED FIRE HYDRANT
- EXISTING WATER METER
- PROPOSED RETAINING WALL

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SCALE 1:250 (A1) 0 5 10 15m
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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT SEWERAGE PLAN	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
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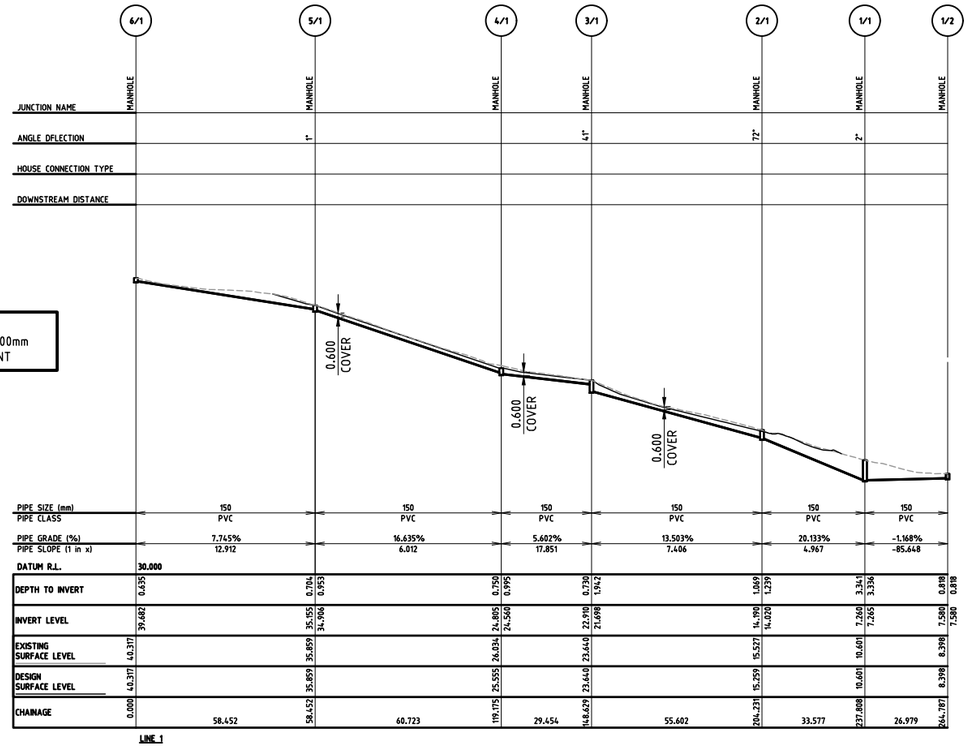

LONGITUDINAL SECTION

SCALES 1:1000 (HORIZONTAL)
1:25 (VERTICAL)

NOTE:
WHERE UNDER EXISTING CONDITIONS COVER IS LESS THAN 600mm
THIS IS TO BE MAINTAINED FOR THE PROPOSED DEVELOPMENT

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SCALE 1:25 (A1) 0 0.5 1 1.5m (SCALE BEFORE REDUCTION)

SCALE 1:1000 (A1) 0 20 40 60m (SCALE BEFORE REDUCTION)

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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	EXISTING SEWERAGE MAIN LONGITUDINAL SECTION	RYJAYD PTY LTD	

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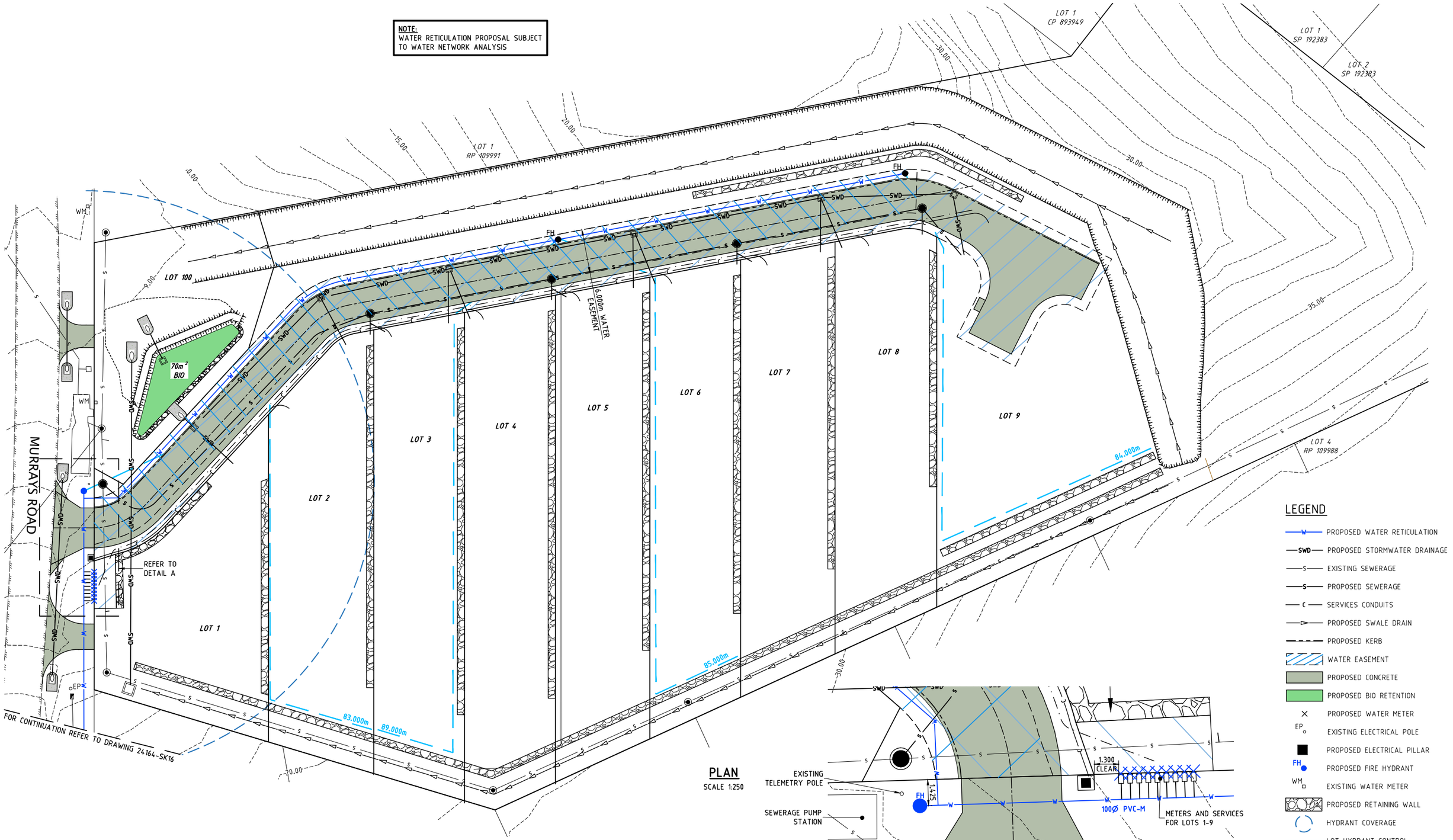
NOTE:
WATER RETICULATION PROPOSAL SUBJECT TO WATER NETWORK ANALYSIS



PLAN
SCALE 1:250

DETAIL A
SCALE 1:100

LEGEND

- W — PROPOSED WATER RETICULATION
- SWD — PROPOSED STORMWATER DRAINAGE
- S — EXISTING SEWERAGE
- S — PROPOSED SEWERAGE
- C — SERVICES CONDUITS
- PROPOSED SWALE DRAIN
- PROPOSED KERB
- WATER EASEMENT
- PROPOSED CONCRETE
- PROPOSED BIO RETENTION
- PROPOSED WATER METER
- EP — EXISTING ELECTRICAL POLE
- PROPOSED ELECTRICAL PILLAR
- FH — PROPOSED FIRE HYDRANT
- WM — EXISTING WATER METER
- PROPOSED RETAINING WALL
- HYDRANT COVERAGE
- LOT HYDRANT CONTROL

SCALE 1:100 (A1) 0 2 4 6m (SCALE BEFORE REDUCTION)

SCALE 1:250 (A1) 0 5 10 15m (SCALE BEFORE REDUCTION)

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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT WATER RETICULATION PLAN SHEET 1 OF 2	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
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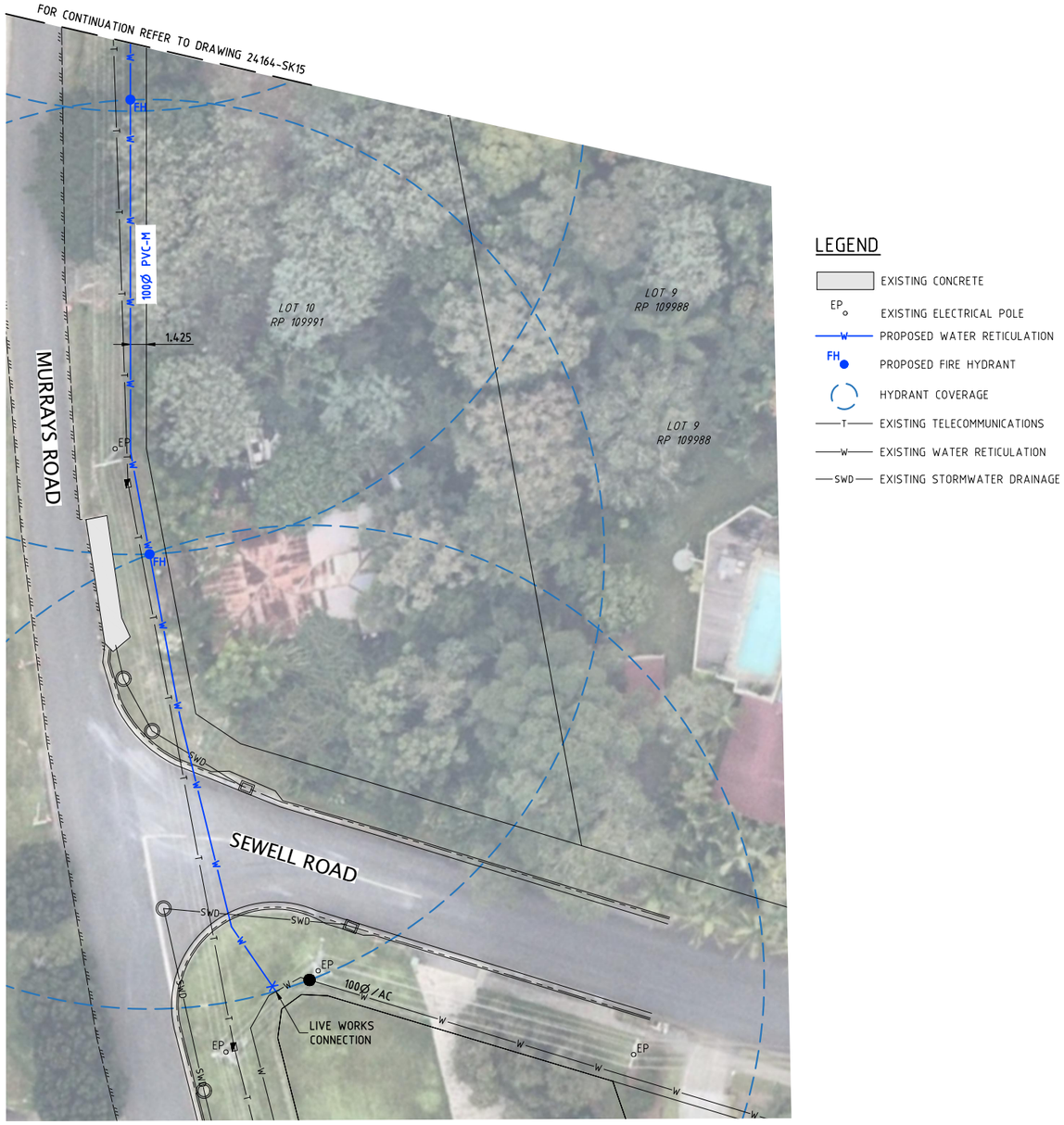

LEGEND

- EXISTING CONCRETE
- EP — EXISTING ELECTRICAL POLE
- W — PROPOSED WATER RETICULATION
- FH — PROPOSED FIRE HYDRANT
- HYDRANT COVERAGE
- T — EXISTING TELECOMMUNICATIONS
- W — EXISTING WATER RETICULATION
- SWD — EXISTING STORMWATER DRAINAGE

PLAN

SCALE 1:250

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SCALE 1:50 (A1) 0 1 2 3m (SCALE BEFORE REDUCTION)

SCALE 1:250 (A1) 0 5 10 15m (SCALE BEFORE REDUCTION)

HCE Engineers Pty Ltd
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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT WATER RETICULATION PLAN SHEET 2 OF 2	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
A	ISSUED FOR COMMENT	23/12/25
B	ISSUED FOR APPROVAL	23/07/26

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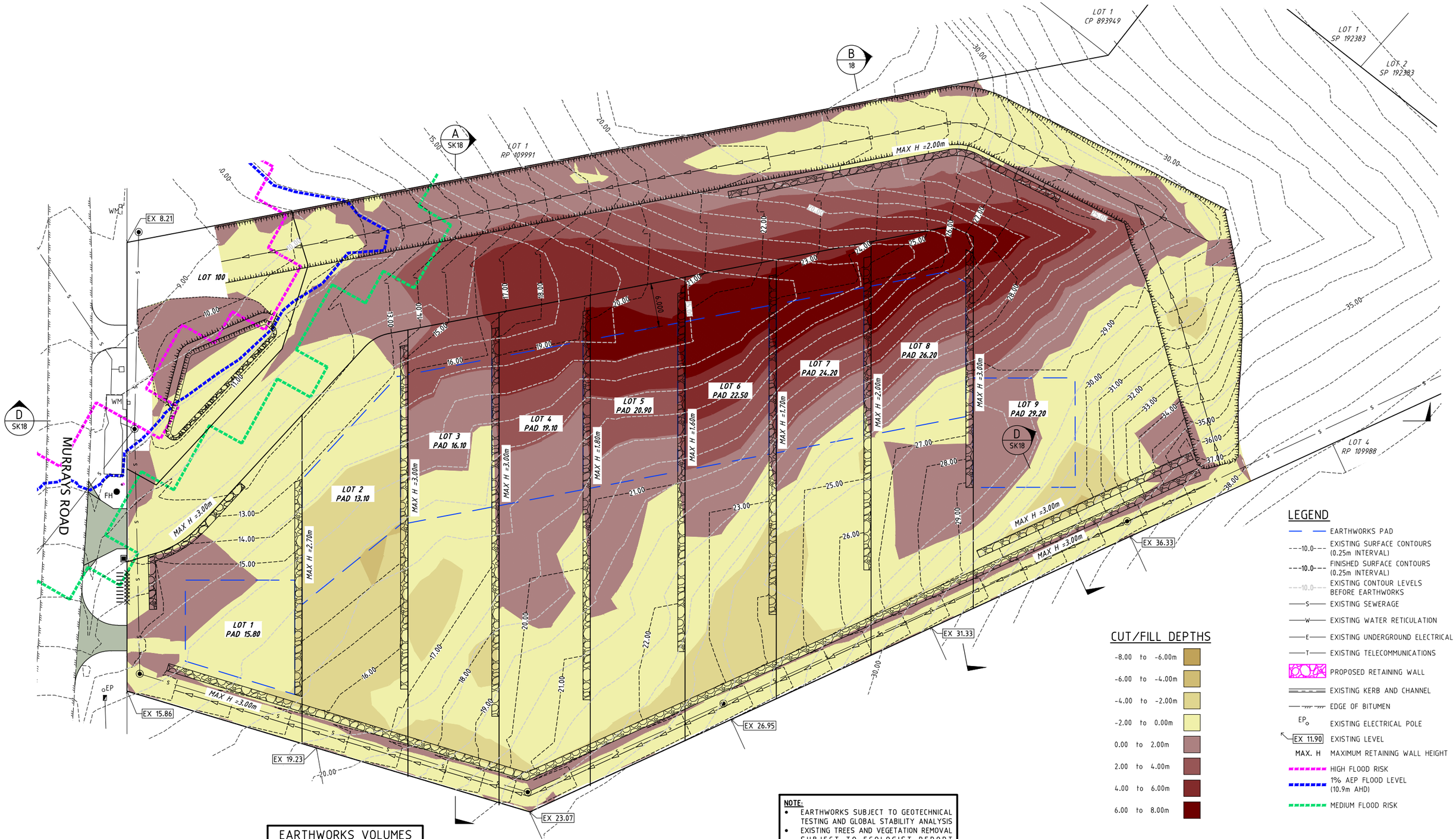
Designed	Drawn	Date
MN	HL	15/12/25

Approval No.	Scale
-	AS SHOWN

Drawing No.	Rev.
24164-SK26	B



LEGEND

- EARTHWORKS PAD
- 10.0 EXISTING SURFACE CONTOURS (0.25m INTERVAL)
- 10.0 FINISHED SURFACE CONTOURS (0.25m INTERVAL)
- 10.0 EXISTING CONTOUR LEVELS BEFORE EARTHWORKS
- S EXISTING SEWERAGE
- W EXISTING WATER RETICULATION
- E EXISTING UNDERGROUND ELECTRICAL
- T EXISTING TELECOMMUNICATIONS
- PROPOSED RETAINING WALL
- EXISTING KERB AND CHANNEL
- EDGE OF BITUMEN
- EP EXISTING ELECTRICAL POLE
- EX 11.90 EXISTING LEVEL
- MAX. H MAXIMUM RETAINING WALL HEIGHT
- HIGH FLOOD RISK
- 1% AEP FLOOD LEVEL (10.9m AHD)
- MEDIUM FLOOD RISK

CUT/FILL DEPTHS

-8.00 to -6.00m	
-6.00 to -4.00m	
-4.00 to -2.00m	
-2.00 to 0.00m	
0.00 to 2.00m	
2.00 to 4.00m	
4.00 to 6.00m	
6.00 to 8.00m	

NOTE:
- EARTHWORKS SUBJECT TO GEOTECHNICAL TESTING AND GLOBAL STABILITY ANALYSIS
- EXISTING TREES AND VEGETATION REMOVAL SUBJECT TO ECOLOGIST REPORT

EARTHWORKS VOLUMES

TOTAL CUT	6360m ^{3}
TOTAL FILL	13250m ^{3}
BALANCE	6890m ^{3}

VOLUMES DO NOT INCLUDE BULKING OR COMPACTION FACTORS.

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

SCALE 1:250 (A1) 0 5 10 15m
(SCALE BEFORE REDUCTION)

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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT EARTHWORKS PLAN	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
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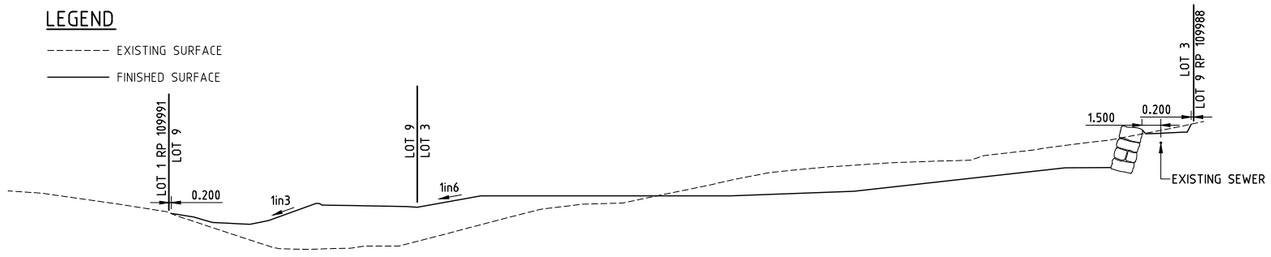
Designed	Drawn	Date
MN	HL	15/12/25

Approval No.: -
Scale: AS SHOWN
Drawing No.: 24164-SK27
Rev.: B

LEGEND

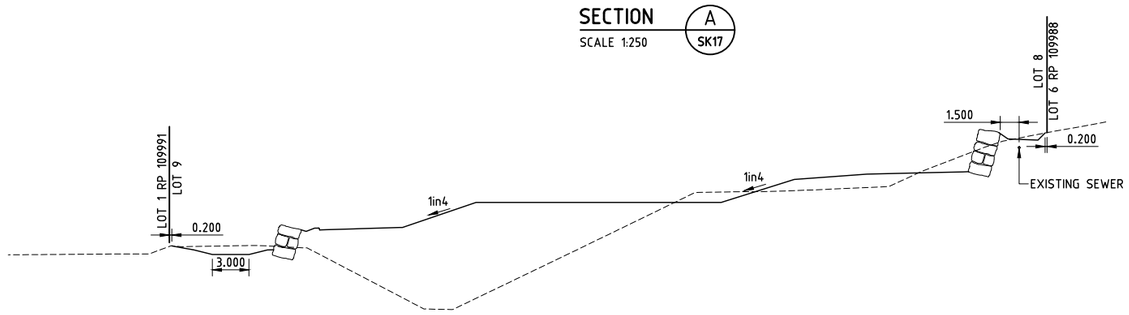
EXISTING SURFACE

FINISHED SURFACE



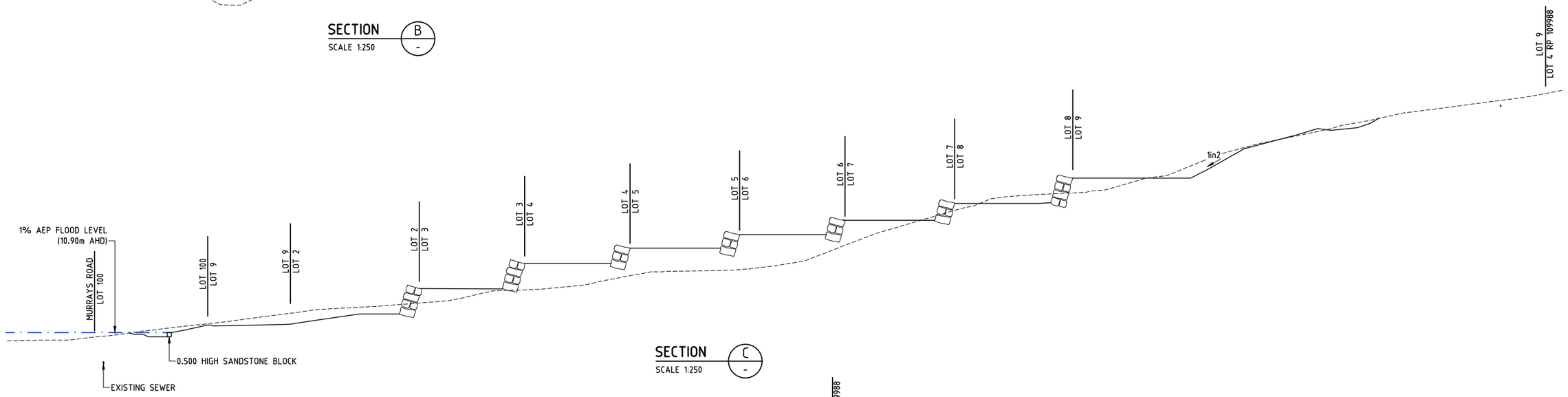
SECTION A
SCALE 1:250 SK17

```
 Volumes from tin "existing" to tin "DESIGN" - (with plan polygon "SUR CONT  HIGH RISK FLOOD->SUR-CONT- HIGH RISK FLOOD")
================================================================================================
------- Height ------|------ Incremental ------|---------------- Accumulative ----------------|
   1          2      |    Cut          Fill     |       Cut          Fill          Balance      |
---------- ----------|------------ ------------|-------------- -------------- ---------------|

     8.000     10.900      -29.220       28.476         -29.220          28.476          -0.744


Total cut                      -29.220
Total fill                      28.476
Total balance                   -0.744
ie excess of cut over fill       0.744

Polygon plan area = 363.352
```

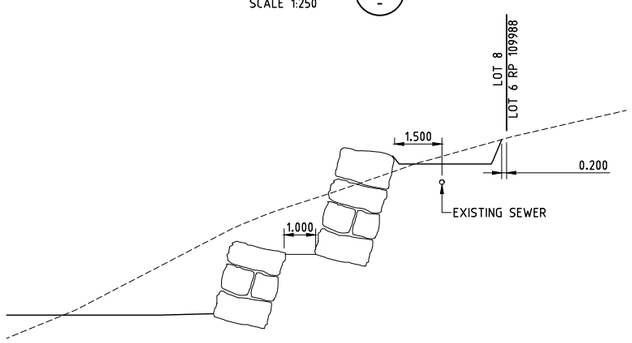


SECTION B
SCALE 1:250 -

```
 Volumes from tin "existing" to tin "DESIGN" - (with plan polygon "SUR CONT 1  FLOOD EX->SUR-CONT-1  FLOOD EX")
================================================================================================
------- Height ------|------ Incremental ------|---------------- Accumulative ----------------|
   1          2      |    Cut          Fill     |       Cut          Fill          Balance      |
---------- ----------|------------ ------------|-------------- -------------- ---------------|

     8.000     10.900      -37.317        4.820         -37.317           4.820         -32.496


Total cut                      -37.317
Total fill                       4.820
Total balance                  -32.496
ie excess of cut over fill      32.496

Polygon plan area = 153.086
```



SECTION C
SCALE 1:250 -



SECTION D
SCALE 1:100 -

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SCALE 1:100 (A1) 0 2 4 6m (SCALE BEFORE REDUCTION)

SCALE 1:250 (A1) 0 5 10 15m (SCALE BEFORE REDUCTION)

HCE ENGINEERS
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PROJECT	TITLE	CLIENT	CERTIFICATION
104 - 108 MURRAYS ROAD, TANAH MERAH QLD 4128 LOT 2 ON RP 109991	CONCEPT EARTHWORKS SECTIONS	RYJAYD PTY LTD	

REVISION	AMENDMENT	DATE
A	ISSUED FOR COMMENT	23/12/25
B	ISSUED FOR APPROVAL	23/07/26

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Designed	Drawn	Date
MN	HL	15/12/25

Approval No.	Scale
-	AS SHOWN

Drawing No.	Rev.
24164-SK28	B

Appendix A – Filling and Excavation Code

9.4.2 Filling and excavation code

9.4.2.1 Application

1. This code applies to:
    a. material change of use:
        i. that is accepted development (subject to requirements) or code assessable and for which the Filling and excavation code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use in Part 5 - Tables of assessment;
        ii. that is made impact assessment in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use or section 5.9 - Categories of development and assessment - local plans in Part 5 - Tables of assessment;
    b. reconfiguring a lot:
        i. that is code assessable and for which the Filling and excavation code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
        ii. that is impact assessable in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
    c. operational work that is accepted development (subject to requirements) and code assessable operational work - filling or excavation for which the Filling and excavation code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.8.1 - Operational work.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3 - Determining the 'assessment benchmarks for assessable development and requirements for accepted development' located in Part 5 - Tables of assessment.

9.4.2.2 Purpose

1. The purpose of the code is to protect premises, people and natural processes from adverse impacts associated with filling or excavation.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. development protects:
        i. natural physical processes and ecosystems;
        ii. existing and planned infrastructure;
        iii. personal health and safety and premises;

iv. visual amenity.

9.4.2.3 Assessment benchmarks for assessable development and requirements for accepted development

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 9.4.2.3.1 - Filling and excavation code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Protection of natural processes and ecosystems		
PO1 The discharge of sediments and pollutants from filling or excavation does not adversely affect a waterway or the stormwater network.	**AO1** The discharge of sediments and pollutants to a waterway or stormwater network complies with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	Can comply
PO2 Topsoil and spoil stockpiled on the premises do not adversely affect natural processes and ecosystems.	**AO2** Topsoil and spoil is stockpiled to comply with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	Can comply
PO3 Filling is carried out using stable, solid and clean earth, free of organic and putrescible waste, rubbish and refuse material.	**AO3** Filling complies with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	Can comply
Protection of existing and planned infrastructure		
PO4	**AO4**	Can comply

Filling or excavation works do not adversely affect infrastructure, including any services.	Filling or excavation works comply with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	
Protection and enhancement of personal health and safety and premises		
PO5 Filling or excavation works do not adversely affect personal health and safety.	**AO5** Filling or excavation works comply with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	Can comply
Surface water flow		
PO6 Surface water drainage does not cause any of the following: a. ponding on any premises; or b. a hazard or adversely affect personal health and safety and premises; or c. diversion or concentration of flow from or onto adjoining premises or infrastructure.	**AO6** Surface water drainage complies with part 3.3 - Filling or excavation standards in Planning scheme policy 5 - Infrastructure.	Can comply
Batters		
PO7 A batter: a. does not adversely affect the natural physical processes and ecosystems; b. protects existing and planned infrastructure; c. is safe, stable and easily maintained; d. is landscaped to enhance visual amenity.	**AO7** A batter is designed and constructed to comply with the standards specified in 3.3.6 - Batters and retaining walls in Planning scheme policy 5 - Infrastructure.	Can comply
Retaining walls		
PO8	**AO8**	Can comply with the PO.

A retaining wall: a. is not constructed of timber and is not located on existing or proposed lot boundaries, or movement networks; b. does not adversely affect the natural physical processes and ecosystems; c. is located to avoid conflict with adjoining premises; d. is located such that existing and planned infrastructure is not adversely affected; e. protects the visual amenity of adjoining premises or a public open space; f. is located within the premises that is being filled; g. is located within the premises that is cut and is designed to take any surcharge loading allowable on the uphill lot; h. is safe and stable; i. enables easy access for maintenance.	A retaining wall is designed and constructed to comply with the standards specified in section 3.3.6.2 - Retaining walls in Planning scheme policy 5 - Infrastructure.	
Filling of a dam		
PO9 The filling of a dam: a. does not adversely affect the natural physical processes and ecosystems; b. creates a safe and stable surface; c. is integrated into the landscape.	**AO9** The filling of a dam complies with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	N/A

Appendix B – Infrastructure Code

9.4.3 Infrastructure code

9.4.3.1 Application

1. This code applies to:
    a. material change of use:
        i. that is accepted development (subject to requirements) or code assessable and for which the Infrastructure code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use in Part 5 - Tables of assessment;
        ii. that is made impact assessment in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use or section 5.9 - Categories of development and assessment - Local plans in Part 5 - Tables of assessment;
    b. reconfiguring a lot:
        i. that is code assessable and for which the Infrastructure code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
        ii. made impact assessment in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
    c. operational work that is infrastructure work:
        i. that is accepted development (subject to requirements) or code assessable and for which the Infrastructure code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column Table 5.8.1 - Operational work in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3 - Determining the 'assessment benchmarks for assessable development and requirements for accepted development' located in Part 5 - Tables of assessment.

9.4.3.2 Purpose

1. The purpose of the code is to ensure that infrastructure is provided to service development.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. development protects the existing infrastructure and planned infrastructure networks being the:
        i. movement network;
        ii. park network;

iii. water network;
iv. sewerage network;
v. stormwater network;
vi. other networks including electricity, gas and telecommunications;
vii. land for community facilities network;

b. development other than operational work provides infrastructure that is necessary to service the development, including elements of:
i. a safe, efficient and legible road network;
ii. a safe, efficient and legible public transport network;
iii. a safe, efficient and legible cycle network;
iv. a safe, efficient and legible pedestrian network;
v. a safe, efficient and legible parks network;
vi. a safe and efficient water network;
vii. a safe and efficient sewerage network;
viii. a safe and efficient stormwater network;
ix. safe and efficient other networks including electricity, gas and telecommunications;
x. a safe and efficient road lighting network;
xi. land for a community facilities network;

c. development integrates with existing and planned infrastructure networks;
d. infrastructure is designed and constructed to deliver a standard of service that is efficient and equitable;
e. the cost to the community for the life of the infrastructure is minimised by providing for a suitable design life, ease of maintenance and ease of replacement;
f. development appropriately manages refuse and recycling storage and collection;
g. infrastructure protects personal health and safety and premises;
h. infrastructure protects environmental values.

9.4.3.3 Assessment benchmarks for assessable development and requirements for accepted development

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 9.4.3.3.1 - Infrastructure code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments

For accepted development (subject to requirements) and assessable development		
Provision, design, construction and location of infrastructure		
PO1 Development is demonstrated to be capable of being serviced by necessary infrastructure.	**AO1** Reports, plans and drawings are provided in accordance with part 2 of Planning scheme policy 5 - Infrastructure.	Can comply
PO2 Development: a. provides necessary infrastructure to service the development; b. provides that the design, construction and location of necessary infrastructure: i. protects existing and planned infrastructure networks; ii. services proposed development; iii. integrates with existing and planned infrastructure networks; iv. delivers a standard of service that is efficient and equitable; v. minimises the cost to the community for the life of the infrastructure by providing a suitable design life, ease of maintenance and ease of replacement; vi. protects personal health, safety and premises; vii. protects environmental values.	**AO2** Development: a. in a water supply service area connects to the water network in accordance with the SEQ Water Supply and Sewerage Design and Construction Code; b. not in a water supply service area provides a tank with a minimum storage capacity of 45,000 litres; c. in a sewerage supply service area connects to the waste water network in accordance with the SEQ Water Supply and Sewerage Design and Construction Code; d. not in a sewerage supply service area complies with part 1 of the Queensland Plumbing and Wastewater Code; e. provides stormwater infrastructure in accordance with part 3.6 of Planning scheme policy 5 - Infrastructure; f. provides a movement network infrastructure in accordance with part 3.4 of Planning scheme policy 5 - Infrastructure;	Can comply

	g. provides parks in accordance with part 3.12 of Planning scheme policy 5 - Infrastructure; h. provides road lighting in accordance with part 3.5 of Planning scheme policy 5 - Infrastructure; i. provides electricity reticulation in accordance with part 3.8 of Planning scheme policy 5 - Infrastructure; j. provides gas and telecommunications reticulation in accordance with part 3.9 of Planning scheme policy 5 - Infrastructure. k. is consistent with the general planning layouts in part 7.2 of Planning scheme policy 5 - Infrastructure. Editor's note - The delivery of any part of a network identified in the plans for trunk infrastructure is governed by Part 4 - Local government infrastructure plan.	
Location of development		
PO3 Development is located to protect trunk infrastructure networks.	**AO3** Development is located outside a network identified in Local government infrastructure plan map LGIP-03.00 to 08.00 Plans for trunk infrastructure in Schedule 3 - Local government infrastructure plan mapping and tables.	N/A
Fire fighting		
PO4 Development in a water service area accessed by common private title provides: a. fire hydrant infrastructure;	**AO4** Development in a water service area involving a material change of use or reconfiguring a lot where, or to be, accessed by common private title ensures that fire hydrant placement and technical	N/A

b. unimpeded access for emergency services vehicles. Editor's note - The term common private title refers to areas such as access roads in community title developments or strata title unit access, which are private and under group or body corporate control.	requirements for streets and access ways are in accordance with: a. Australian Standard (AS) 2419.1 - 2005 *Fire hydrant installations*; b. QFES: *Fire Hydrant and vehicle access guidelines for residential, commercial and industrial lots*.	
PO5 Development not in a water service area provides sufficient water storage with adequate pressure, volume and flow to service development for fire fighting purposes.	**AO5** Development: a. is connected to a reticulated water supply scheme that has sufficient flow and pressure characteristics for fire fighting purposes at all times with a minimum pressure and flow of 10 litres per second at 200kPa; or b. has on-site water storage in accordance with Table 9.4.3.3.2 - Water storage for fire fighting, dedicated or retained for fire fighting purposes that is made of fire resistant materials and is: i. a separate tank; or ii. a reserve section in the bottom part of the main water supply tankwater tank. Editor's note - The requirement in AO5 is: - in addition to the requirement for potable water supply/storage in AO2 in Table 9.4.3.3.1 - Infrastructure code: accepted development (subject to requirements) and assessable development; - reflected in AO5 in Table 8.2.3.3.1 - Bushfire hazard overlay code: accepted development (subject to requirements) and assessable development.	N/A
Waste management		

PO6 Development provides refuse and recycling collection and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.	**AO6.1** Development provides refuse and recycling collection and storage facilities in accordance with Planning scheme policy 9 - Waste management. **AO6.2** Development ensures that the location and design of refuse and recycling collection and storage facilities does not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note - Planning scheme policy 9 - Waste management provides guidance on how to achieve this outcome.	Can comply
Disposal of trade waste		
PO7 The disposal of trade waste in a sewerage supply service area does not adversely affect the sewerage network.	**AO7** The disposal of trade waste in a sewerage supply service area complies with the sewer admission standards in section 3.2.6 - Sewer admission standards in Planning scheme policy 3 - Environmental management.	N/A
Roof water drainage and surface water drainage		
PO8 Development provides stormwater infrastructure for the drainage of the premises so as not to cause any of the following: a. ponding of stormwater on the premises; b. a hazard to personal health and safety; c. damage to premises; d. an increased risk of flooding to premises within the catchment.	**AO8** Development complies with the standards for stormwater infrastructure specified in part 3.6 of Planning scheme policy 5 - Infrastructure.	Can comply

Natural flow of surface water		
PO9 Development provides that the natural flow of surface water is: a. not altered so as to cause a risk to personal health and safety or damage to property; b. not increased in intensity, velocity or frequency; c. not concentrated onto adjoining premises.	**AO9** Development complies with the standards for stormwater infrastructure specified in part 3.6 of Planning scheme policy 5 - Infrastructure.	Can comply
Water sensitive urban design		
PO10 Development which provides stormwater infrastructure incorporates water sensitive urban design principles having regard to: a. protecting existing natural features and ecological processes; b. protecting the natural hydrologic behaviour of catchments; c. protecting the existing natural flow and water quality regimes of waterways; d. protecting water quality of surface and ground waters; e. minimising demand on the water network; f. minimising sewage discharges to the natural environment; g. integrating water into the landscape to enhance visual and ecological values.	**AO10** Development complies with the standards for stormwater infrastructure specified in part 3.6 of Planning scheme policy 5 - Infrastructure.	Can comply
Movement network		
PO11	**AO11**	Can comply

The projected traffic levels for a use do not adversely affect the planned standards of service for a road or intersection.	Development does not cause or contribute to projected traffic levels: a. exceeding the maximum vehicle trips per day in Table 3.4.1.4.2 in Planning scheme policy 5 - Infrastructure; or b. exceeding the maximum control delays through intersections in peak periods in Table 3.4.1.4.3 in Planning scheme policy 5 - Infrastructure.	
Integrated movement concept report		
PO12 Development which generates more than 3,000 vehicle trips per average weekday is designed to integrate the movement network to minimise the transportation costs required to service the use.	**AO12** Development which generates more than 3,000 vehicle trips per average weekday provides an integrated movement concept report which integrates the planning of the movement network in accordance with part 2 and 3 of Planning scheme policy 5 - Infrastructure.	N/A
For assessable development only		
Land use and transport integration		
PO13 Development within 400 metres of existing or future public passenger transport facilities where the total site area is 5,000m^2 or more: a. supports a road hierarchy which facilitates efficient, safe and accessible bus services connecting to existing and future public passenger transport facilities; b. enhances connectivity between existing and future public passenger transport facilities and other transport modes;	**AO13** No acceptable outcome provided.	N/A

c. optimises the walkable catchment to existing and future public passenger transport facilities; d. provides for direct and safe access to and use of existing or future public passenger transport facilities. Note - SPP code: Land use and transport integration in Appendix 4 of the state planning policy provides guidance to achieve this outcome.		

Table 9.4.3.3.2 - Water storage for fire fighting

Column 1 Lot size / use type	Column 2 Water requirement
For each residential lot:	
a. less than 1,000m^2	5,000 litres
b. between 1,000m^2 and less than 1 hectare	10,000 litres
c. greater than 1 hectare	20,000 litres
Multiple dwelling	5,000 litres per dwelling up to a maximum of 20,000 litres
A use other than Multiple dwelling	5,000 litres or the prevailing rural fire brigade standard

Appendix C – Flood Hazard Overlay Code

8.2.5 Flood hazard overlay code

8.2.5.1 Application

1. This code applies to all development for which the Flood hazard overlay code is identified as an assessment benchmark in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3 - Determining the requirements for accepted development and assessment benchmarks and other matters for assessable development, in Part 5 - Tables of assessment.

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

Note - Pursuant to section 32(a) of the *Building Act 1975* and part 3, section 8(1)(a) of the *Building Regulation 2021*, land identified in a High flood risk area, Moderate flood risk area, Low flood risk area or Flood investigation area on Flood hazard overlay map OM-05.04 is the 'designated flood hazard area' for the National Construction Code and Queensland Development Code.

Note - For the purposes of section 32(a) of *Building Act 1975* and part 3, section 8(1)(b) of the *Building Regulation 2021*, where in the designated flood hazard area:

a. the defined flood level is the level of the defined flood event, unless otherwise specified in Table 8.2.5.3.3 of 8.2.5 Flood hazard overlay code or Table 9.3.2.3.3 of 9.3.2 Dual occupancy and Dwelling house code;
b. a freeboard greater than 300mm as identified in Table 8.2.5.3.3 of 8.2.5 Flood hazard overlay code or Table 9.3.2.3.3 of 9.3.2 Dual occupancy and Dwelling house code;
c. the finished floor level for class 1 buildings as identified in Table 8.2.5.3.3 of 8.2.5 Flood hazard overlay code or Table 9.3.2.3.3 of 9.3.2 Dual occupancy and Dwelling house code.

8.2.5.2 Purpose

1. The purpose of the Flood hazard overlay code is to ensure development:
    a. avoids flood risk or where not possible to avoid, mitigates the exposure of people, property, infrastructure and the environment to a tolerable level of flood risk;
    b. maintains the accessibility and functionality of Essential community infrastructure activities and Vulnerable use activities during and after all flood events;
    c. improves the resilience of buildings to flood risk, while maintaining built form and amenity expectations;
    d. supports safe, self-evacuation and does not increase the emergency management response or recovery burden;
    e. increases the community's resilience to flood risk and minimises flood recovery time;
    f. does not result in unacceptable flood risk to people, property, infrastructure and the environment;

g. minimises the exposure of people to isolation during flood events;
h. maintains the natural functions of the floodplain for the storage and conveyance of floodwaters and avoids adverse impacts on overland flow paths.

2. The purpose of the Flood hazard overlay code will be achieved through the following overall outcomes:
   a. Development in a High flood risk area identified on Flood hazard overlay map OM-05.04 does not expose people, property, infrastructure and the environment to intolerable flood risk by:
      i. limiting development to the following compatible land uses where consistent with the intent of the underlying zone:
         A. Rural activities other than Rural industry, Intensive animal industry or Intensive horticulture; or
         B. Nature-based tourism and where involving accommodation, development is located outside of areas impacted by flash flooding and there are no habitable buildings permanently attached to the land; or
         C. where in the Environmental management and conservation zone or Recreation and open space zone, a use other than an accommodation land use and, if involving Nature-based tourism, meets overall outcome 2(a)(i)(B); or
         D. a use other than an accommodation land use or Vulnerable use activities, and there is no increase to the existing lawful building footprint; or
         E. where associated with an existing lawful accommodation land use, there is no increase to the number of persons on the premises and there is no increase to the existing lawful building footprint;
      ii. limiting reconfiguring a lot to:
         A. realignment of boundaries where not materially increasing the exposure of new lots to a High flood risk area, unless for the purpose of a drainage or environmental reserve; or
         B. creating an additional lot where the development envelope area is located outside of a High flood risk area, or the additional lot is only for the purpose of a drainage or environmental reserve;
      iii. increasing the resilience of development to flood risk through building location, design and operations;
      iv. maintains the existing conveyance function of the High flood risk area.
   b. Development in a Moderate flood risk area identified on Flood hazard overlay map OM-05.04 incorporates building location, design and operations that mitigate flood risk to people, property, infrastructure and the environment to a tolerable or acceptable level.
   c. Development involving an accommodation land use located in a Low flood island identified on Flood hazard overlay map OM-05.01 does not expose people to an unacceptable level of risk.
   d. Other than for a Hospital located in the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03, Vulnerable use activities:
      i. are located outside of a Moderate flood risk area, High flood risk area or a High flood island identified on Flood hazard overlay map OM-05.04 and OM-05.01;
      ii. are located in a Low flood risk area identified on Flood hazard overlay map OM-05.04 only where:
         A. if people reside on the premises, buildings have a flood planning level above the probable maximum flood to protect vulnerable members of the community;

B. buildings are designed to be resilient to all flood events and reduce flood recovery time;
C. there is a low flood hazard vehicle evacuation route that leads outside the floodplain to a suitable area that supports the needs of evacuees;

iii. maintain functionality and accessibility during and after all flood events;
iv. do not increase the exposure of people to isolation during all flood events up to and including the probable maximum flood.

e. A Hospital in the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03 advances the intended health centre services while mitigating flood risk to people, property, infrastructure and the environment through:
i. incorporating a building location, design and operations that are resilient to flood events;
ii. maintaining functionality during and after all flood events, including the probable maximum flood;
iii. not exposing people or property to unacceptable risk during a defined flood event.

f. Essential community infrastructure activities are not located in the floodplain, unless:
i. there is an overriding planning need for the use that cannot be met in a location outside of the floodplain;
ii. development incorporates building location, design and operations that reduce the potential impacts of flooding;
iii. development maintains functionality during and after all flood events, including the probable maximum flood;
iv. where for Emergency services, development is accessible during and after all flood events up to and including the probable maximum flood.

g. Development in a Flood investigation area identified on Flood hazard overlay map OM-05.04:
i. does not increase exposure of people, property and infrastructure to flood risk; or
ii. demonstrates the development is compatible with the level of flood risk, including achieving the outcomes as relevant for a:
A. High flood risk area;
B. Moderate flood risk area;
C. Low flood risk area and High flood island where involving Essential community infrastructure activities or Vulnerable use activities.

Note - Planning scheme policy 10 - Flood provides guidelines on how to prepare a detailed localised flood risk assessment to assist with achieving Overall Outcome g(ii).

h. Development does not locate buildings or structures in a High flow area.
i. Development is able to function safely during flood events up to and including the defined flood event.
j. Development minimises flood recovery time, rebuilding costs and disruption to residents, businesses and the community.
k. Development does not compromise amenity, environmental, parks and open space outcomes in delivering flood risk mitigation strategies.
l. Development protects personal health, safety and the environment from the release of hazardous materials during a flood event.
m. Development does not add to emergency management or the evacuation burden during or after a flood event.
n. Development:

i. involving an accommodation land use or new lots intended for a future dual occupancy (auxiliary unit), dwelling house or accommodation land use, has safe vehicle access to a low flood hazard road and road network that supports safe and efficient access to a suitable flood-free area that contains essential goods;
ii. not involving an accommodation land use (or new lots intended for a future accommodation land use) or Vulnerable use activities, has safe vehicle access to a low flood hazard road that supports safe and efficient self-evacuation, or is only isolated for a short duration from creek or overland flow flooding and has safe refuge available during flood events;
iii. plans for the orderly and safe evacuation of people, including being supported by a flood emergency management plan in particular circumstances;
iv. does not rely upon flood emergency management plans to alter land use tolerability to flood risk.

Editor's note - Flood emergency management plans should be utilised to assist in managing residual risk of development and should be implemented as a tool to plan for safe evacuation where an active management entity exists for the development.

o. Development does not directly, indirectly or cumulatively adversely impact the function of the floodplain and overland flow paths on the premises and off-site, including adjoining premises, infrastructure and the environment.
p. Development does not change the flood storage capacity or alter flood characteristics outside of a premises in a way that would result in:
    i. loss of flood storage;
    ii. loss or change to flow paths;
    iii. alteration in the speed of water flows;
    iv. reduction in flood warning times elsewhere in the floodplain.

8.2.5.3 Assessment benchmarks for assessment development and requirements for accepted development

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 8.2.5.3.1 - Flood hazard overlay code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Part A - Risk compatibility (other than a Home-based business)		
Material change of use		N/A

PO1 A development envelope area is located outside of a High flood risk area identified on Flood hazard overlay map OM-05.04 unless complying with the requirements identified in Table 8.2.5.3.2 - Land use compatibility in a high flood risk area. Note - Planning scheme policy 10 - Flood includes guidance on demonstrating the qualifying criteria in Table 8.2.5.3.2 - Land use compatibility in a high flood risk area.	**AO1** Development is contained in a development envelope area located outside of a High flood risk area identified on Flood hazard overlay map OM-05.04.	
PO2 Vulnerable use activities: a. are not located in a High flood island identified on Flood hazard overlay map OM-05.01; b. are located outside of the floodplain unless located in: i. a Low flood risk area identified on Flood hazard overlay map OM-05.04; or ii. the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03 and involving a Hospital.	**AO2** No acceptable outcome provided.	N/A
PO3 Essential community infrastructure activities are not located in the floodplain unless: a. there is an overriding planning need for the use; b. there is no alternative site located outside of the floodplain that would address the identified need;	**AO3** No acceptable outcome provided.	N/A

c. development maintains functionality during and after all flood events, including the probable maximum flood; d. where for Emergency services, the development remains accessible during and after all flood events, including the probable maximum flood. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.		
PO4 Development is located outside of a Flood investigation area identified on Flood hazard overlay map OM-05.04, unless it: a. is demonstrated to be compatible with the level of flood risk; b. delivers the relevant outcomes for the flood risk area, including a: i. High flood risk area; ii. Moderate flood risk area; iii. Low flood risk area and High flood island where involving Essential community infrastructure activities or Vulnerable use activities. Note - Planning scheme policy 10 - Flood provides guidelines on how to prepare a detailed localised flood risk assessment to assist with achieving this performance outcome. It also includes guidance on how to demonstrate compliance with this performance outcome.	**AO4** No acceptable outcome provided.	N/A
Reconfiguring a lot		
PO5 Development provides a development envelope area that is:	**AO5** Development provides a development envelope area above the flood level during the defined flood	Can Comply

a. above the flood level during the defined flood event; b. of an area and dimensions to accommodate the activities associated with the intended use.	event with a minimum size and dimension specified in Table 8.2.5.3.4 - Development envelope area.	
PO6 Each lot has a development envelope area located outside a High flood risk area identified on Flood hazard overlay map OM-05.04, except where limited to: a. the rearrangement of boundaries and flood risk is not materially increased on new lots; or b. creating an additional lot for the purpose of a drainage or environmental reserve.	**AO6** No acceptable outcome provided.	Can Comply
PO7 Reconfiguring a lot involving a development envelope area located in a Flood investigation area identified on Flood hazard overlay map OM-05.04 is limited to: a. the realignment of boundaries where the development envelope area is located outside a High flow area identified on Flood hazard overlay map OM-05.02; or b. the development is demonstrated to be compatible with the level of flood risk, including delivering the relevant outcomes for a: i. High flood risk area; ii. Moderate flood risk area; iii. Low flood risk area and High flood island where involving Essential	**AO7** Each lot has a development envelope area located outside of a Flood investigation area identified on Flood hazard overlay map OM-05.04.	N/A

community infrastructure activities or Vulnerable use activities. Note - Planning scheme policy 10 - Flood provides guidelines on how to prepare a detailed localised flood risk assessment to assist with achieving Performance Outcome 7(b).		
Part B - Resilient building location, design and operations (other than a Home-based business)		
PO8 Buildings and structures are located outside of a High flow area. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome where located in a Flood investigation area and it is proposed to undertake a detailed localised flood risk assessment.	**AO8.1** New buildings and structures, other than fences, are located outside of a High flow area identified on Flood hazard overlay map OM-05.02. **AO8.2** Enclosure of existing structures or areas underneath an existing building, such as an undercroft, does not occur in a High flow area identified on Flood hazard overlay map OM-05.02.	Can Comply
PO9 A Hospital in the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03 ensures that the location, design and operation of development: a. mitigates the risk of flooding to buildings and structures; b. minimises risk of injury to life and damage to property and infrastructure; c. maintains functionality during and after all flood events, including the probable maximum flood. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO9** No acceptable outcome provided.	N/A

PO10 Buildings are designed to account for the potential risk of inundation during flood events by complying with the Minimum flood planning levels identified in Table 8.2.5.3.3 - Minimum flood planning levels. Editor's note - Planning scheme policy 10 - Flood provides guidance on obtaining available flood level information for a property from Council, and resilient design.	**AO10** No acceptable outcome prescribed.	Can Comply
PO11 Vehicle manoeuvring areas and car parking (other than a Parking station) are only located below the defined flood event where there is no increase in risk to: a. pedestrian and vehicular safety; b. a building or other structure. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO11** Vehicle manoeuvring areas and car parking (other than a Parking station) are located above the defined flood event.	Can Comply
PO12 Basement access and openings are designed and located to: a. ensure safety during a flood event; b. improve resilience to flood events; c. reduce recovery time after flooding; d. minimise economic loss to individual and public assets stored in the basement. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO12** All entry points and openings to a basement are located at or above the Minimum flood planning levels identified in Table 8.2.5.3.3 - Minimum flood planning levels.	N/A
PO13 Essential building services and infrastructure is located or designed to ensure their continued function during and immediately after flood events that are up to and including the:	**AO13** The function of essential building services and infrastructure is maintained during a flood event by:	N/A

a. defined flood event for uses other than Essential community infrastructure activities or Vulnerable use activities; or b. probable maximum flood for Essential community infrastructure activities or Vulnerable use activities. Note - Essential building services and infrastructure may include air conditioning ducts, communication equipment, charging units, pumps, motors, sensitive electrical equipment such as transformers, low voltage switch gear, high voltage switch gear, battery charges, and communal assets and materials (such as waste bins or chemicals). Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	a. locating the services and infrastructure outside of a High flood risk area identified on Flood hazard overlay map OM-05.04; b. locating the services and infrastructure above the flood planning level in accordance with Table 8.2.5.3.3 - Minimum flood planning levels; or c. designing and constructing essential services and infrastructure to exclude water infiltration for flood events up to and including: i. the defined flood event where not involving Essential community infrastructure activities or Vulnerable use activities; ii. the probable maximum flood where for Essential community infrastructure activities or Vulnerable use activities.	
PO14 Screening the understorey of a building: a. does not impede the passage of floodwater or overland flow in a High flood risk area identified on Flood hazard overlay map OM-05.04; b. maintains an attractive streetscape interaction and interface as intended by the zone, precinct or local plan. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO14** No acceptable outcome provided.	N/A
Storage, manufacturing or handling of hazardous materials		
PO15	**AO15.1**	N/A

Development protects public safety and the environment from release of hazardous materials into floodwaters by: a. locating hazardous materials and chemicals outside of a High flood risk area or High flow area identified on Flood hazard overlay map OM-05.04 and OM-05.02; b. ensuring hazardous materials are stored to prevent the release or hazardous reaction of hazardous materials during flood events, including events rarer than the defined flood event.	Development involving the manufacturing or storage of hazardous materials, or involving hazardous chemicals at a hazardous chemical facility is located outside of a: a. High flood risk area identified on Flood hazard overlay map OM-05.04; b. High flow area identified on Flood hazard overlay map OM-05.02. **AO15.2** Development in a Moderate flood risk area identified on Flood hazard overlay map OM-05.04: a. does not involve the manufacturing or storage of hazard materials or hazardous chemicals at a hazardous chemical facility; or b. ensures the storage of hazardous materials is located above the 0.2% AEP at 2100 flood event.	
Part C - Access and evacuation (other than a Home-based business)		
PO16 Development involving Vulnerable use activities, other than a Hospital in the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03, has a low flood hazard vehicle evacuation route that leads outside the floodplain to a suitable area that supports the needs of evacuees. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO16** No acceptable outcome provided.	N/A

PO17 Development involving an accommodation land use has a low flood hazard vehicle route to a suitable flood-free area that contains essential goods to serve the needs of people. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO17** During the defined flood event, development for an accommodation land use has a: a. flood-free vehicle access to a road above the flood level; b. flood-free vehicle route that leads to a suitable flood-free area that contains essential goods.	Can Comply
PO18 Development has a low flood hazard vehicle route from dwellings to a flood-free or low flood hazard road.	**AO18** During the defined flood event, development involving a new dwelling or an increase in bedrooms, has a flood-free vehicle route from dwellings to the flood-free road. Editor's note - Figure 8.2.5.3.1 - Compliant dwelling with flood-free vehicle route illustrates an example of a development complying with this acceptable outcome. Figure 8.2.5.3.2 - Non-compliant dwelling with no flood-free vehicle route illustrates an example of a development that does not comply with this acceptable outcome.	Can Comply
Figure 8.2.5.3.1 - Compliant dwelling with flood-free vehicle route		

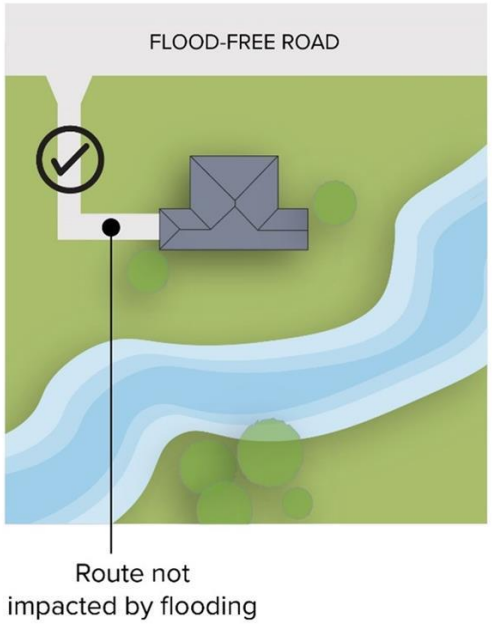
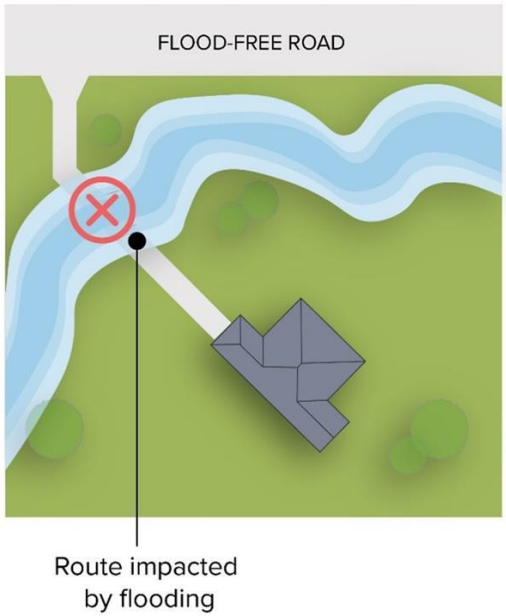


Figure 8.2.5.3.2 - Non-compliant dwelling with no flood-free vehicle route

		
PO19 Reconfiguring of a lot intended for a future dual occupancy (auxiliary unit), dwelling house or accommodation land use ensures each lot has internal low flood hazard vehicle access to a road and a low flood hazard vehicle route to a suitable flood-free area that contains essential goods to serve the needs of people. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO19** Reconfiguring of a lot in a residential zone category or Emerging community zone, or intended for a future dual occupancy (auxiliary unit), dwelling house or accommodation land use, ensures each lot during the defined flood event has a: a. flood-free vehicle access to a road above the flood level; b. flood-free vehicle route that leads to a suitable flood-free area that contains essential goods.	Can Comply

PO20 Development, other than where PO16-PO19 is applicable: a. ensures safe self-evacuation by having, for a period of at least 10 hours, low flood hazard vehicle access to a low flood hazard road; or b. is only isolated for a period of less than 4 hours from a low flood hazard road and there is a suitable area on site that is: i. above the defined flood event; ii. not a Low flood island identified on Flood hazard overlay map OM-05.01 or an area impacted by flash flooding during the defined flood event. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO20** Where AO16-AO19 is not applicable, development has flood-free vehicle access to a road that is above the flood level during the defined flood event.	N/A
PO21 Development identified in Table 8.2.5.3.5 - Development requiring a flood emergency management plan appropriately plans for its safe operation and evacuation during a flood event to ensure there is no burden on emergency services, including during a probable maximum flood where involving Vulnerable use activities. Note - Planning scheme policy 10 - Flood provides guidance preparing a flood emergency management plan to achieve this performance outcome. Note - Flood emergency management plans do not alter the land use tolerability to a flood risk area, nor act as an alternative to achieving other specified mitigation measures required to ensure risk is mitigated to a tolerable or acceptable level. Flood emergency management plans should be utilised to assist in managing residual risk of	**AO21** No acceptable outcome provided.	N/A

development and should be implemented as a tool to plan for safe evacuation where an active management entity exists for the development.		
Part D - Preservation of floodplain function and overland flow paths (other than a Home-based business)		
PO22 Filling and excavation ensures the conveyance function of a High flood risk area and Flood investigation area identified on Flood hazard overlay map OM-05.04 is maintained. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO22** Where located in a High flood risk area or Flood investigation area identified on Flood hazard overlay map OM-05.04, filling and excavation, other than for stormwater quantity and quality infrastructure, does not exceed: a. a total volume of $20m^3$; b. a total area of $2,000m^2$.	Can Comply
PO23 Development does not involve earthworks that would either directly, indirectly or cumulatively cause a loss of floodplain storage below the defined flood event. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	**AO23** The total volume of fill is equal to or less than the total volume of cut where earthworks are below the level of the defined flood event in a Moderate flood risk area identified on Flood hazard overlay map OM-05.04.	Can Comply
PO24 Development does not involve works that would either directly, indirectly or cumulatively: a. concentrate, intensify or divert floodwater or overland flow paths onto upstream, downstream or adjacent properties; b. result in an increase in flood levels or flood hazard on upstream, downstream or adjacent properties; c. result in a loss of floodplain storage up to and including the defined flood event;	**AO24** No acceptable outcome provided.	Can Comply

d. adversely impact the role and function of waterways and areas of ecological significance; e. adversely affect adjoining premises, infrastructure and the environment. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.		
PO25 Development does not adversely change the following flood characteristics for all flood events up to and including the defined flood event: a. peak flow; b. flow of any part of the flood before the peak; c. flood flow velocity; d. level of flooding; e. flood time to peak. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	**AO25** No acceptable outcome provided.	Can Comply
PO26 Development does not cause a rapid or unexpected increase in safety risks or flood damage during a flood event larger than the defined flood event, including flood events up to and including the probable maximum flood. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	**AO26** No acceptable outcome provided.	Can Comply
PO27 A stormwater quality improvement device is located to retain existing floodplain storage	**AO27** A stormwater quality improvement high flow outlet device is located:	Can Comply

capacity and ensure functionality of the stormwater quality improvement device. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	a. above the 5% AEP flood event caused by local flooding; b. above the 5% AEP flood event caused by regional flooding.	
PO28 A stormwater quantity management device is located to retain existing floodplain storage capacity and ensure functionality of the stormwater quantity management device. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	**AO28** A stormwater quantity management outlet device is located above the 2% AEP flood event.	Can Comply
PO29 Stormwater infrastructure does not result in a loss of floodplain storage below the defined flood event.	**AO29** Filling and excavation associated with stormwater quantity and quality infrastructure has a total volume of fill equal to or less than the total volume of cut where below the defined flood event. Note - Planning scheme policy 10 - Flood provides guidance on stormwater management detention basins.	Can Comply
Part E - A Home-based business		
PO30 A Home-based business does not put additional people at risk of flooding during the defined flood event. Note - Where detailed flood information does not exist to determine the defined flood event, a Registered Professional Engineer of Queensland with expertise in flood studies may be required to determine the relevant defined flood event and demonstrate compliance with this outcome. Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	**AO30.1** In a High flood risk area or Flood investigation area identified on Flood hazard overlay map OM-05.04, a Home-based business does not involve: a. non-resident staff or visitors to the premises; b. new buildings or structures associated with the home-based business. **AO30.2** Buildings, structures and storage of items associated with a Home-based business are	N/A

	located outside of a High flow area identified on Flood hazard overlay map OM-05.02.	
PO31 A Home-based business being a bed and breakfast or farm stay has: a. low flood hazard vehicle manoeuvring areas; b. low flood hazard vehicle access to a low flood hazard road.	**AO31** A Home-based business being Short-term accommodation where a bed and breakfast or farm stay has: a. flood-free vehicle manoeuvring areas during a defined flood event; b. flood-free vehicle access to a road above the flood level during a defined flood event.	N/A

Table 8.2.5.3.2 - Land use compatibility in a high flood risk area

Zone	Land use (where consistent with the intent of the underlying zone)	Qualifying criteria
Environmental management and conservation zone or Recreation and open space zone	A use other than an accommodation land use	
	Nature-based tourism other than involving accommodation	
	Nature-based tourism involving accommodation	
Any zone other than Environmental management and conservation zone or Recreation and open space zone	Rural activities other than Rural industry, Intensive animal industry or Intensive horticulture	
	Nature-based tourism other than involving accommodation	
	Nature-based tourism involving accommodation	
	A use other than: a. accommodation land use; or b. Vulnerable use activities	

	An existing lawful accommodation land use	

Table 8.2.5.3.3 - Minimum flood planning levels

Column 1 **Use**	**Column 2** **Minimum flood planning level**
Uses other than Essential community infrastructure activities and Vulnerable use activities (building floor level and essential building services)	
Where in a High flood risk area, Moderate flood risk area or Flood investigation area on Flood hazard overlay map OM-05.04 Note - Where located in a Flood investigation area, a Registered Professional Engineer of Queensland with expertise in flood studies is to determine the level of the flood event identified in Column 2 corresponding to the applicable use identified in Column 1.	
Accommodation land use	Habitable rooms and essential building services - defined flood event + 500mm freeboard Non-habitable rooms - above the defined flood event Basement Entry/Exit - defined flood event + 300mm freeboard
An industry activity involving the manufacture or storage of noxious or hazardous materials (e.g. a regional fuel storage facility)	0.2% AEP flood level at 2100
Educational establishment where for vocational trade training only	Building floor level - defined flood event + 500mm freeboard Essential building services - defined flood event + 500mm freeboard
Transport infrastructure as defined by the Regulation	No specific recommended level but development proponents should ensure that the infrastructure is optimally located and designed to achieve suitable levels of service, having regard to the processes and policies of the administering government agency
Warehouse, being a food storage warehouse	0.5% AEP flood level at 2100
Where involving the storage of valuable records or items of historic or cultural significance (e.g. galleries and libraries)	0.5% AEP flood level at 2100

Development involving the use of a Class 5, 6 & 9b building other than specified above	Defined flood event + 500mm freeboard
Development involving the use of Class 7(b) or 8 building other than specified above	Building floor level - defined flood event Essential building services - defined flood event + 500mm freeboard
Any other use other than listed above	Defined flood event + 500mm freeboard
Essential community infrastructure activities (building floor level and essential building services)	
Emergency services	0.2% AEP flood level at 2100 + 500mm freeboard
Major electricity infrastructure	0.2% AEP flood level at 2100 + 500mm freeboard
Renewable energy facility	0.2% AEP flood level at 2100 + 500mm freeboard
Substation	0.5% AEP flood level at 2100 + 500mm freeboard
Telecommunications facility Utility installation where not otherwise listed in this table	No specific recommended level but development proponents should ensure that the infrastructure is optimally located and designed to achieve suitable levels of service, having regard to the processes and policies of the administering government agency
Utility installation being power station	0.2% AEP flood level at 2100 + 500mm freeboard
Utility installation, being a sewage treatment plant or water treatment plant	0.2% AEP flood level at 2100 + 500mm freeboard
Vulnerable uses activities (building floor level and essential building services)	
Where located in Meadowbrook flood assessment area on Flood hazard overlay map OM-05.03	
Vulnerable use activities, being a Hospital	0.2% AEP flood level at 2100 + 500mm freeboard
Where located in the Low flood risk area on Flood hazard overlay map OM-05.04	
Vulnerable use activities	Above the flood level of the probable maximum flood

Table 8.2.5.3.4 - Development envelope area

Zone or precinct	Development envelope area specification	
	Minimum area	Minimum dimension (length and width)
Rural zone	2,000m^2	30m
Rural residential zone		
Environmental management and conservation zone - Environmental management precinct		
Environmental management and conservation zone - Rural environmental management precinct		
All other zones	The entire lot	-

Table 8.2.5.3.5 - Development requiring a flood emergency management plan

Use	Qualifier
Vulnerable use activities	Where involving an active management entity and in a Low flood risk area identified on OM-05.04
Nature-based tourism	Where involving accommodation and an active management entity
Resort complex	Where involving an active management entity
Tourist park	Where involving an active management entity
Multiple dwelling	Where involving an active management entity and in a: a. Moderate flood risk area identified on OM-05.04 and the premises or vehicle route during evacuation is inundated during the defined flood event; or b. Flood investigation area identified on OM-05.04
Rooming accommodation	
Rural workers' accommodation	
Short-term accommodation	
Any development	Where involving an active management entity and development involves an access easement to provide flood-free or low flood hazard vehicle access to a flood-free or low flood hazard road

Note - There may be other circumstances in which development will require a flood emergency management plan to manage the residual flood risk to the development.

Note - Flood emergency management plans do not alter the land use tolerability to a flood risk area, nor act as an alternative to achieving other specified mitigation measures required to ensure risk is mitigated to a tolerable or acceptable level. Flood emergency management plans should be utilised to assist in managing residual risk of development and should be implemented as a tool to plan for safe evacuation where an active management entity exists for the development.

Appendix D – Flood Report

CITY OF LOGAN

PROPERTY FLOOD REPORT

Property Details

Address: 104-108 Murrays Road TANAH MERAH QLD 4128

Lot/Plan: Lot 2 RP 109991

Size/Area: 13,588 m^2

Property Key: 200325

Catchment(s): Logan River, Slacks Creek

View Logan's catchments and waterways map (PDF)

Summary Flood Assessment

The table below presents the flood risks applicable to the selected property. There may be multiple studies and flood scenarios affecting the property, particularly for larger sites.

Assessment	Details
Risk area(s)	High, Moderate, Low
Investigation area	Not applicable
Isolation risk	Not applicable
River flooding	5% chance of a flood this size or larger happening in any given year
Creek flooding	PMF (Probable Maximum Flood)
Overland flow	Applies. It is possible that flooding from a local waterway which has not yet been studied may also impact the property. Please contact Council for further advice. Overland flow is water (stormwater run-off) that travels over land during heavy rainfall events. It generally occurs quickly and for short durations.

Latest Flood Risk

The extract below comes from the flood risk map based on the latest (most recent) flood studies accepted by Council applicable for this property.



LEGEND

High

Floodwaters may be deep or fast flowing, or have a relatively high chance of occurrence (e.g. 80% chance in 30 years). Conditions may pose a risk to life and cause damage to buildings, possibly severe. Limited development may be considered if not increasing the flood risk exposure for people or property. These areas are generally better suited to environmental, recreational and some agricultural uses.

Moderate

Less frequently affected by flooding or if more frequent, with shallow or slower moving floodwater. Conditions may pose an unacceptable risk to people or property if not mitigated. Development may be tolerable if measures are taken to address flood impacts, protect people and limit damage.

Low

Extremely unlikely chance of flooding (1% chance or less over a 30 year period) and/or relatively shallow or benign flooding conditions. Development is generally acceptable except for essential community infrastructure (e.g. emergency services). Vulnerable uses (e.g. childcare, aged care) may be ok subject to building, site access and safe shelter mitigation measures. Shows the full floodplain under the largest flood that could conceivably occur.

Investigation area

Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Development should avoid these areas until further investigation (updated flood study or localised risk assessment) is completed.

The flood studies this map is based on consider the impacts of climate change, as required by Queensland's planning legislation and policies. The map considers the whole floodplain for Logan and reflects a risk-based approach that takes into account:

- How likely a flood of a given size is in any given year, and
- What the impact or level of danger of that flood is.

Flood Levels

The table below displays flood levels from the most recently accepted flood studies affecting this property. To view the flood study documents please see the Flood page on Council's website.

The levels are measured in Australian Height Datum (AHD), where sea level is approximately zero (0) metres. The level displayed in the table below is the maximum flood level on the property for that event (likelihood). For some properties, particularly large properties or those on a significant slope, flood levels can vary significantly.

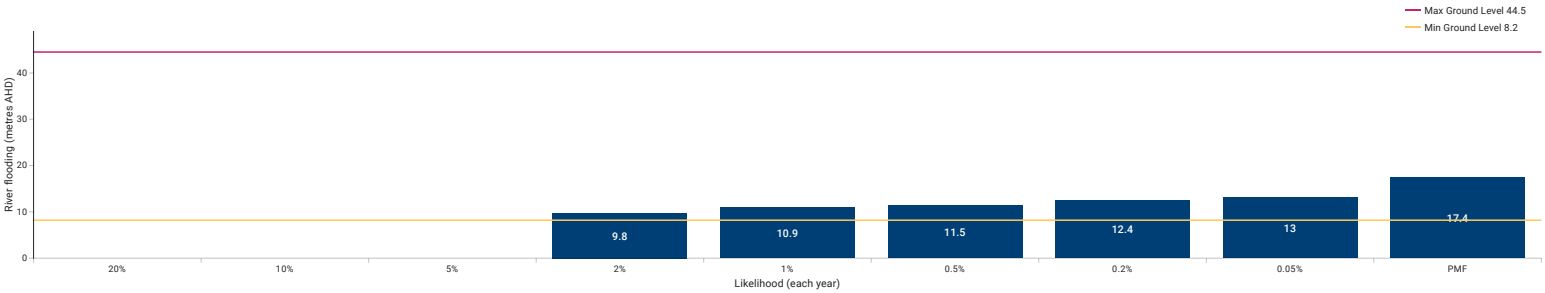
The most likely flood scenarios is shown at the top of the table, with the Probable Maximum Flood (PMF) at the bottom, being the least likely but most serious flood scenario.

Some properties may be impacted by only river flooding or only creek flooding, and some may be impacted by both. There may also be other sources of inundation that may impact the property and affect flood levels, based on overland flow or local creeks where studies have not yet been completed.

Study: Logan and Albert Rivers Flood Study 2023

Likelihood (each year)	River flooding
20% chance	Not applicable
10% chance	Not applicable
5% chance	Not applicable
2% chance	9.8 metres AHD
1% chance	10.9 metres AHD
0.5% chance	11.5 metres AHD
0.2% chance	12.4 metres AHD
0.05% chance	13.0 metres AHD
PMF	17.4 metres AHD

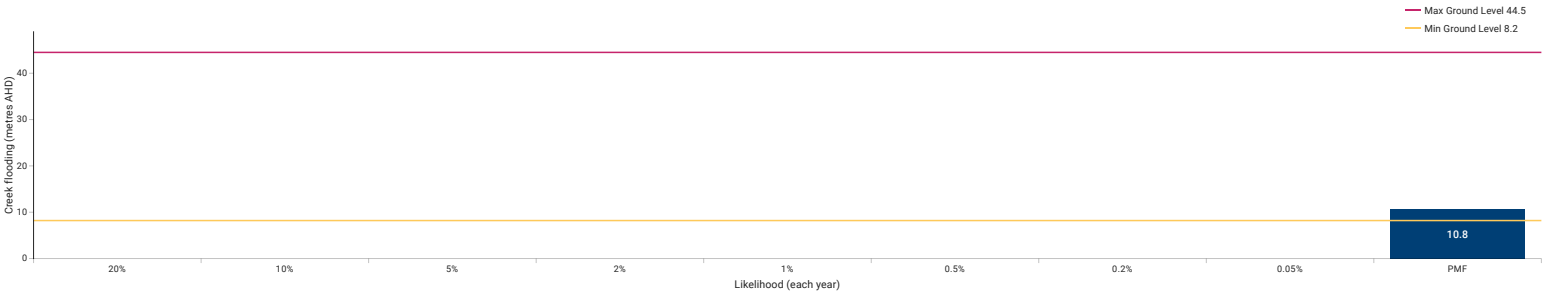
Flood and Ground Levels in metres AHD



Study: Slacks and Scrubby Creek Flood Study 2023

Likelihood (each year)	Creek flooding
20% chance	Not applicable
10% chance	Not applicable
5% chance	Not applicable
2% chance	Not applicable
1% chance	Not applicable
0.5% chance	Not applicable
0.2% chance	Not applicable
0.05% chance	Not applicable
PMF	10.8 metres AHD

Flood and Ground Levels in metres AHD



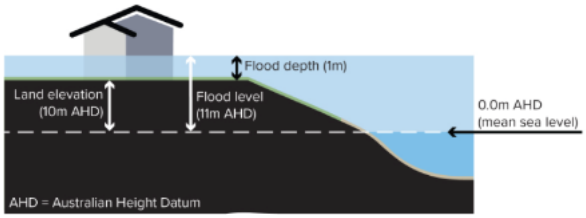
Ground Levels

Ground levels are based on an aerial LiDAR (Light Detection and Ranging) survey, which uses millions of laser point measurements to build a model of the ground surface. The source of the data is displayed in the table below so that you know when the survey was conducted.

Ground level	Details
Minimum ground level	8.2 metres AHD
Maximum ground level	44.5 metres AHD

Source: 2021 Digital elevation model (1 metre grid)

The projected flood depth (how deep the water may be above ground, in metres) is the difference between the flood levels in the section above and the ground levels in this table. The diagram below provides an example (land elevation is ground level).



Overland Flow

Overland flow is water (stormwater/rainfall run-off) that exceeds the capacity of drains, pipes and channels during heavy rainfall events and travels over land towards waterways. It generally occurs quickly and for shorter periods of time. The impact of overland flow is dependent on local conditions, so the mapping is a guide only. It is possible that flooding from a local waterway which has not yet been studied may also impact the property. Please contact Council for further advice.

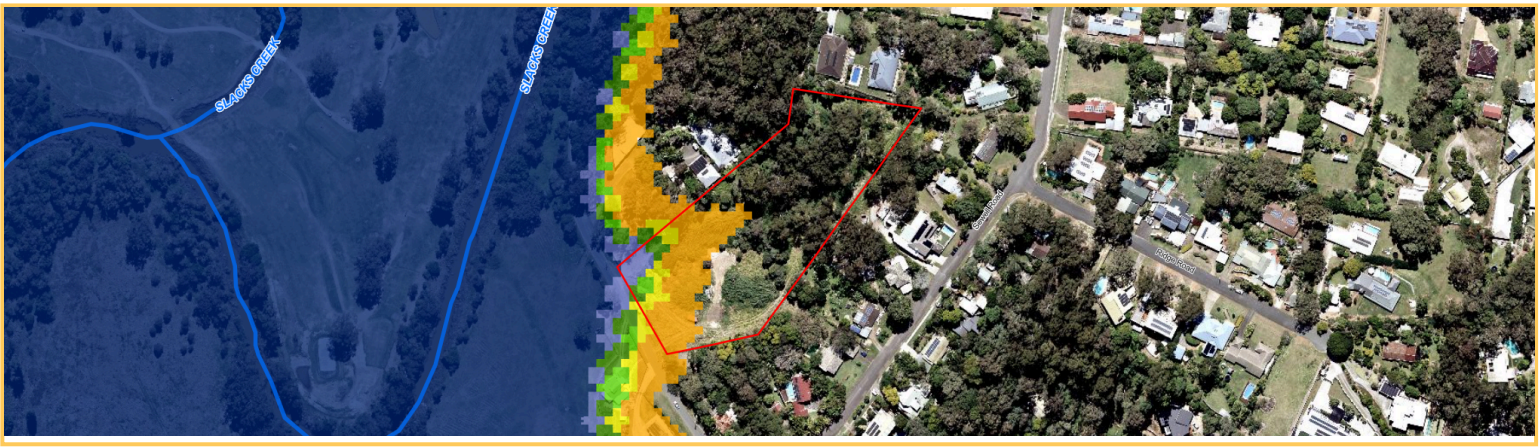


LEGEND

Overland flow extent (areas possibly impacted)

Future Climate Scenarios

This extract comes from the map showing the projected extent of flooding (affected areas) for multiple flood scenarios for all relevant flood studies, **including the projected impacts of climate change**. This map corresponds with the flood levels provided in the table above for the 5%, 2%, 1%, 0.5%, 0.05% and Probable Maximum Flood (PMF) scenarios.



LEGEND

5% chance
The areas modelled to be impacted by a flood that has a 5% (or 1 in 20) chance of happening in any given year, or 80% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.

2% chance
The areas modelled to be impacted by a flood that has a 2% (or 1 in 50) chance of happening in any given year, or 45% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.

1% chance
The areas modelled to be impacted by a flood that has a 1% (or 1 in 100) chance of happening in any given year, or 25% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.

0.5% chance
The areas modelled to be impacted by a flood that has a 0.5% (or 1 in 200) chance of happening in any given year, or 15% chance over a 30 year period, which is the common term of a mortgage. This modelling **includes the impacts of climate change** and represents our understanding of future risk.

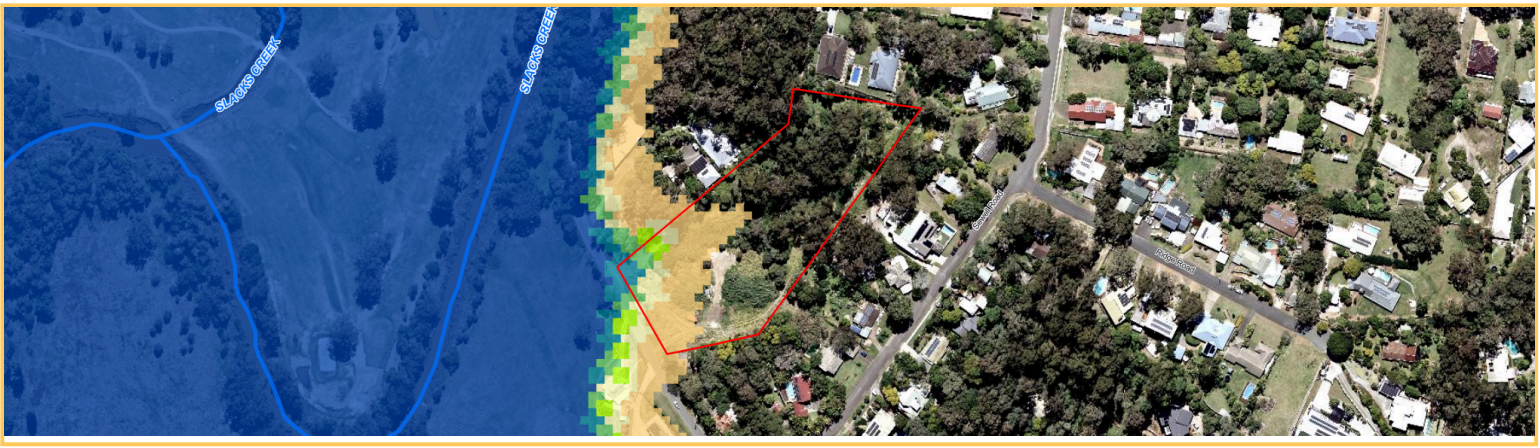
0.05% chance
The areas modelled to be impacted by a flood that has a 0.05% (or 1 in 2000) chance of happening in any given year. This is an extremely unlikely flood event with a 1% chance of happening over a 30 year period, not including the impacts of climate change.

PMF
The PMF or probable maximum flood scenario represents the full extent of the floodplain, or the most serious flood that could be expected to occur. This is usually estimated based on the probable maximum rainfall, not including the impacts of climate change.

Investigation area
Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Further investigation is needed.

Current Climate Scenarios

This extract comes from the map showing flood affected areas **without** considering the impacts of climate change. This map represents modelled flooding under current conditions, and can be used for insurance purposes.



LEGEND

5% chance
The areas modelled to be impacted by a flood that has a 5% (or 1 in 20) chance of happening in any given year, or 80% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.

2% chance
The areas modelled to be impacted by a flood that has a 2% (or 1 in 50) chance of happening in any given year, or 45% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.

1% chance
The areas modelled to be impacted by a flood that has a 1% (or 1 in 100) chance of happening in any given year, or 25% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.

0.5% chance
The areas modelled to be impacted by a flood that has a 0.5% (or 1 in 200) chance of happening in any given year, or 15% chance over a 30 year period, which is the common term of a mortgage. This modelling is based on **current (present day) conditions** and does not take into account the impacts of climate change.

0.05% chance
The areas modelled to be impacted by a flood that has a 0.05% (or 1 in 2000) chance of happening in any given year. This is an extremely unlikely flood event with a 1% chance of happening over a 30 year period, not including the impacts of climate change.

PMF
The PMF or probable maximum flood scenario represents the full extent of the floodplain, or the most serious flood that could be expected to occur. This is usually estimated based on the probable maximum rainfall, not including the impacts of climate change

Investigation area
Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Further investigation is needed.

Historic Flood Events

Based on the best information available to Council, the table below indicates whether or not the selected property may have been impacted by significant historic flood events. It is possible that other creek flooding or overland flow, which is not included in Council's mapping of these events, may have impacted the property.

Flood event	Property impacted
1974	Yes
2017 (after ex Tropical Cyclone Debbie)	Yes
2022 (late February / early March)	Yes



1974



2017



2022

Planning Scheme Maps

The selected property is shown below on an extract of the Flood Overlay Maps from the Logan Planning Scheme 2015 V9.2 with TLPI No. 1/2024. Various provisions of the planning scheme which refer to properties affected by the Flood Overlay Maps will apply to the flood affected areas for the purposes of planning and development. This may include, for example, raised building floor levels and achieving safe vehicle access to the road network.

OM-05.01 Isolated islands



OM-05.02 High flow area



OM-05.04 Flood risk areas



MAP LEGEND

High
Floodwaters may be deep or fast flowing, or have a relatively high chance of occurrence (e.g. 80% chance in 30 years). Conditions may pose a risk to life and cause damage to buildings, possibly severe. Limited development may be considered if not increasing the flood risk exposure for people or property. These areas are generally better suited to environmental, recreational and some agricultural uses.

Moderate
Less frequently affected by flooding or if more frequent, with shallow or slower moving floodwater. Conditions may pose an unacceptable risk to people or property if not mitigated. Development may be tolerable if measures are taken to address flood impacts, protect people and limit damage.

Low
Extremely unlikely chance of flooding (1% chance or less over a 30 year period) and/or relatively shallow or benign flooding conditions. Development is generally acceptable except for essential community infrastructure (e.g. emergency services). Vulnerable uses (e.g. childcare, aged care) may be ok subject to building, site access and safe shelter mitigation measures. Shows the full floodplain under the largest flood that could conceivably occur.

Investigation area
Locations where a current flood study has not been delivered and information to determine flood risk is not available. The approximation of the floodplain in these areas is based on a citywide overland flow study. Development should avoid these areas until further investigation (updated flood study or localised risk assessment) is completed.

MAP LEGEND

High flow area
High hazard areas of flooding where significant (deeper, faster) flow of water occurs and in which a building is vulnerable to structural damage or failure from floodwater. Classified as H5 or H6 in the Australian Institute of Disaster Resilience (AIDR) Guideline 7-3 'Flood Hazard'.

High flood island
Areas which are isolated from flood-free land (surrounded by floodwater) but retain a portion of the area as flood free in a probable maximum flood (PMF).

Low flood island
Areas which are surrounded by floodwater and at first isolated from flood-free land, then completely inundated by floodwater (submerged) as the flood continues to rise.

Meadowbrook flood assessment area
Area where the function of important community infrastructure needs to be maintained. Flood mitigation measures and comprehensive emergency management planning is required to adequately manage the risk for flood events.

If more recent flood studies have been completed and accepted by Council, the Latest Flood Risk Map shown at the top of this report may be different from the planning scheme map. The latest flood information should be used to inform development decisions and will be incorporated into the planning scheme in a future amendment.

Further Information

1. Floods are highly unpredictable and variable, and properties may be affected by other sources of potential flooding. Each flood and its impact is different. Areas that were not flooded previously may be affected by future events. Areas that have been previously flooded may be impacted in different ways. This online report cannot take all of this into account.
2. The flood mapping and levels in this report are based on data from flood studies undertaken at a particular time and are subject to change. For example, if the method for calculating flood levels is updated, industry guidelines are updated or more recent information becomes available, this may result in changes to the information in this report. In areas where development is ongoing, the flood mapping and levels may not reflect developed conditions.
3. Flood studies do not create risk. They help us to understand the risk, based on relevant legislation and Queensland Government policies and guidelines. Flood studies also consider a range of other factors such as rainfall and river level information from recent events, climate change and trends, the impacts of development, changes to catchment conditions, new technologies and industry best practice (which help to improve accuracy).
4. Flood studies and models are developed from the best information available at the time. They do not tell you how the flood waters might behave, how quickly they may rise, or how dangerous the flooding will be. The models also cannot represent changes that have occurred since they were developed which may impact flood behaviour, such as earthworks, new developments or road infrastructure.
5. This report is not a substitute for independent professional advice. You should engage the services of a Registered Professional Engineer of Queensland (RPEQ) to get site specific information regarding the flood risk to your property, and how that might affect any proposed building or development work.
6. While Logan City Council takes reasonable care in producing this report, it does not guarantee that the information is accurate, complete or current. Logan City Council does not accept any responsibility for any loss or damage (however it was caused) in connection with the use of or reliance on the information in this report.

Contact Information

Where to go for further information depends on the type of information you need. Please refer to the Flood Risk Fact Sheet or contact Council using the details below.

Topic	Contact Details
Flood studies and modelling information, and the flood risk on your property	Contact Council on 07 3412 3412 or email council@logan.qld.gov.au. Further information about flooding and flood studies is available on the Flood page on Council's website.
Planning and development enquiries or proposals	Contact Council on 07 3412 3412 or email development@logan.qld.gov.au. Before lodging a development application, pre-lodgement advice is recommended.
Building information	Contact Council on 07 3412 3412 or email council@logan.qld.gov.au. You can also contact a private building certifier.
Properties in Priority Development Areas	Contact Economic Development Queensland. Council is not the planning authority for these properties.
Independent advice about flooding on your property	Contact a registered engineer through the Board of Professional Engineers of Queensland: Phone: 07 3210 3100 Email: admin@bpeq.qld.gov.au Web: Home - Board of Professional Engineers Queensland (bpeq.qld.gov.au)