



**CIVIL ENGINEERING
ASSESSMENT REPORT**

3-5 Panorama Outlook, Slacks Creek

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REPORT CONTROL SHEET

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Report Title:	Civil Engineering Assessment Report
Prepared For:	Sidney Investments (Qld) Pty Ltd

Rev No	Date	Written by	Reviewed by	Authorised by	Signed
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Introduction

This report has been prepared to support the development application for a Reconfiguration of a Lot to create two residential lots at 3-5 Panorama Outlook, Slacks Creek, as depicted on the accompanying engineering drawings.

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 Filling and Excavation Code and Infrastructure Code are included as Appendices.



Image – Site Location (Nearmap.com)

Flooding

The Logan Flood Hazard Overlay has been examined through the PD Hub Interactive Mapping, see image below.



Image – Logan City Council Flood Mapping

The site is located within the Flood Hazard Overlay and is affected by Low, Medium and High Flood Risk Areas. The proposed development footprint is located towards Panorama Outlook, within the nominated Building Envelope Area, which is clear of the mapped flood risk areas.

Refer to the appendices for the LCC Flood Report.

Earthworks and Retaining

The proposed earthworks have been designed to facilitate and establish building pads to provide suitable and functional development areas whilst minimising the extent of cut and fill across the site. Earthworks have been generally balanced and contained within the development footprint and Building Location Envelope (BLE) to maintain the natural landform characteristics where practical.

The design retains existing grades along the site boundaries where possible and incorporates controlled level transitions through engineered retaining structures rather than extensive battering. This approach reduces the extent of vegetation removal and provides improved development outcomes for future residents.

Retaining walls are proposed at strategic locations throughout the development to accommodate level differences between the proposed building pads and the existing ground surface. The retaining walls have been located to contain earthworks within the site boundaries and to avoid significant batters. Due to the terrain of the area, retaining walls up to 2.90m high in cut and 2.40m in fill are proposed. The retaining walls in cut will be screened by future dwellings, whilst the fill wall on the eastern side of Lot 4 is offset from the boundary to comply with the Performance Outcomes. Furthermore, this wall is to be located clear of the proposed stormwater easement, whilst the wall between Lots 3 and 4 will stop clear of the proposed sewerage connection to avoid assessment under QDC MP1.4.

All retaining walls will be designed and certified by a suitably qualified Registered Professional Engineer of Queensland (RPEQ) as conditioned by Council. A Landslide Susceptibility Risk Assessment and Slope Stability Analysis has been prepared by Sam Geotechnics to support the proposed earthworks.

Roadworks

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

Access

Access to proposed lots can be achieved in compliance with the Planning Scheme Policy 5 - Infrastructure.

Both lots are proposed to access via a crossover from Panorama Outlook. The location of the crossover can be located to best suit the future house design.

Refuse Collection

There is sufficient useable kerb frontage to allow functional kerbside collection.

Stormwater Drainage

Existing stormwater infrastructure in the vicinity of the development site is shown in the image below taken from Council's As-Constructed records.

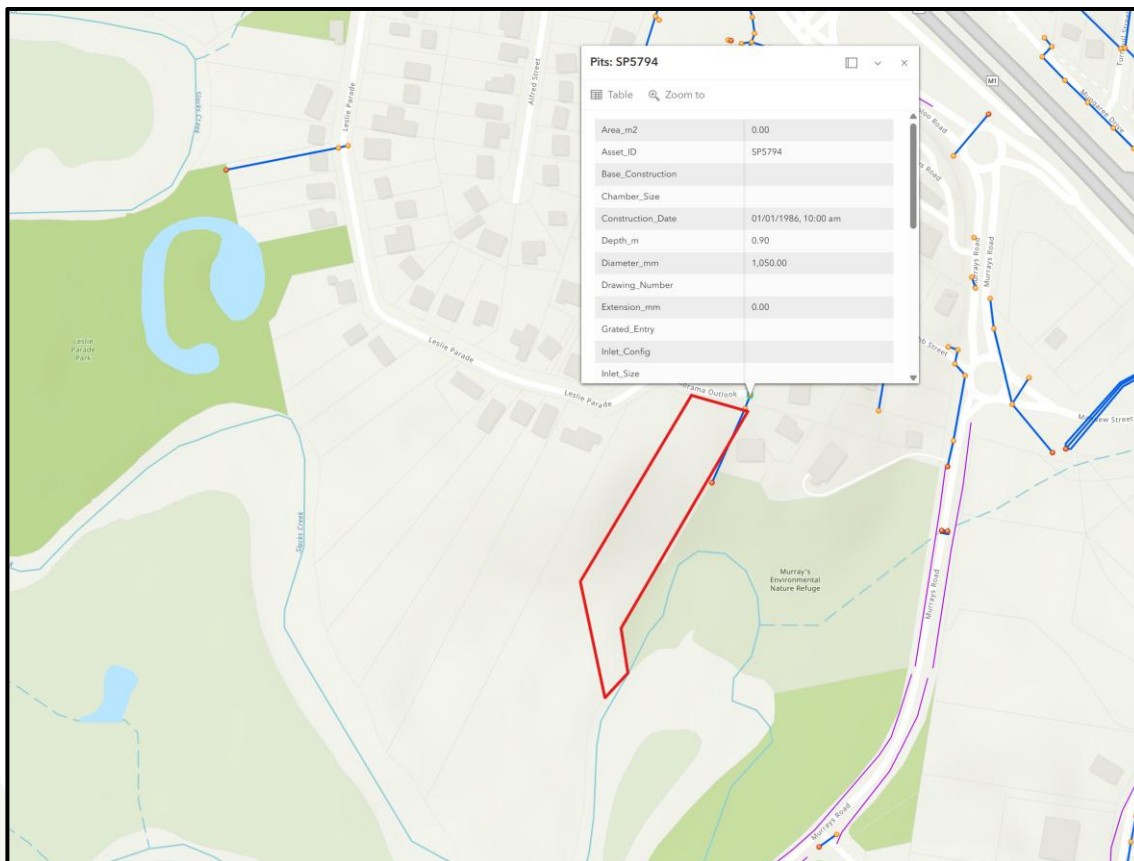


Image – Existing Stormwater Infrastructure

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

Detailed survey has identified an existing stormwater pipe that conveys runoff from the existing gully and discharges within the development site. This existing pipe is not shown on Council mapping. An easement over this pipe is proposed as required by the Planning Scheme.

Lot 3 is proposed to discharge to the kerb and channel of Panorama Outlook via two roofwater connections, which will ultimately be collected by the existing downstream gully at the end of Panorama Outlook.

A new 150mm diameter roofwater connection is proposed for Lot 4 where stormwater will be discharged at the base of the retaining wall and directed towards Slacks Creek as depicted on the engineering drawings.

All stormwater runoff will ultimately be discharged to Slacks Creek. The scale of the development does not trigger a requirement to provide stormwater quality improvement, being that the site is less than 2,500m² and less than 6 residential lots are to be created.

Sewerage Reticulation

Existing sewerage infrastructure in the vicinity of the development site is shown in the image below taken from Council's GIS.

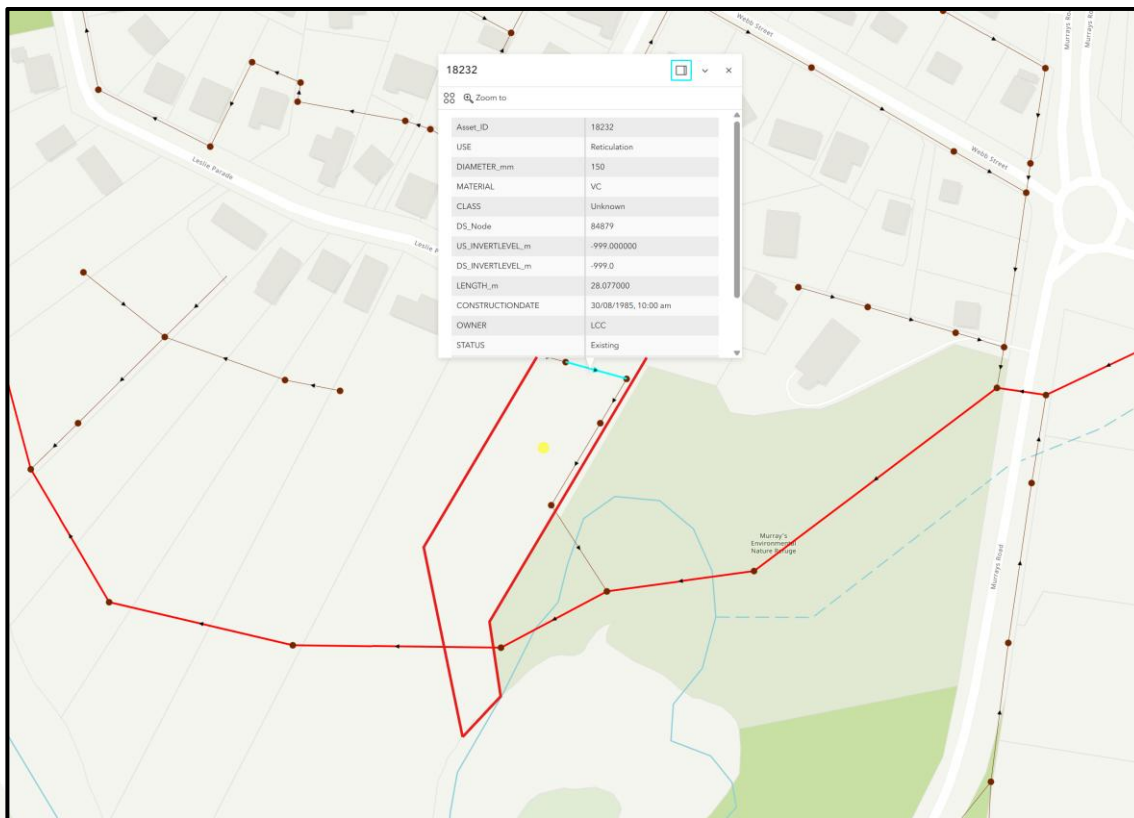


Image – Existing Sewerage Infrastructure

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).

There is currently an existing 150mm diameter VC sewerage main traversing the site. A proposed maintenance structure is to be built over this main to provide 150mm sewerage connections for Lots 3 and 4 via a new 150mm sewerage main. This extension is proposed to be located within the existing fire trail to align with a cleared area of a heavily vegetated site.

Due to the expected rocky ground and vegetation, the sewer has been designed at a shallow depth that complies with minimum cover requirements and avoids unnecessary excavation. As such, a combination of bulkheads and trench stops will be required to comply with the Sewerage Code.

Easements are shown on the engineering drawings to provide rights of access and maintenance to existing and proposed sewers. These easements are typically 3m wide and will be required to meet Logan City Council's requirements. Additionally, easements from the road frontage to maintenance holes within the lot, typically 1m wide, will be required where easements over sewers do not provide connection to a road frontage. These are shown on the engineering drawings where applicable.

Water Reticulation

Existing water reticulation infrastructure in the vicinity of the development site is shown in the image below taken from Council's GIS.

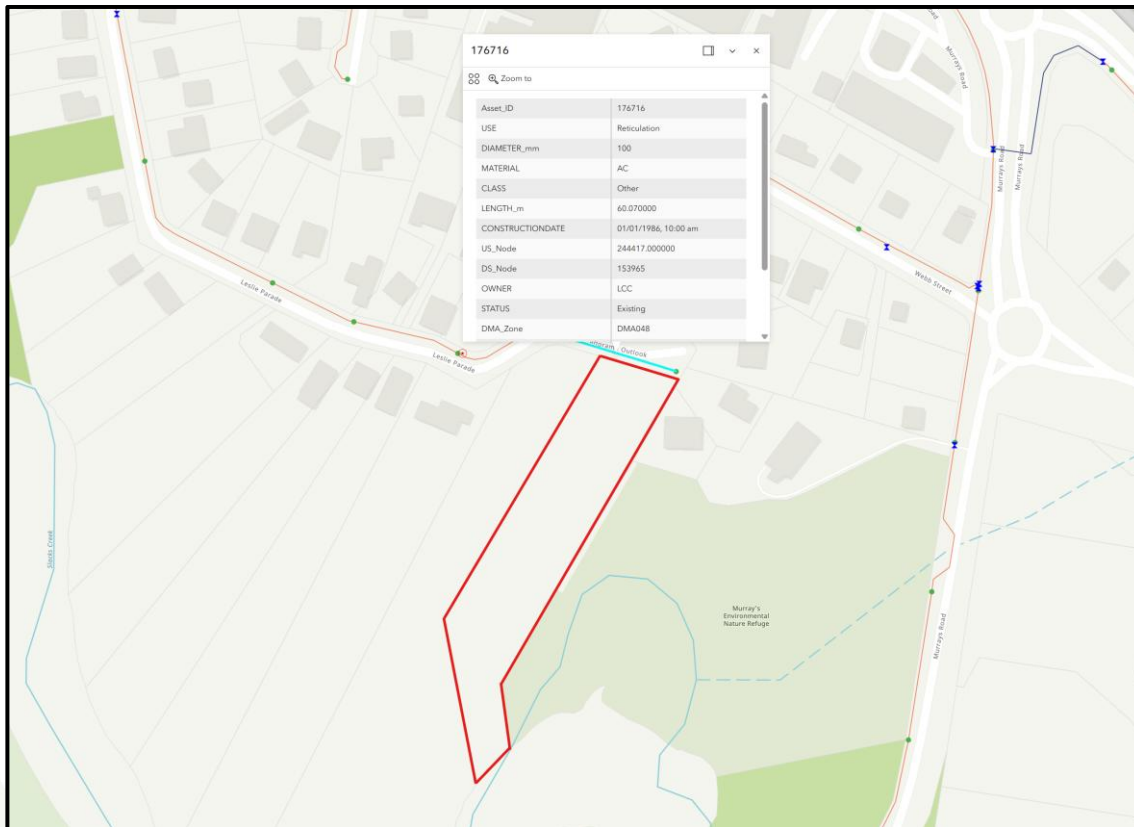


Image – Existing Water Reticulation Infrastructure

Proposed water reticulation construction is shown on the accompanying engineering drawings. These works comply with the Water Supply Code of Australia SEQ Service Providers Edition Version 1.4 (March 2024).

There is currently an existing 100mm diameter AC water main which runs parallel to the northern boundary within the verge of Panorama Outlook. It is proposed to provide metered water connections for Lots 3 and 4 from this main. Currently there are no water connections provided to the site.

There is an existing fire hydrant located within the verge of Lot 4, which provides firefighting coverage to all lots in accordance with the requirements of *Clause 8.8.8* of the Water Supply Code SEQ Edition. Therefore, no new hydrants are proposed.

Conclusions

The proposed development has been assessed against the Logan Planning Scheme.

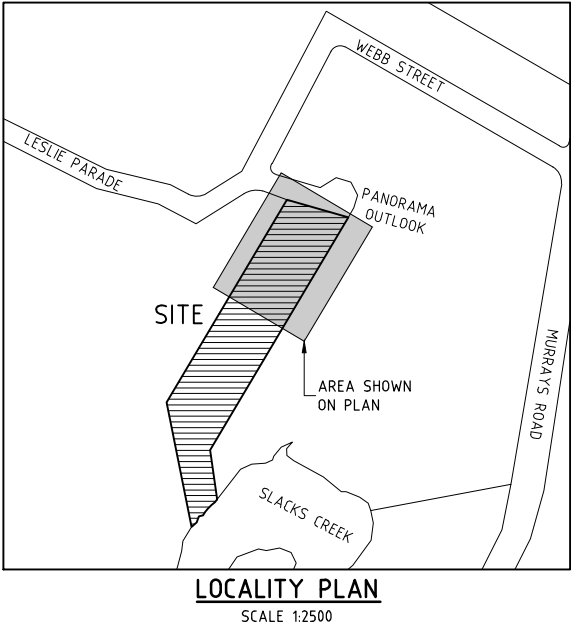
Compliance with the Performance Outcomes of the Infrastructure Code and Filling & Excavation Code has been achieved.

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

Engineering Drawings

1 INTO 2 SUBDIVISION
LOT 15 ON RP 112853
3-5 PANORAMA OUTLOOK
SLACKS CREEK, QLD 4127
DEVELOPMENT APPROVAL No. TBC

DRAWING INDEX	
DRAWING No.	DESCRIPTION
26207-C01	LOCALITY PLAN, DRAWING INDEX AND GENERAL NOTES
26207-EW01	EARTHWORKS PLAN
26207-EW02	EARTHWORKS SECTIONS SHEET 1 OF 2 AND NOTES
26207-EW03	EARTHWORKS SECTIONS SHEET 2 OF 2 AND INFILTRATION TRENCH DETAIL
26207-SW01	STORMWATER DRAINAGE PLAN
26207-S00	SEWERAGE AND WATER RETICULATION NOTES
26207-S01	SEWERAGE PLAN
26207-S02	SEWERAGE LONGITUDINAL SECTION AND LIVE WORKS TABLE
26207-W01	WATER RETICULATION PLAN

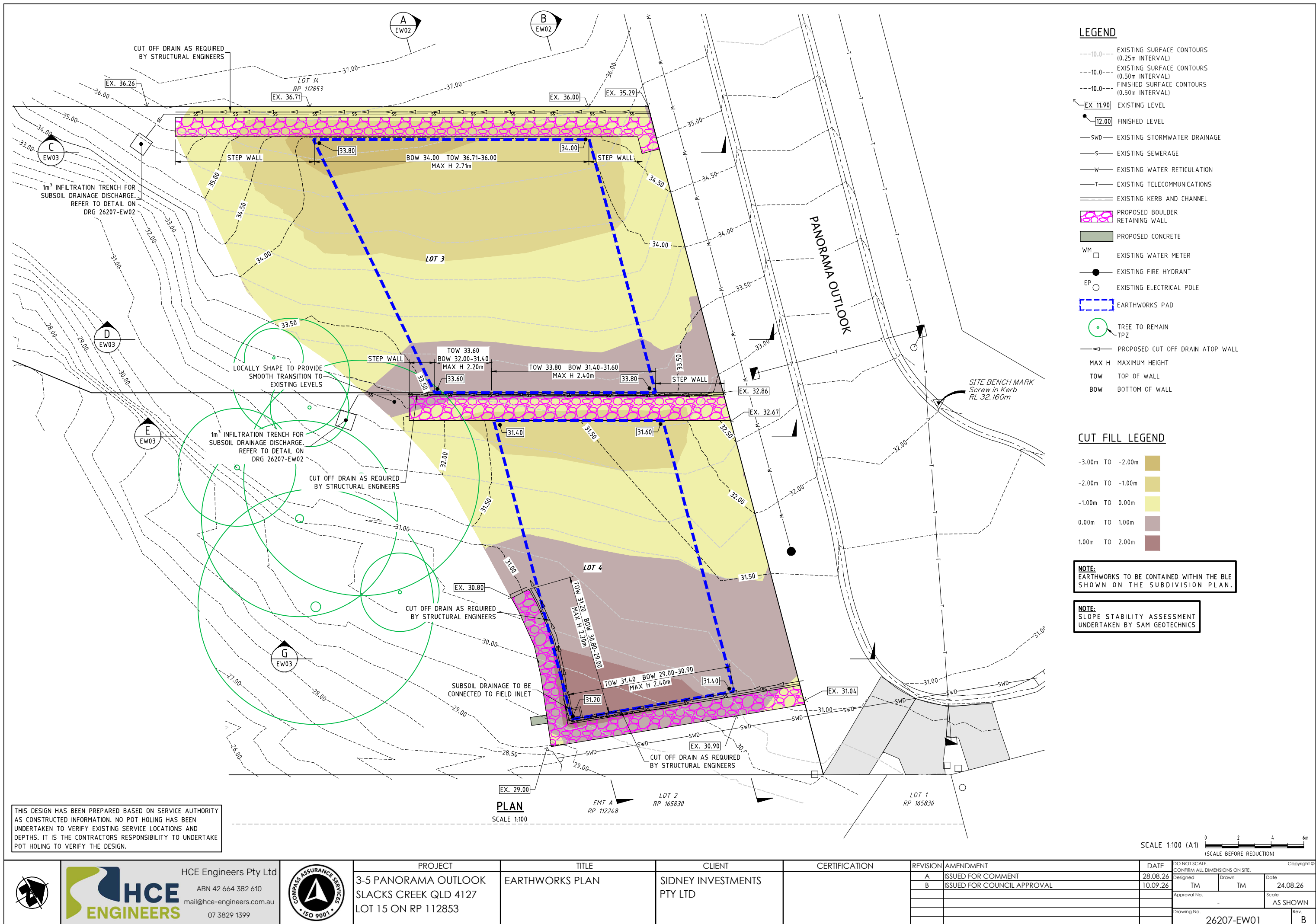


GENERAL NOTES (v26.1)

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ALL TEMPORARY AND PERMANENT SIGNAGE AND LINEMARKING TO BE IN ACCORDANCE WITH MAIN ROADS STANDARDS (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES).
- ALL DIMENSIONS ARE TO BE CHECKED ON-SITE BEFORE WORK COMMENCES.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWING.
- DURING CONSTRUCTION BARRIERS, LIGHTS & SIGNS SHALL BE MAINTAINED TO ENSURE SAFE PASSAGE OF TRAFFIC AND PEDESTRIANS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH S.A.A. CODES & BY-LAWS AND ORDINANCES OF THE RELEVANT LOCAL AUTHORITY AND WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RELEVANT AUTHORITIES AND PAYING ALL FEES NECESSARY BEFORE COMMENCING WORK, FOR LOCATING ALL EXISTING SERVICES AND FOR REPAIR OF ANY SERVICES DAMAGED AS A RESULT OF THE WORKS.
- CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, COVER OVER DRAINAGE LINES, AND MINIMUM FALLS ARE CORRECT & OBTAINABLE PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR'S ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE WORK HEALTH AND SAFETY ACT 2011. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THIS ACT AND IN PARTICULAR THE CONTRACTOR IS TO ENSURE THE REQUIREMENTS OF THIS SPECIFICATION WITH REGARD TO 'NOTIFICATION IN RELATION TO A NOTIFIABLE PROJECT, ARE FULFILLED.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT. ANY COST ASSOCIATED WITH REPAIRING DAMAGE TO EXISTING SERVICES SHALL BE BORNE BY THE CONTRACTOR.
- THE PERSON RESPONSIBLE FOR THE DEMOLITION WORKS SHALL ENSURE THAT ALL VEHICLES LEAVING THE SITE CARRYING DEMOLITION MATERIALS HAVE THEIR LOADS COVERED AND DO NOT TRACK SOIL OR WASTE MATERIALS ONTO THE ROAD.
- SHOULD ASBESTOS BE PRESENT, ITS REMOVAL SHALL BE CARRIED OUT IN ACCORDANCE WITH THE NATIONAL OH&S COMMITTEE - CODE OF PRACTICE FOR SAFE REMOVAL OF ASBESTOS AND ITS CODE OF PRACTICE FOR THE MANAGEMENT AND CONTROL OF ASBESTOS IN THE WORKPLACE.



		HCE Engineers Pty Ltd ABN 42 664 382 610 mail@hce-engineers.com.au 07 3829 1399		PROJECT	TITLE	CLIENT	CERTIFICATION	REVISION	AMENDMENT	DATE	DO NOT SCALE. Copyright © CONFIRM ALL DIMENSIONS ON SITE.		
				3-5 PANORAMA OUTLOOK SLACKS CREEK QLD 4127	LOCALITY PLAN, DRAWING INDEX AND GENERAL NOTES	SIDNEY INVESTMENTS PTY LTD		A	ISSUED FOR COMMENT	19.08.26	Designed	Drawn	Date
								B	ISSUED FOR COUNCIL APPROVAL	10.09.26	MN	AB	28/07/26
											Approval No.	Scale	
											Drawing No.	Rev.	
										26207-C01	B	AS SHOWN	



EARTHWORKS NOTES (v26.1)

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT. ANY COSTS ASSOCIATED WITH REPAIRING DAMAGE TO EXISTING SERVICES SHALL BE PAID FOR BY THE CONTRACTOR.
2. ALL EARTHWORKS UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011. CONTACT THE NEAREST OFFICE OF THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. Phone : 1300 369915
3. THE CONTRACTOR SHALL VERIFY BENCH MARK LEVELS AND ADVISE THE SUPERINTENDENT OF ANY DISCREPANCY BEFORE COMMENCEMENT OF CONSTRUCTION.
4. ALL LEVELS ARE TO A.H.D.
5. IF ACID SULPHATE SOILS ARE FOUND (OR ARE EXPECTED TO BE) IN THE WORKS AREA, THE OUTPUTS FROM THE RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL REQUIRES THAT ACID SULPHATE SOILS BE MANAGED AS PER LEGISLATED PROCEDURES.
6. THE ENTIRE SITE SHALL BE CLEARED OF ALL UNDESIRABLE MATTER. THIS SHALL INCLUDE DEAD TIMBER, GRASS, OLD FOUNDATIONS, CONCRETE, REDUNDANT MASONRY REMAINS, GARBAGE, DEBRIS, AND ALL OTHER OBSTRUCTIONS TO THE WORKS UNLESS NOTED OTHERWISE. HOLES LEFT BY THE REMOVAL OF ANY OF THE ABOVE SHALL BE FILLED WITH APPROVED COMPACTED MATERIAL WITH PROPERTIES AT LEAST SIMILAR TO INSITU SOILS.
7. CLEARED MATERIAL AND EARTHWORKS SPOIL SHALL BE REMOVED FROM THE SITE.
8. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY ALL EARTHWORKS AND CLEARING OPERATIONS.
9. SITE EARTHWORKS GENERALLY, SHALL BE CARRIED OUT IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 3798, GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS, UNLESS NOTED OTHERWISE.
10. TOPSOIL WHERE ENCOUNTERED SHALL BE STRIPPED AND STOCKPILED PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS OPERATION. THE LOCATION OF THE STOCKPILE ON SITE SHALL BE AS DIRECTED BY THE SUPERINTENDENT. TOPSOIL SHALL BE RESPREAD OVER LOTS AT 200mm THICKNESS AND ROAD VERGES AT 100mm THICKNESS UNO. ANY EXCESS TOPSOIL FOLLOWING COMPLETION OF RESPREADING SHALL BE REMOVED FROM SITE.
11. STRIPPING SHALL BE UNDERTAKEN IN SUCH A MANNER AS TO AVOID CONTAMINATION BY OVERCUTTING. IF TOPSOIL IS CONTAMINATED BY OVERCUTTING AND DETERMINED NOT SUITABLE FOR REUSE BY THE SUPERINTENDENT, THE CONTRACTOR SHALL BEAR THE COST OF REMOVAL FROM SITE OF ALL CONTAMINATED TOPSOIL AND THE COST TO SUPPLY AND IMPORT SUITABLE TOPSOIL FOR RESPREADING.
12. IF DURING EARTHWORKS OPERATIONS UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED, THEN PRIOR TO ANY FILLING OPERATION THIS MATERIAL SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE SUPERINTENDENT WITH AN APPROVED SUITABLE MATERIAL.
13. FILL MATERIAL SHALL BE COMPACTED TO THE FOLLOWING STANDARD, WHERE DRY DENSITY RATIO IS DETERMINED IN ACCORDANCE WITH AS 1289 USING STANDARD COMPACTION METHODS.

• 100% DRY DENSITY RATIO IN COHESIVE MATERIAL OR 80% IN COHESIONLESS MATERIAL FOR ROAD SUBGRADE.

• 95% DRY DENSITY RATIO IN COHESIVE MATERIAL OR 65% IN COHESIONLESS MATERIAL FOR ALL AREAS OTHER THAN THE ROADWAY AND BUILDING PADS.

• 98% DRY DENSITY RATIO IN COHESIVE MATERIAL OR 70% IN COHESIONLESS MATERIAL FOR BUILDING PADS.
14. IMPORTED GENERAL FILL MATERIAL SHOULD BE COHESIVE IN NATURE, WITH A SOAKED CBR > 5% AND A MAXIMUM PARTICLE SIZE OF 75mm)
15. THROUGHOUT THE EARTHWORKS OPERATION THE CONTRACTOR IS TO ENSURE THAT THE SITE IS SELF DRAINING. DAMAGE RESULTING FROM THE EXPOSURE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
16. ALL EARTHWORKS TO BE CARRIED OUT UNDER LEVEL 1 SUPERVISION IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 3798 UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.
17. SPECIFICATIONS FOR SELECT FILL:

- SOAKED CBR

- LIQUID LIMIT

- PLASTICITY INDEX

- MAXIMUM AGGREGATE INDEX

- PASSING 19mm SIEVE

- PASSING 0.075mm SIEVE

- SHRINK/SWELL INDEX

MINIMUM OF 10%

<45%

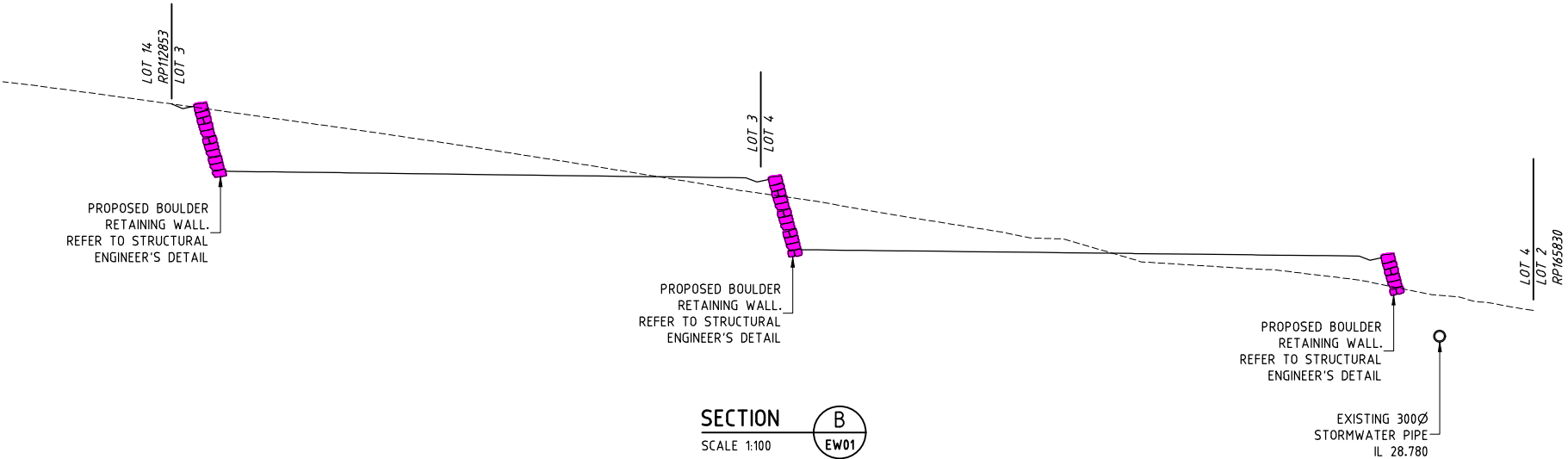
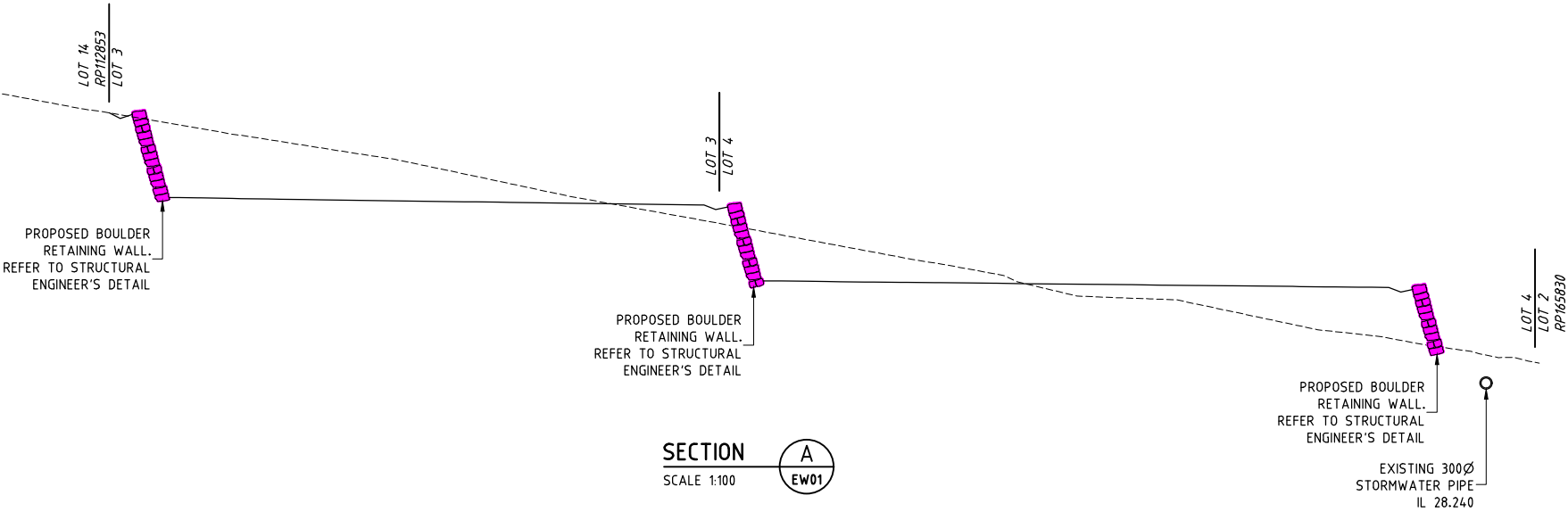
<15%

<75mm

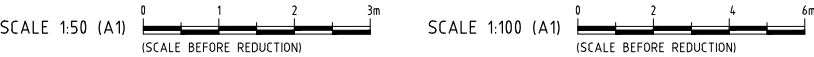
80% MINIMUM

20% MAXIMUM

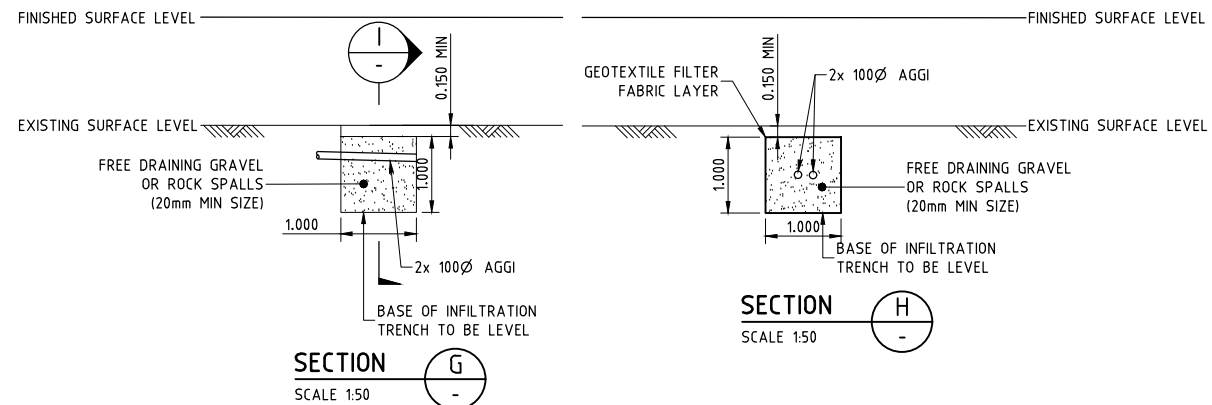
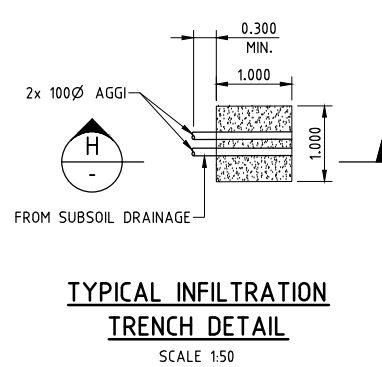
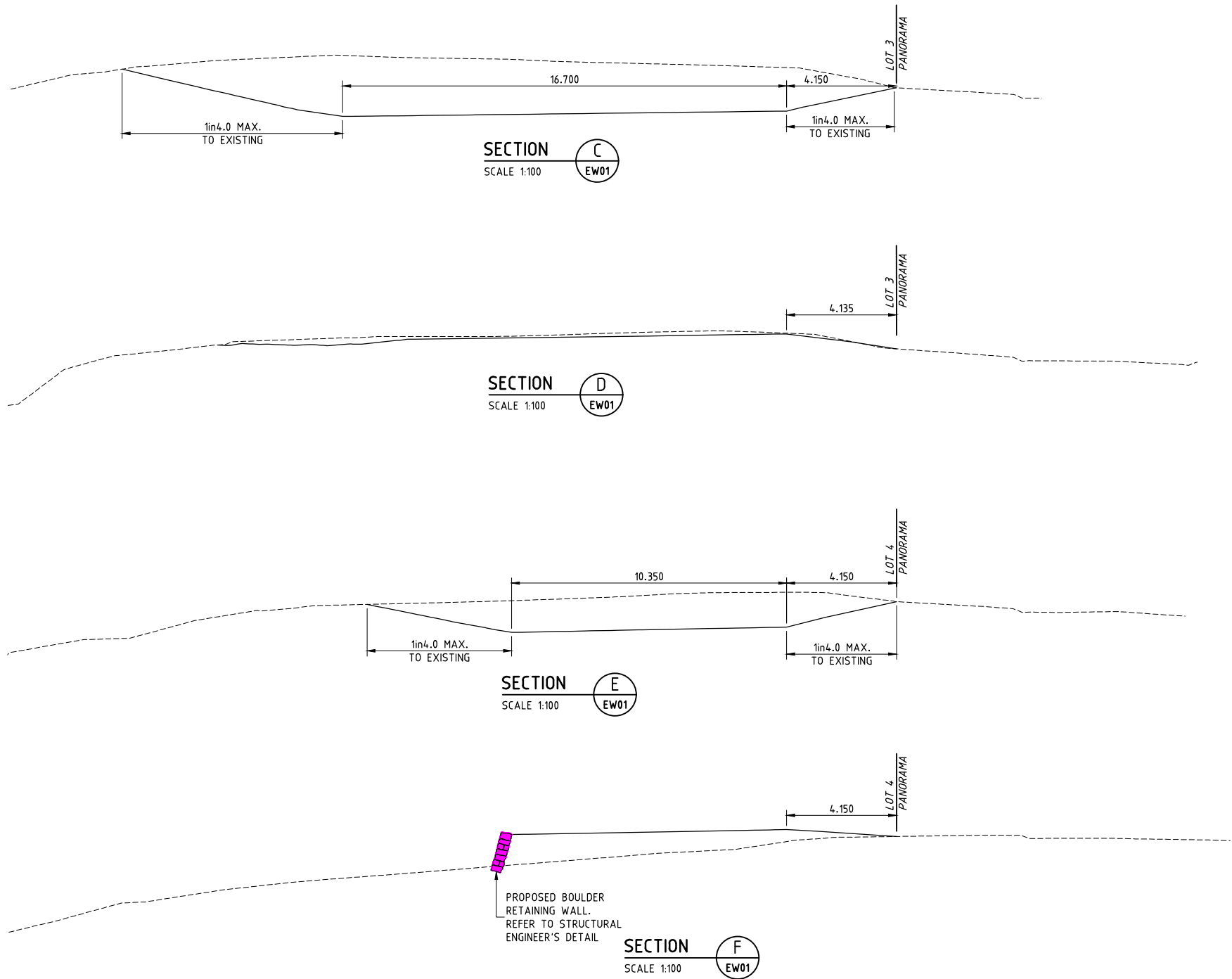
MAXIMUM OF 1%



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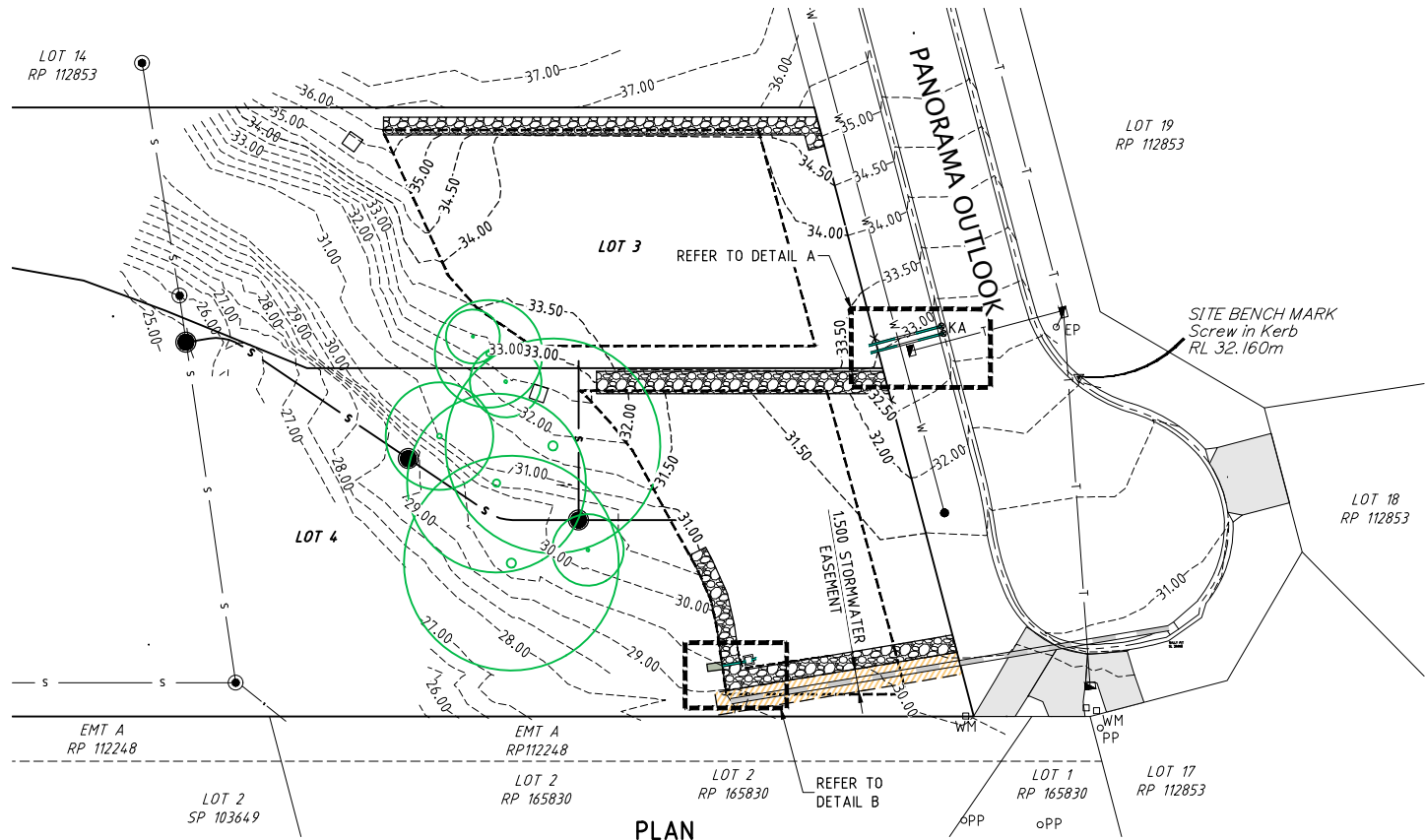
HCE ENGINEERS HCE Engineers Pty Ltd ABN 42 664 382 610 mail@hce-engineers.com.au 07 3829 1399 COMPASS ASSURANCE SERVICES ISO 9001	PROJECT	TITLE	CLIENT	CERTIFICATION	REVISION	AMENDMENT	DATE	DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. Copyright ©		
					A	ISSUED FOR COMMENT	28.08.26	Designed	TM	Date
					B	ISSUED FOR COUNCIL APPROVAL	10.09.26		TM	24.08.26
								Approval No.	-	Scale
								Drawing No.	26207-EW02	Rev.



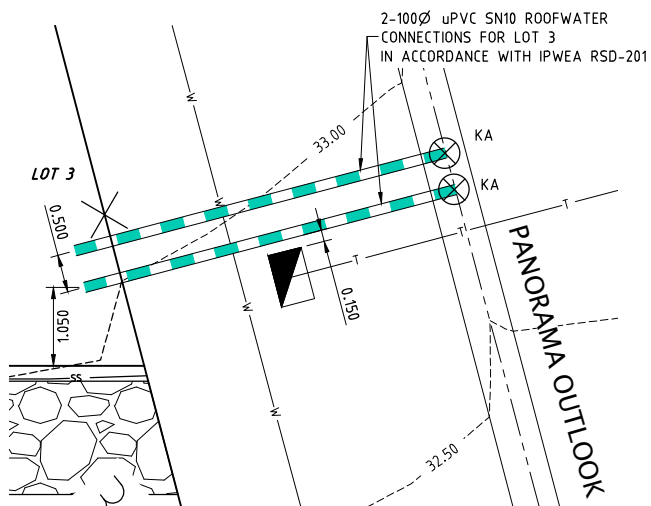
THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

SCALE 1:100 (A1)
(SCALE BEFORE REDUCTION)

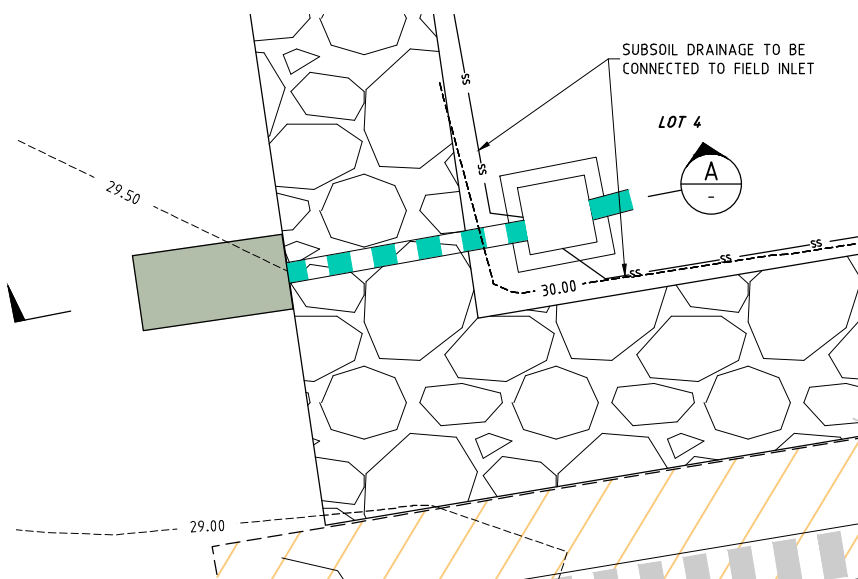
 HCE Engineers Pty Ltd ABN 42 664 382 610 mail@hce-engineers.com.au 07 3829 1399		PROJECT 3-5 PANORAMA OUTLOOK SLACKS CREEK QLD 4127 LOT 15 ON RP 112853	TITLE EARTHWORKS SECTIONS SHEET 2 OF 2 AND INFILTRATION TRENCH DETAIL	CLIENT SIDNEY INVESTMENTS PTY LTD	CERTIFICATION	REVISION	AMENDMENT	DATE	DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. Copyright © Designed TM Drawn TM Date 24.08.26 Approval No. - Scale AS SHOWN Drawing No. 26207-EW03 Rev. B
						A	ISSUED FOR COMMENT	28.08.26	
						B	ISSUED FOR COUNCIL APPROVAL	10.09.26	



PLAN
SCALE 1:250



DETAIL A
SCALE 1:50



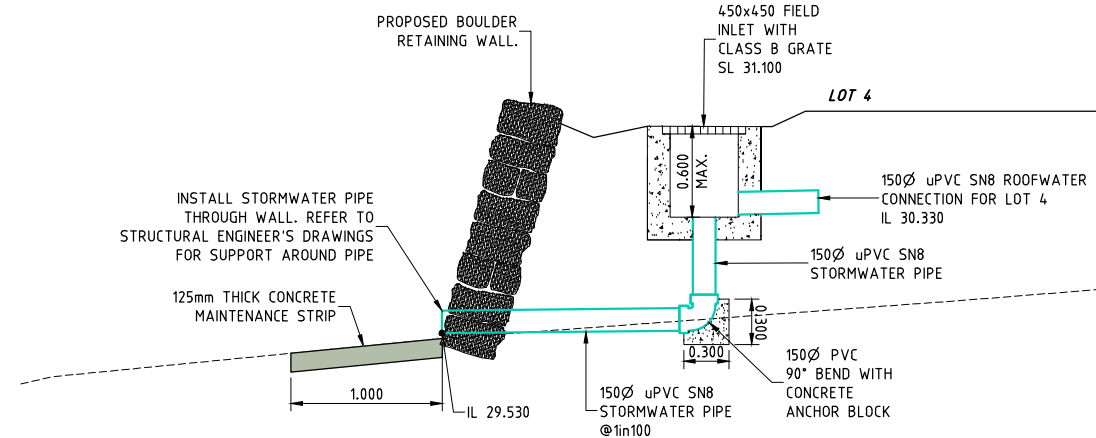
DETAIL B
SCALE 1:25

LEGEND

- 10.0--- EXISTING SURFACE CONTOURS (0.50m INTERVAL)
- 10.0--- FINISHED SURFACE CONTOURS (0.50m INTERVAL)
- EXISTING STORMWATER DRAINAGE
- PROPOSED STORMWATER DRAINAGE
- S--- EXISTING SEWERAGE
- S--- PROPOSED SEWERAGE
- W--- EXISTING WATER RETICULATION
- T--- EXISTING TELECOMMUNICATIONS
- EXISTING SWALE DRAIN
- EXISTING KERB AND CHANNEL
- PROPOSED BOULDER RETAINING WALL
- EXISTING CONCRETE
- TREE TO REMAIN TPZ
- WM --- EXISTING WATER METER
- KA --- PROPOSED WATER METER
- KA --- PROPOSED KERB ADAPTOR
- EP --- EXISTING FIRE HYDRANT
- EP --- EXISTING ELECTRICAL POLE
- EXISTING VALVE
- BUILDING ENVELOPE
- STORMWATER EASEMENT

STORMWATER DRAINAGE NOTES (v26.1)

- LEVELS TO AHD.
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON-SITE BEFORE WORK COMMENCES.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWING.
- DURING CONSTRUCTION BARRIERS, LIGHTS & SIGNS SHALL BE MAINTAINED TO ENSURE SAFE PASSAGE OF TRAFFIC AND PEDESTRIANS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LOCAL AUTHORITY'S CURRENT SPECIFICATIONS AND STANDARDS.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH S.A.A. CODES & BY-LAWS AND ORDINANCES OF THE RELEVANT LOCAL AUTHORITY AND WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RELEVANT AUTHORITIES AND PAYING ALL FEES NECESSARY BEFORE COMMENCING WORK, FOR LOCATING ALL EXISTING SERVICES AND FOR REPAIR OF ANY SERVICES DAMAGED AS A RESULT OF THE WORKS.
- THE CONTRACTOR'S ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE WORKPLACE HEALTH AND SAFETY ACT 2011. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THIS ACT AND IN PARTICULAR THE CONTRACTOR IS TO ENSURE THE REQUIREMENTS OF THIS SPECIFICATION WITH REGARD TO 'NOTIFICATION IN RELATION TO A NOTIFIABLE PROJECT, ARE FORFILLED.
- PIPES SHALL NOT BE LAID WITHIN THE ZONE OF INFLUENCE OF STRUCTURAL LOADINGS UNLESS BRIDGING OF THE LOAD IS PROVIDED. ANY BRIDGING IS TO BE DESIGNED BY A RPEQ.
- BENCHING OF PIT STRUCTURES SHALL HAVE A SMOOTH FINISHED SURFACE, AND PIPES SHALL NOT PROJECT INSIDE THE SHAFT OF THE PIT.
- FOLLOWING STORMS, THE ROAD RESERVE AND SEDIMENT BARRIERS ARE TO BE INSPECTED AND ALL SEDIMENT RESIDUES ARE TO BE REMOVED.
- OPEN PIPES AND GULLY PITS DURING CONSTRUCTION ARE TO BE CAPPED OR PLUGGED (SOLID OR FILTER CLOTH) AT THE END OF EACH DAYS WORK.
- ROAD EFFECTED BY WORKS ARE TO BE KEPT CLEAN. MATERIAL IS TO BE SWEEPED FROM ROAD SURFACE.
- REPAIR ANY DAMAGE TO EXISTING KERB AND CHANNEL, FOOTPATH OR ROADWAY THAT MAY OCCUR DURING ANY WORKS CARRIED OUT WITH THE APPROVED DEVELOPMENT.



SECTION
SCALE 1:25

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.



HCE
ENGINEERS

HCE Engineers Pty Ltd
ABN 42 664 382 610
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07 3829 1399



PROJECT
3-5 PANORAMA OUTLOOK
SLACKS CREEK QLD 4127

TITLE
STORMWATER
DRAINAGE PLAN

CLIENT
SIDNEY INVESTMENTS
PTY LTD

CERTIFICATION

REVISION

AMENDMENT

DATE

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. Copyright ©

A

ISSUED FOR COMMENT

20.08.26

Designed MN Drawn AB Date 28/07/26

B

ISSUED FOR COUNCIL APPROVAL

10.09.26

Approval No. Scale AS SHOWN

Drawing No. Rev. B

26207-SW01

SEWERAGE NOTES (v26.1)

GENERAL

1. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION BY PHONE ON 1300 362 128.
2. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT GRAVITY SEWERAGE CODE OF AUSTRALIA – SEQ EDITION STANDARDS AND LOGAN CITY COUNCIL ADDITIONAL REQUIREMENTS.
3. UNLESS SPECIFIED OTHERWISE, ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
4. THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO LOGAN CITY COUNCIL SEWERAGE SYSTEM.
5. ALL LEVELS TO A.H.D.
6. CLEARANCES TO OTHER SERVICES TO BE IN ACCORDANCE WITH TABLE 5.4 OF THE SEQ GRAVITY SEWERAGE CODE OF AUSTRALIA SPECIFICATIONS UNLESS NOTED OTHERWISE.
7. HORIZONTAL TOLERANCES TO BE +/- 100mm LATERAL DISPLACEMENT FROM THE DESIGN ALIGNMENT FOR SEWER MAINS AND PROPERTY SERVICES.
8. ALL SEWER LENGTHS AND GRADES ARE MEASURED FROM CENTRE OF STRUCTURE UNO.

EXISTING FEATURES

9. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING SERVICES PRIOR TO COMMENCING WORKS.
10. IF EXISTING CONCRETE PATHWAYS/DRIVEWAYS NEED TO BE MODIFIED OR CUT, FULL WIDTH PANELS OF PATHWAYS/DRIVEWAYS BETWEEN EXISTING JOINTS ARE TO BE REMOVED, NO PATHWAYS/DRIVEWAYS TO BE CUT LONGITUDINALLY IN HALF OR OTHER PART THEREOF. REINSTATEMENT TO BE IN ACCORDANCE WITH THE RELEVANT AUTHORITY STANDARD DRAWINGS FOR FOOTPATHS AND DRIVEWAYS. WHEN MAINTENANCE STRUCTURES NEED TO BE INSTALLED WITHIN COUNCIL CONCRETE FOOTPATHS, LOCALISED REINSTATEMENT OF IMMEDIATE FITTING SURROUND IS NOT PERMITTED. NEW CONCRETE PANELS SHALL BE PROVIDED IN ACCORDANCE WITH THE RELEVANT AUTHORITY STANDARD DRAWINGS, WITH NEW AND EXISTING JOINTS SPACING NO LESS THAN 1m.

PERMITS

11. PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL ARRANGE FOR ROAD OPENING AND TRAFFIC PERMITS FROM THE RELEVANT AUTHORITIES. WORK MAY BE REQUIRED TO BE CARRIED OUT DURING WEEKENDS AND / OR LATE AT NIGHT ONLY.
12. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS ASSOCIATED WITH VEGETATION REMOVAL/MANAGEMENT.

CONSTRUCTION NOTES

13. ALL PIPES AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE “ACCEPTED CIVIL PRODUCTS AND MATERIALS LIST”.
14. EACH RESIDENTIAL HOUSE ALLOTMENT SHALL BE SERVED BY A DN110 PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL, A DN160 PROPERTY CONNECTION SHALL BE PROVIDED. A MAXIMUM OF 2 RESIDENTIAL PREMISES IS ALLOWED ON A DN110. PROPERTY CONNECTION SEWER DETAILS SHALL COMPLY WITH THE DETAILS GIVEN IN GRAVITY SEWERAGE CODE OF AUSTRALIA – SEQ EDITION STANDARD DRAWINGS SEQ-SEW-1106-1 TO 1106-6.
15. PROPERTY CONNECTIONS JUNCTIONS SHALL BE LOCATED 1.20m FROM THE DOWNSTREAM ALIGNMENT. IF THIS IS NOT POSSIBLE PROPERTY CONNECTION JUNCTIONS SHALL NOT BE GREATER THAN 3.50m FROM THE DOWNSTREAM ALIGNMENT.
16. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300mm AND A MAXIMUM OF 750mm.
17. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300mm (LOOSE) IN DEPTH AND SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH AS 1289 (MODIFIED COMPACTION). TESTING SHALL BE CARRIED OUT AFTER EACH ALTERNATE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY THE COUNCIL UNLESS CERTIFICATES ARE PROVIDED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
18. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER, BULK HEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CL.9.10 OF GRAVITY SEWERAGE CODE OF AUSTRALIA – SEQ EDITION.
19. SEWERS SHALL BE DISUSED/ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN CL.5.2.9 OF GRAVITY SEWERAGE CODE OF AUSTRALIA -SEQ EDITION.
20. EMBEDMENT AND TRENCHING TO BE ‘TYPE 3’ UNLESS NOTED OTHERWISE IN ACCORDANCE WITH THE GRAVITY SEWERAGE CODE OF AUSTRALIA – SEQ EDITION STD DRG SEQ-SEW-1201-1.
21. CONSTRUCT BULKHEADS AND TRENCH STOPS TO SEQ-SEW-1206-1 AND TRENCH DRAINS TO SEQ-SEW-1207-1.
22. CONSTRUCT MHs TO SEQ-SEW-1300-1, 1301-1, 1302-1 TO 1307-1 AND 1313-1.
23. TERMINAL ENTRY POINTS TO BE CONSTRUCTED TO SEQ-SEW-1314-1. TYPE J NOT ACCEPTED BY LOGAN CITY COUNCIL.
24. CONSTRUCT BENDS TO SEQ-SEW-1314-3.
25. INSTALL MH/MS TYPE B COVERS TO SEQ-SEW-1308-1.
26. INSTALL MH/MS TYPE D COVERS TO SEQ-SEW-1308-8 TO 1308-11.
27. CONSTRUCT PROPERTY CONNECTIONS TO SEQ-SEW-1104-1 & 1105-1.
28. INSTALL DETECTABLE MARKER TAPE ON ALL SEWER MAINS AND PROPERTY CONNECTIONS. DETECTABLE MARKER TAPE SHALL BE PROVIDED EITHER ABOVE THE EMBEDMENT ZONE OR 1000mm BELOW THE FINISHED SURFACE LEVEL, WHICHEVER IS CLOSEST TO FINISHED SURFACE LEVEL.
29. NEW MANHOLES THAT MEET ANY ONE OR MORE OF THE FOLLOWING CONDITIONS SHALL BE PE LINED.
 - THE MH IS A RECEIVING MH FOR A SEWER RISING MAIN OR WITHIN 100m OF SUCH A RECEIVING MH.
 - THE MH IS THE COLLECTION MH IMMEDIATELY UPSTREAM OF A SEWAGE PUMPING STATION.
 - THE MH HAS AN INTERNAL DIAMETER OF 1500mm OR MORE.
 - THE MH EXCEEDS 4m DEPTH TO THE INVERT OF ITS OUTLET SEWER.
 - THE OUTFLOW SEWER FROM THE MH HAS A DIAMETER GREATER THAN 300mm.
 - THE MH IS SERVICING AN INDUSTRIAL AREA.
 - WHERE AN ASSESSMENT OF CORROSION OR ODOUR HAS INDICATED PROTECTION IS REQUIRED.
30. CONCRETE FOR MH CONSTRUCTION SHALL BE SPECIAL CLASS TO WSA PS-358 WITH REQUIREMENT FOR CALcareous AGGREGATE.

SOIL CLASSIFICATION

31. THE CONTRACTOR SHALL ASSESS SOIL CONDITIONS TO DETERMINE CLASSIFICATION IN ACCORDANCE WITH SEQ-SEW-1200-1.
32. IF THE CONTRACTOR ENCOUNTERS SOIL IN TRENCHES WITH AN ALLOWABLE BEARING PRESSURE OF LESS THAN 50kPa, THEY SHALL IMMEDIATELY CONTACT THE RPEQ AND AWAIT DIRECTION.
34. IF ACID SULPHATE SOILS ARE FOUND (OR ARE EXPECTED TO BE) IN THE WORKS AREA, THE OUTPUTS FROM THE RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL REQUIRES THAT ACID SULPHATE SOILS BE MANAGED AS PER LEGISLATED PROCEDURES.

TESTING AND CONNECTING

35. ALL SEWERS AND MAINTENANCE STRUCTURES SHALL BE INSPECTED BY CCTV. THE FIRST CCTV INSPECTION SHALL BE MADE PRIOR TO COMMISSIONING AFTER ALL BACKFILLING OPERATIONS HAVE BEEN SATISFACTORILY COMPLETED AND ALL JUNCTIONS HAVE BEEN INSTALLED.
36. A SECOND CCTV INSPECTION IS REQUIRED PRIOR TO BUT NOT MORE THAN 2 WEEKS BEFORE, THE ON-SITE INSPECTION FOR OFF-MAINTENANCE CERTIFICATION.
37. CCTV EQUIPMENT IN ACCORDANCE WITH SECTION 21.8 OF THE GRAVITY SEWERAGE CODE OF AUSTRALIA AND THE WSAA CONDUIT INSPECTION REPORTING CODE OF AUSTRALIA WSA05 AND THE RESULTS SUBMITTED TO LOGAN CITY COUNCIL FOR COMPLIANCE CHECKING.
38. TESTING AND QA REQUIREMENTS SHALL BE UNDERTAKEN IN ACCORDANCE WITH GRAVITY SEWERAGE CODE OF AUSTRALIA.
39. VACUUM / PRESSURE TESTING AS PER SECTION 21.1. ON ALL NEW MAINS, STRUCTURES, PROPERTY SERVICES 12m OR GREATER IN LENGTH.
40. CCTV FOOTAGE AND REPORT FOR ALL SEWER MAINS AND ALL PROPERTY SERVICES THAT ARE 12m OR GREATER. TO BE SUBMITTED AS PER SEQ CODE FORMAT AND REQUIREMENTS.
41. CONCRETE DELIVERY DOCKETS TO BE PROVIDED TO THE SUPERVISING ENGINEERS FOR ALL CONCRETE USED AS PART OF MANHOLES.
42. COMPACTION TEST RESULTS FOR ALL NEW SEWER MAINS AND PROPERTY SERVICES CROSSING ROADS IN ACCORDANCE WITH SECTION 21.3 OF GRAVITY SEWERAGE CODE OF AUSTRALIA.
 - FREQUENCY – TRAFFICABLE AREAS – ONE TEST IN EACH 300mm LAYER OF FILL FOR EACH 50 LINEAL METRES OF SEWER OR PART THEREOF. THE ROAD OWNER MAY SPECIFY ADDITIONAL COMPACTION TESTING REQUIREMENTS.
 - FREQUENCY – NON-TRAFFICABLE AREAS – ONE TEST IN EACH 900mm LAYER OF FILL FOR EACH 100 LINEAL METRES OF SEWER OR PART THEREOF.
 - FREQUENCY – FOR MAINTENANCE AND INSPECTION STRUCTURES – ONE TEST WITHIN EACH 1m DEPTH AT ONE LOCATION WITHIN 300mm OF EACH.
45. RE-FILLING OF “EXCESSIVE EXCAVATION” TO BE IN ACCORDANCE WITH SECTION 14.9. CONTRACTOR SHALL SEEK SITE SPECIFIC DIRECTION FROM THE CERTIFYING CONSULTING ENGINEER IF DEPTH AND WIDTH OF EXCAVATION EXCEEDS THOSE SPECIFIED IN SECTION 22 – TOLERANCES ON AS CONSTRUCTED WORK.

MISCELLANEOUS

46. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT ‘BEFORE YOU DIG AUSTRALIA’ FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTORS EXPENSE.

REHABILITATION

47. ALL DISTURBED AREAS TO BE REINSTATED TO THEIR ORIGINAL CONDITION.

VEGETATION PROTECTION

48. TREES LOCATED ALONG THE FOOTPATH SHALL BE TRANSPLANTED PRIOR TO CONSTRUCTION OR REPLACED IF DESTROYED.
49. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD, GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES MUST BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
50. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT ARBORIST FOR FURTHER ADVICE.
51. ANY TREE LOPPING REQUIRED SHALL BE UNDERTAKEN BY AN APPROVED ARBORIST.

CONTRACTOR ACCREDITATION

52. DURING ANY CONSTRUCTION ACTIVITY AT LEAST ONE PERSON ON SITE MUST HAVE COMPLETED A PIPE LAYING TRAINING COURSE APPROVED BY THE PIPE SUPPLIER OR MANUFACTURER AND APPROPRIATE TO THE PIPELINE UNDER CONSTRUCTION. THE TRAINING COURSE MUST HAVE BEEN COMPLETED WITHIN THE LAST TEN YEARS.
53. THE CONTRACTOR SHALL PROVIDE DOCUMENTED EVIDENCE OF ACCEPTABLE QUALIFICATIONS.

LIVE WORKS

54. ALL LIVE WORKS SHALL BE UNDERTAKEN BY LOGAN CITY COUNCIL, OR APPROVED CONTRACTOR VIA THE DEVELOPER DELIVERED LIVE CONNECTION PROCESS.

CURRENCY

55. CONTRACTOR TO ENSURE CURRENCY OF STANDARDS AT TIME OF CONSTRUCTION.

WATER RETICULATION NOTES (v26.1)

GENERAL

1. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION BY PHONE ON 1300 362 128.
2. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT SEQ WATER SUPPLY CODE, LOGAN CITY COUNCIL ACCEPTED PRODUCTS AND MATERIALS LIST (IPAM LIST) AND LOGAN CITY COUNCIL ADDITIONAL REQUIREMENTS.
3. UNLESS SPECIFIED OTHERWISE, ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
4. CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO LOGAN CITY COUNCIL RETICULATION SYSTEM.
5. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
6. CLEARANCES TO OTHER SERVICES TO BE IN ACCORDANCE WITH TABLE 5.5 OF THE SEQ WATER SUPPLY CODE SPECIFICATIONS UNLESS NOTED OTHERWISE.
7. HORIZONTAL TOLERANCES TO BE +/- 100mm LATERAL DISPLACEMENT FROM THE DESIGN ALIGNMENT FOR WATER MAINS, PROPERTY SERVICES AND WATER METERS.
8. ENERGEX PILLARS ARE TO BE 1.10m MINIMUM CLEAR OF WATER METERS AND HYDRANTS.

EXISTING FEATURES

9. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING SERVICES PRIOR TO COMMENCING WORKS.
10. IF EXISTING CONCRETE PATHWAYS/DRIVEWAYS NEED TO BE MODIFIED OR CUT, FULL WIDTH PANELS OF PATHWAYS/DRIVEWAYS BETWEEN EXISTING JOINTS ARE TO BE REMOVED, NO PATHWAYS/DRIVEWAYS TO BE CUT LONGITUDINALLY IN HALF OR OTHER PART THEREOF. REINSTATEMENT TO BE IN ACCORDANCE WITH THE RELEVANT AUTHORITY STANDARD DRAWINGS FOR FOOTPATHS AND DRIVEWAYS. WHEN VALVE OR HYDRANTS NEED TO BE INSTALLED WITHIN COUNCIL CONCRETE FOOTPATHS, LOCALISED REINSTATEMENT OF IMMEDIATE FITTING SURROUND IS NOT PERMITTED. NEW CONCRETE PANELS SHALL BE PROVIDED IN ACCORDANCE WITH THE RELEVANT AUTHORITY STANDARD DRAWINGS, WITH NEW AND EXISTING JOINTS SPACING NO LESS THAN 1 METRE.

PERMITS

11. PRIOR TO THE COMMENCEMENT OF WORK THE CONTRACTOR SHALL ARRANGE FOR ROAD OPENING AND TRAFFIC PERMITS FROM THE RELEVANT AUTHORITIES. WORK MAY BE REQUIRED TO BE CARRIED OUT DURING WEEKENDS AND / OR LATE AT NIGHT ONLY.
12. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS ASSOCIATED WITH VEGETATION REMOVAL/MANAGEMENT.

PIPE WORKS

13. CONSTRUCT EMBEDMENT AND TRENCHFILL TO SEQ-WAT-1200-2, SEQ-WAT-1201-1 TO SEQ-WAT-1204-1 (TYPE C) SUPPORT UNLESS OTHERWISE NOTED.
14. PROVIDE BULKHEADS/TRENCHSTOPS IN ACCORDANCE WITH SEQ WATER SUPPLY CODE TABLE 7.5 AND SEQ-WAT-1209-1 AND 1210-1.
15. CONSTRUCT THRUST BLOCKS ON ALL VALVES, BENDS, TEES, TAPERS, DEAD ENDS, AND TRANSITIONS TO UNRESTRAINED PIPEWORK TO SEQ-WAT-1205-1 AND 1206-1.
16. INSTALL DETECTABLE MARKER TAPE ON ALL WATER MAINS AND PROPERTY SERVICES.
17. CONSTRUCT FIRE HYDRANTS AND STOP VALVES TO SEQ-WAT-1301-1, 1302-1, 1303-1, 1305-1, 1306-1 AND 1409-1.
18. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN ON STD DRG SEQ-WAT-1200-2.
19. FLANGED JOINTS SHALL NOT BE ENCASED IN CONCRETE
20. SCL UNDER OTHER SERVICES SHALL BE CONCRETE ENCASED WITH MINIMUM 150mm THICK CONCRETE ENCASEMENT, WITH A FURTHER MINIMUM 150mm (300mm DESIRABLE) CLEARANCE TO SERVICES. SERVICES WITH DEPTH TO INVERT OVER 1.50m SHALL BE FULLY CONCRETE ENCASED. CONCRETE ENCASEMENT SHALL STOP NOMINALLY 300mm BEFORE FLANGES TO ALLOW FOR MAINTENANCE ACCESS.
21. ALL WATERMAINS SHALL BE LOCATED WHOLLY, WITHIN THE DESIGNATED WATERMAIN CORRIDOR. COUNCIL & HCE ENGINEERS RESERVES THE RIGHT TO REQUEST THE CONTRACTOR TO RE-CONSTRUCT THOSE PORTIONS OF THE WATERMAIN WHICH ARE CONSTRUCTED OUTSIDE THE DESIGNATED CORRIDORS.
22. PROTECTION METHODS TO ELECTRICAL INFRASTRUCTURE SHALL INCORPORATE THE REQUIREMENTS OF AS/NZS 3000 AND ENERGEX.
23. ALL MILD STEEL PIPE TO BE SINTAKOTED.
24. ALL FLANGES AND WELDED JOINTS TO BE PROTECTED WITH DENSO WRAPPING TAPE.

SOIL CLASSIFICATION

25. THE CONTRACTOR SHALL ASSESS SOIL CONDITIONS TO DETERMINE CLASSIFICATION IN ACCORDANCE WITH SEQ-WAT-1200-1
26. IF THE CONTRACTOR ENCOUNTERS SOIL IN TRENCHES WITH AN ALLOWABLE BEARING PRESSURE OF LESS THAN 50kPa, THEY SHALL IMMEDIATELY CONTACT THE RPEQ AND AWAIT DIRECTION.
27. IF ACID SULPHATE SOILS ARE FOUND (OR ARE EXPECTED TO BE) IN THE WORKS AREA, THE OUTPUTS FROM THE RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL REQUIRES THAT ACID SULPHATE SOILS BE MANAGED AS PER LEGISLATED PROCEDURES.

WATER SERVICES

28. PROPOSED AND EXISTING WATER METER BOXES TO BE CLEANED OF DIRT AND DEBRIS PRIOR TO PLAN SEALING.
29. WATER SERVICES FROM EXISTING WATER MAINS TO BE CONSTRUCTED BY LCC AT BUILDING STAGE.
30. WATER SERVICES FROM NEW MAINS TO BE CONSTRUCTED BY CIVIL CONTRACTOR PRIOR TO SURVEY PLAN SEALING, WITH METERS TO BE INSTALLED BY LCC AT BUILDING STAGE. METER BOXES TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
31. POLYETHYLENE SERVICE LINE MUST COMPLY WITH AS/NZS 4130 SERIES 1 DN20 PN16.
32. TAPPING BANDS MUST BE USED WHEN PROVIDING CONNECTION, UNLESS OTHERWISE APPROVED BY LCC.
33. WATER METER CONNECTIONS AND ASSOCIATED WATER SERVICES TO BE IN ACCORDANCE WITH

- SEQ STANDARD DRAWINGS SEQ-WAT-1110-1 AND SEQ-WAT-1110-2.
34. CROSS ROAD SERVICES TO BE DN25 (OR DN32 FOR REAR LOTS) TO EACH LOT, MAXIMUM OF 2 SERVICES IN EACH CROSS ROAD CONDUIT.

TESTING AND CONNECTING

35. TESTING AGAINST LIVE MAINS AND VALVES IS NOT PERMITTED.
36. THE WATER SUPPLY CODE OF AUSTRALIA SEQ SERVICE PROVIDERS VERSION 1.3 (WSA03:2011-3.1) AND ALL OTHER APPLICABLE LEGISLATION AND REQUIREMENTS FOR SAFE HANDLING AND REMOVAL OF MATERIALS THAT CONTAIN ASBESTOS. REMOVAL TO BE UNDERTAKEN IN ACCORDANCE WITH THE ABOVE DOCUMENTS.
37. ALL LIVE WORKS TO BE UNDERTAKEN BY LOGAN CITY COUNCIL, OR APPROVED CONTRACTOR VIA THE DEVELOPER DELIVERED LIVE CONNECTION PROCESS.
38. LIVE WORKS MAY NOT COMMENCE UNTIL ALL RELEVANT TEST CERTIFICATES HAVE BEEN PROVIDED TO AND ACCEPTED BY LOGAN CITY COUNCIL AND HCE ENGINEERS.

MISCELLANEOUS

39. INSTALL PAVEMENT MARKERS AND MARKER POSTS I.A.W. SEQ-WAT-1300-1 AND 1300-2.
40. SERVICE CONDUITS SHALL EXTEND 300mm BEYOND ALL EXISTING OR PLANNED CONCRETE. FOOTPATHS, BIKEWAYS AND OTHER HARD STANDING AREAS AND INSTALLED IN ACCORDANCE WITH THE SEQ WATER SUPPLY CODE.
41. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT ‘BEFORE YOU DIG AUSTRALIA’ FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTORS EXPENSE.

REHABILITATION

42. ALL DISTURBED AREAS TO BE REINSTATED TO THEIR ORIGINAL CONDITION.

VEGETATION PROTECTION

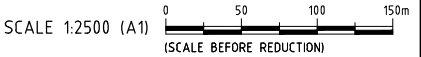
43. TREES LOCATED ALONG THE FOOTPATH SHALL BE TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
44. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD, GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES MUST BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
45. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT ARBORIST FOR FURTHER ADVICE.
46. ANY TREE LOPPING REQUIRED SHALL BE UNDERTAKEN BY AN APPROVED ARBORIST.

CONTRACTOR ACCREDITATION

47. DURING ANY CONSTRUCTION ACTIVITY AT LEAST ONE PERSON ON SITE MUST HAVE COMPLETED A PIPE LAYING TRAINING COURSE APPROVED BY THE PIPE SUPPLIER OR MANUFACTURER AND APPROPRIATE TO THE PIPELINE UNDER CONSTRUCTION. THE TRAINING COURSE MUST HAVE BEEN COMPLETED WITHIN THE LAST TEN YEARS.
48. THE CONTRACTOR SHALL PROVIDE DOCUMENTED EVIDENCE OF ACCEPTABLE QUALIFICATIONS.
49. SCL WORK SHALL BE UNDERTAKEN BY A LICENSED CONTRACTOR EXPERIENCED IN WELDING OF PRESSURE PIPELINES. CONTRACTOR ACCREDITATION SHALL BE PROVIDED.

CURRENCY

50. CONTRACTOR TO ENSURE CURRENCY OF STANDARDS AT TIME OF CONSTRUCTION.



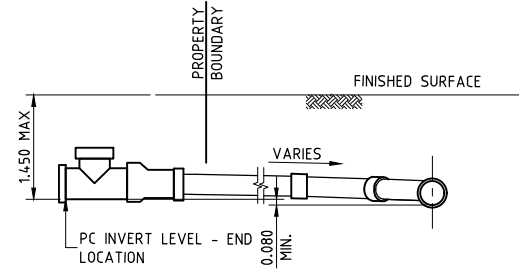
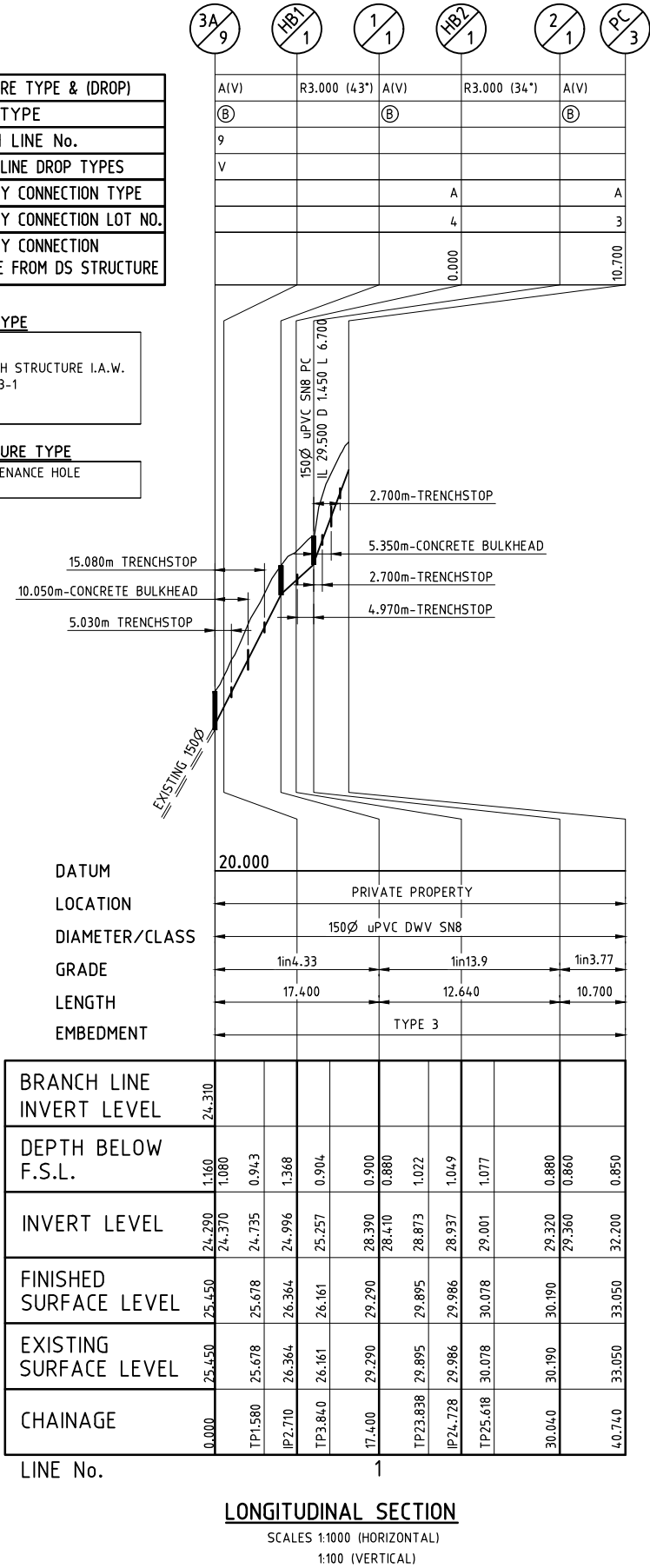
 HCE Engineers Pty Ltd ABN 42 664 382 610 mail@hce-engineers.com.au 07 3829 1399		PROJECT	TITLE	CLIENT	CERTIFICATION	REVISION	AMENDMENT	DATE	DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. Copyright ©		
		3-5 PANORAMA OUTLOOK SLACKS CREEK QLD 4127 LOT 15 ON RP 112853	SEWERAGE AND WATER RETICULATION NOTES	SIDNEY INVESTMENTS PTY LTD		A	ISSUED FOR COMMENT	20.08.26	Designed	Drawn	Date
						B	ISSUED FOR COUNCIL APPROVAL	10.09.26	MN	AB	28/07/26
									Approval No.		Scale
									-----		AS SHOWN
									Drawing No.		Rev.
									26207-S00		B

STRUCTURE TYPE & (DROP)
COVER TYPE
BRANCH LINE No.
BRANCH LINE DROP TYPES
PROPERTY CONNECTION TYPE
PROPERTY CONNECTION LOT NO.
PROPERTY CONNECTION
DISTANCE FROM DS STRUCTURE

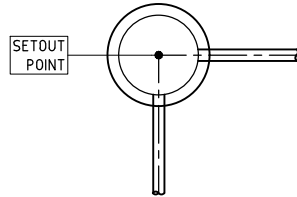
LEGEND - DROP TYPE	
V	
W	FALL THROUGH STRUCTURE I.A.W. SEQ-SEW-1303-1
X	
Y	

LEGEND - STRUCTURE TYPE	
A	1050Ø MAINTENANCE HOLE CAST IN SITU

NOTE:
MAINTENANCE HOLE COVERS SHALL NOT HAVE A CROSSFALL OF GREATER THAN 1in7.0 IN ACCORDANCE WITH THE GRAVITY SEWERAGE CODE CLAUSE 7.9.2



SEWERAGE PROPERTY CONNECTION DETAIL
NTS



SEWERAGE MAINTENANCE STRUCTURE SETOUT LOCATION
NTS

CONTRACTOR LIVE SEWERAGE WORKS

LOGAN CITY COUNCIL DELIVERED LIVE WORKS ☐
DEVELOPER DELIVERED LIVE WORKS ☒

No.	DESCRIPTION	DIA. SEWER	EX. ASSET ID AT CONNECTION	STRUCTURE TYPE	COVER TYPE	LOT AND PLAN NO.	FSL	ESL	CONNECTION IL	CONNECTION DEPTH TO INVERT	ALTERATION TO MH BENCHING REQUIRED
1(a)	CONTRACTOR TO CONSTRUCT NEW MAINTENANCE HOLE 3A/9 OVER EXISTING SEWER AND BENCH AND RENDER UP TO PIPE BUT NOT REMOVE CROWN OF PIPE.	150	18232	A	B	LOT 4	25.450	25.450	24.290	1.160	N
1(b)	CONTRACTOR TO LAY LINE 1 AND INSTALL PROPERTY CONNECTIONS.										
1(c)	CONTRACTOR, UNDER COUNCIL SUPERVISION, TO REMOVE CROWN OF PIPE AND COMPLETE BENCHING AFTER SUCCESSFUL 'ON MAINTENANCE' INSPECTION										

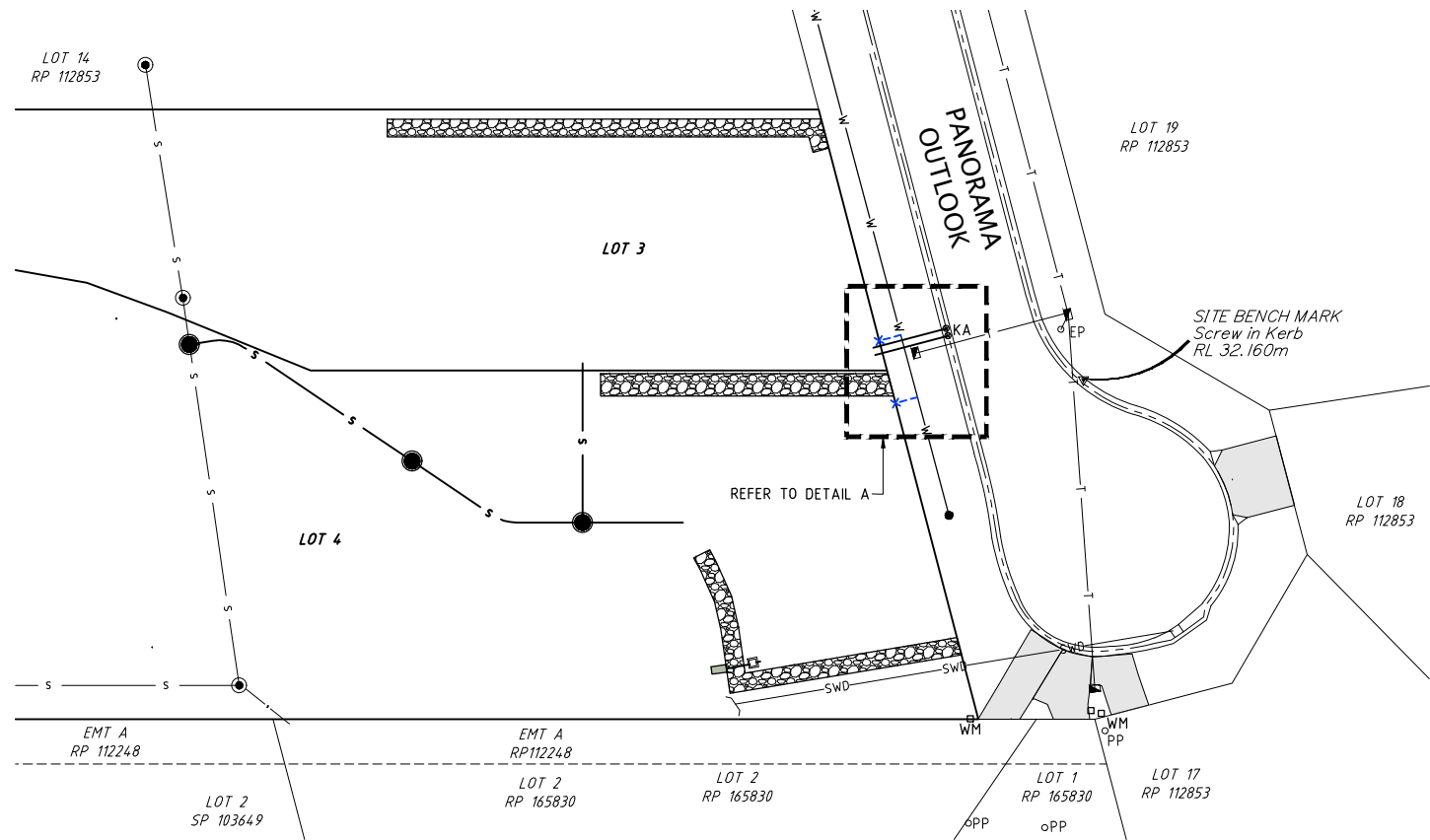
THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

HCE Engineers Pty Ltd ABN 42 664 382 610 mail@hce-engineers.com.au 07 3829 1399		PROJECT 3-5 PANORAMA OUTLOOK SLACKS CREEK QLD 4127 LOT 15 ON RP 112853	TITLE SEWERAGE LONGITUDINAL SECTION AND LIVE WORKS TABLE	CLIENT SIDNEY INVESTMENTS PTY LTD	CERTIFICATION	REVISION	AMENDMENT	DATE	DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. Copyright ©		
						A	ISSUED FOR COMMENT	20.08.26	Designed	Drawn	Date
						B	ISSUED FOR COUNCIL APPROVAL	10.09.26	MN	AB	28/07/26
									Approval No.	Scale	AS SHOWN
									Drawing No.	Rev.	

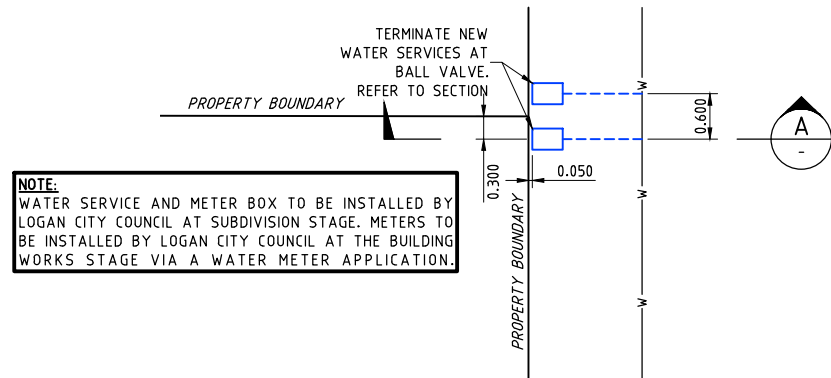
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26207-S02

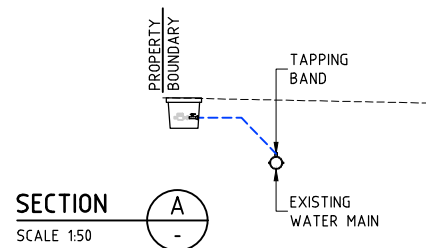
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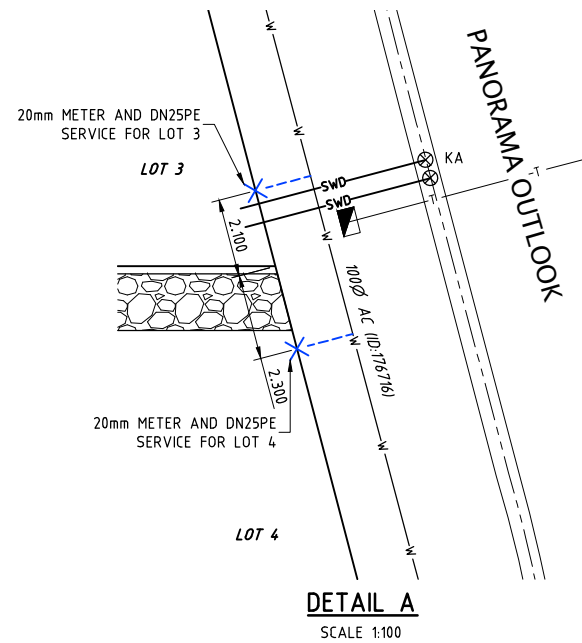
PLAN
SCALE 1:250



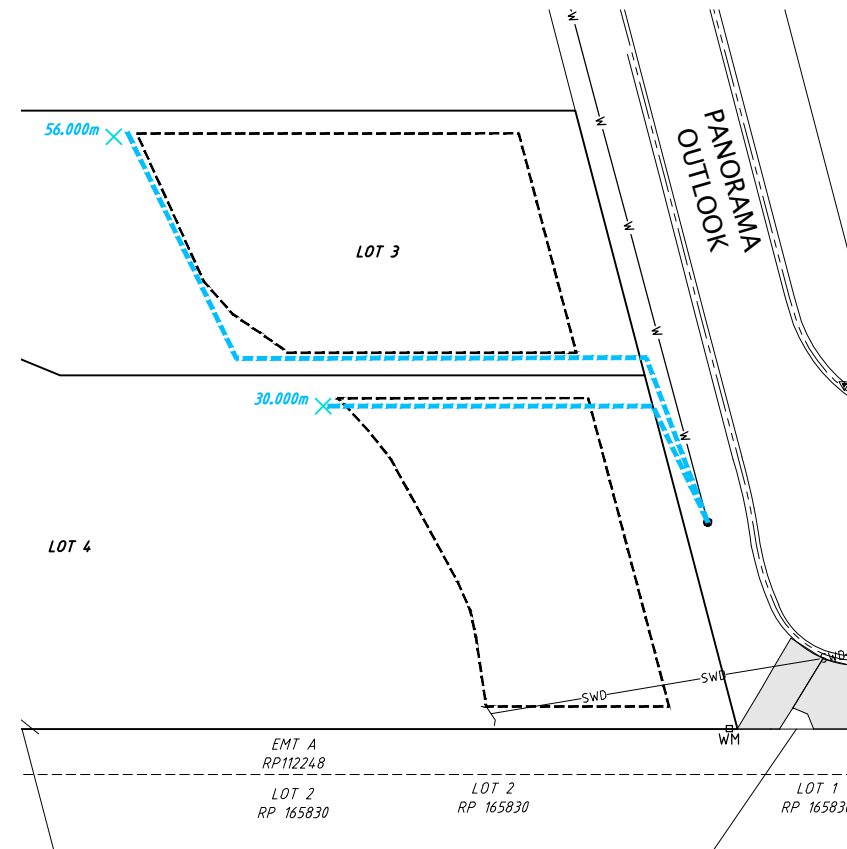
TYPICAL PROPERTY SERVICES DETAIL
GENERALLY IN ACCORDANCE WITH SEQ-WAT-1110-1 AND 1110-2
SCALE 1:50



SECTION
SCALE 1:50



DETAIL A
SCALE 1:100



FIRE FIGHTING COVERAGE PLAN
SCALE 1:250

LEGEND

- W— EXISTING WATER RETICULATION
- EXISTING WATER SERVICE
- PROPOSED WATER SERVICE
- 54.000m FIRE COVERAGE ROUTE AND DISTANCE TO NEAREST STREET HYDRANT
- S— EXISTING SEWERAGE
- S— PROPOSED SEWERAGE
- SWD— EXISTING STORMWATER DRAINAGE
- SWD— PROPOSED STORMWATER DRAINAGE
- T— EXISTING TELECOMMUNICATIONS
- EXISTING KERB AND CHANNEL
- PROPOSED BOULDER RETAINING WALL
- EXISTING CONCRETE
- WM □ EXISTING WATER METER
- WM X PROPOSED WATER METER
- KA X PROPOSED KERB ADAPTOR
- EXISTING FIRE HYDRANT
- EP ○ EXISTING ELECTRICAL POLE
- X EXISTING VALVE
- BUILDING ENVELOPE

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
3-5 PANORAMA OUTLOOK
SLACKS CREEK QLD 4127
LOT 15 ON RP 112853

TITLE
WATER RETICULATION PLAN

CLIENT
SIDNEY INVESTMENTS
PTY LTD

CERTIFICATION

REVISION

AMENDMENT

DATE

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE.

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A

ISSUED FOR COMMENT

17.08.26

Designed MN

Drawn AB

Date 28/07/26

B

ISSUED FOR COUNCIL APPROVAL

10.09.26

Approval No.

Scale AS SHOWN

Rev. 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.	The Performance Outcome can be achieved through compliance with appropriate approval conditions
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.	The Performance Outcome can be achieved through compliance with appropriate approval conditions
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.	The Performance Outcome can be achieved through compliance with appropriate approval conditions
Protection of existing and planned infrastructure		
PO4 Filling or excavation works do not adversely affect	AO4 Filling or excavation works comply with part 3.3 -	The Performance Outcome can be achieved through compliance with appropriate approval

infrastructure, including any services.	Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	conditions
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.	The Performance Outcome can be achieved through compliance with appropriate approval conditions
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.	The Performance Outcome can be achieved through compliance with appropriate approval conditions
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.	The Performance Outcome can be achieved through compliance with appropriate approval conditions
Retaining walls		
PO8 A retaining wall:	AO8 A retaining wall is designed and constructed to	The Performance Outcome can be achieved through compliance with appropriate approval

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.	comply with the standards specified in section 3.3.6.2 - Retaining walls in Planning scheme policy 5 - Infrastructure.	conditions
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.	Not applicable

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
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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.	The Acceptable Outcome can be and is proposed to be met.
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;	The Acceptable Outcome can be and is proposed to be met.

	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.	The Acceptable Outcome can be and is proposed to be met.
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	Not applicable to this development

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 <i>Fire hydrant installations</i>; b. QFES: <i>Fire Hydrant and vehicle access guidelines for residential, commercial and industrial lots</i>.	
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.	Not applicable to this development.
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.	The Acceptable Outcome can be and is proposed to be met.
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.	Not applicable to this development
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.	The Performance Outcome can be and is proposed to be met.

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.	The Performance Outcome can be and is proposed to be met.
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.	The Performance Outcome can be and is proposed to be met.
Movement network		
PO11	AO11	The Acceptable Outcome can be and is proposed to be met.

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.	Not applicable to this development
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.	Not applicable to this development

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.		
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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 Report

PROPERTY FLOOD REPORT



Property Details

Address: 3-5 Panorama Outlook SLACKS CREEK QLD 4127

Lot/Plan: Lot 15 RP 112853

Size/Area: 9,020 m²

Property Key: 190452

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	High flood island Low flood islands may be isolated and then inundated as floodwater rises and high flood islands may be surrounded by floodwater and lose access to safe evacuation routes, services and supplies. Please refer to the Isolated Islands map in the Planning Scheme Maps section of the Property Flood Report.
River flooding	20% chance of a flood this size or larger happening in any given year
Creek flooding	20% chance of a flood this size or larger happening in any given year
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.

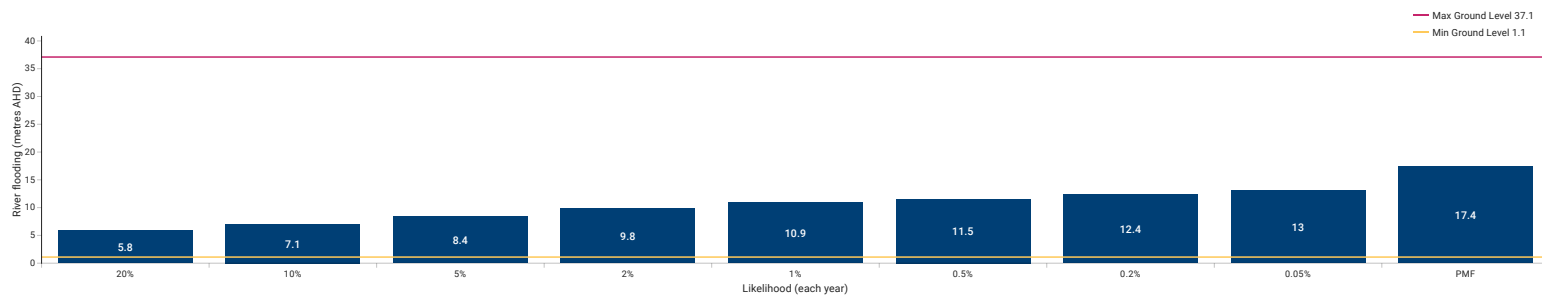
The most likely flood scenarios is shown at the top of the table, with the Probable Maximum Flood (PMF) at the bottom, being the least likely but most serious flood scenario.

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	5.8 metres AHD
10% chance	7.1 metres AHD
5% chance	8.4 metres AHD
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



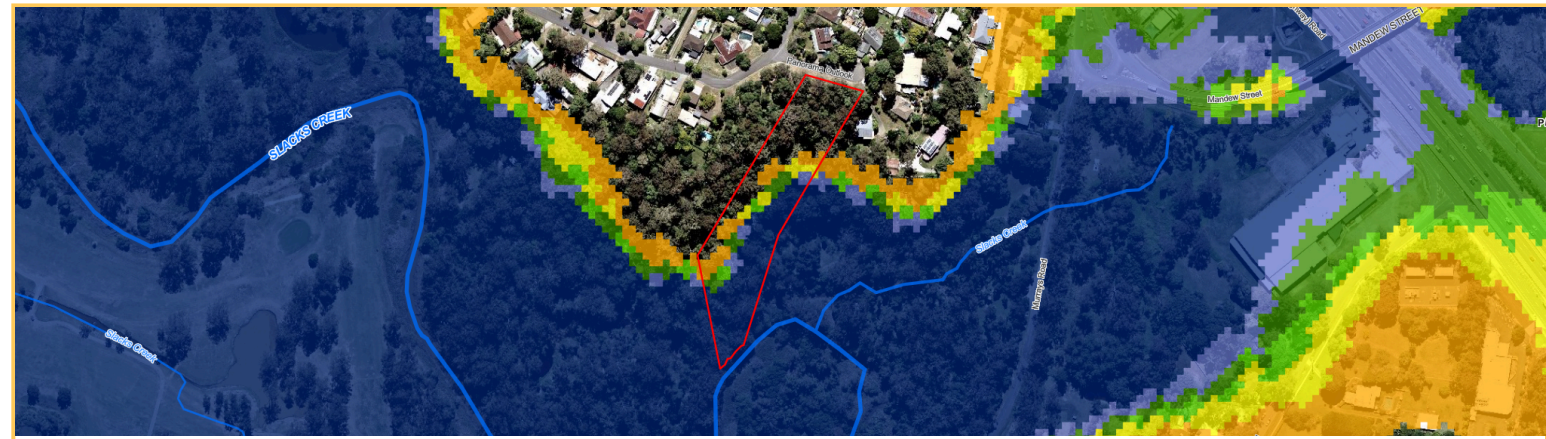
Study: Slacks and Scrubby Creek Flood Study 2023

Likelihood (each year)	Creek flooding
20% chance	4.9 metres AHD
10% chance	5.5 metres AHD
5% chance	5.9 metres AHD
2% chance	6.5 metres AHD
1% chance	7.0 metres AHD
0.5% chance	7.2 metres AHD
0.2% chance	7.7 metres AHD
0.05% chance	7.9 metres AHD
PMF	10.9 metres AHD

Flood and Ground Levels in metres AHD

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.

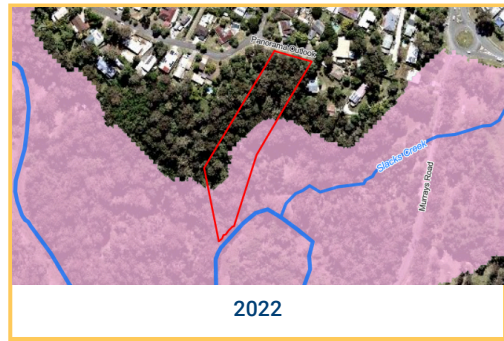
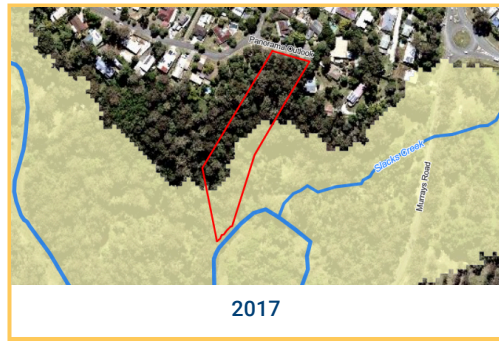
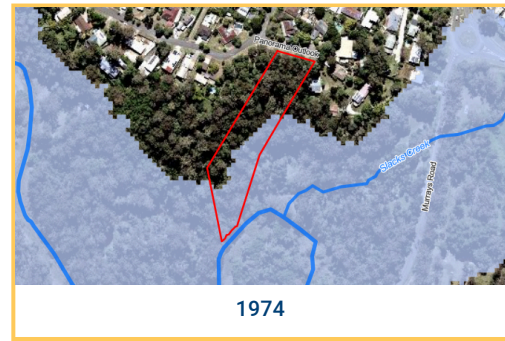
Investigation area

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.

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



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@bpeg.qld.gov.au Web: Home - Board of Professional Engineers Queensland (bpeg.qld.gov.au)