Our reference: OPW/2023/311

Decision notice—approval (with conditions)
(Given under section 63(2) of the *Planning Act 2016*)

Date of decision notice: 29 August 2023

Applicant details

Applicant name:	Hb QLD Pty Ltd
Applicant contact details:	C/- Mortons-Urban Solutions PO BOX 2484 SOUTHPORT QLD 4215

Application details

Application number:	OPW/2023/311
Approval sought:	Operational Works
Details of proposed development:	Development Permit for Operational Works for Change to Ground Level and Works for Infrastructure.

Location details

Street address:	79 Courtney Drive, Upper Coomera Qld 4209
Real property description:	Lot 188 RP173728, Lot 189 RP173728, Lot 190 RP173728, Lot 191 RP173728, Lot 192 RP173728

Decision

Date of decision	25 August 2023.
Decision details:	Under Delegated Authority, the Supervisor Operational Works has resolved to approve the development application in full with conditions.

Referral agency(s) for the application

Not applicable – no part of the application required referral.

Details of the approval

Development approval	Operational Works (51 civil lots) for Change to Ground Level (earthworks and retaining walls) and Works for Infrastructure (roadworks, footpath, stormwater drainage and sewer & water reticulation). Associated with COM/2019/82 for a 5 into 208 lot subdivision.

Conditions

The conditions that have been imposed by Council, as Assessment manager, are enclosed.

Properly made submissions

Not applicable—No part of the application required public notification.

Currency period for the approval (section 85 of the *Planning Act 2016*)

In accordance with section 85 of the *Planning Act 2016,* this approval has a currency period of two years.

Approved plans and drawings

Approved plans and drawings are attached and are identified in the conditions imposed by Council as the Assessment manager.

Appeal rights

Applicant	You have appeal rights in relation to this decision. An appeal may be made against, as applicable: • the refusal of part of the development application; or • a provision of the development approval; or • if a development permit was applied for, the decision to give a preliminary approval. An appeal must be started within 20 business days after this notice is given to you. An appeal may be made to the Planning and Environment Court or, for certain matters which are identified in section 1(2) of Schedule 1 of the *Planning Act 2016*, to a development tribunal. An appeal is started by lodging a notice of appeal with the registrar of the Planning and Environment Court or a development tribunal, as applicable. The notice of appeal must be in the approved form, succinctly state the grounds of the appeal and be accompanied by the required fee. An appellant to the Planning and Environment Court must give a copy of the notice of appeal, within 10 business days after the appeal is started, to the persons identified in section 230(3) of the *Planning Act 2016.* A person who is appealing to the Planning and Environment Court must comply with the rules of the court that apply to the appeal. An extract of Chapter 6, Part 1 and Schedule 1 of the *Planning Act 2016* is attached to this notice, which sets out further information about the appeal rights.

For further information please contact Nathan Seiler, Senior Engineer on p: 07 5582 8866 or via email mail@goldcoast.qld.gov.au who will be pleased to assist.

AUTHORISED BY

Antony Kocsmar
Supervisor Operational Works
For the Chief Executive Officer
Council of the City of Gold Coast

Enc:
Conditions imposed by Council as Assessment manager
Attach:
Stamped approved plans and drawings
Appeal rights extracts

Conditions imposed by Council as Assessment manager

General

1 Timing

a All conditions of this development approval must be complied with at no cost to Council at all times unless otherwise stated in another condition.

2 Approved drawings

Undertake and maintain the development generally in accordance with the following drawings including as amended in red by the Council:

Operational Works

Drawing Title	Author	Date	Drawing No.	Ver
COVER SHEET	MORTONS URBAN SOLUTIONS	N/A	41901-01-000	C
SAFETY IN DESIGN	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-003	A
RISK MATRIX & NOTES	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-004	A
ROAD HIERARCHY, STAGING PLAN & GENERAL NOTES	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-005	C
EXISTING FEATURES & DEMOLITION PLAN	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-020	B
BULK EARTHWORKS CUT TO FILL PLAN SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-040	A
BULK EARTHWORKS CUT TO FILL PLAN SHEET 02	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-041	A
BULK EARTHWORKS CUT TO FILL PLAN SHEET 03	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-042	A
BULK EARTHWORKS CUT TO FILL PLAN SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-043	B
GEOTECHNICAL REQUIREMENTS PLAN	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-045	B
BULK EARTHWORKS SECTION KEY PLAN	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-050	A
BULK EARTHWORKS SECTIONS-SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-051	A
BULK EARTHWORKS SECTIONS-SHEET 02	MORTONS URBAN	03-03-2023	41901-01-052	A

	SOLUTIONS			
BULK EARTHWORKS SECTIONS-SHEET 03	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-053	A
BULK EARTHWORKS SECTIONS-SHEET 04	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-054	A
BULK EARTHWORKS SECTIONS-SHEET 05	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-055	A
RETAINING WALL AND DETAIL GRADING PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-060	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-061	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-062	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-063	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 05	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-064	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 06	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-065	B
RETAINING WALL DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-070	B
RETAINING WALL DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	01-08-2023	41901-01-070A	A
FINAL TRIM DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-071	A
PADMOUNT SECTIONS PADMOUNT 1 SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-075	A
PADMOUNT SECTIONS PADMOUNT 5 SHEET 01	MORTONS URBAN SOLUTIONS	01-08-2023	41901-01-076	A
FINAL SURFACE AND SEDIMENT AND EROSION PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-080	B
FINAL SURFACE AND SEDIMENT AND EROSION PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-081	B
COMBINED SERVICES PLAN SHEET 01	MORTONS URBAN	14-07-2023	41901-01-090	C

	SOLUTIONS			
COMBINED SERVICES PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-091	C
ROADWORKS PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-100	C
ROADWORKS PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-101	B
ROADWORKS DETAILS	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-120	B
LONGITUDINAL SECTIONS ROAD 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-200	B
LONGITUDINAL SECTIONS ROAD 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-201	B
LONGITUDINAL SECTIONS ROADS 03 & 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-202	B
LONGITUDINAL SECTIONS ROADS 06 & 09	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-203	B
CROSS SECTIONS ROAD 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-300	A
CROSS SECTIONS ROAD 01 CONTINUED	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-301	A
CROSS SECTIONS ROAD 01 CONTINUED AND ROAD 03	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-302	A
CROSS SECTIONS ROAD 04	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-303	A
CROSS SECTIONS ROAD 06	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-304	A
CROSS SECTIONS ROAD 09	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-305	B
INTERSECTION GRADING DETAILS	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-400	B
CONCRETE JOINTING PLAN AND DETAILS	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-410	B
LINEMARKING & SIGNAGE PLAN SHEET 01	MORTONS URBAN	03-03-2023	41901-01-420	B

	SOLUTIONS			
LINEMARKING & SIGNAGE PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-421	B
SEWER RETICULATION PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-500	B
SEWER RETICULATION PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-501	B
SEWER RETICULATION DETAILS	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-510	A
SEWER RETICULATION PROFILES SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-530	B
SEWER RETICULATION PROFILES SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-531	B
SEWER RETICULATION PROFILES SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-532	B
SEWER RETICULATION PROFILES SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-533	B
SEWER RETICULATION HOUSE CONNECTION PROFILES SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-550	B
SEWER RETICULATION HOUSE CONNECTION PROFILES SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-551	B
STORMWATER DRAINAGE PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-600	C
STORMWATER DRAINAGE PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-601	C
STORMWATER PROFILES SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-620	B
STORMWATER PROFILES SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-621	B
STORMWATER PROFILES SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-622	B
STORMWATER PROFILES SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-623	B
STORMWATER OUTLETS AND TYPICAL DETAILS SHEET 01	MORTONS URBAN	14-07-2023	41901-01-640	B

	SOLUTIONS			
STORMWATER PIT DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-650	B
STORMWATER PIT DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-651	B
STORMWATER PIT DETAILS SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-652	B
STORMWATER BASIN PLAN AND DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-660	C
STORMWATER BASIN PLAN AND DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-661	C
STORMWATER BASIN SECTIONS	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-662	A
STORMWATER BASIN DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-663	C
STORMWATER BASIN DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-664	A
STORMWATER CATCHMENT PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-670	B
STORMWATER CATCHMENT PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-671	B
STORMWATER CALCULATION TABLES MINOR STORM EVENT	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-680	B
STORMWATER CALCULATION TABLES MAJOR STORM EVENT	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-681	B
WATER RETICULATION PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-700	B
WATER RETICULATION PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-701	B
WATER RETICULATION DETAILS	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-710	A

The conditions of this approval are to be read in conjunction with the attached stamped approved drawings. Where a conflict occurs between the conditions of this approval and the stamped approved drawings, the conditions of this approval shall take precedence.

3 **Approved Plans**

Undertake and maintain the development generally in accordance with the following plans including as amended in red by the Council:

	Geotechnical Engineering

Plan Title	Author	Date	Plan Reference No.	Ver
Geotechnical Report, Broadscale Geotechnical Investigation and Landslide Risk Assessment for Proposed Residential Subdivision, End of Courtney Drive, Upper Coomera	Pacific Geotech	10 January 2023	PG-4116A, 2022-12-13, GR VER 1	1

4 When the approval lapses if works is not completed

This approval will lapse if the works is not completed by 25 August 2026, in accordance with section 88 of the Planning Act 2016.

Environmental and Landscaping

5 Tree pruning and work

a Topping, lopping, spur or spike climbing of any tree must not occur.

b Pruning may only occur in a manner consistent with the *Australian Standard AS4373 -2007 – Pruning of Amenity Trees.*

c Undertake all other work on the trunk, foliage or root systems of the trees marked on the drawings listed below in a manner consistent with *Australian Standard AS4373 - 2007 - Pruning of Amenity Trees.*

6 Root pruning and barriers

a Ensure root pruning utilises a high pressure, needle point water jet prior to insertion of proprietary root barriers.

b Ensure root barriers are installed to a minimum depth of 900mm along the side closest to the structure specified in the approved scope of works condition to prohibit or deter growth of roots towards the structure.

7 No damage to retained vegetation

Ensure all other existing vegetation is retained and not disturbed or damaged during implementation of the approved works.

8 Vegetation clearing

Obtain an operational works approval for vegetation clearing in accordance with the Vegetation management code of the City Plan, prior to a request is made to Council to approve the plan of subdivision/commencement of the use/commencement of any works at no cost to Council:

and include in particular:

i The approved ROL drawing.

ii The approved building layout.

iii The approved bushfire management plan.

iv A fauna management plan.

v A vegetation management plan.

vi A sediment and erosion control and construction management plan.

vii A letter from an Department of Environment and Science (DES) approved spotter catcher and any necessary fauna management plan or a DES endorsed fauna translocation management plan.

Engineering

9 Rectification of Council's infrastructure

	a Rectify any damage caused to Council infrastructure (including roads, kerb & channelling, service pits, footpaths and water and sewer reticulation networks) prior to an 'on maintenance' inspection, at no cost to Council. b Maintain the rectified Council infrastructure at no cost to Council until the asset is accepted "off maintenance" by the City in accordance with the procedures in City Planning Policy SC6.11 – Land development guidelines, sections 7 Procedures, 8.5 As-constructed requirements, 9 Specifications and 10 Standard drawings.
10	**Footpaths** a Construct and maintain the footpath identified in the approved drawings condition at no cost to Council until the asset is accepted "off maintenance" by the City in accordance with the procedures in City Planning Policy SC6.11 – Land development guidelines, sections 2 Transport network standards, 7 Procedures, 8.5 As-constructed requirements, 9 Specifications and 10 Standard drawings. b Ensure that there is a minimum 300mm circumferential separation between any footpath and the outer edge of existing/new power poles. Fill the space with compacted cold-mix asphalt to a minimum depth of 50mm.
11	**Roadworks** Construct and maintain the roadworks identified in the approved drawings condition at no cost to Council until the asset is accepted "off maintenance" by the City in accordance with the procedures in City Planning Policy SC6.11 – Land development guidelines, sections 2 Transport network standards, 7 Procedures, 8.5 As-constructed requirements, 9 Specifications & 10 Standard drawings.
12	**Earthworks and private retaining walls** a Construct the earthworks and private retaining walls identified in the approved drawings condition at no cost to Council in accordance with the standards and procedures in City Planning Policy SC6.11 – Land development guidelines, sections 3 Change to Ground level standards, 7 Procedures, 8.5 As-constructed requirements and 9 Specifications and 10 Standard drawings. b Maintain the earthworks and private retaining walls (inclusive of any associated drainage) identified above at no cost to Council at all times.
Stormwater Drainage	
13	**Overland flow paths and hydraulic alterations** a Leave unaltered the overland flow paths on the site, such that the characteristics of existing overland flows on other properties remain uninhibited and unchanged. b The development must not: i Increase peak flow rates downstream from the site ii Increase flood levels external to the site iii Increase duration of inundation external to the site that could cause loss or damage
14	**Stormwater drainage / Legal point of discharge** Construct and maintain the stormwater drainage system identified in the approved drawings condition at no cost to Council until the asset is accepted "off maintenance" by the City in accordance with the procedures in City Planning Policy SC6.11 – Land development guidelines, sections 4 Stormwater drainage and water sensitive urban design standards, 7 Procedures, 8.5 As-constructed requirements, 9 Specifications and 10 Standard drawings.
Sewer and Water Works	
15	**Sewer reticulation**

	Construct and maintain the sewer reticulation system identified in the approved drawings condition at no cost to Council until the asset is accepted "off maintenance" by the City in accordance with the procedures in City Plan Policy SC6.11 – Land development guidelines, and include in particular: i The sizing of the sewer reticulation system must be in accordance with the WSAA Sewerage Code of Australia – SEQ Service Providers Edition ii Remove / seal / cap redundant sewer property services. *Note:* *An "Application Work on the City's infrastructure" form is required for the above works.* *The development's sewerage connection must be completed and approved by Council prior to an application for a Pre-start meeting for the approved water connection.*
16	**Water reticulation** Construct and maintain the water reticulation system identified in the approved drawings condition at no cost to Council until the asset is accepted "off maintenance" by the City in accordance with the procedures in City Plan Policy SC6.11 – Land development guidelines, and include in particular: i Conduits are required to be installed to service the proposed development via trenchless technology (open cutting of the road is not permitted) to connect to Council's potable water supply network. ii Remove redundant water meters / connections. A connection application is required for these works. iii Water meters must be in accordance with the Metering Technical Specifications and the Water and Sewerage Connections Policy. iv The maintenance period for these works is twelve (12) months. The maintenance bond requirements to be followed as per the Land Development Guidelines. *Note:* *An "Application Work on the City's infrastructure" form is required for the above works.* *The development's sewerage connection must be completed and approved by Council prior to connection approval for the approved water connection.*
Construction Management	
17	**Certification of works** Provide Council with certificates prepared by qualified experts from the disciplines listed below, confirming as follows:

Operational Works				
Certified document	Certification date	Plan/ Drawing	Expert discipline	Requesting Council Section
Appendix A Certification from the Land Development Guidelines	Upon practical completion of works.	N/A	Registered Professional Engineer Queensland (RPEQ)	Contributed Assets
The certification is to confirm: • All works have been undertaken generally in accordance with the approval.				

Operational Works

Certified document	Certification date	Plan/ Drawing	Expert discipline	Requesting Council Section
Design and inspection intent certificate for retaining walls	Upon practical completion of works.	N/A	Registered Professional Engineer Queensland (RPEQ)	Contributed Assets

The certification is to confirm:

- The retaining walls have been designed in accordance with relevant standards (i.e AS4678).
- Retaining walls have been adequately completed with inspections completed at the following stages:
    - Footing (including excavation and reinforcement);
    - Drainage behind the wall (including geo-fabric, backfill and perforated pipe) and completion (including point of stormwater discharge)

Geotechnical Engineering

Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Retaining structures design	Prior to commencement of any works	-	Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering

The certification is to confirm:

i All retaining structures on site / within the stage are designed based on existing geotechnical conditions of the site taking into account all predicted surcharge loading.

ii All designed retaining structures on site / within the stage achieve adequate stability with a long term factor of safety greater than or equal to 1.5 against geotechnical failure.

Geotechnical Engineering

Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Retaining structures construction	Prior to a request is made to Council to approve the plan of subdivision		Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering

The certification is to confirm:

All constructed retaining structures on site / within the stage achieved adequate stability

with a long term factor of safety greater than or equal to 1.5 against geotechnical failure.

Geotechnical Engineering				
Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Batters design	Prior to commencement of any works	-	Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering
The certification is to confirm: All cut / fill batters associated with the proposed development have been designed to achieve a long term factor of safety greater than or equal to 1.5 against failure.				

Geotechnical Engineering				
Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Batters construction	Prior to a request is made to Council to approve the plan of subdivision		Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering
The certification is to confirm: All constructed cut / fill batters associated with the proposed development have achieved a long term factor of safety greater than or equal to 1.5 against failure.				

Geotechnical Engineering				
Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Post-construction certification	Prior to a request is made to Council to approve the plan of subdivision	-	Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering
The certification is to confirm: All landslide risk mitigation measures recommended in the geotechnical report titled: *"Geotechnical Report, Broadscale Geotechnical Investigation and Landslide Risk Assessment for Proposed Residential Subdivision, End of Courtney Drive, Upper Coomera", prepared by Pacific Geotech, Ref: PG-4116A, 2022-12-13, GR VER 1, dated 10*				

January 2023, have been complied with and implemented on site / within the stage.

Geotechnical Engineering				
Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Landslide risk rating	Prior to a request is made to Council to approve the plan of subdivision	-	Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering
The certification is to confirm: Each lot on site / within the stage achieves a landslide risk rating of 'low' or better and each lot is suitable for its intended purpose.				

Geotechnical Engineering				
Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Post construction earthworks certification	Prior to a request is made to Council to approve the plan of subdivision	-	Registered Professional Engineer of Queensland (RPEQ) specialising in geotechnical engineering	Geotechnical Engineering
The certification is to confirm: i All earthworks are carried out in accordance with AS3798-2007: Guidelines on earthworks for commercial and residential developments. ii Inspection and testing of all earthworks are carried out to Level 1 and the frequency of field density testing is in accordance with Table 8.1 of AS3798-2007. iii Fill materials are placed in layers, watered if required and compacted to achieve the specified density ratio as specified in Table 5.1 – Minimum Relative Compaction of AS3798-2007.				

Water and Waste				
Certified document	**Certification date**	**Plan/ Drawing**	**Expert discipline**	**Requesting Council Section**
Requirements of Council Water and Sewerage acceptance	Prior to a request to accept on maintenance		Registered Professional Engineer of Queensland	Water and Waste

testing guideline			(RPEQ)		

The certification is to confirm:

i. Constructed works comply with necessary standards and confirm level and location details.

ii. Installed components meet specifications and standards for materials and design and installation specifications and acceptance testing requirements.

18 Supervision of works

During construction of any works the following professionals must be appointed to supervise the below described actions:

All works approved by this permit	
Expertise required of the suitably qualified professional	**Actions to be overseen by the professional**
Registered Professional Engineer of Queensland (RPEQ)	All supply, installation, construction, testing and commissioning of works
Operational works	
Expertise required of the suitably qualified professional	**Actions to be overseen by the professional**
Registered Professional Engineer of Queensland (RPEQ)	Bulk earthworks inspected to level 1 in accordance with AS3798-2007

19 Availability of approved plans, drawings and reports

Retain a copy of this decision notice and stamped approved plans, drawings and reports on site at all times during construction. Any contractors undertaking approved work (including tree removal or relocations) must be directly provided with a copy of these conditions and instructed as to the need to comply with them.

20 Transport of soil/fill/excavated material

During the transportation of soil and other fill/excavated material:

a All trucks hauling soil, or fill/excavated material must have their loads secure and covered.

b Any spillage that falls from the trucks or their wheels must be collected and removed from the site and streets along which the trucks travel on a daily basis.

c Prior to vehicles exiting the site, measures must be taken to remove the soil from the wheels of the vehicles to prevent soil and mud being deposited on public roads.

21 Earthworks as-constructed data

Prepare and submit for approval as-constructed data for the constructed earthworks generally in accordance with City Plan Policy SC6.11 – Land development guidelines, section 8.5 prior to acceptance of On maintenance.

22 Erosion and sediment control

a. Implement the erosion, sediment and dust control measures identified in the approved drawings at no cost to Council.

b. Undertake works generally in accordance with the operational works approval and include in particular:

i. Sediment controls must be maintained and amended as necessary to ensure that

	the measures implemented conform to the Construction Phase stormwater management design objectives of the State Planning Policy 2017 (Appendix 2 Table A). ii. Erosion, sediment and dust control measures must be implemented in accordance with the approved plan / drawings and the Best Practice Erosion & Sediment Control (IECA Australasia, November 2008). iii. Sediment control structures (e.g. sediment fence) must be placed at the base of all materials imported on-site to mitigate any sediment runoff. iv. A perimeter bund and/or diversion drain must be constructed around the disturbed area to prevent any outside clean stormwater from mixing with polluted / contaminated stormwater. v. All polluted / contaminated water from the site, including dewatering discharge, must be treated to achieve the water quality objectives in Table 8.2.1 of the Queensland Water Quality Guidelines (DERM, September 2009) prior to discharging from the site. c Inspections for erosion and sediment control measures are to occur in accordance with the compliance procedures in City Planning Policy SC6.11 – Land development guidelines, Section 4.5.17.1.2 – Compliance.
23	**Pre-start inspection** Arrange a pre-start inspection prior to the commencement of works to complete the requirements identified in SC.6.11 City Plan Policy – Land development guidelines for the following: **Purpose** / **Council contact** Review and discuss this Operational works – infrastructure approval. / Contributed Assets (07) 5582 9034 Prior to requesting a Pre-start meeting, provide "for construction issue design drawings", including amendments, following potholing undertaken as part of the preliminary site works. All design changes must be included in the drawing set. *Note:* *Changes made to the drawings may necessitate the submission of a Minor or Other Change development application, in accordance with the Planning Act 2016.* / GCWDA@goldcoast.qld.gov.au Copies of applicable material including this decision notice and stamped approved plans, drawings and reports are to be available for the meeting and kept on site during construction.
24	**Hold point inspection** Arrange a hold point inspection to complete the requirements identified in SC.6.11 City Plan Policy – Land development guidelines/Landscape work code of the City Plan for the following: **Purpose** / **Hold Point** / **Council contact** Confirm works have been undertaken in accordance with the operational works approval and associated hold point requirements identified in SC6.11 City Plan Policy – Land development guidelines / As indicated in SC6.11 City Plan Policy – Land development guidelines / Contributed Assets (07) 5582 9034 Copies of applicable material including this decision notice and stamped approved plans, drawings and reports are to be available for the meeting and kept on site during construction.
25	**On maintenance**

Arrange an on maintenance meeting to complete the requirements identified in SC.6.11 City Plan Policy – Land development guidelines for the following:

Purpose	Hold Point	Council contact
Confirm completion of works have been undertaken in accordance with this approval	Prior to commencement of the on maintenance period	Contributed Assets 07 5582 9034

Copies of applicable material including this decision notice and stamped approved plans, drawings and reports are to be available for the meeting and kept on site during construction.

26 **Off maintenance**

Arrange an off maintenance meeting to complete the requirements identified in SC.6.11 City Plan Policy – Land development guidelines for the following:

Purpose	Hold Point	Council contact
Confirmation works have been undertaken in accordance with the Operational works, Works for infrastructure approval	Prior to Asset handover / conclusion of on maintenance period	Contributed Assets (07) 5582 9034

Copies of applicable material including this decision notice and stamped approved plans, drawings and reports are to be available for the meeting and kept on site during construction.

Advice Notes

A **Council water and sewer mains to be protected during site works**

The developer is responsible at all times for ensuring that Council's water and sewerage infrastructure is protected during construction activities on site. This may require physical protection measures to be put in place during works such as deliveries, moving heavy equipment into and out of the site, or when doing works in close proximity to water and sewer assets.

Where Council water and sewer infrastructure is damaged during construction, Council will undertake immediate repairs and any costs associated with these repairs will be charged to the landowner, principal contractor or other relevant party. If further, more permanent repairs are required, such as replacement of water and sewer mains, the landowner, principal contractor or other relevant party will first be given an opportunity to complete these works (other approvals may be required), or Council will undertake these works and pass the costs on to the landowner, principal contractor or other relevant party.

B **Connections and disconnections**

Any connection / disconnection to the existing water and sewerage networks will be at the applicant's cost. Prior to the connection / disconnection taking place, the applicant must obtain written approval from Water and Waste.

Refer to Water and Sewerage Connections Policy, available on Council's website http://www.cityofgoldcoast.com.au

C **No open trenching of the road pavement for water connections across / in roadways**

Conduits must be installed to service the proposed development via trenchless technology the road (open cutting of the road is not permitted) to connect to Council's potable water supply network. In certain circumstances approval of open trenching of the road may be allowed, subject to Council approval.

Refer to Water and Sewerage Connections Policy, available on Council's website http://www.cityofgoldcoast.com.au

D	**Further development permits / compliance permits** Further development permits and/or compliance permits from Council are required to facilitate the development of the approved works identified in this decision notice. These include: **Water and Waste** Connections / disconnections: Application to work on the City's Infrastructure Application for Temporary Road / Footpath Closure – CoGC City Assets **Environmental Assessment** - Operational works - vegetation clearing A copy of this decision notice and accompanying stamped drawings / plans must be submitted with any subsequent application identified above.
E	**Listing of Koala under EPBC Act** Koala populations in South East Queensland are listed under the Environment Protection and Biodiversity Conservation Act 1999 (*EPBC Act*) as a matter of national significance. All necessary approvals must be obtained prior to any works commencing on the site.
F	**Riverine Protection Permit** A Riverine Protection Permit under the Water Act 2000 may be required prior to any works commencing in the watercourse traversing / adjoining the site.
G	**Species Management Program** Where an animal breeding place has been identified and activities will tamper with the breeding place in order to complete the scope of works, a Species Management Program (SMP) is required. Further advice is found on: https://environment.des.qld.gov.au/licences-permits/plants-animals/species-management-program/
H	**Connections to, alteration or realignment of Council infrastructure** Where development works require the connection to, alteration, removal or realignment of Council infrastructure or impact on other public utility infrastructure (e.g. telecommunications, electricity and gas), the applicant must obtain the necessary approvals from the relevant public utility authority prior to works commencing. Connection to, alteration, removal or realignment of Council infrastructure includes (but is not limited to) fire hydrants, water service meters, sewer maintenance hole covers, stormwater drainage infrastructure, reinstatement of maintenance hole covers, stormwater drainage infrastructure, crossovers, footpaths, road pavement, kerb and channel, kerb ramps, medians, traffic islands, road furniture, signage and line-marking.
I	**Design, Constructability and Minor change applications** The application has been approved based on the information provided by the consultant. Water and Waste are not liable for any design or constructability issues experienced on-site. All necessary steps must be taken prior to construction to validate the information in the designs, including locating services. Should any changes be required to the design to ensure it can be constructed in compliance with relevant engineering standards; a Minor Change application (Section 78 of the *Planning Act 2016*) must be submitted and approved by Council prior to lodging a request for a Pre-Start meeting.
J	**Consistency with other related approvals** The assessment and approval of the operational work the subject of this permit, has been

	attended to having regard to the conditions of COM/2019/82 dated 20 June 2023. Should any change to any of these approvals be sought and achieved, consideration by the applicant should also be had to the consequences on the related approvals (and the potential need to make subsequent changes to these related approvals).
K	**Compliance with conditions** Once this development approval takes effect, the conditions attach to the land and are applicable in perpetuity. It is a development offence to contravene a development approval, including any of its conditions.
L	**Development infrastructure** Development infrastructure required to be provided in implementing this development approval is non-trunk development infrastructure unless otherwise stated in a condition of the approval.
M	**Indigenous cultural heritage legislation and duty of care requirement** The *Aboriginal Cultural Heritage Act 2003* ('**ACHA**') is administered by the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA). The ACHA establishes a duty of care to take all reasonable and practicable measures to ensure any activity does not harm Aboriginal cultural heritage. This duty of care: a Is not negated by the issuing of this development approval; b Applies on all land and water, including freehold land; c Lies with the person or entity conducting an activity; and d If breached, is subject to criminal offence penalties. Those proposing an activity involving surface disturbance beyond that which has already occurred at the proposed site must observe this duty of care. Details of how to fulfil this duty of care are outlined in the duty of care guidelines gazetted with the ACHA. The applicant should contact DATSIMA's Cultural Heritage Coordination Unit on 07 3405 3050 for further information on the responsibilities of developers under the ACHA.
N	**Encroachment of works** If any operational works, the subject of this approval encroaches on adjoining land, a letter from the adjoining owner must be submitted to Council consenting to the carrying out of these works.
O	**Applicant responsibilities** The applicant is responsible for securing all necessary approvals and tenure, providing statutory notifications and complying with all relevant laws. Nothing in this decision notice alleviates the need for the applicant to comply with all relevant local, State and Commonwealth laws and to ensure appropriate tenure arrangements have been made where the use of/reliance upon land other than that owned by the applicant is involved. Without liming this obligation, the applicant is responsible for: a Obtaining all other/further necessary approvals, licences, permits, resource entitlements etc. by whatever name called required by law before the development the subject of this approval can be lawfully commended and to carry out the activity for its duration; b Providing any notifications required by law (by way of example only, to notify the administering authority pursuant to the *Environment Protection Act 1994* of environmental harm being caused/threatened by the activity, and upon becoming aware the premises is being used for a 'notifiable activity'); c Securing tenure/permission from the relevant owner to use private or public land not owned by the applicant (including for access required by conditions of approval); d Ensuring the correct siting of structures on the land. An identification survey demonstrating correct siting and setbacks of structures may be requested of the applicant to ensure compliance with this decision notice and applicable codes; e Providing Council with proof of payment of the Portable Long Service Leave building construction levy (or proof of appropriate exemption) where the value of the Operational

	Works exceed $150,000. Acceptable proof of payment is a Q.Leave –Notification and Payment Form approved by the Authority. Proof of payment must be provided before Council can issue a development permit for the Operational works. This is a requirement of section 77(1) of the Building and Construction Industry (Portable Long Service Leave) Act 1991; and f Making payment of any outstanding Council rates and charges applicable to the development site prior to the lodgement of subdivision plans. g Obtaining any necessary local government/state approvals where works require the installation of temporary ground anchoring into adjacent Road Reserves. Where ground anchoring is proposed into an adjacent private property, approval from the relevant property owners(s) is required
P	**Water usage** The use of potable water is not permitted in activities associated with road and pavement construction, the compaction of fill material or dust suppression. The use of recycled water is encouraged, especially where other alternative sources do not exist. Where recycled water is proposed to be used, contact the Water & Waste Recycled Water Management Team. More information is available for viewing on Council's website http://www.goldcoast.qld.gov.au/environment/recycled-water-for-industry-7900.html
Q	**Fire ant control** Northern suburbs of the Gold Coast are within Fire Ant Biosecurity zone 2 and must remain vigilant for the presence of fire ants. Under the Biosecurity Act 2014 individuals and organisations whose activities involve the movement or storage of fire ant carriers have a general biosecurity obligation to take all reasonable steps to ensure they do not spread fire ants. Movement of a fire ant carrier from within the fire ant biosecurity zone may need a biosecurity instrument permit. More information is available on the Department of Agriculture and Fisheries website www.daf.qld.gov.au/plants/weeds-pest-animals-ants/invasive-ants/fire-ants.

Our reference: MIN/2024/32
Your reference:

Decision notice— change application approval for OPW/2023/311.
(Given under section 83(1) of the *Planning Act 2016*)

The Council of the City of Gold Coast received your change application made under section 78 of the *Planning Act 2016* on 29 January 2024 for the development approval dated 8 September 2023.

Date of decision notice: 8 February 2024

Applicant details

Applicant name:	Hb QLD Pty Ltd
Applicant contact details:	C/- Mortons-Urban Solutions PO BOX 2484 SOUTHPORT QLD 4215

Application details

Application number:	MIN/2024/32
Approval sought:	Development Permit (Minor Change) for Operational Works for Change to Ground Level and Infrastructure.
Details of the change:	Changes in Design (permitting a borrow area for winning earthworks material from future stages).
Original Application number	OPW/2023/311.
Details of original decision	Under Delegated Authority, the Supervisor Operational Works has resolved to approve the development application in full with conditions.
Date of original decision	8 September 2023.

Location details

Street address:	79 Courtney Drive, Upper Coomera Qld 4209
Real property description:	Lot 188 RP173728, Lot 189 RP173728, Lot 190 RP173728, Lot 191 RP173728, Lot 192 RP173728

Decision

Date of decision:	6 February 2024.
Decision details:	Under Delegated Authority, the Supervisor Operational Works has resolved to approve the development application in full with conditions.

Affected Entity(s) for the application

Not applicable – no part of the application required referral to an affected entity.

Details of the approval

Development permit	Minor Change - Operational Works for Change to Ground Level and Works for Infrastructure.

Conditions

New and/or amended conditions of approval for a development permit for operational works are enclosed in this notice. The approved change(s) do not affect the other previously approved conditions. The development must be in accordance with amended conditions & other previously approved conditions in the decision notice dated 8 September 2023 and any subsequent related decision notices.

Properly made submissions

Not applicable—No part of the application required public notification.

Approved plans and drawings

Approved plans and drawings reflecting the approved change(s) are attached and are identified in the conditions imposed by Council.

Appeal rights

Applicant	You have appeal rights in relation to this decision. An appeal may be made against a responsible entity's decision for a change application. An appeal must be started within 20 business days after this notice is given to you. An appeal may be made to the Planning and Environment Court or, for certain matters which are identified in section 1(2) of Schedule 1 of the *Planning Act 2016*, to a development tribunal. An appeal is started by lodging a notice of appeal with the registrar of the Planning and Environment Court or a development tribunal, as applicable. The notice of appeal must be in the approved form, succinctly state the grounds of the appeal and be accompanied by the required fee. An appellant to the Planning and Environment Court must give a copy of the notice of appeal, within 10 business days after the appeal is started, to the persons identified in section 230(3) of the *Planning Act 2016*. A person who is appealing to the Planning and Environment Court must comply with the rules of the court that apply to the appeal. An extract of Chapter 6, Part 1 and Schedule 1 of the *Planning Act 2016* is attached to this notice, which sets out further information about the appeal rights.

For further information please contact Nathan Seiler, Senior Engineer, on p: 07 5582 8866 or via email mail@goldcoast.qld.gov.au who will be pleased to assist.

AUTHORISED BY

Antony Kocsmar
Supervisor Operational Works
For the Chief Executive Officer
Council of the City of Gold Coast
enc:
Conditions imposed by Council as Assessment manager
Attach:
Appeal rights extracts

New and/or amended conditions imposed by Council as the Responsible Entity

2 **Approved drawings**

Undertake and maintain the development generally in accordance with the following drawings including as amended in red by the Council:

Operational Works

Drawing Title	Author	Date	Drawing No.	Ver
COVER SHEET	MORTONS URBAN SOLUTIONS	N/A	41901-01-000	C
SAFETY IN DESIGN	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-003	A
RISK MATRIX & NOTES	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-004	A
ROAD HIERARCHY, STAGING PLAN & GENERAL NOTES	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-005	C
EXISTING FEATURES & DEMOLITION PLAN	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-020	B
BULK EARTHWORKS CUT TO FILL PLAN SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-040	A
BULK EARTHWORKS CUT TO FILL PLAN SHEET 02	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-041	A
BULK EARTHWORKS CUT TO FILL PLAN SHEET 03	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-042	A
BULK EARTHWORKS CUT TO FILL PLAN SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-043	B
GEOTECHNICAL REQUIREMENTS PLAN	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-045	B
BULK EARTHWORKS SECTION KEY PLAN	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-050	A
BULK EARTHWORKS SECTIONS-SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-051	A
BULK EARTHWORKS SECTIONS-SHEET 02	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-052	A
BULK EARTHWORKS SECTIONS-SHEET 03	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-053	A

BULK EARTHWORKS SECTIONS-SHEET 04	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-054	A
BULK EARTHWORKS SECTIONS-SHEET 05	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-055	A
RETAINING WALL AND DETAIL GRADING PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-060	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-061	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-062	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-063	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 05	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-064	B
RETAINING WALL AND DETAIL GRADING PLAN SHEET 06	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-065	B
RETAINING WALL DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-070	B
RETAINING WALL DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	01-08-2023	41901-01-070A	A
FINAL TRIM DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-071	A
PADMOUNT SECTIONS PADMOUNT 1 SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-075	A
PADMOUNT SECTIONS PADMOUNT 5 SHEET 01	MORTONS URBAN SOLUTIONS	01-08-2023	41901-01-076	A
FINAL SURFACE AND SEDIMENT AND EROSION PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-080	B
FINAL SURFACE AND SEDIMENT AND EROSION PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-081	B
COMBINED SERVICES PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-090	C
COMBINED SERVICES PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-091	C

ROADWORKS PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-100	C
ROADWORKS PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-101	B
ROADWORKS DETAILS	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-120	B
LONGITUDINAL SECTIONS ROAD 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-200	B
LONGITUDINAL SECTIONS ROAD 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-201	B
LONGITUDINAL SECTIONS ROADS 03 & 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-202	B
LONGITUDINAL SECTIONS ROADS 06 & 09	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-203	B
CROSS SECTIONS ROAD 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-300	A
CROSS SECTIONS ROAD 01 CONTINUED	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-301	A
CROSS SECTIONS ROAD 01 CONTINUED AND ROAD 03	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-302	A
CROSS SECTIONS ROAD 04	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-303	A
CROSS SECTIONS ROAD 06	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-304	A
CROSS SECTIONS ROAD 09	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-305	B
INTERSECTION GRADING DETAILS	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-400	B
CONCRETE JOINTING PLAN AND DETAILS	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-410	B
LINEMARKING & SIGNAGE PLAN SHEET 01	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-420	B
LINEMARKING & SIGNAGE PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-421	B

SEWER RETICULATION PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-500	B
SEWER RETICULATION PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-501	B
SEWER RETICULATION DETAILS	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-510	A
SEWER RETICULATION PROFILES SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-530	B
SEWER RETICULATION PROFILES SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-531	B
SEWER RETICULATION PROFILES SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-532	B
SEWER RETICULATION PROFILES SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-533	B
SEWER RETICULATION HOUSE CONNECTION PROFILES SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-550	B
SEWER RETICULATION HOUSE CONNECTION PROFILES SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-551	B
STORMWATER DRAINAGE PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-600	C
STORMWATER DRAINAGE PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-601	C
STORMWATER PROFILES SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-620	B
STORMWATER PROFILES SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-621	B
STORMWATER PROFILES SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-622	B
STORMWATER PROFILES SHEET 04	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-623	B
STORMWATER OUTLETS AND TYPICAL DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-640	B
STORMWATER PIT DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-650	B

STORMWATER PIT DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-651	B
STORMWATER PIT DETAILS SHEET 03	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-652	B
STORMWATER BASIN PLAN AND DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-660	C
STORMWATER BASIN PLAN AND DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-661	C
STORMWATER BASIN SECTIONS	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-662	A
STORMWATER BASIN DETAILS SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-663	C
STORMWATER BASIN DETAILS SHEET 02	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-664	A
STORMWATER CATCHMENT PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-670	B
STORMWATER CATCHMENT PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-671	B
STORMWATER CALCULATION TABLES MINOR STORM EVENT	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-680	B
STORMWATER CALCULATION TABLES MAJOR STORM EVENT	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-681	B
WATER RETICULATION PLAN SHEET 01	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-700	B
WATER RETICULATION PLAN SHEET 02	MORTONS URBAN SOLUTIONS	14-07-2023	41901-01-701	B
WATER RETICULATION DETAILS	MORTONS URBAN SOLUTIONS	03-03-2023	41901-01-710	A
BORROW AREA PLAN SHEET 01	**MORTONS URBAN SOLUTIONS**	**03-03-23**	**41901-01-800**	**A**

The conditions of this approval are to be read in conjunction with the attached stamped approved drawings. Where a conflict occurs between the conditions of this approval and the stamped approved drawings, the conditions of this approval shall take precedence.

Date: 29 August 2023
Contact: Nathan Seiler
Location: City Development
Telephone: 07 5582 8866
Our reference: OPW/2023/311

CITY OF GOLDCOAST.

Hb QLD Pty Ltd
C/- Mortons-Urban Solutions
PO BOX 2484
SOUTHPORT QLD 4215

Dear Sir/Madam

Decision Notice

Property description	Lot 188 RP173728, Lot 189 RP173728, Lot 190 RP173728, Lot 191 RP173728, Lot 192 RP173728
Property location	79 Courtney Drive, UPPER COOMERA QLD 4209
Application details	Operational Works

Please find enclosed the decision notice for the proposed development identified above.

For further information regarding the assessment of this application, access the Planning and Development page on City of Gold Coast's website cityofgoldcoast.com.au and reference application number OPW/2023/311.

If you are unable to access the website, please email your query to mail@goldcoast.qld.gov.au and reference your application number.

Contacting us

Should you wish to clarify any issues contained in this letter, please do not hesitate to contact Planning Assessment on 07 5582 8866.

Yours sincerely

City Development Branch
Planning & Environment Directorate
For the Chief Executive Officer
Council of the City of Gold Coast

COURTNEY DRIVE
UPPER COOMERA

OPERATIONAL WORKS
STAGE 01
No. 41901-01

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

SCHEDULE OF DRAWINGS

NUMBER	REV. NO.	TITLE
GENERAL		
41901-01-000	C	COVER SHEET
41901-01-003	A	SAFETY IN DESIGN
41901-01-004	A	RISK MATRIX & NOTES
41901-01-005	C	ROAD HIERARCHY STAGING PLAN & GENERAL NOTES
EARTHWORKS: EXISTING FEATURES & DEMOLITION		
41901-01-020	B	PLAN
EARTHWORKS: BULK EARTHWORKS CUT FILL		
41901-01-040	A	PLAN SHEET 01
41901-01-041	A	PLAN SHEET 02
41901-01-042	A	PLAN SHEET 03
41901-01-043	B	PLAN SHEET 04
41901-01-045	B	GEOTECHNICAL REQUIREMENTS PLAN
41901-01-050	A	EARTHWORKS SECTION KEY PLAN
41901-01-051	A	SECTIONS-SHEET 01
41901-01-052	A	SECTIONS-SHEET 02
41901-01-053	A	SECTIONS-SHEET 03
41901-01-054	A	SECTIONS-SHEET 04
41901-01-055	A	SECTIONS-SHEET 05
EARTHWORKS: RETAINING WALL & DETAIL GRADING		
41901-01-060	B	PLAN SHEET 01
41901-01-061	B	PLAN SHEET 02
41901-01-062	B	PLAN SHEET 03
41901-01-063	B	PLAN SHEET 04
41901-01-064	B	PLAN SHEET 05
41901-01-065	B	PLAN SHEET 06
41901-01-070	B	DETAILS SHEET 01
41901-01-070A	A	DETAILS SHEET 02
41901-01-071	A	FINAL TRIM DETAILS
EARTHWORKS: PADMOUNT SECTIONS		
41901-01-075	A	PADMOUNT 1
41901-01-076	A	PADMOUNT 5
EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL		
41901-01-080	B	PLAN SHEET 01
41901-01-081	B	PLAN SHEET 02
ROADS: COMBINED SERVICES		
41901-01-090	C	PLAN SHEET 01
41901-01-091	C	PLAN SHEET 02
ROADS: ROADWORKS		
41901-01-100	C	PLAN SHEET 01
41901-01-101	B	PLAN SHEET 02
41901-01-120	B	DETAILS
ROADS: LONGITUDINAL SECTIONS		
41901-01-200	B	SHEET 01
41901-01-201	B	SHEET 02
41901-01-202	B	SHEET 03
41901-01-203	B	SHEET 04
ROADS: CROSS SECTIONS		
41901-01-300	A	SHEET 01
41901-01-301	A	SHEET 02
41901-01-302	A	SHEET 03
41901-01-303	A	SHEET 04
41901-01-304	A	SHEET 05
41901-01-305	B	SHEET 06
ROADS: INTERSECTION GRADING		
41901-01-400	B	DETAILS
ROADS: JOINTING DETAILS		
41901-01-410	B	PLAN AND DETAILS
ROADS: LINEMARKING AND SIGNAGE		
41901-01-420	B	PLAN SHEET 01
41901-01-421	B	PLAN SHEET 02
SEWER: SEWER RETICULATION		
41901-01-500	B	PLAN SHEET 01
41901-01-501	B	PLAN SHEET 02
41901-01-510	A	DETAILS
SEWER: PROFILES		
41901-01-530	B	SHEET 01
41901-01-531	B	SHEET 02
41901-01-532	B	SHEET 03
41901-01-533	B	SHEET 04
SEWER: HOUSE CONNECTION PROFILES		
41901-01-550	B	SHEET 01
41901-01-551	B	SHEET 02
DRAINAGE: STORMWATER		
41901-01-600	C	PLAN SHEET 01
41901-01-601	C	PLAN SHEET 02
DRAINAGE: PROFILES		
41901-01-620	B	SHEET 01
41901-01-621	B	SHEET 02
41901-01-622	B	SHEET 03
41901-01-623	B	SHEET 04
DRAINAGE: PIT DETAILS & TYPICAL DETAILS		
41901-01-640	B	OUTLETS & TYPICAL DETAILS SHEET 01
41901-01-650	B	PIT DETAILS SHEET 01
41901-01-651	B	PIT DETAILS SHEET 02
41901-01-652	B	PIT DETAILS SHEET 03
DRAINAGE: BASINS & CULVERTS		
41901-01-660	C	PLAN SHEET 01
41901-01-661	C	PLAN SHEET 02
41901-01-662	A	SECTIONS
41901-01-663	C	DETAILS SHEET 01
41901-01-664	A	DETAILS SHEET 02
DRAINAGE: CATCHMENT		
41901-01-670	B	PLAN SHEET 01
41901-01-671	B	PLAN SHEET 02
DRAINAGE: CALCULATION TABLES		
41901-01-680	B	MINOR
41901-01-681	B	MAJOR
WATER: WATER RETICULATION		
41901-01-700	B	PLAN SHEET 01
41901-01-701	B	PLAN SHEET 02
41901-01-710	A	DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

COMPASS ASSURANCE ISO 9001 QUALITY

CLIENT

HB Land

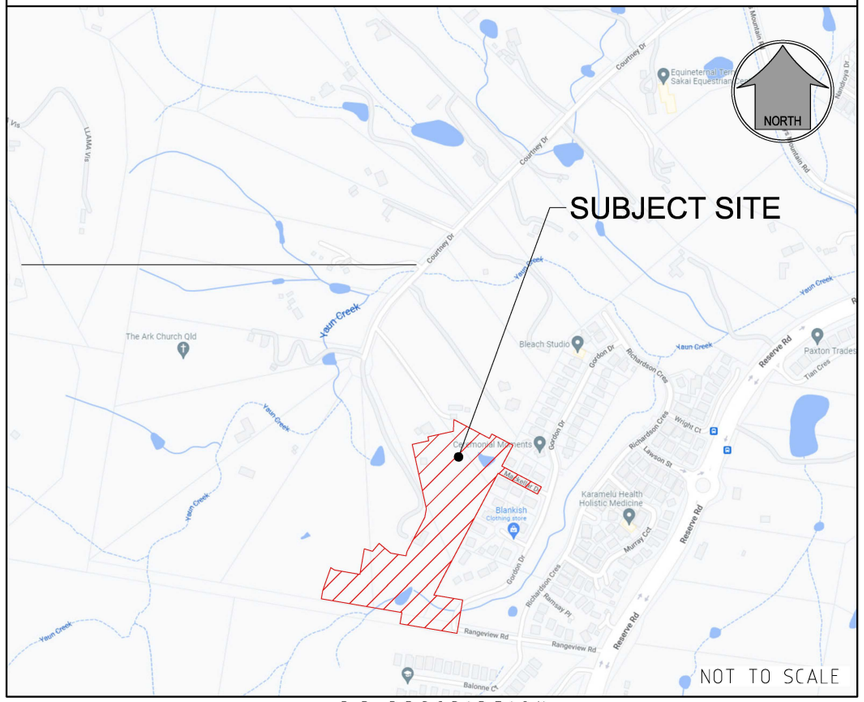
SUB-CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

LOCALITY PLAN



R. P. DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

DRAWING NUMBER	AMEND.
41901-01-000	C

F:\Autocad Client\419 - HB Land\001 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-000.dwg, COVER SHEET, 1/08/2023 7:45:33 AM, 1:2

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

DESIGN ITEM	POTENTIAL HAZARD	PHASE	THOSE AT RISK	PRE-TREATMENT RISK ASSESSMENT				TREATMENT OPTIONS	- ADOPTED TREATMENT - REASON - BY WHOM	RESIDUAL RISK ASSESSMENT				ONGOING RESPONSIBILITY
				SEVERITY	LIKELIHOOD (RISK)	Risk Product	RISK RATING			SEVERITY	LIKELIHOOD (RISK)	Risk Product	RISK RATING	
Road Design	Traffic Speed	Operational	Public	Death	Possible	15	Significant	- Design compliance with Local Council requirements, Queensland Streets and appropriate sections of Austroads. - Lot layout to consider natural slow points in road layout. - Consideration of slow points within Local street network.	Town Planners and Council to ensure original layout reduces risk (i.e. minimise long straight roads). Designer to consider inclusion of slow points in consultation with Council and prepare design in accordance with applicable standards.	Permanent Disability	Rare	4	Low	Closed
Road Design	Unclear priorities at intersections or slow points	Operational	Public	Death	Unlikely	10	High	- Design compliance with Local Council requirements, Queensland Streets and appropriate sections of Austroads. - Linemarking to be provided in accordance with MUTCD and Council's approval.	Designer to incorporate linemarking in accordance with MUTCD and Council's requirements to assist in minimising confusion at intersections and slow points.	Permanent Disability	Rare	4	Low	Closed
Traffic Management	Accidents at the interface between public and work site	Construction	Contractor & Public	Permanent Disability	Unlikely	8	Moderate	- Traffic Management Plan to be prepared by suitable qualified consultant. - TMP to consider temporary lighting, signals, barriers/separation and other traffic management measures.	Contractor to prepare site specific TMP incorporating appropriate measures to minimise risk at interface of work site and public roads.	Permanent Disability	Rare	4	Low	On Going: Contractor to monitor until end of Construction Phase
Public Access	Public wandering onto work site	Construction	Contractor & Public	Death	Unlikely	10	High	- Appropriate signage to be installed at public interface - Fencing to discourage accidental access to site	Contractor to prepare site specific Construction Management Plan to minimise risk of public access to the site.	Death	Rare	5	Moderate	On Going: Contractor to monitor until end of Construction Phase
Existing Services	Working on or near existing services - Electrocution, disrupt critical services, explosion	Construction	Contractor, Public & Asset Owner	Death	Possible	15	Significant	- Design to consider existing services and include appropriate clearances or protection measures. - Dial Before You Dig to be performed prior to design commencing. - Developer provide survey of any critical existing infrastructure prior to design. - Design drawings to show known services. - Connection point to be detailed in accordance with the relevant standard.	Contractor to physically locate and confirm service location information. Dial Before You Dig logo to be added to drawings. Connection details design and annotated on drawings in accordance with Water Authority requirements.	Death	Rare	5	Moderate	On Going: Contractor to monitor until end of Construction Phase
Retaining Walls	Failing	Construction, operational, maintenance and demolition	Contractor, Public & Asset Owner	Medical Treatment	Possible	9	High	- Minimise the height if retaining walls. - Minimise the number of locations.	Batters designed in all locations practical. Heights of wall minimised by civil designer. Safety fencing requirements included on drawings.	Medical Treatment	Unlikely	6	Moderate	On Going: Contractor to monitor until end of Construction Phase
Earthworks Surface	Working on steep Batters	Construction and maintenance	Contractor & Asset Owner	Medical Treatment	Possible	9	High	- Minimise the height of batters. - Minimise the number of locations. - Extend services up batters where possible to reduce future works on batter slopes.	Batters designed to minimum practical height in all locations practical. Services to be constructed up the batters to ensure future batter stability.	Medical Treatment	Rare	3	Low	On Going: Contractor to monitor until end of Construction Phase and Asset Owner to continue monitoring for future maintenance.
Deep excavation	Falling or collapse	Construction, Maintenance and demolition	Public, Client, Supervisors, Contractors	Permanent Disability	Possible	12	High	- Minimise depth of structure. - Bench deep trenches appropriately to minimise trench collapse risk. - Design in accordance with relevant standard. - Minimise the number of structures.	Structures designed in accordance with local authority requirements. Utilise RIGS sewer to reduce the number of access points. Graded pipelines as shallow as practical to reduce depth. Contractor to manage open excavations during construction in accordance with their Management Plans.	Permanent Disability	Rare	4	Low	On Going: Contractor to Monitor until end of Construction Phase
Stormwater and Sewer	Falling and Trench Collapse	Construction and Maintenance	Contractor & Asset Owner	Death	Unlikely	10	High	- Minimise depth of drainage lines. - Design in accordance with relevant standard.	Infrastructure designed in accordance with local authority requirements. Graded pipelines as shallow as practical to reduce depth.	Death	Rare	5	Moderate	On going: Contractor to Monitor until end of Pipe line construction completed.
Stormwater Inlets	Drowning	Operational	Public	Death	Possible	15	Significant	- Design to minimise stormwater inlets within public areas. - Install inlet grates on stormwater inlets where required.	Risk assessment of stormwater inlets undertaken in accordance with QUDM requirements and stormwater inlet grates have been specified where required.	Death	Rare	5	Moderate	Closed
Permanent Stormwater Basin Infrastructure	Drowning	Maintenance and demolition	Public	Death	Possible	15	Significant	- Site fencing and warning signs to be installed. - Minimise depth - Design access and egress in accordance with QUDM and Asset Owner requirements.	Notes annotated on civil drawings for contractor to provide fencing and signage. Designed in accordance Qudm for access and egress. Depth minimised.	Death	Rare	5	Moderate	Monitor until end of Construction of Sediment Basins

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

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BENNETT+BENNETT

DRAWING TITLE

SAFETY IN DESIGN

MORTONS urbansolutions
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-003

REV A

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

Likelihood	Consequence: Minor / Insignificant (1)	First Aid Treatment (2)	Medical Treatment (3)	Permanent Disability (4)	Death (5)
Almost Certain (5)	Moderate	High	Significant	Significant	Significant
Likely (4)	Low	Moderate	High	Significant	Significant
Possible (3)	Low	Moderate	High	High	Significant
Unlikely (2)	Low	Low	Moderate	Moderate	High
Rare (1)	Low	Low	Low	Low	Moderate

LEVEL OF RISK
SIGNIFICANT 15 to 25
HIGH 9 to 14
MODERATE 5 to 8
LOW 1 to 4

NOTES:

1. THIS SID REGISTER IN NO WAY RELIEVES THE PRINCIPAL, CONTRACTOR, ASSET OWNER OR ANY OTHER PARTY OF THEIR OWN OBLIGATIONS UNDER THE WORKPLACE HEALTH AND SAFETY ACT AND THEIR DUTY OF CARE. THIS IS PROVIDED AS INFORMATION FOR PARTIES TO ASSIST IN MEETING THEIR OWN OBLIGATIONS AND IS BY NO MEANS A COMPLETE LIST. THIS SID REGISTER OR THE NOTES AND DETAILS INCLUDED WITHIN THE DESIGN DRAWINGS DO NOT RELIEVE THE PRINCIPAL CONTRACTOR OF ANY OBLIGATION UNDER ALL RELEVANT LEGISLATION OR GUIDELINE.
2. ALL CONTRACTORS AND ASSET OWNERS REMAIN RESPONSIBLE IN THE PREPARATION OF THEIR OWN SAFETY MANAGEMENT PLANS AND SUITABLE SAFE WORK METHOD STATEMENTS.
3. THIS SID REGISTER IDENTIFIES ATYPICAL FEATURES OF THE DESIGN. COMMON/TYPICAL FEATURES OF THIS DESIGN ARE NOT INCLUDED IN THIS SID REGISTER.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

RISK MATRIX & NOTES

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Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-004

REV A

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GENERAL

1. CONTRACT SPECIFICATIONS
   ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
2. SETOUT
   SURVEY SETOUT INFORMATION HAS BEEN ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR TO ENABLE THE CONTRACTOR TO ACCURATELY SETOUT THE WORKS TO THE CO-ORDINATES SHOWN. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. DATUM
   LEVELS SHOWN ARE TO A.H.D.
4. TRENCH SPOIL
   ALL MATERIALS ARISING FROM ROADS & SERVICES ARE TO BE COMPACTED TO FUTURE STAGES. TO LEVEL 1 IF NO SPOIL AREA IS AVAILABLE THESE MATERIALS SHALL BE TRUCKED TO A LICENSED TIP. THESE WORKS FORM PART OF THE CONTRACTED WORKS.
5. CHECK ELECTRONIC SETOUT
   CONTRACTOR IS RESPONSIBLE TO ENSURE ANY ELECTRONIC DATA FILES MATCH THE DRAWINGS.
6. PRE START
   a. ERECT SITE SIGNAGE. CONSTRUCT ENTRY & EXIT POINT AS INDICATED.
   b. CONSTRUCT VEHICLE WASHDOWN AREA & ASSOCIATED SILT MANAGEMENT DEVICES.
   c. CONSTRUCT SITE OFFICE & STORAGE COMPOUND AREA.
   d. INSTALL EROSION & SEDIMENT CONTROL DEVICES AS PER THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN.
   e. ERECT TEMPORARY TREE PROTECTION FENCING IN ACCORDANCE WITH THE APPROVED VEGETATION MANAGEMENT PLAN & AUTHORITIES APPROVAL CONDITIONS (IF REQUIRED).
7. HEALTH & SAFETY
   ALL WORKS UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH & SAFETY LEGISLATION.
8. STOCKPILING

STOCKPILING OF ANY SURPLUS MATERIAL IS NOT PERMITTED

PROJECT SPECIFIC REPORTS

THE CONTRACTOR MUST FOLLOW THE RECOMMENDATIONS & PROCEDURES OUTLINED IN THE FOLLOWING REPORTS AT ALL TIMES:

a) GEOTECHNICAL INVESTIGATION REPORTS (INCLUDING ANY ACID SULPHATE OR DISPERSIVE SOIL REPORTING)
b) VEGETATION & FAUNA MANAGEMENT PLANS
c) OTHER MANAGEMENT PLANS NOMINATED IN THE CONTRACT, AUTHORITIES APPROVAL CONDITIONS OR BY THE SUPERINTENDENT.

LEGEND

- RESIDENTIAL ACCESS STREET (5.5m CARRIAGEWAY)
- RESIDENTIAL ACCESS STREET (7.5m CARRIAGEWAY)
- RESIDENTIAL COLLECTOR STREET (7.5m CARRIAGEWAY)

REFER 120 DRAWINGS SERIES FOR TYPICAL SECTIONS

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF WORKS BOUNDARY

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

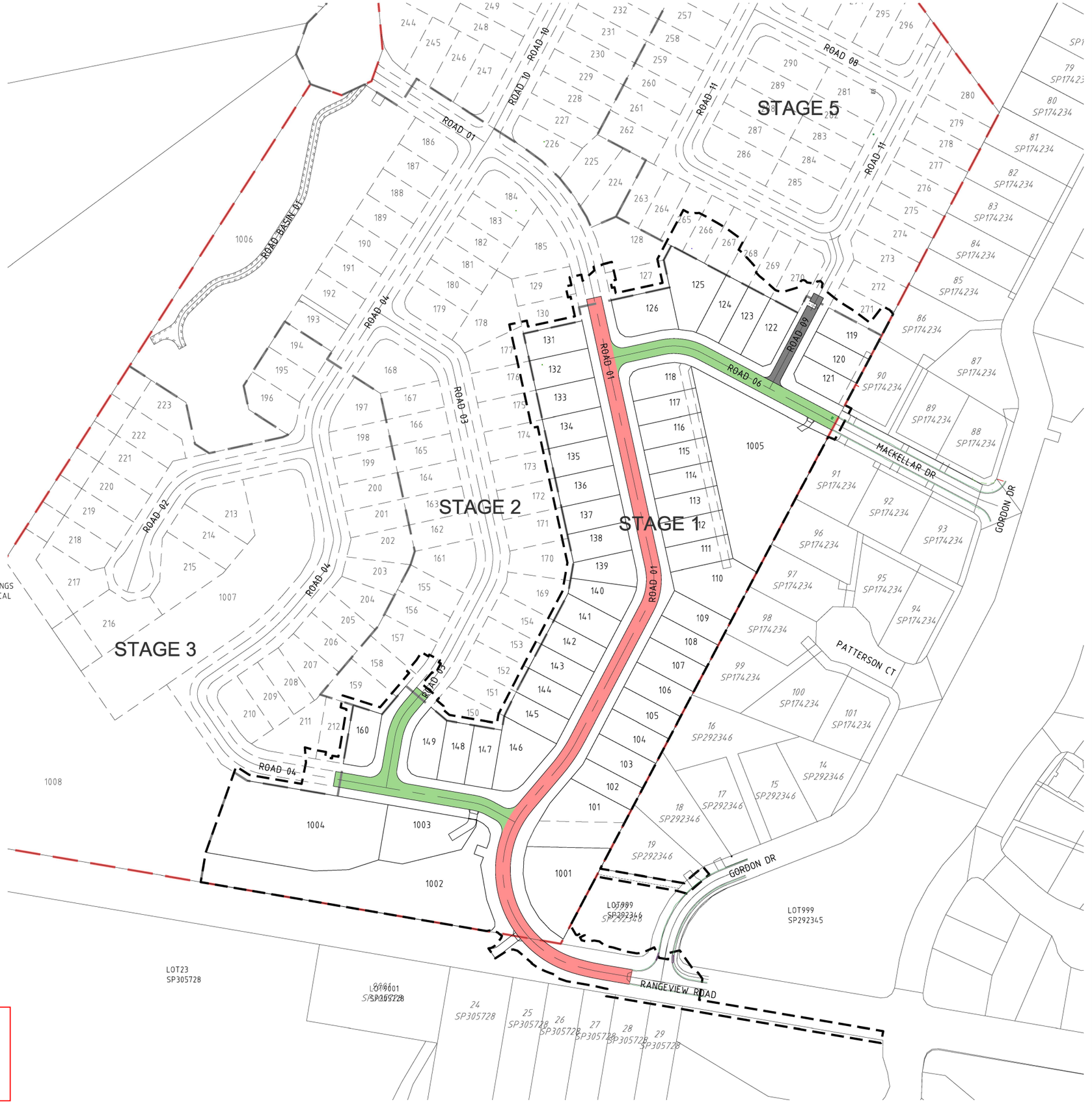
Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

DIAL BEFORE YOU DIG www.1100.com.au

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 10 20 30 40 50m
Scale 1:1000 - A1 (1:2000 - A3)

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	ROAD HIERARCHY AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

ROAD HIERARCHY,
STAGING PLAN
&
GENERAL NOTES

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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-005 REV C

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

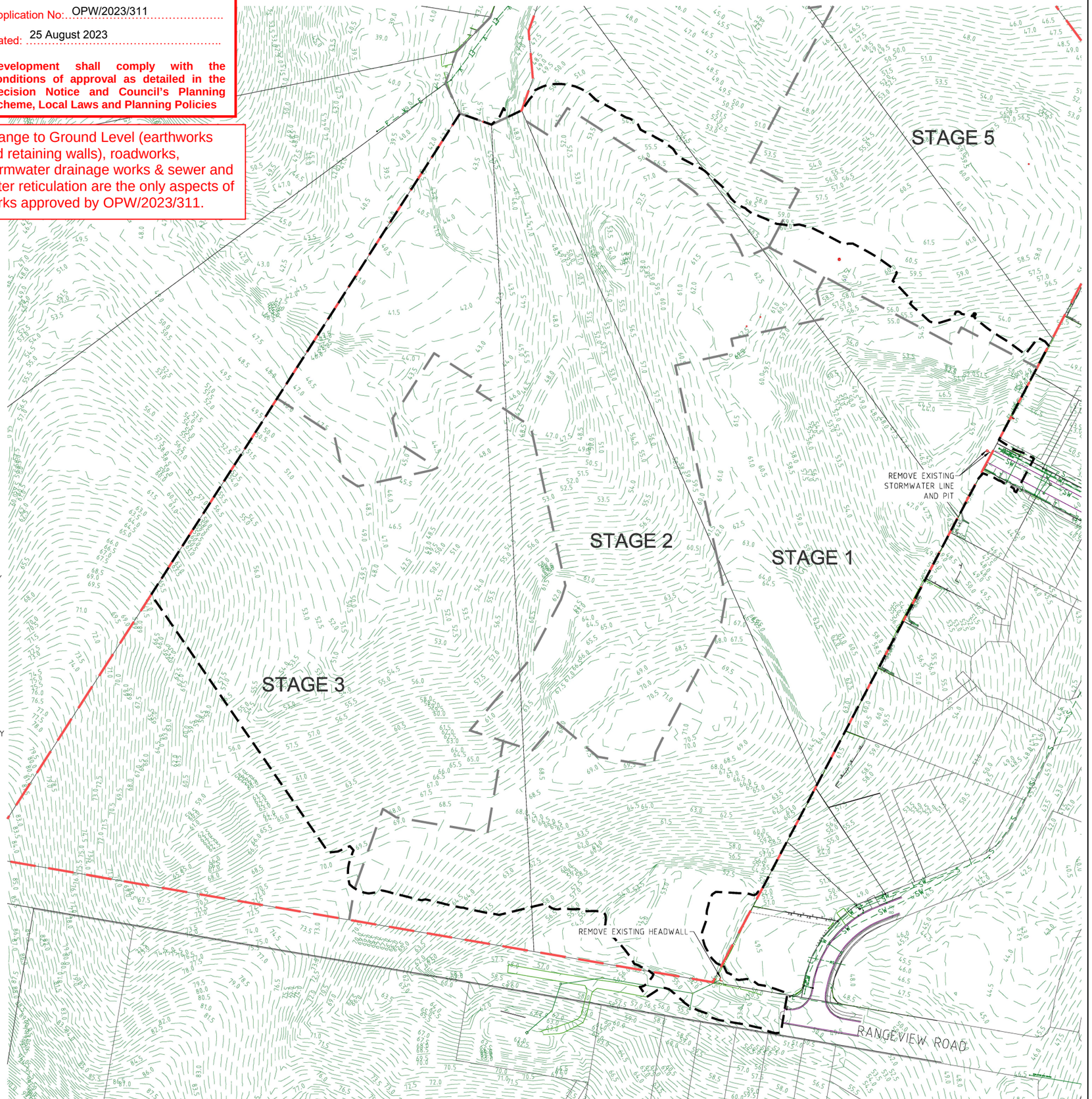
GENERAL

1. EXISTING SERVICES - EXTERNAL WORKS
   THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.
2. EXISTING STRUCTURES
   ALL EXISTING STRUCTURES & ASSOCIATED INFRASTRUCTURE TO BE REMOVED & DISPOSED OF OFF SITE.
3. EXISTING DAMS
   EXISTING DAMS TO BE DEWATERED. ALL SILT & DEBRIS ARE TO BE REMOVED & LAWFULLY DISPOSED OF TO A TIP OFF SITE, OR INCORPORATED INTO THE SITE EARTHWORKS AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER. REPLACEMENT FILL IS TO BE LOCATED & COMPACTED IN ACCORDANCE WITH LOCAL COUNCIL'S SPECIFICATIONS.

NOTE:
CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR LOCATION AND PROTECTION OF EXISTING SERVICES DURING WORKS.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- CONTROL LINE / CENTER OF ROAD
- EXISTING FOOTPATH
- EXISTING EDGE OF VEGETATION
- RM — EXISTING RISING MAIN
- S — EXISTING SEWER
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING UNDERGROUND ELECTRICITY
- E — EXISTING OVERHEAD ELECTRICITY
- T — EXISTING TELSTRA
- C — EXISTING COMMUNICATIONS
- 1.0 — EXISTING CONTOURS MAJOR
- 1.5 — EXISTING CONTOURS MINOR
- RM — DEMOLISH RISING MAIN
- S — DEMOLISH SEWER
- SW — DEMOLISH STORMWATER
- W — DEMOLISH WATER
- G — DEMOLISH GAS
- E — DEMOLISH UNDERGROUND ELECTRICITY
- E — DEMOLISH OVERHEAD ELECTRICITY
- T — DEMOLISH TELSTRA
- C — DEMOLISH COMMUNICATIONS
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF WORKS BOUNDARY
- TREE PROTECTION FENCE
- TREES TO BE RETAINED
- TREES TO BE REMOVED



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 10 20 30 40 50m
Scale 1:1000 - A1 (1:2000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

EXISTING FEATURES AND DEMOLITION PLAN

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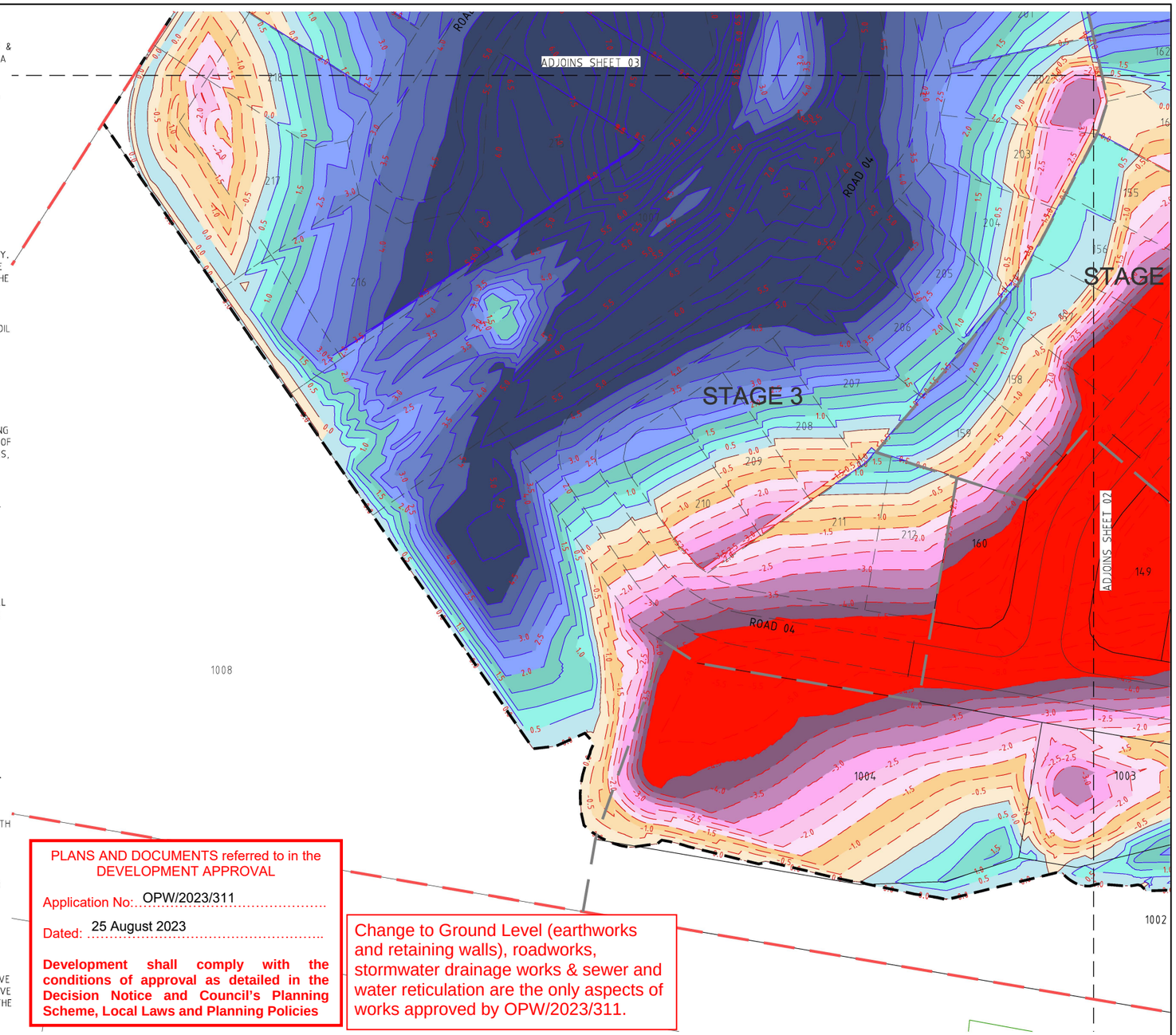
DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-020	B

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EARTHWORKS

1. TOPSOIL STRIPPING
   TOPSOIL SHALL BE STRIPPED ACROSS THE ENTIRE LIMIT OF THE EARTHWORKS CUT & FILL AREAS & SHALL BE STOCKPILED IN A LOCATION APPROVED BY THE SUPERINTENDENT. THE EXISTING STRATA IS TO BE TREATED IN ACCORDANCE WITH THE SPECIFICATION PRIOR TO PLACING ANY FILL.
2. EARTHWORKS LEVELS
   EARTHWORKS LEVELS SHOWN ON DRAWINGS ARE TO FINISHED SURFACE LEVELS & INCLUDE 100mm OF TOPSOIL.
3. COMPACTION STANDARD
   SITE FILLING & TRENCH BACKFILL SHALL BE COMPACTED TO THE STANDARDS OUTLINED IN THE LOCAL AUTHORITY'S SPECIFICATIONS. FILL BATTER FACES ARE TO BE OVERFILLED, COMPACTED & CUT BACK TO DESIGN LEVELS. ALL CUT BATTERS ARE TO BE CUT BACK & TRIMMED TO DESIGN LEVELS.
4. PAVEMENT DEPTHS
   THE DESIGN PAVEMENT DEPTHS ALLOWED IN EARTHWORKS CALCULATIONS ARE BASED ON THE DEPTHS SHOWN IN THE SCHEDULE OF PAVEMENT DEPTHS. THE PAVEMENT DEPTHS GIVEN ARE DESIGN DEPTHS ONLY & MAY BE VARIED AFTER SUB GRADE TESTS ARE TAKEN & AUTHORITY APPROVAL.
5. TESTING & CERTIFICATION
   ALL COMPACTION TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY. ALL SITE FILLING SHALL BE TESTED AT LEVEL 1 REQUIREMENTS. THE CONTRACTOR IS TO PROVIDE ALL REQUIRED EARTHWORKS CERTIFICATIONS IN ACCORDANCE WITH THE APPROVAL CONDITIONS. THE CONTRACTOR IS TO PROVIDE A CONSTRUCTED EARTHWORKS SLOPE STABILITY CERTIFICATION CONFIRMING REQUIRED F.O.S. CERTIFIED BY A RPEQ.
6. TOPSOIL REPLACEMENT
   ALL FOOTPATHS, BATTERS & ALLOTMENT CUT & FILL AREAS SHALL BE TOPSOILED WITH TOPSOIL FROM ONSITE STOCKPILES, & AMELIORATE SOIL AS NECESSARY TO ENSURE GRASS STRIKE.
7. GRASSING
   ALL CUT/FILL AREAS, DISTURBED AREAS & TRENCHED AREAS SHALL BE GRASSED TO THE SATISFACTION OF THE SUPERINTENDENT & LOCAL AUTHORITY.
8. ROCK
   THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR EARTHWORKS RATE.
9. EARTHWORKS ZONE
   THE FOLLOWING ACTIVITIES ARE PROHIBITED OUTSIDE THE EARTHWORKS ZONE - STORAGE & MIXING OF MATERIALS, VEHICLE PARKING, LIQUID DISPOSAL, MACHINERY REPAIRS/REFUELING, PLACEMENT OF SITE OFFICES OR SHEDS, COMBUSTION OF ANY MATERIAL, STOCKPILING OF SOIL, RUBBLE OR DEBRIS, ANY FILLING OR EXCAVATION INCLUDING TRENCHES, TOPSOIL, SKIMMING AND/OR SURFACE EXCAVATION UNLESS OTHERWISE APPROVED BY THE RELEVANT AUTHORITY.
10. CONSTRUCTION - STOCKPILING
    TEMPORARY SILT FENCE TO BE ERECTED 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING. STOCKPILE SITE TO BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES. NO STOCKPILES ARE TO BE LOCATED WITHIN THE TREE PROTECTION ZONE, REFER VEGETATION MANAGEMENT PLAN FOR MORE DETAILS. THE CONTRACTOR SHALL NOT CREATE STOCKPILES OF SURPLUS MATERIALS UNLESS DIRECTED BY THE SUPERINTENDENT. ALL MATERIALS ARISING FROM THE WORKS SHALL BE COMPACTED TO FUTURE FILL AREAS AS NOMINATED OR REMOVED FROM THE SITE.
11. TOPSOIL SCREENING
    TOPSOIL SHALL BE SCREENED BY THE CONTRACTOR WHEN DIRECTED BY THE SUPERINTENDENT. ALL UNSUITABLE MATERIAL SCREENED FROM THE TOPSOIL WILL BE TAKEN TO AN OFFSITE TIP BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.
12. EARTHWORKS MATERIAL SIZE
    ALL EARTHWORKS MATERIAL IS TO BE BROKEN DOWN TO AN ACCEPTABLE SIZE TO BE COMPACTED UNDER LEVEL 1 FILL. WHERE THE RELEVANT GUIDELINES DON'T SPECIFY AN ACCEPTABLE SIZE, EARTHWORKS MATERIAL IS TO BE BROKEN DOWN TO A SIZE NO LARGER THAN 75mm.
13. MOISTURE CONTENT
    EARTHWORKS MOISTURE VARIATION TO NOT EXCEED ±2% OF THE OPTIMUM MOISTURE CONTENT.
14. SURFACE FINISH
    THE FINISHED SURFACE LEVEL IS TO BE CAPPED WITH FINER MATERIAL & SMOOTH DRUM ROLLED & GRADED TO PROMOTE SURFACE WATER RUNOFF IN A CONTROLLED MANNER.
15. EARTHWORKS LIMITS
    THE CONTRACTOR IS TO TIE IN TO THE NATURAL SURFACE AT THE LIMIT OF THE EARTHWORKS. THE TIE IN IS TO BE COMPLETED IN A MANNER TO ENSURE THERE IS NO PONDING OF SURFACE WATER.
16. IMPORTED MATERIAL
    LOTS - ALL IMPORTED MATERIAL FOR PLACEMENT ON LOTS TO BE A MINIMUM CBR 10 MATERIAL & HAVE A SWELL % <1.5.
    ROADS - ALL IMPORTED MATERIAL FOR PLACEMENT ON ROADS TO BE A MINIMUM CBR10 MATERIAL WITH A SWELL % <1.5, LIQUID LIMIT <70 & PLASTICITY IDEX <45.
    SOIL PARAMETERS TO BE REVIEWED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT ON SITE.
17. REACTIVE SOILS
    a) ALL REACTIVE TOPSOIL TO BE IDENTIFIED BY THE GEOTECHNICAL ENGINEER & BE SEPARATED FROM THE NON REACTIVE TOPSOIL.
    b) ALL REACTIVE TOPSOIL TO BE RESPREAD IN THE OPEN SPACE AREA. WHERE REACTIVE TOPSOIL IS REQUIRED TO BE RESPREAD ON DEVELOPABLE AREAS THE CONTRACTOR SHALL LIME TREAT THE TOPSOIL TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
    c) WHEN UNDERTAKING THE EARTHWORKS CUT ALL MATERIALS SHOULD BE SELECTIVELY SORTED SO THAT THE REACTIVE SOILS ARE SEPARATED FROM THE LOW REACTIVE RESIDUAL SOILS & XW BEDROCK
    d) ALL REACTIVE SOILS ARE TO BE PLACED IN THE LOWER SECTIONS OF FILL WITH THE LESS REACTIVE RESIDUAL SOILS & XW BEDROCK TO BE PLACE IN THE UPPER FILLS. ALTERNATIVELY, THE REACTIVE SOILS CAN BE BLENDED WITH THE LESS REACTIVE SOILS & XW ROCK TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
    e) NO REACTIVE CLAY SOILS SHOULD BE PLACED WITHIN THE UPPER 0.75M APPROX. FILL PROFILE WHERE POSSIBLE.
    f) WHEN PLACING FILL OVER HIGHLY REACTIVE SOILS, TREATMENT MAY BE REQUIRED IF THE FILLS ARE ONLY MINOR, 0.3m APPROX. & THE REACTIVE SOIL PROFILE IS GREATER THAN 0.7m APPROX. IN THESE AREAS SUBGRADE REPLACEMENT OF AT LEAST 0.75m OF NON REACTIVE / LOW REACTIVE MATERIAL OVERLYING THE REACTIVE SOILS SHALL BE UNDERTAKEN.
    g) ALL WORKS ASSOCIATED WITH THE IDENTIFICATION, PLACEMENT & TREATMENT OF REACTIVE SOILS SHALL BE UNDERTAKEN TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

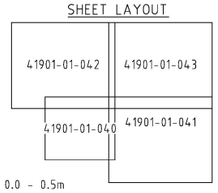
Application No: OPW/2023/311

Dated: 25 August 2023

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Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

SHEET LAYOUT



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NOTE:
CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR EXISTING SERVICES DURING ALL WORKS.

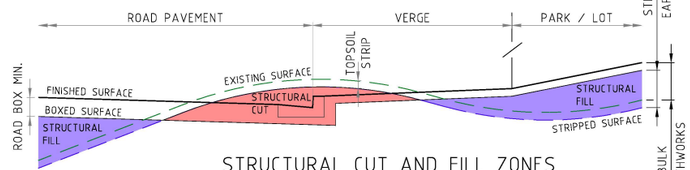
LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF EARTHWORKS BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- -0.5 CUT CONTOUR
- 0.0 INTERFACE CONTOUR
- 0.5 FILL CONTOUR

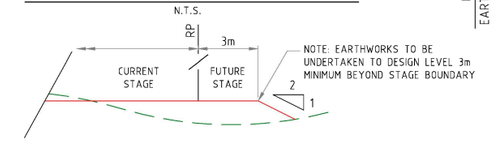
CUT #	FILL #
4.5m +	0.0 - 0.5m
4.0 - 4.5m	0.5 - 1.0m
3.5 - 4.0m	1.0 - 1.5m
3.0 - 3.5m	1.5 - 2.0m
2.5 - 3.0m	2.0 - 2.5m
2.0 - 2.5m	2.5 - 3.0m
1.5 - 2.0m	3.0 - 3.5m
1.0 - 1.5m	3.5 - 4.0m
0.5 - 1.0m	4.0 - 4.5m
0.0 - 0.5m	4.5m +

BULK EARTHWORKS (EXISTING TO FINISHED SURFACE)

NOTES:
1. EARTHWORKS VOLUMES ARE APPROXIMATE ONLY, CONTRACTOR TO VERIFY & ALLOW FOR ANY DISCREPANCY IN THE CONTRACT VALUE.
2. VOLUMES INDICATE THE STRUCTURAL QUANTITY OF EARTHWORKS, IE BETWEEN THE EXISTING SURFACE & THE UNDERSIDE OF THE MINIMUM BOX & OF THE FSL, AS PROSCRIBED IN THE CONTRACT DOCUMENTATION.
3. NO ALLOWANCE FOR COMPACTION OR BULKING FACTOR IS INCLUDED IN THE EARTHWORKS VOLUMES. THE CONTRACTOR IS TO MAKE ALLOWANCES FOR BULKING/COMPACTION AS PART OF THEIR CONTRACT WORKS.
4. THE CONTRACTOR IS TO VERIFY EXISTING SURFACE & TOPSOIL DISTRIBUTION PRIOR TO SIGNING THE CONTRACT. THE CONTRACTORS PRICE FOR THESE WORKS IS DEEMED TO BE ACCEPTING OF THE NATURAL SURFACE & TOPSOIL DISTRIBUTION.
5. THE CONTRACTOR IS REQUIRED TO EXPORT / IMPORT AS NEEDED TO ACHIEVE THE FINAL SURFACE LEVELS. THE EXPORT/IMPORT AS REQUIRED TO COMPLETE EARTHWORKS FORMS PART OF THE CONTRACT WORKS.
6. WHERE NO SPOIL AREA IS AVAILABLE WITHIN THE PROJECT FOOTPRINT, THE CIVIL CONTRACTOR SHALL EXPORT EXCESS MATERIALS TO A LICENCED TIP OFF SITE. THESE WORKS FORM PART OF THE CONTRACT WORKS.



STRUCTURAL CUT AND FILL ZONES
N.T.S.



TEMPORARY BATTER BEYOND STAGE WORKS
N.T.S.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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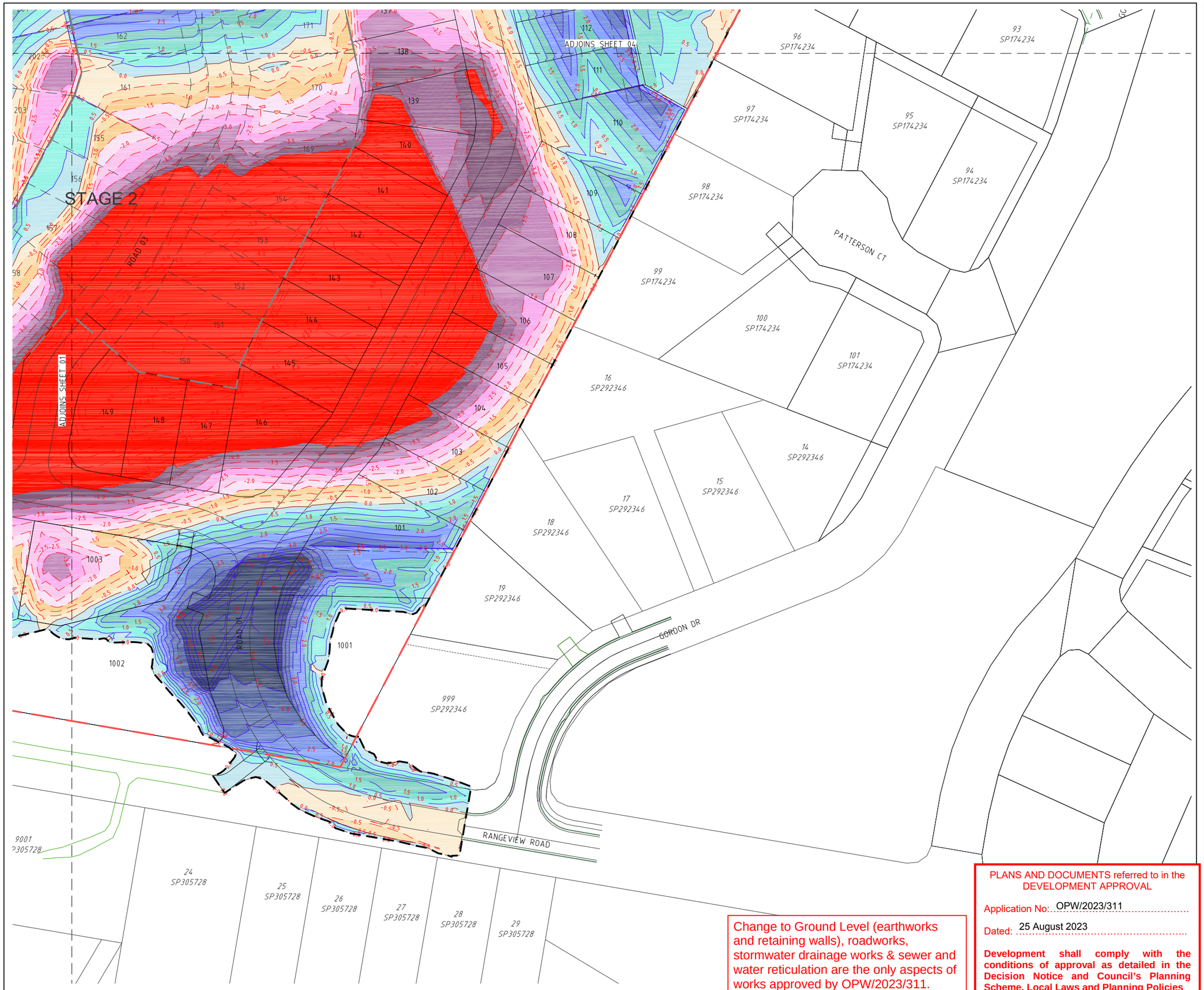
EARTHWORKS
CUT TO FILL
PLAN
SHEET 01

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APPROVED	RPEQ 4706	DATE	03-03-23

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Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

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EARTHWORKS
CUT TO FILL
PLAN
SHEET 02

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APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-041	A

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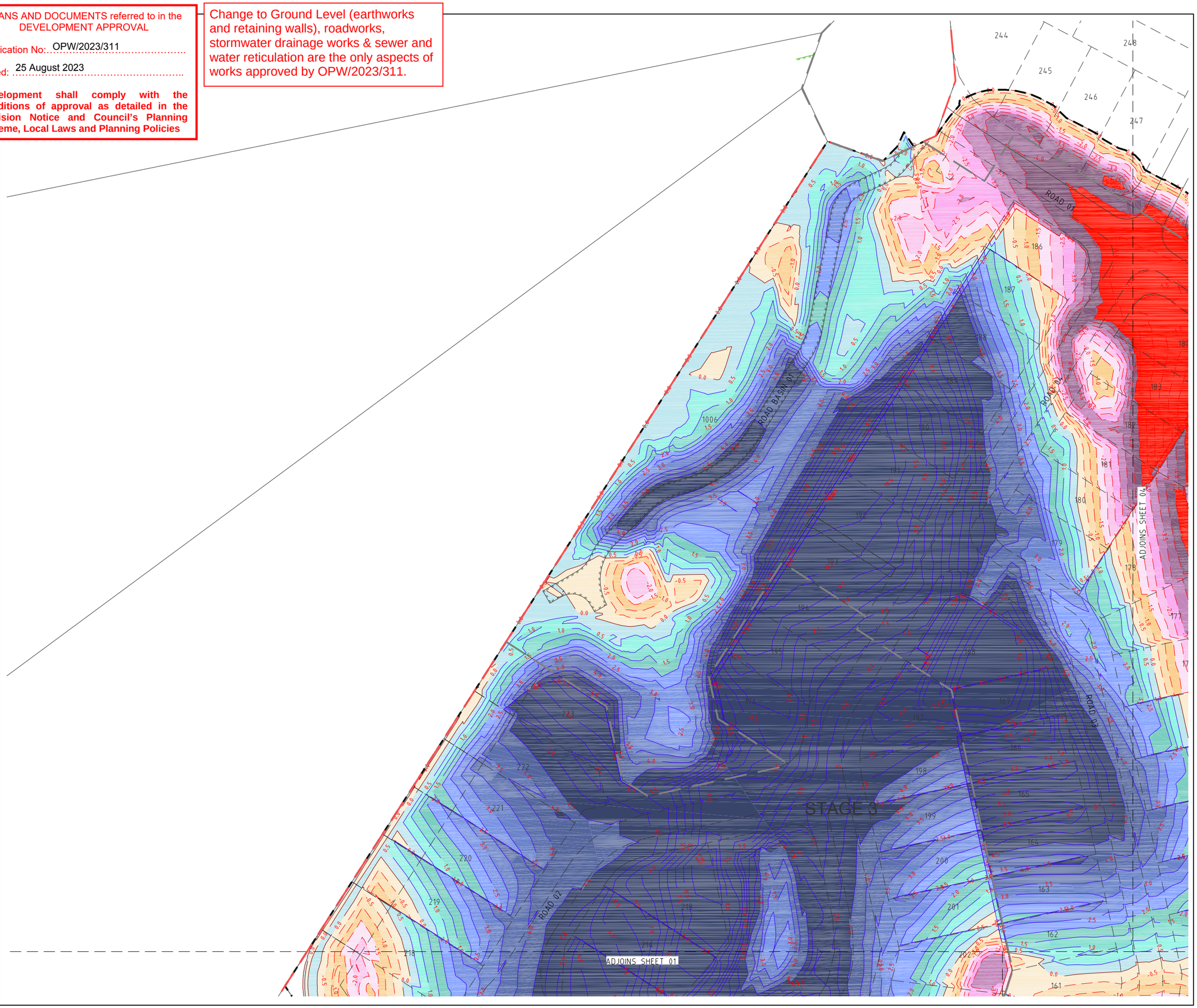
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
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EARTHWORKS
CUT TO FILL
PLAN
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

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EARTHWORKS
CUT TO FILL
PLAN
SHEET 04

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41901-01-043	B

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

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EXTENT OF WORKS TO BE DETERMINED ON SITE. REFER TO GEOTECHNICAL NOTE IN LEGEND

EXTENT OF WORKS TO BE DETERMINED ON SITE. REFER TO GEOTECHNICAL NOTE IN LEGEND

STAGE 1

STAGE 2

STAGE 3

STAGE 4

STAGE 5

ROAD 01

ROAD 02

ROAD 03

ROAD 04

ROAD 05

ROAD 06

ROAD 11

ROAD BASIN 01

PATTERSON CT

GORDON DR

MACKELLAR

LEGEND

- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- EXISTING CONTOURS (1.0)
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS (1.0)
- SITE BOUNDARY
- STAGE BOUNDARY

FOR DETAILS RELATING TO THE MATERIAL FOR RETAINING WALL BACKFILL & COMPACTION REQUIREMENTS REFER TO SECTION 20 OF PACIFIC GEO - GEOTECHNICAL REPORT: BROADSCALE GEOTECHNICAL INVESTIGATION & LANDSLIDE ASSESSMENT FOR PROPOSED RESIDENTIAL SUBDIVISION. END OF COURTNEY DRIVE, UPPER COOMERA JAN 2023.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 7.5 15 22.5 30 37.5m

Scale 1:750 - A1 (1:1500 - A3)

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B	14-07-23	RFI AMENDMENTS	EP
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GEOTECHNICAL REQUIREMENTS PLAN

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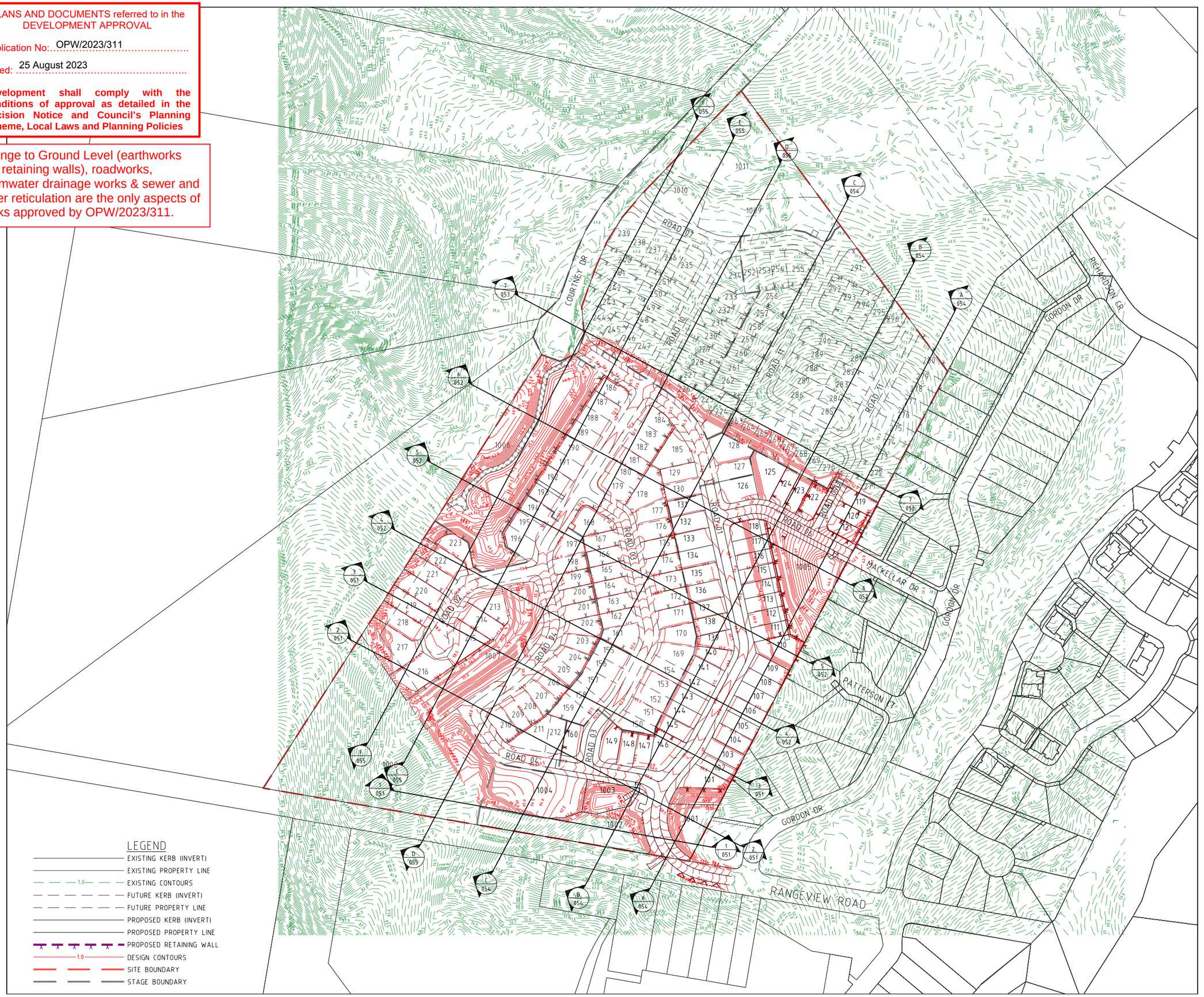
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PROJECT NAME

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STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 15 30 45 60 75m

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BULK EARTHWORKS SECTION KEY PLAN

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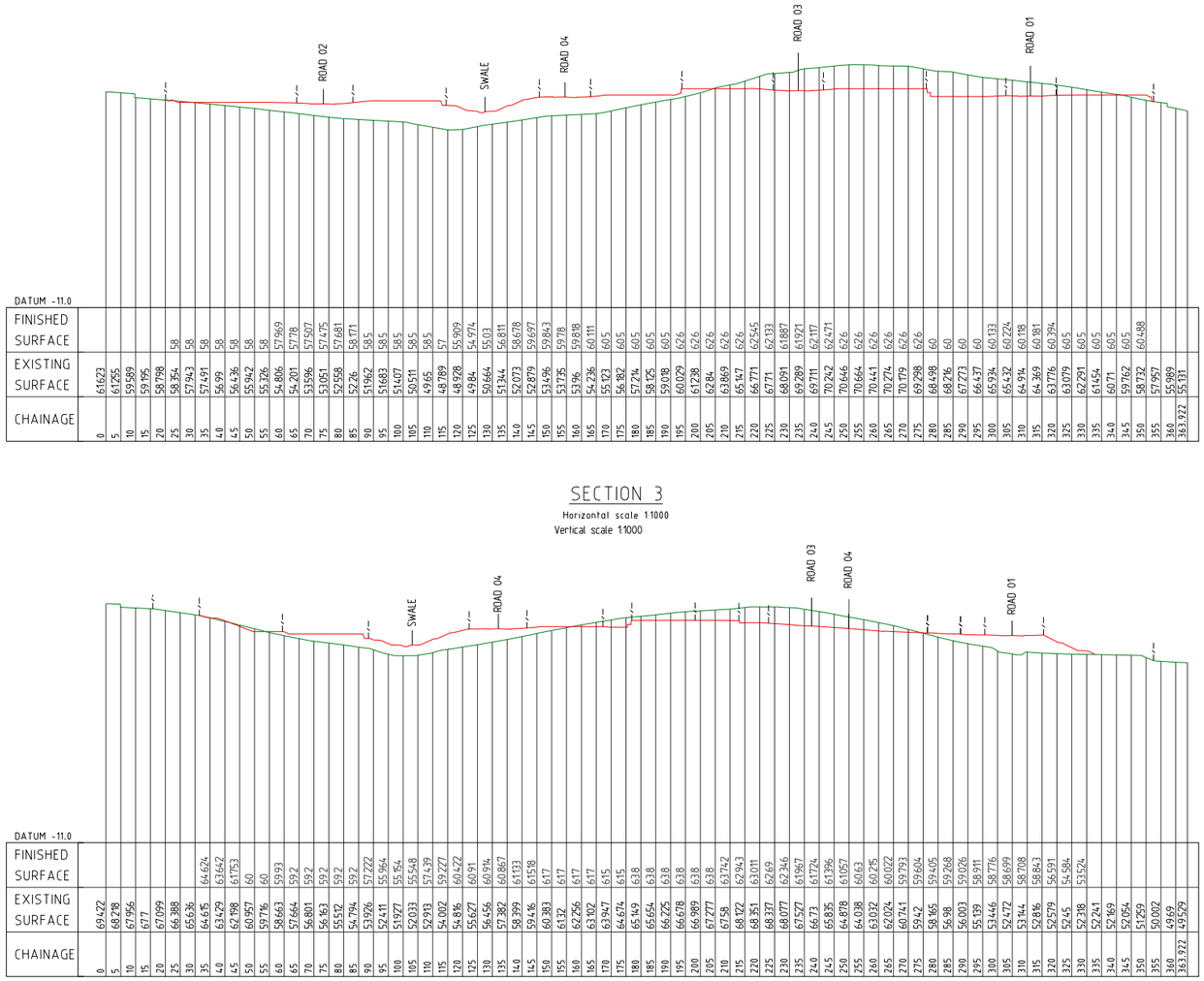
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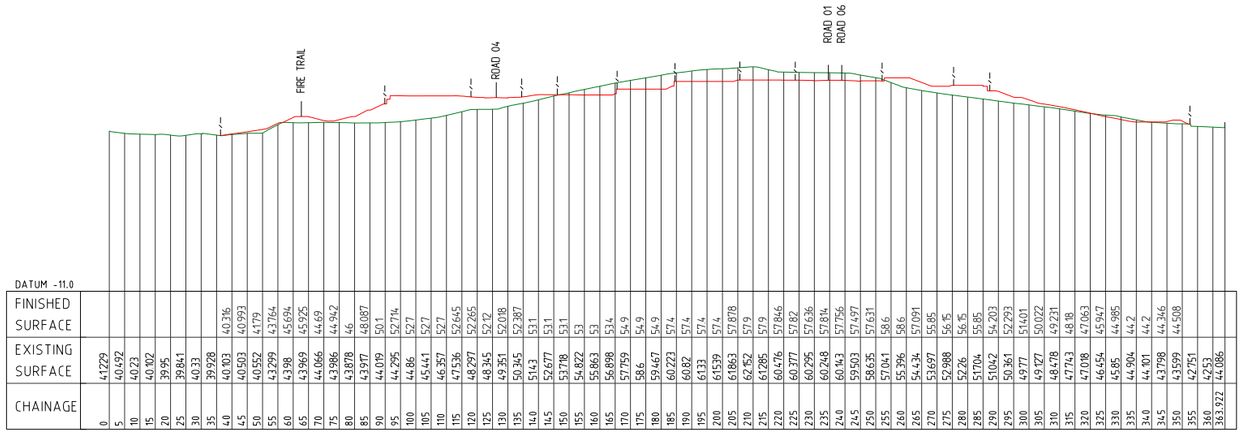
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APPROVED	RPEQ 4706	DATE	03-03-23

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ROAD 02
SWALE
ROAD 04
ROAD 03
ROAD 01

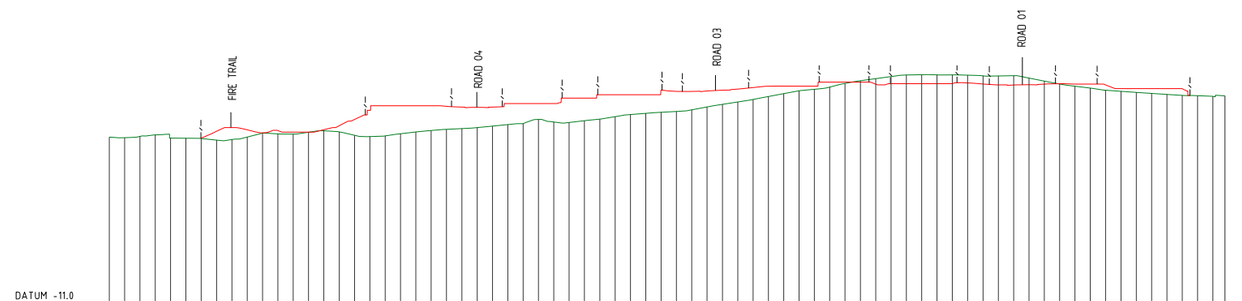
| | | |



CHAINAGE		FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0	41229	40.376	40.103
5	40.492	40.993	40.503
10	40.23	41.79	40.552
15	40.102	43.764	43.299
20	39.95	45.694	43.98
25	39.841	45.925	43.969
30	40.33	44.69	44.066
35	39.928	44.942	43.986
40	40.103	46	43.878
45	40.503	48.087	43.977
50	40.552	50.1	44.019
55	43.299	52.714	44.295
60	43.98	52.7	44.86
65	43.969	52.7	45.441
70	44.066	52.7	46.357
75	43.986	52.645	47.536
80	43.878	52.265	48.297
85	43.977	52.12	48.345
90	44.019	52.098	49.351
95	44.295	52.387	50.345
100	44.86	53.1	51.43
105	45.441	53.1	52.677
110	46.357	53.1	53.778
115	47.536	53	54.822
120	48.297	53	55.863
125	48.345	52.12	56.898
130	49.351	52.098	57.759
135	50.345	52.387	58.6
140	51.43	53.1	59.467
145	52.677	53.1	60.223
150	53.778	53.1	60.682
155	54.822	53	61.133
160	55.863	53	61.539
165	56.898	53.4	61.863
170	57.759	54.9	62.152
175	58.6	54.9	61.285
180	59.467	54.9	60.476
185	60.223	57.4	60.377
190	60.682	57.4	60.295
195	61.133	57.4	60.248
200	61.539	57.4	60.143
205	61.863	57.878	59.903
210	62.152	57.9	58.635
215	61.285	57.9	57.041
220	60.476	57.846	55.396
225	60.377	57.82	54.434
230	60.295	57.636	53.697
235	60.248	57.834	52.988
240	60.143	57.736	52.26
245	59.903	57.497	51.704
250	58.635	57.631	51.042
255	57.041	58.6	50.861
260	55.396	58.6	49.177
265	54.434	57.091	49.127
270	53.697	55.85	48.478
275	52.988	56.45	47.743
280	52.26	56.45	48.18
285	51.704	55.85	47.018
290	51.042	54.203	46.454
295	50.861	52.293	45.85
300	49.177	51.401	44.985
305	49.127	50.022	44.904
310	48.478	49.231	44.101
315	47.743	48.18	43.798
320	47.018	47.063	43.599
325	46.454	45.947	42.751
330	45.85	44.985	42.53
335	44.904	44.2	44.086
340	44.101	44.2	
345	43.798	44.346	
350	43.599	44.508	
355	42.751		
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	363.922		

SECTION 6

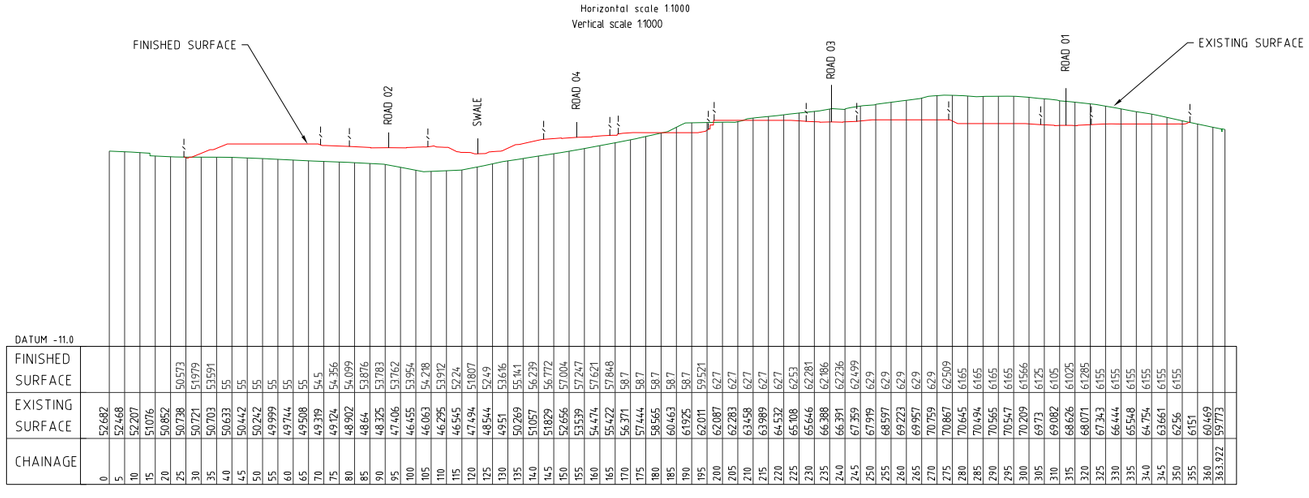
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Vertical scale 1:1000



CHAINAGE		FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
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5	42694	44.777	42.883
10	43117	45.236	44.755
15	43595	44.262	43.924
20	42561	45.016	44.454
25	42524	44.5	44.941
30	42469	45.289	44.578
35	41907	46.583	43.465
40	42.086	48.63	43.057
45	42.883	51.6	43.266
50	44.755	53.1	43.98
55	43.924	53.1	44.551
60	43862	53.1	45.033
65	44.454	53.2	45.396
70	44.941	52.932	45.566
75	44.578	52.662	45.999
80	43.465	52.606	46.473
85	43.057	52.665	46.956
90	43.266	53.1	47.287
95	43.98	53.1	48.643
100	44.551	53.1	47.792
105	45.033	53.1	47.647
110	45.396	52.932	48.223
115	45.66	52.662	48.752
120	45.999	52.606	49.552
125	46.473	52.665	50.252
130	46.956	53.1	50.638
135	47.287	53.1	50.978
140	48.643	53.1	51.253
145	47.792	53.1	51.776
150	47.647	55.6	52.71
155	48.223	55.6	53.558
160	48.752	56.7	54.345
165	49.552	56.7	55.152
170	50.252	56.7	56.101
175	50.638	56.7	57.055
180	50.978	58.2	57.968
185	51.253	57.787	58.451
190	51.776	57.794	59.183
195	52.71	57.897	60.389
200	53.558	58.166	58.857
205	54.345	58.553	58.179
210	55.152	59.037	57.825
215	56.101	59.496	57.441
220	57.055	59.5	57.126
225	57.968	59.5	56.811
230	58.451	59.5	56.495
235	59.183	60.8	56.386
240	60.389	60.8	56.166
245	61.246	60.8	56.298
250	61.923	60.756	
255	62.599	60.3	
260	63.122	60.3	
265	63.122	60.3	
270	63.171	60.3	
275	63.171	60.309	
280	63.082	60.6	
285	62.868	60.962	
290	62.804	59.961	
295	62.892	59.872	
300	62.726	59.958	
305	61.142	60.153	
310	60.196	60.309	
315	59.469	60.158	
320	58.857	60.15	
325	58.179	59.89	
330	57.825	58.7	
335	57.441	58.7	
340	57.126	58.7	
345	56.811	58.7	
350	56.495	58.645	
355	56.386		
360	56.166		
	363.922	56.298	

SECTION 5

Horizontal scale 1:1000
Vertical scale 1:1000



CHAINAGE		FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0	52682	50.573	50.852
5	52468	51.979	50.738
10	52207	53.591	50.703
15	51076	55	50.633
20	50852	55	50.442
25	50738	55	50.242
30	50721	55	49.999
35	50703	55	49.714
40	50633	55	49.508
45	50442	54.5	49.319
50	50242	54.356	49.124
55	49.999	54.099	48.902
60	49.714	53.876	48.64
65	49.508	53.783	48.325
70	49.319	53.762	47.406
75	49.124	53.954	46.455
80	48.902	54.288	46.063
85	48.64	53.912	46.295
90	48.325	52.24	46.545
95	47.406	51.807	47.494
100	46.455	52.49	48.544
105	46.063	52.636	49.51
110	46.295	55.141	50.269
115	46.545	56.229	51.057
120	47.494	56.772	51.829
125	48.544	57.004	52.656
130	49.51	57.247	53.539
135	50.269	57.621	54.474
140	51.057	57.848	55.422
145	51.829	58.7	56.371
150	52.656	58.7	57.444
155	53.539	58.7	58.565
160	54.474	58.7	59.463
165	55.422	58.7	61.925
170	56.371	59.521	62.011
175	57.444	62.7	62.087
180	58.565	62.7	62.283
185	59.463	62.7	63.458
190	61.925	62.7	63.989
195	62.011	62.7	64.532
200	62.087	62.7	65.108
205	62.283	62.753	65.646
210	63.458	62.786	66.388
215	63.989	62.836	66.391
220	64.532	62.499	67.359
225	65.108	62.9	67.919
230	65.646	62.9	68.597
235	66.388	62.9	69.223
240	66.391	62.9	69.957
245	67.359	62.9	70.759
250	67.919	62.9	70.867
255	68.597	62.509	70.645
260	69.223	61.65	70.494
265	69.957	61.65	70.565
270	70.759	61.65	70.547
275	70.867	61.65	70.209
280	70.645	61.25	69.73
285	70.494	61.05	69.082
290	70.565	61.05	68.626
295	70.547	61.05	68.071
300	70.209	61.566	67.343
305	69.73	61.25	66.444
310	69.082	61.05	65.548
315	68.626	61.025	64.754
320	68.071	61.285	63.661
325	67.343	61.55	62.56
330	66.444	61.55	61.51
335	65.548	61.55	60.469
340	64.754	61.55	59.773
345	63.661	61.55	
350	62.56	61.55	
355	61.51		
360	60.469		
	363.922	59.773	

SECTION 4

Horizontal scale 1:1000
Vertical scale 1:1000

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 10 20 30 40 50m
Vert. Scale 1:1000 - A1 (1:2000 - A3)

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN 39 116 375 065
mortons@urbansolutions.net.au
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Suite 9, 19 Short St
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-052
REV: A

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-050.dwg, SECTIONS-SHEET 02, 1/08/2023 7:48:51 AM, 1:2

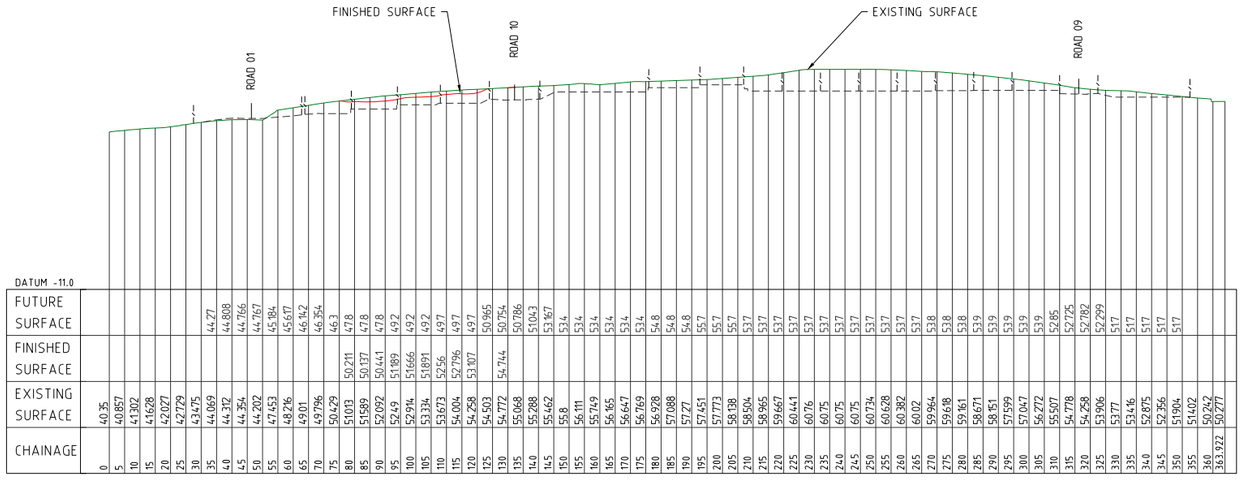
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.



SECTION 7

Horizontal scale 1:1000

Vertical scale 1:1000

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 10 20 30 40 50m
Vert. Scale 1:1000 - A1 (1:2000 - A3)

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 03

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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Suite 9, 19 Short St
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DESIGNED RB	DRAWN EMH	
APPROVED	RPEQ 4706	DATE 03-03-23

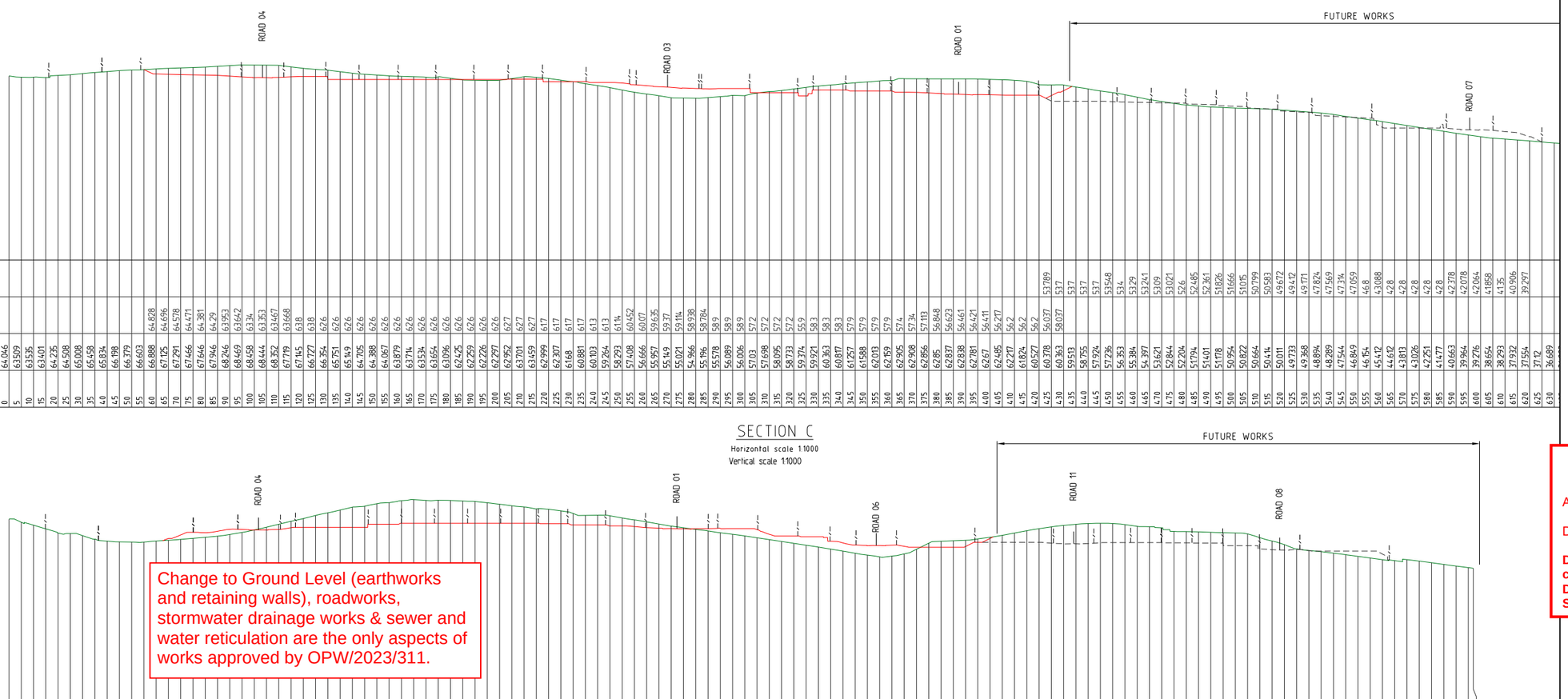
DRAWING NUMBER 41901-01-053

REV A

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SECTION C

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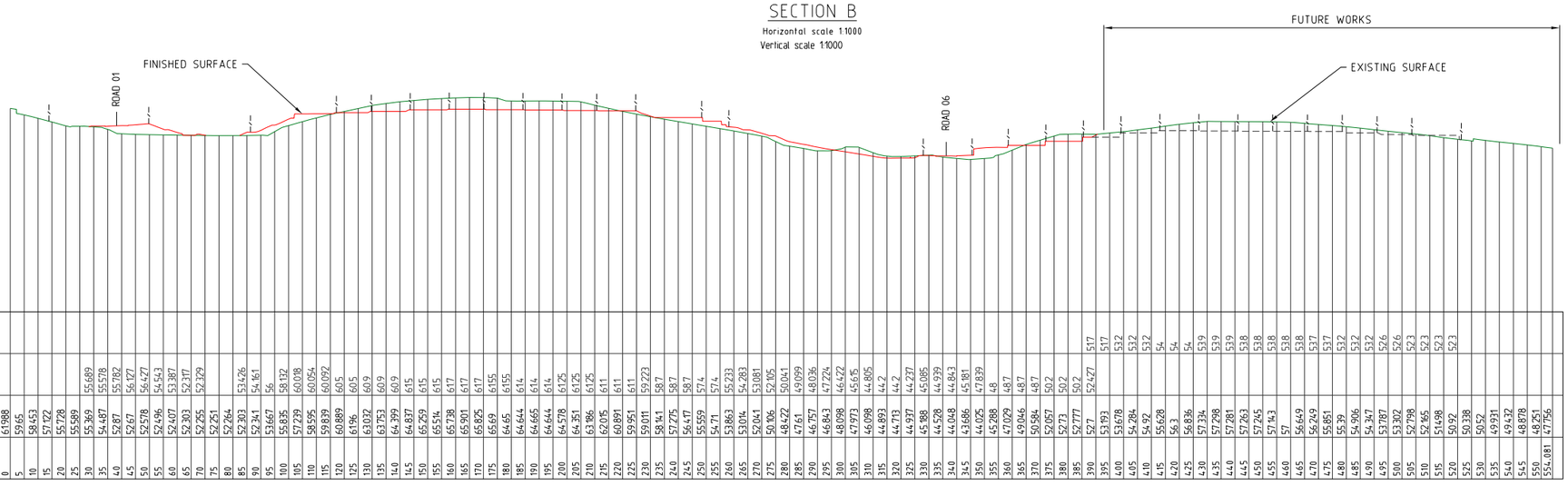


CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0			64.046
5			63.509
10			63.535
15			63.401
20			64.235
25			64.508
30			65.008
35			65.458
40			65.834
45			66.198
50			66.379
55			66.603
60		64.828	66.888
65		64.696	67.125
70		64.578	67.291
75		64.471	67.466
80		64.381	67.646
85		64.29	67.946
90		63.953	68.246
95		63.642	68.469
100		63.34	68.458
105		63.353	68.444
110		63.467	68.352
115		63.668	67.719
120		638	67.145
125		626	66.727
130		626	66.354
135		626	65.751
140		626	65.149
145		626	64.705
150		626	64.388
155		626	64.067
160		626	63.879
165		626	63.714
170		626	63.534
175		626	63.654
180		626	63.096
185		626	62.425
190		626	62.259
195		626	62.226
200		626	62.297
205		627	62.952
210		627	63.701
215		627	63.459
220		617	62.999
225		617	62.307
230		617	6168
235		617	60.881
240		613	60.103
245		613	59.264
250		614	58.293
255		60.452	57.408
260		60.07	56.666
265		59.635	55.957
270		59.37	55.149
275		59.114	55.021
280		58.938	54.966
285		58.784	55.196
290		58.9	55.578
295		58.9	56.089
300		58.9	56.006
305		57.2	57.03
310		57.2	57.698
315		57.2	58.095
320		57.2	58.733
325		55.9	59.374
330		58.3	59.921
335		58.3	60.363
340		58.3	60.877
345		57.9	61.457
350		57.9	61.588
355		57.9	62.013
360		57.9	62.159
365		57.4	62.905
370		57.34	62.908
375		57.113	62.856
380		56.848	62.85
385		56.623	62.837
390		56.461	62.838
395		56.421	62.781
400		56.411	62.67
405		56.277	62.486
410		56.2	62.217
415		56.2	61.824
420		56.2	60.527
425		56.037	60.378
430		56.037	60.363
435			59.513
440			58.755
445			57.924
450			57.236
455			56.353
460			55.384
465			54.397
470			53.621
475			52.844
480			52.204
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500			50.954
505			50.822
510			50.664
515			50.474
520			50.011
525			49.733
530			49.368
535			48.894
540			48.289
545			47.544
550			46.849
555			46.354
560			45.412
565			44.612
570			43.813
575			43.026
580			42.251
585			41.477
590			40.663
595			39.964
600			39.276
605			38.654
610			38.293
615			37.932
620			37.554
625			37.12
630			36.689

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

SECTION B

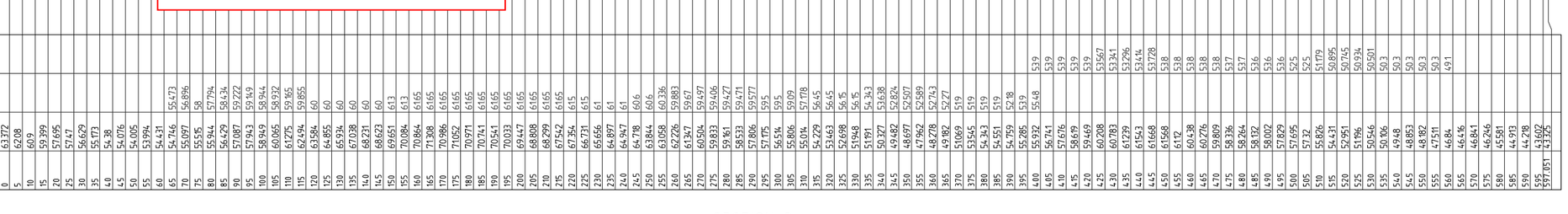
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Vertical scale 1:1000



CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0			61.988
5			59.65
10		55.689	58.453
15		55.578	57.122
20		55.782	55.728
25		56.127	55.589
30		56.427	55.389
35		54.543	54.487
40		53.387	52.87
45		52.317	52.67
50		52.329	52.578
55			52.496
60		53.426	52.407
65		54.161	52.303
70		56	52.205
75		58.132	52.251
80		60.018	52.284
85		60.054	52.303
90		60.092	52.341
95		60.5	53.667
100		60.6	55.835
105		60.9	57.239
110		615	58.595
115		615	59.839
120		615	60.889
125		615	61.96
130		617	63.032
135		617	63.753
140		617	64.399
145		617	64.837
150		615	65.259
155		615	65.514
160		617	65.738
165		617	65.901
170		617	65.825
175		6155	65.69
180		6155	64.65
185		614	64.644
190		614	64.665
195		614	64.644
200		6125	64.578
205		6125	64.351
210		6125	63.386
215		611	62.015
220		611	60.891
225		611	59.951
230		59.223	59.011
235		587	58.341
240		587	57.275
245		587	56.417
250		574	55.559
255		574	54.71
260		55.233	53.863
265		54.283	53.014
270		53.081	52.041
275		52.105	50.906
280		50.041	48.422
285		49.099	47.61
290		48.036	46.757
295		47.224	46.843
300		46.422	48.098
305		45.615	47.973
310		44.805	46.098
315		44.2	44.893
320		44.2	44.713
325		44.237	44.937
330		45.085	45.88
335		44.939	44.528
340		44.843	44.048
345		45.181	43.686
350		47.839	44.025
355		48	45.288
360		48.7	47.029
365		48.7	49.046
370		48.7	50.584
375		50.2	52.057
380		50.2	52.73
385		50.2	52.777
390		50.2	52.7
395		52.427	53.393
400		517	53.678
405		517	54.284
410		532	54.92
415		532	55.628
420		54	56.3
425		54	56.836
430		539	57.334
435		539	57.298
440		539	57.281
445		538	57.263
450		538	57.245
455		538	57.143
460		538	57
465		538	56.649
470		537	56.249
475		537	55.851
480		532	55.39
485		532	54.906
490		532	54.347
495		526	53.787
500		526	53.302
505		523	52.798
510		523	52.365
515		523	51.498
520		523	50.92
525			50.338
530			50.52
535			49.931
540			49.432
545			48.878
550			48.251
554.081			47.756

SECTION A

Horizontal scale 1:1000
Vertical scale 1:1000



CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0			63.372
5			62.08
10			60.9
15			59.399
20			57.695
25			57.47
30			56.629
35			55.173
40			54.38
45			54.076
50			54.005
55			53.994
60			54.431
65			54.746
70			55.097
75			55.515
80			55.944
85			56.429
90			57.087
95			57.943
100			58.949
105			60.065
110			61.275
115			62.494
120			63.584
125			64.855
130			65.934
135			67.098
140			68.231
145			68.623
150			69.651
155			70.084
160			70.864
165			71.308
170			70.986
175			71.052
180			70.971
185			70.741
190			70.541
195			70.033
200			69.447
205			68.808
210			68.299
215			67.542
220			67.354
225			66.731
230			65.656
235			64.897
240			64.947
245			64.788
250			63.844
255			63.058
260			62.226
265			61.347
270			60.504
275			59.861
280			58.533
285			57.806
290			57.175
295			56.514
300			55.806
305			55.014
310			54.229
315			53.463
320			52.698
325			51.948
330			51.191
335			50.327
340			49.482
345			48.697
350			47.962
355			47.285
360			48.278
365			49.182
370			51.069
375			53.545
380			54.343
385			54.551
390			54.759
395			55.285
400			55.932
405			56.741
410			57.676
415			58.619
420			59.469
425			60.208
430			60.783
435			61.239
440			61.543
445			61.668
450			61.568
455			61.12
460			60.438
465			60.276
470			59.809
475			58.336
480			58.264
485			58.132
490			58.002
495			57.829
500			57.695
505			57.32
510			55.826
515			54.431
520			52.951
525			51.196
530			50.546
535			50.106
540			49.948
545			48.853
550			48.382
555			47.511
560			46.84
565			46.436
570			46.841
575			46.246
580			45.581
585			44.913
590			44.218
595			43.602
597.051			43.325

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 10 20 30 40 50m
Vert. Scale 1:1000 - A1 (1:2000 - A3)

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 04

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
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mortons@urbansolutions.net.au
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Tel 07 5571 1099

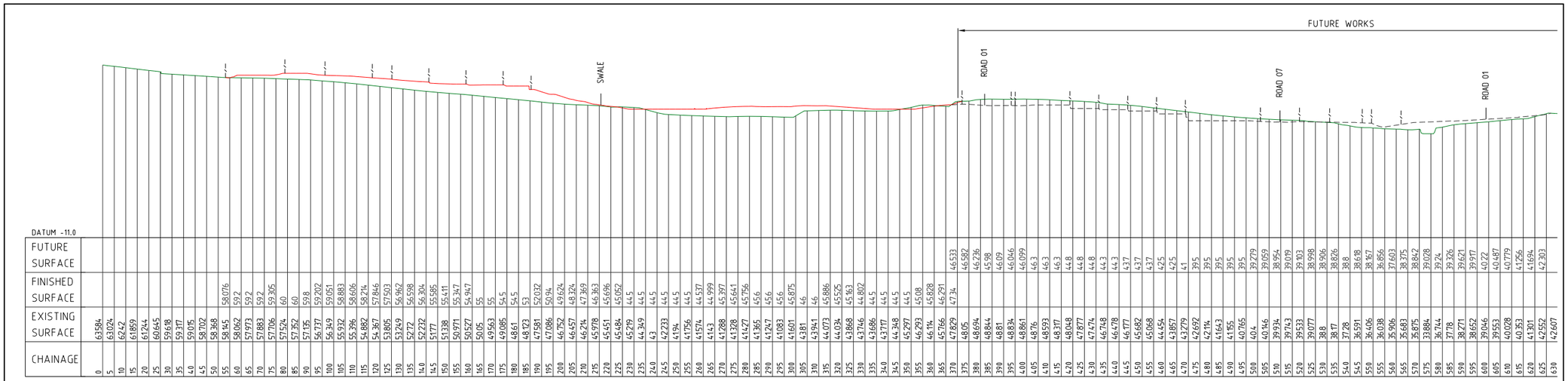
Postal Address
PO Box 2484
Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-054
REV: A

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-050.dwg, SECTIONS-SHEET 04, 1/08/2023 7:48:53 AM, 1:2



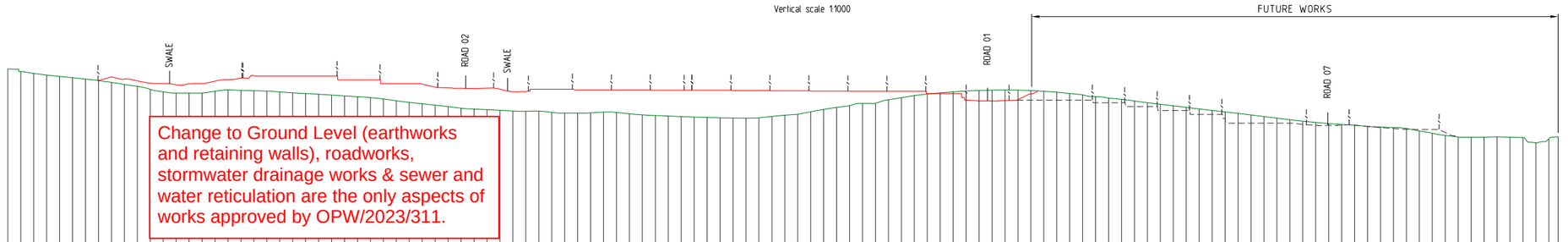
DATUM -11.0

CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
0	46.533	47.34	47.829
5	46.582		48.05
10	46.236		48.694
15	45.98		48.844
20	46.09		48.81
25	46.046		48.834
30	46.099		48.861
35	46.3		48.76
40	46.3		48.593
45	46.3		48.317
50	44.8		48.048
55	44.8		47.877
60	44.8		47.474
65	44.3		46.748
70	44.3		46.478
75	44.3		46.177
80	44.37		45.682
85	44.37		45.068
90	44.37		44.454
95	44.25		43.857
100	44.25		43.279
105	44.1		42.692
110	43.95		42.114
115	43.95		41.643
120	43.95		41.155
125	43.95		40.765
130	43.95		40.4
135	43.95		40.146
140	43.929		39.934
145	43.693		39.743
150	38.954		39.533
155	39.019		39.077
160	38.903		38.88
165	38.998		38.817
170	38.906		38.728
175	38.826		36.591
180	38.8		36.406
185	38.658		36.098
190	38.567		35.906
195	38.686		35.683
200	37.603		35.875
205	38.375		33.884
210	38.842		36.744
215	39.028		37.78
220	39.24		38.271
225	39.326		39.621
230	39.347		40.22
235	40.487		40.779
240	41.266		41.694
245	42.303		42.607

0 10 20 30 40 50m
Vert. Scale 1:1000 - A1 (1:2000 - A3)

SECTION F

Horizontal scale 1:1000
Vertical scale 1:1000



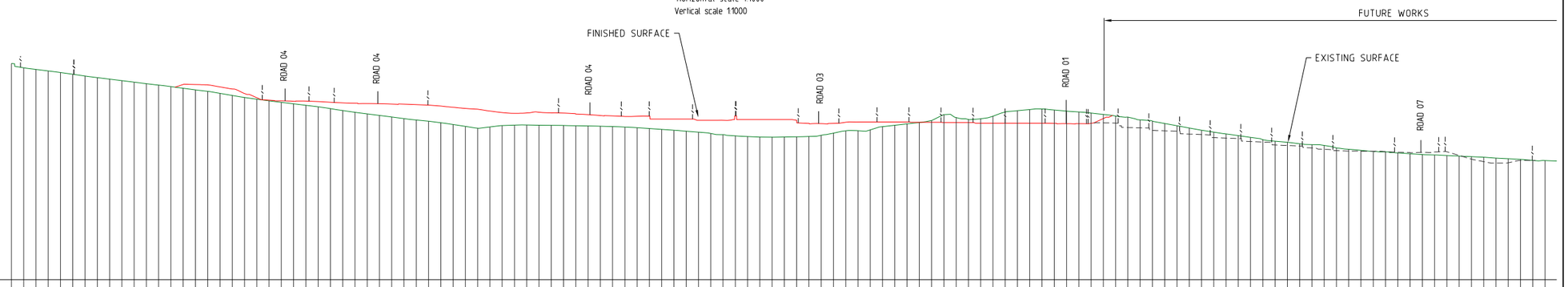
Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

DATUM -11.0

CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
0			61.242
5			60.2
10			59.476
15			58.861
20			58.332
25			57.898
30			57.284
35		56.741	56.711
40		58.123	56.039
45		57.32	55.25
50		56.616	54.538
55		55.68	53.36
60		55.561	52.393
65		55.082	51.927
70		55.464	51.927
75		55.562	51.927
80		56.515	52.636
85		57.088	53.177
90		577	52.965
95		585.555	52.85
100		585	52.699
105		585	52.363
110		585	52.008
115		585	51.744
120		585	51.48
125		585	51.146
130		57	50.831
135		57	50.533
140		555	50.175
145		555	49.647
150		555	48.968
155		555	48.316
160		55.371	47.797
165		54.213	47.255
170		53.929	46.684
175		53.757	46.091
180		53.65	45.754
185		53.581	45.531
190		53.394	45.294
195		52.45	45.023
200		52.413	44.965
205		534	44.961
210		534	44.501
215		534	44.216
220		531	44.221
225		531	44.292
230		531	44.593
235		531	44.447
240		531	43.947
245		531	43.358
250		53	43.289
255		53	43.086
260		53	42.834
265		53	42.67
270		53	42.507
275		53	42.406
280		52.9	42.323
285		52.9	42.244
290		52.9	42.264
295		52.8	42.216
300		52.8	43.394
305		52.8	43.769
310		52.7	44.696
315		52.7	45.619
320		52.7	46.393
325		52.6	47.053
330		52.6	47.941
335		52.6	47.959
340		52.6	49.34
345		52.6	50.147
350		52.6	50.951
355		51.7	51.471
360		51.7	51.967
365		51.7	52.385
370		49.203	52.705
375		48.887	52.992
380		48.899	53.018
385		49.038	53.067
390		49.353	53.077
395		51.631	52.832
400		49.2	52.582
405		49.2	52.273
410		49.2	51.752
415		49.2	51.196
420		48.2	50.557
425		48.2	50.025
430		48.2	49.519
435		46.7	48.896
440		46.7	48.203
445		45.2	47.636
450		45.2	47.02
455		45.2	46.418
460		43.7	45.726
465		43.7	44.658
470		42.2	44.08
475		40.3	43.482
480		40.3	42.878
485		40.3	42.263
490		40.3	41.649
495		39.831	41.09
500		39.531	40.63
505		39.486	40.171
510		39.573	39.822
515		39.545	39.503
520		39.082	39.039
525		38.618	38.839
530		38.243	38.647
535		37.95	38.225
540		37.913	37.323
545		37.889	36.441
550		36.734	35.609
555			34.984
560			34.957
565			34.929
570			35.063
575			34.922
580			34.774
585			32.755
590			34.296
595			35.092
598.595			

SECTION E

Horizontal scale 1:1000
Vertical scale 1:1000



DATUM -11.0

CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
0			76.906
5			75.166
10			74.493
15			73.867
20			73.222
25			72.533
30			71.816
35			71.146
40			70.552
45			69.91
50			69.325
55			68.7
60			68.104
65			67.489
70		68.373	66.833
75		68.344	66.177
80		68.298	65.566
85		67.379	64.749
90		66.512	63.89
95		64.735	63.078
100		62.982	62.389
105		61.981	61.733
110		61.72	61.175
115		61.547	60.599
120		61.618	59.933
125		61.464	59.277
130		61.092	58.567
135		60.904	57.759
140		60.752	57.036
145		60.593	56.416
150		60.561	55.775
155		60.397	55.107
160		60.355	54.48
165		60.179	53.98
170		59.989	53.413
175		59.534	52.779
180		59.085	52.064
185		58.617	51.307
190		58.302	50.593
195		57.566	51.081
200		56.94	51.637
205		56.628	51.813
210		56.789	51.887
215		57.059	518
220		56.819	51.74
225		56.723	51.68
230		56.333	51.571
235		56.177	51.492
240		55.731	51.404
245		55.578	51.267
250		55.366	51.038
255		55.412	50.791
260		555	50.453
265		54.3	50.098
270		54.3	49.743
275		54.3	49.37
280		538	48.981
285		538	48.656
290		538	47.754
295		55.6	47.464
300		54.1	47.798
305		54.1	46.995
310		54.1	46.967
315		54.1	47.001
320		53.804	47.083
325		52.512	47.223
330		52.438	47.707
335		52.535	48.583
340		52.981	49.521
345		531	49.939
350		531	49.905
355		531	51.208
360		531	51.765
365		531	52.338
370		53	52.868
375		53	53.175
380		529	56.108
385		529	54.912
390		529	54.133
395		526	54.43
400		526	55.464
405		526	57.183
410		526	57.716
415		526	58.169
420		526	58.392
425		526	57.983
430		52.519	57.54
435		52.446	57.196
440		52.566	56.746
445		54.521	56.398
450			55.518
455			55.099
460			53.951
465			53.46
470			52.482
475			51.572
480			50.66
485			49.772
490			48.991
495			48.25
500			47.552
505			46.841
510			45.941
515			45.297
520			44.863
525			44.228
530			43.884
535			43.562
540			42.553
545			42.006
550			41.575
555			41.164
560			40.934
565			40.526
570			40.794
575			39.85
580			39.71
585			39.471
590			39.24
595			38.999
600			38.761
605			38.425
610			38.168
615			37.906
620			37.472
625			37.409
630			37.278

SECTION D

Horizontal scale 1:1000
Vertical scale 1:1000

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 05

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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Gold Coast Office
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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-055
REV A

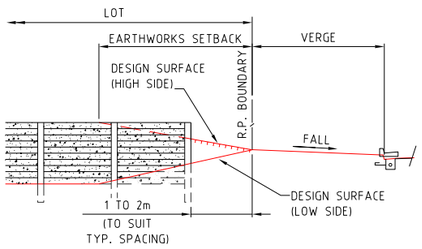
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GENERAL

1. CONTRACT SPECIFICATIONS
   ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
2. SETOUT
   SURVEY SETOUT INFORMATION HAS BEEN ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR TO ENABLE THE CONTRACTOR TO ACCURATELY SETOUT THE WORKS TO THE CO-ORDINATES SHOWN. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. DATUM
   LEVELS SHOWN ARE TO A.H.D.
4. EXISTING SERVICES - EXTERNAL WORKS
   THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.
5. ALL MATERIALS ARISING FROM RETAINING WALL CONSTRUCTION ARE TO BE COMPACTED TO FUTURE STAGES, TO LEVEL 1 OR IF DIRECTED BY THE SUPERINTENDENT SHALL BE TRUCKED TO A LICENSED TIP.

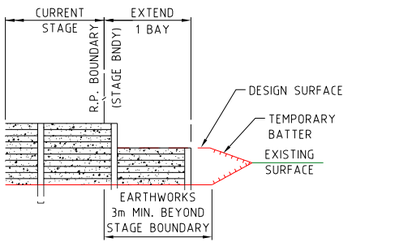
LEGEND

- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- EXISTING RETAINING WALL
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- 1.0 FUTURE CONTOURS
- FUTURE RETAINING WALL
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- 1.0 DESIGN CONTOURS
- PROPOSED SINGLE TIER RETAINING WALL
- PROPOSED TWO TIER RETAINING WALL
- PROPOSED SINGLE TIER "A" GRADE SANDSTONE BLOCK RETAINING WALL
- PL50.4 NOMINAL LOT PAD LEVEL
- RH1.0 INDICATIVE WALL HEIGHT
- DETAIL PAD FALL DIRECTION (CONTRACTOR TO ENSURE LOTS FALL TO ROAD AT 1:150 MIN. REFER DWG. 461)



TYPICAL SIDE BOUNDARY CONSTRUCTION

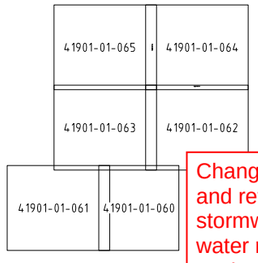
SCALE 1:100 - A1 (1:200 - A3)



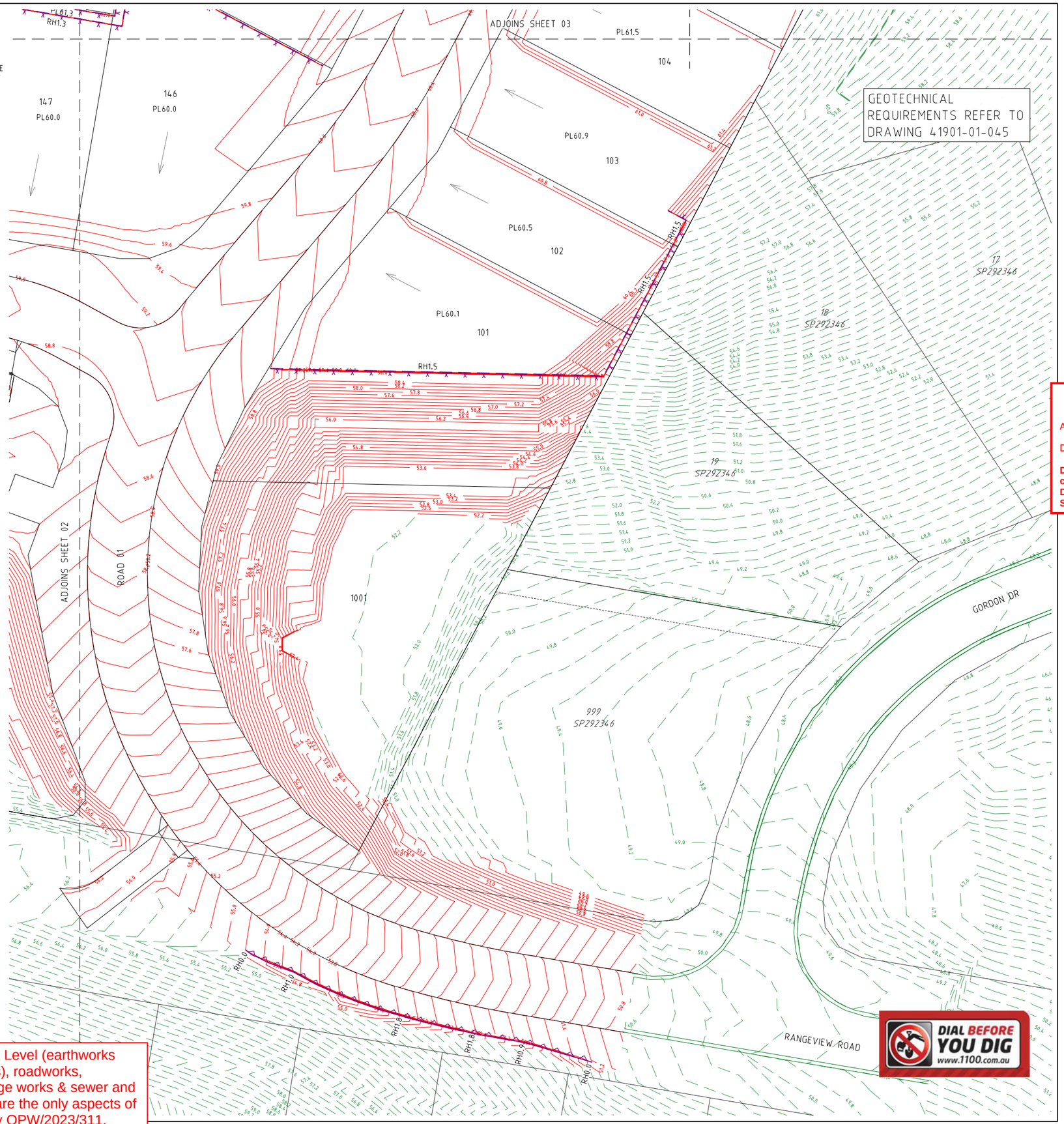
TYPICAL STAGE BOUNDARY CONSTRUCTION

SCALE 1:100 - A1 (1:200 - A3)

SHEET LAYOUT



Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 2.5 5 7.5 10 12.5m
Scale 1:250 - A1 (1:500 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL
Application No.: OPW/2023/311
Dated: 25 August 2023
Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

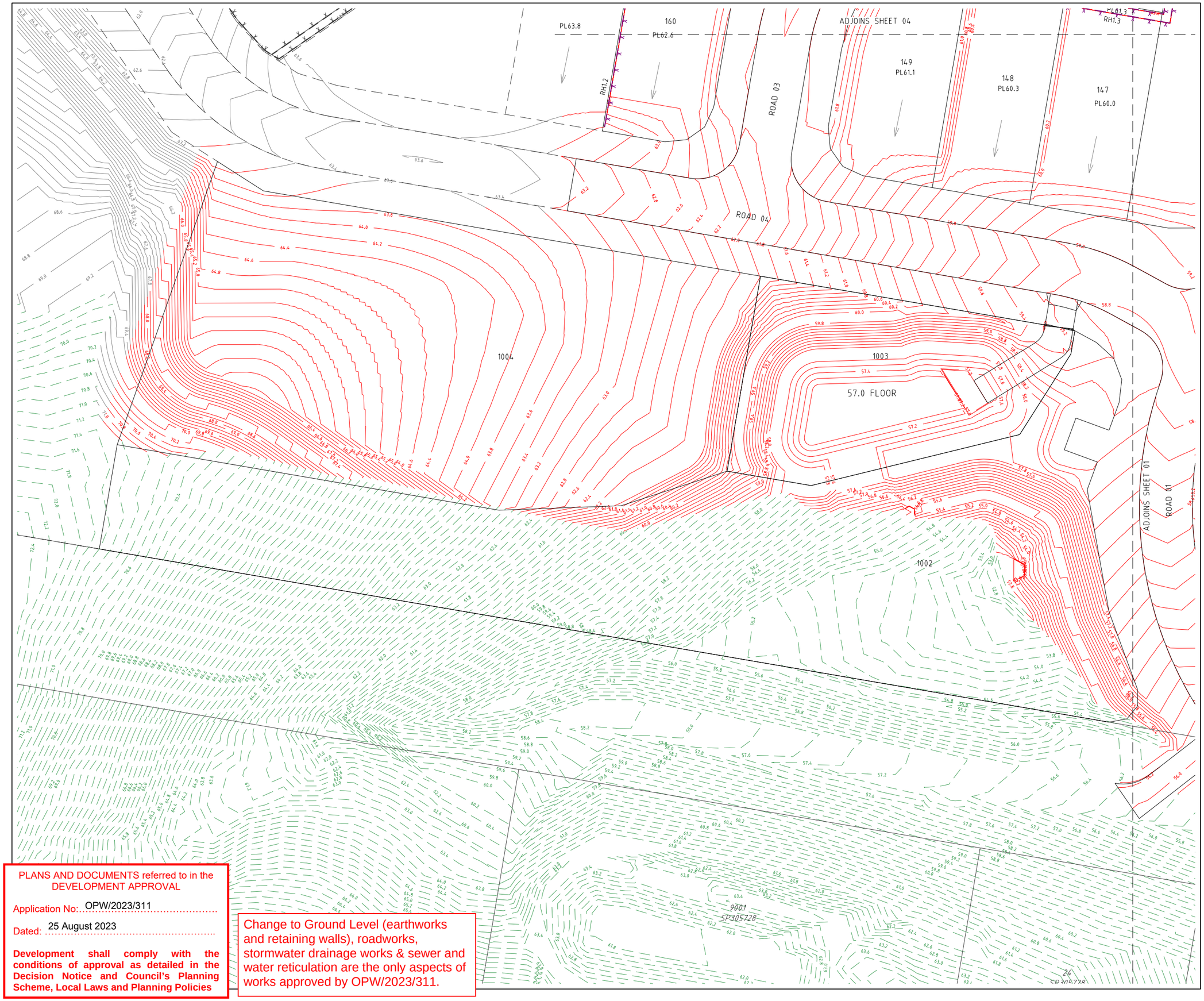
RETAINING WALL AND DETAIL GRADING PLAN SHEET 01

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Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-060
REV B

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-060.dwg, PLAN SHEET 01, 1/08/2023 7:49:16 AM, 12



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 2.5 5 7.5 10 12.5m

Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
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Project Coordination

MUS Pty Ltd T/As:
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-061	B

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

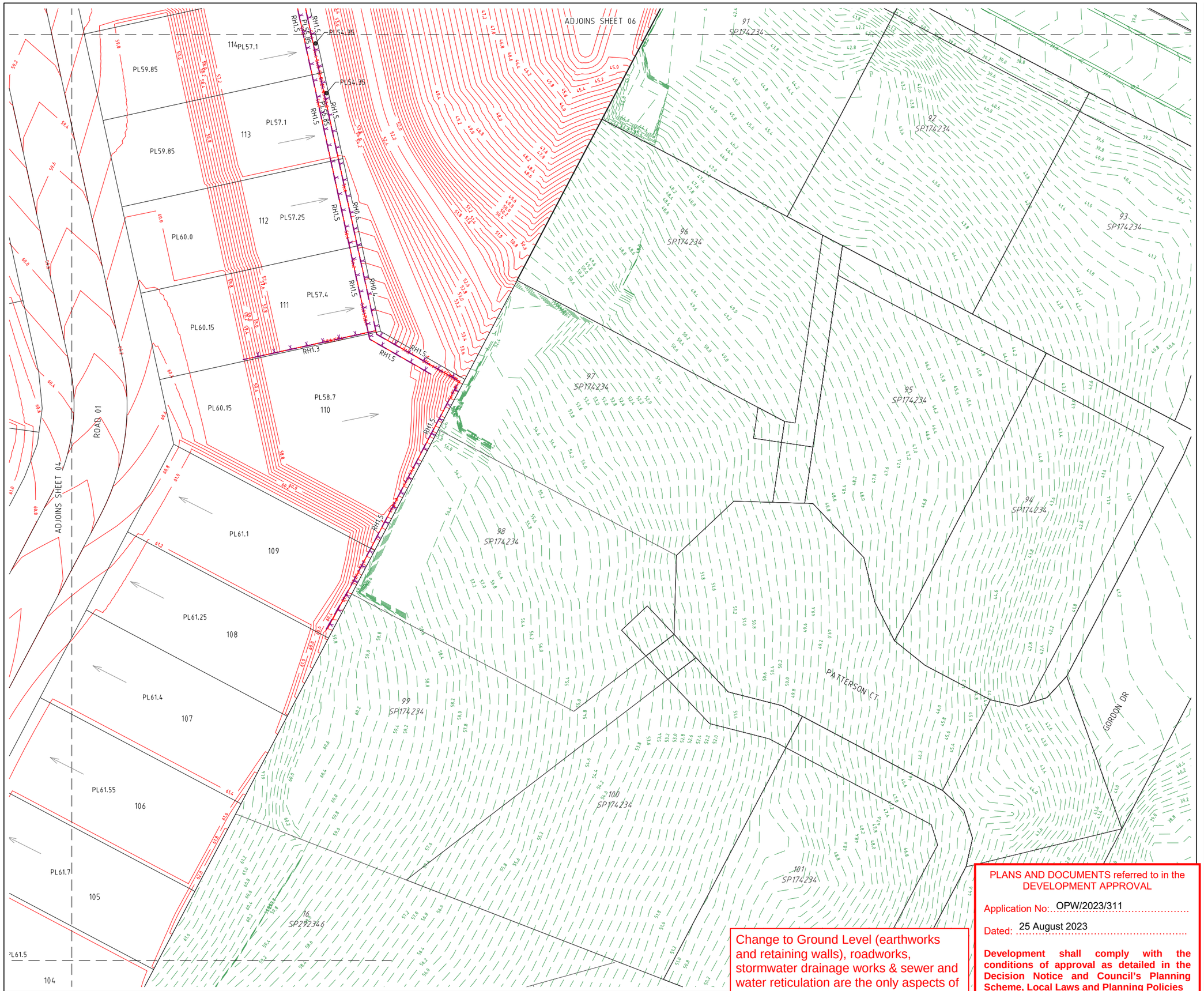
Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-060.dwg, PLAN SHEET 02, 10/08/2023 7:49:26 AM, 1:2



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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 2.5 5 7.5 10 12.5m

Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 03

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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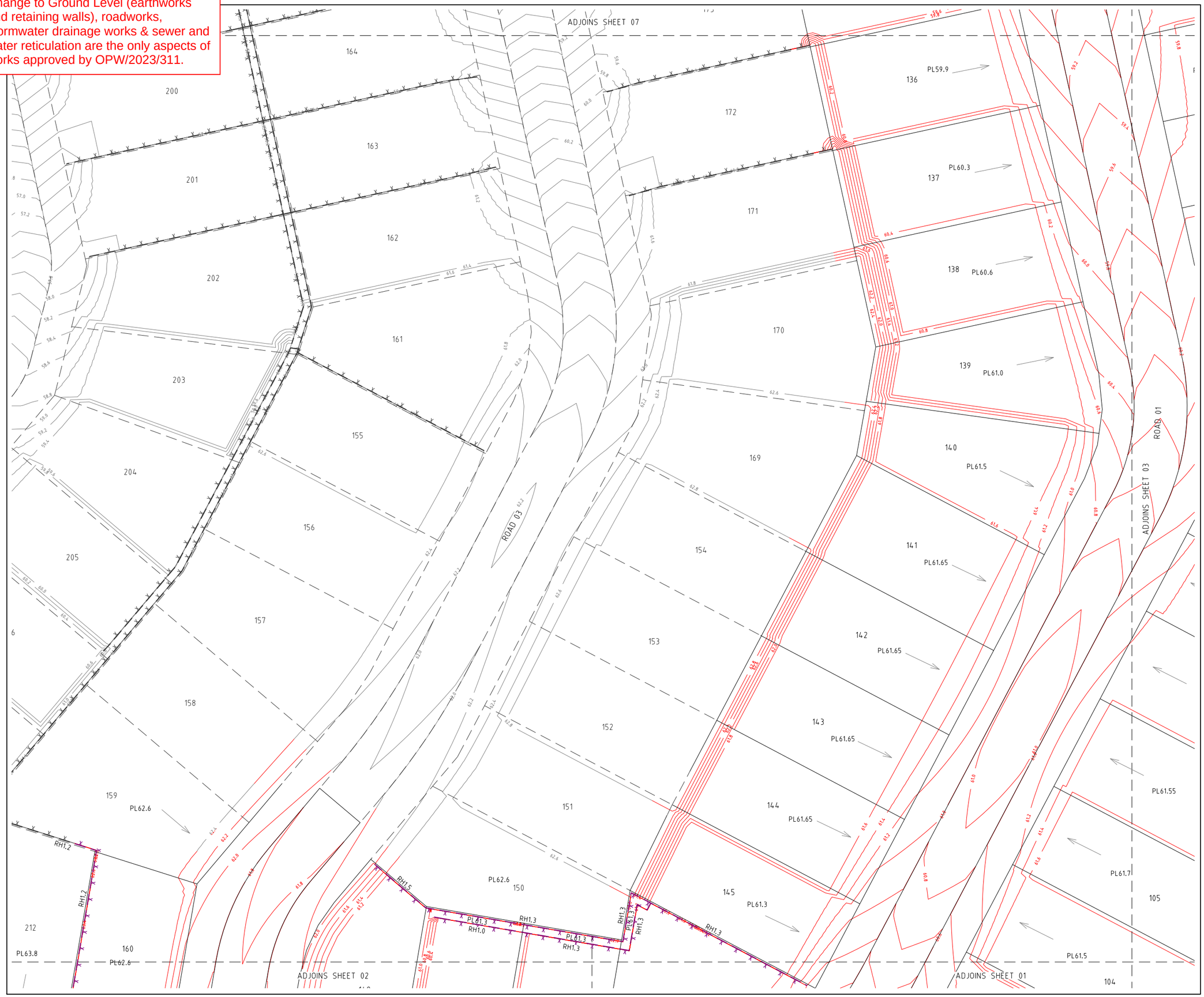
DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-062

REV B

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Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 2.5 5 7.5 10 12.5m
Scale 1:250 - A1 (1:500 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 04

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Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-063	B

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Padmount Transformer Infrastructure to be owned and maintained by the service provider (Energex) inclusive of any retaining structures.

REFER TO STRUCTURAL ARTS SK-01 FOR RETAINING WALL DETAILS

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

ADJOINS SHEET 07

ADJOINS SHEET 03

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 2.5 5 7.5 10 12.5m
Scale 1:250 - A1 (1:500 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

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BENNETT + BENNETT

DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 05

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Urban & Regional Planning
Civil Engineering
Project Coordination

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-064	B

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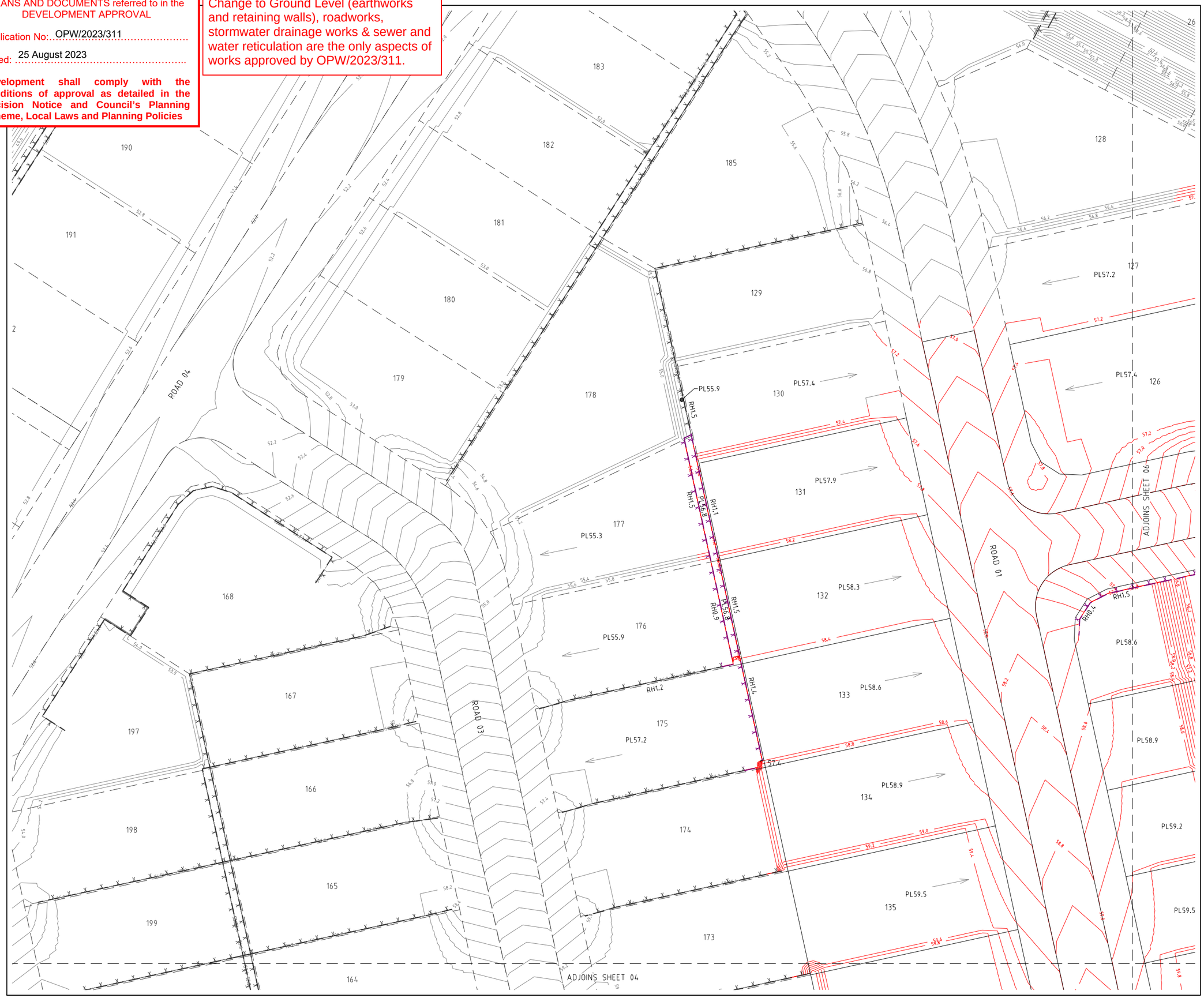
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

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BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

RETAINING WALL AND DETAIL GRADING PLAN SHEET 06

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APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-065

REV B

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NOTES:

1. RETAINING WALL DETAILS ARE INDICATIVE ONLY.
2. CONTRACTOR TO ARRANGE FOR DESIGN & CONSTRUCTION OF WALLS BY RPEQ STRUCTURAL ENGINEER. CONTRACTOR TO PROVIDE STRUCTURAL CERTIFICATION OF DESIGN & FINAL CONSTRUCTION.
3. ALLOW FOR 5KPa LOADING TO WALLS EXCEPT ADJACENT TO ROADS WHICH REQUIRE A 10kPa LOADING.
4. CONTRACTOR TO CONFIRM LOCATION OF LOT BOUNDARY PRIOR TO COMMENCING WALL CONSTRUCTION.
5. THE BUILDING ON THE HIGHER SIDE OF THE RETAINING WALL MUST MAINTAIN AN OFFSET OR APPROPRIATE FOUNDATION STRUCTURES (EG. PIERS) IN ORDER TO ENSURE THE ENTIRE DEPTH OF THE RETAINING WALL IS FREE FROM THE ZONE OF INFLUENCE OF THE BUILDING/OVERBURDEN LOAD UNLESS OTHERWISE SPECIFIED BY STRUCTURAL ENGINEER.
6. STRUCTURAL ENGINEER TO DESIGN SLAB & PIER.
7. AGRICULTURAL DRAIN TO DISCHARGE TO 300x300mm STORMWATER PIT. HOUSE BUILDER TO CONNECT 300x300mm STORMWATER PIT TO ROOFWATER SYSTEM.
8. RETAINING WALL DESIGN TO ALLOW FOR ALL SERVICES (ADJACENT OR BELOW) & HAVE NO IMPACT.
9. SANDSTONE & PROPRIETARY RETAINING WALLS TO BE DESIGNED & CONSTRUCTED TO HAVE VERTICAL FACE UNLESS OTHERWISE AGREED BY THE SUPERINTENDENT.
10. ANY WALL GREATER THAN 0.9M HIGH TO INSTALL A FALL BARRIER AT THE TOP OF WALL. THE FALL BARRIER IS TO BE MAINTAINED UNTIL THE END OF THE MAINTENANCE PERIOD OR THE ASSOCIATED LOT IS SOLD BY THE DEVELOPER.
11. REFER TO LANDSCAPE ARCHITECT FOR RETAINING WALL COLOUR & FINISH.
12. * SETBACK FROM BOUNDARY TO BE.
    200mm SIDE BOUNDARY
    400mm REAR BOUNDARY
    600mm ROAD RESERVE
13. WHERE RETAINING WALLS ARE LOCATED WITHIN 2m OF A PMT SITE THE RETAINING WALL IS TO BE DESIGNED & CONSTRUCTED TO ALLOW EXCAVATION OF THE FULL PMT SITE TO A DEPTH OF 1.3m.
14. FENCE BRACKETS TO BE INSTALLED ON POSTS, NO BRACKETS 5m FROM FRONT BOUNDARY.
15. ALL FOOTINGS MUST BE A MINIMUM OF 200mm FROM PROPERTY BOUNDARY.

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

RETAINING WALL COLOUR AND FACE FINISH NOTE:

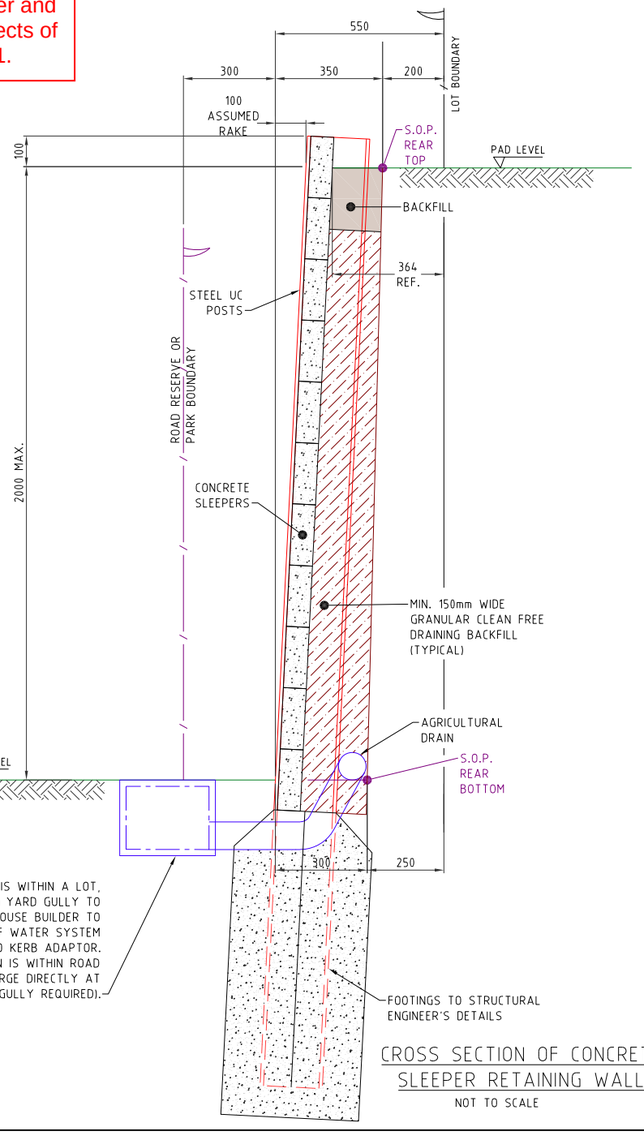
1. RETAINING WALL COLOUR AND FINISH IS TO BE DARK GREY COLOUR WITH SPLIT FACE, STONE OR WOOD PATTERN FINISH

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

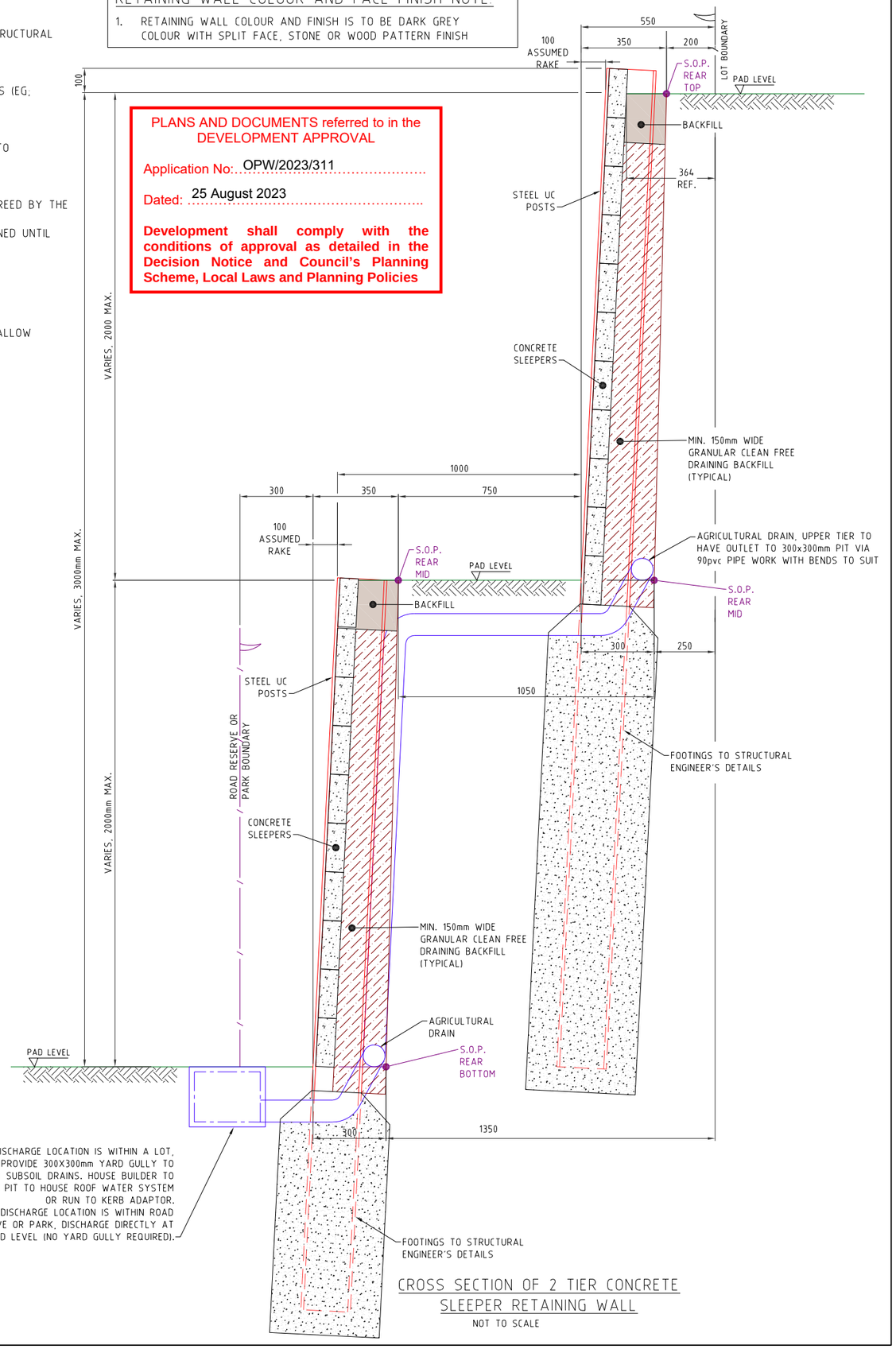
Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



CROSS SECTION OF CONCRETE SLEEPER RETAINING WALL

NOT TO SCALE



CROSS SECTION OF 2 TIER CONCRETE SLEEPER RETAINING WALL

NOT TO SCALE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

RETAINING WALL DETAILS SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ4706	DATE	03-03-23

DRAWING NUMBER 41901-01-070

REV B

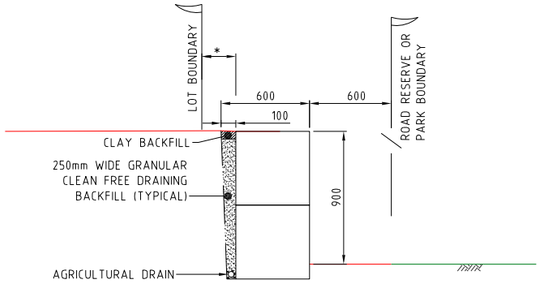
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NOTES:

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14. FENCE BRACKETS TO BE INSTALLED ON POSTS, NO BRACKETS 5m FROM FRONT BOUNDARY.
15. ALL FOOTINGS MUST BE A MINIMUM OF 200mm FROM PROPERTY BOUNDARY.

BOULDER WALL SPECIFIC NOTES

1. BOULDER WALL INDICATIVE ONLY. CONTRACTOR TO CONSTRUCT TO STRUCTURAL ENGINEERS SPECIFICATION
2. BOTTOM ROW OF BOULDERS TO BE KEYED INTO NATURAL GROUND 0.2m (MINIMUM)
3. CONCRETE FOOTING IF DIRECTED BY STRUCTURAL ENGINEER.
4. BOTTOM ROW OF BOULDERS TO BE LAID HORIZONTAL OR TO SLOPE INTO THE FACE OF THE BATTER



GRADE 'A' SANDSTONE BLOCK WALL DETAIL

NOT TO SCALE

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

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LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

RETAINING WALL DETAILS SHEET 02

MORTONS urbansolutions
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Southport QLD 4215

DESIGNED RB	DRAWN EP	
APPROVED	RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-070A	A

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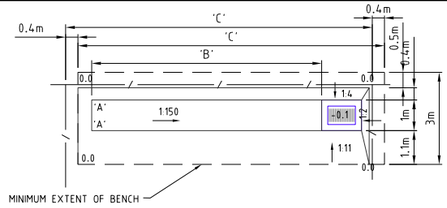
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

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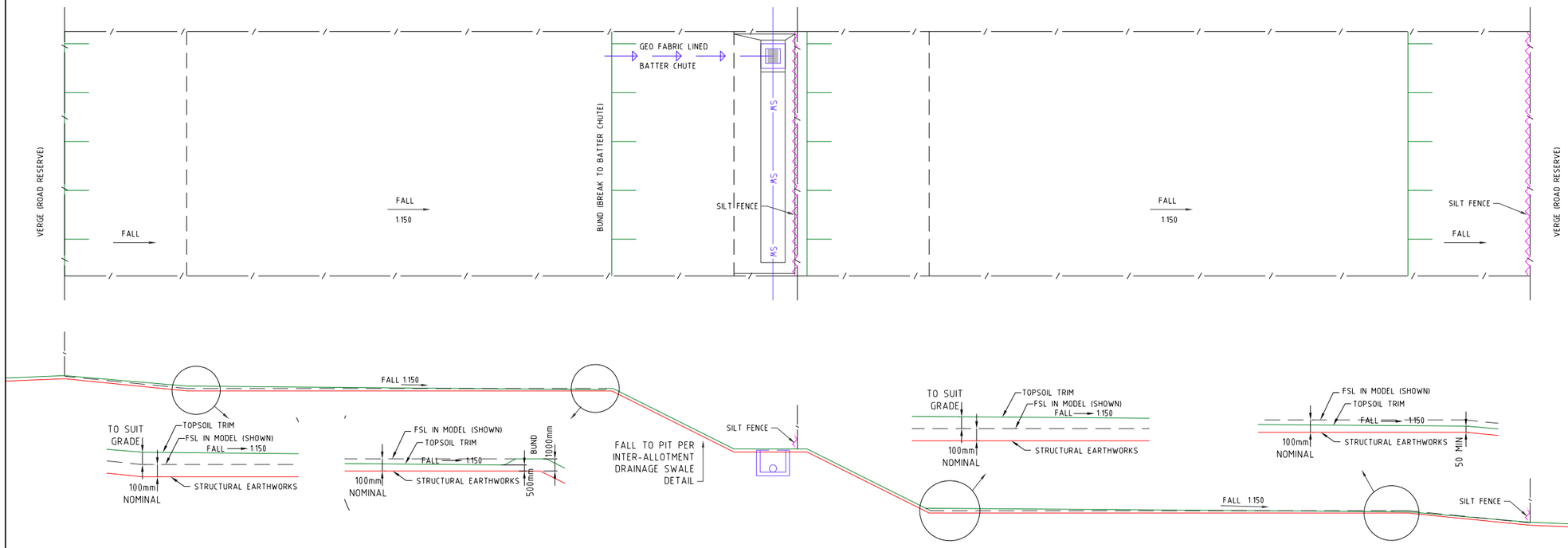
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LOT WIDTH 'C'	HEIGHT 'A'	LENGTH 'B'
10	-0.050	7.500
12.5	-0.033	10.000
14	-0.023	11.500
16	-0.01	13.500
18	0.0	15.000
20	0.0	15.000

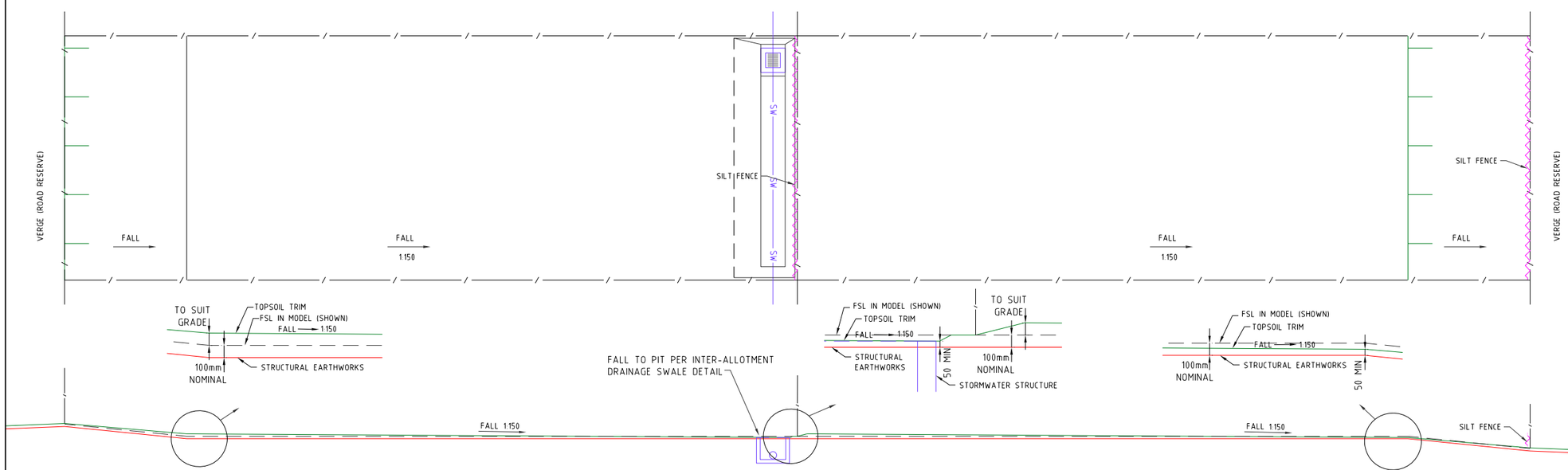
INTER-ALLOTMENT DRAINAGE SWALE

NOTE: GRADING OCCURS WITHIN MODEL, NO ADDITIONAL DEPRESSION OF PIT SURFACE LEVEL REQUIRED.



TYPICAL TOPSOIL TRIM (BENCHED LOTS)

NOT TO SCALE



TYPICAL TOPSOIL TRIM (NON BENCHED LOTS)

NOT TO SCALE

PROJECT NAME

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STAGE 01

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

FINAL TRIM DETAILS SHEET 01

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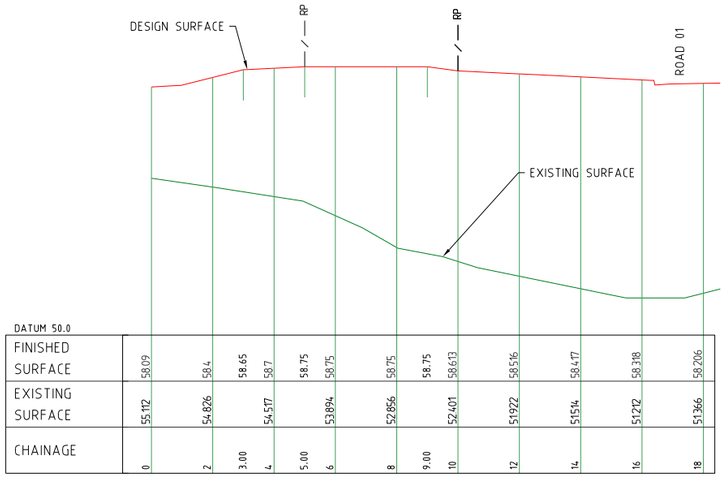
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-071	A

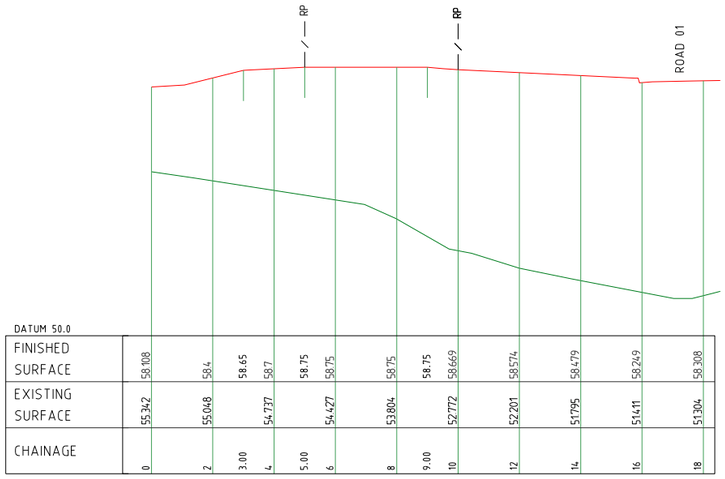
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Padmount Transformer Infrastructure to be owned and maintained by the service provider (Energex) inclusive of any retaining structures.



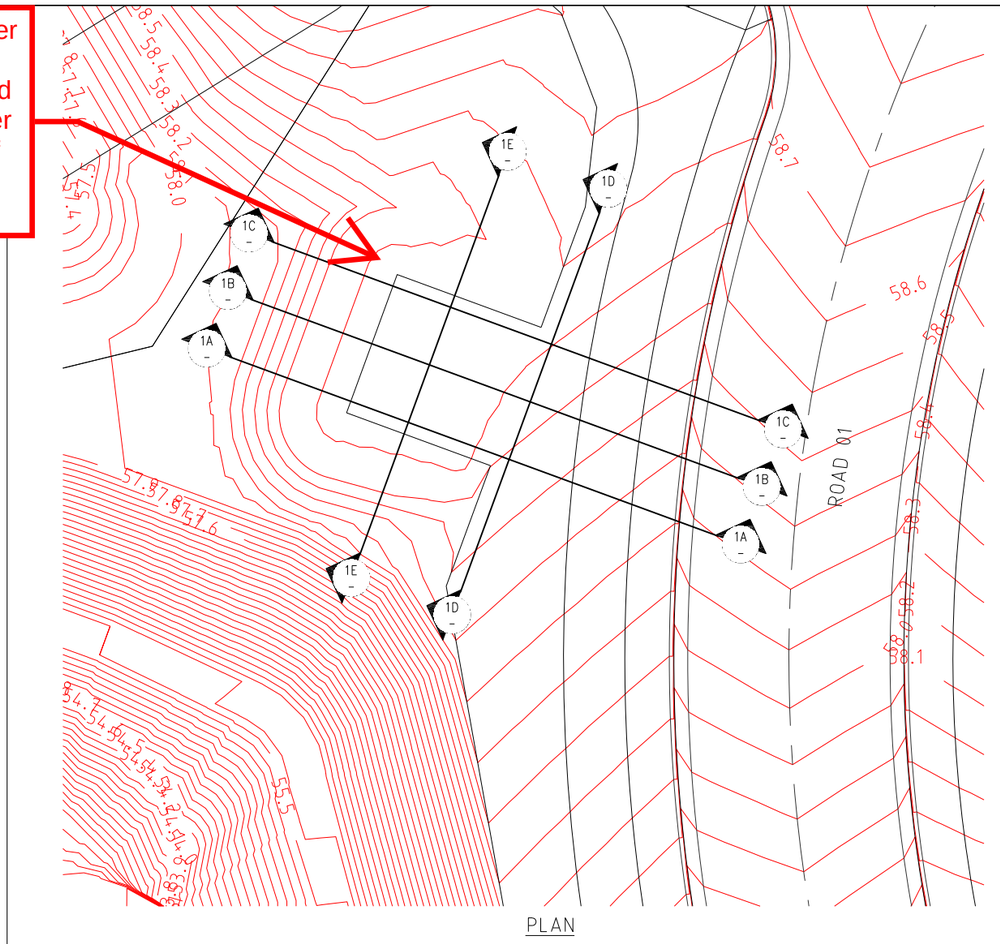
DATUM 50.0													
FINISHED SURFACE	58.09	58.4	58.65	58.7	58.75	58.75	58.75	58.75	58.613	58.516	58.417	58.318	58.206
EXISTING SURFACE	55.112	54.826	54.517		53.894	52.856		52.401	51.922	51.514	51.212		51.366
CHAINAGE	0	2	3.00	4	5.00	6	8	9.00	10	12	14	16	18

SECTION 1A
SCALE 1:100
1:100



DATUM 50.0													
FINISHED SURFACE	58.108	58.4	58.65	58.7	58.75	58.75	58.75	58.75	58.669	58.574	58.479	58.249	58.308
EXISTING SURFACE	55.342	55.048	54.737		54.427	53.804		52.772	52.201	51.795	51.411		51.304
CHAINAGE	0	2	3.00	4	5.00	6	8	9.00	10	12	14	16	18

SECTION 1B
SCALE 1:100
1:100

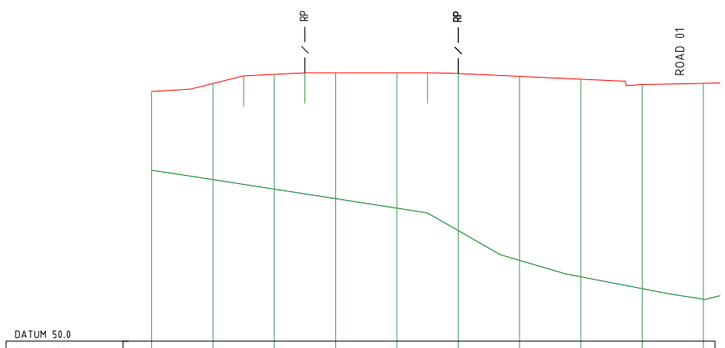


PLAN

LEGEND

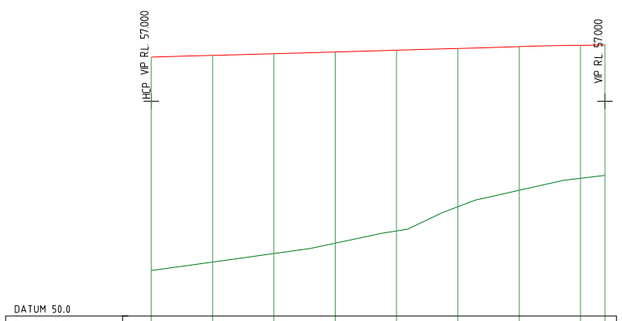
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- 1.0 DESIGN CONTOURS

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.



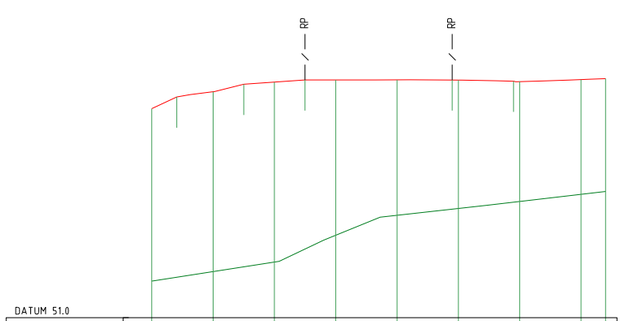
DATUM 50.0													
FINISHED SURFACE	58.14	58.4	58.65	58.7	58.75	58.75	58.75	58.75	58.727	58.634	58.541	58.366	58.407
EXISTING SURFACE	55.571	55.269	54.958		54.648	54.337		53.607	52.637	52.098	51.714		51.369
CHAINAGE	0	2	3.00	4	5.00	6	8	9.00	10	12	14	16	18

SECTION 1C
SCALE 1:100
1:100



DATUM 50.0										
FINISHED SURFACE	58.44	58.494	58.549	58.605	58.663	58.721	58.78	58.824	58.837	
EXISTING SURFACE	51.479	51.756	52.034	52.372	52.77	53.56	54.098	54.488	54.581	
CHAINAGE	0	2	4	6	8	10	12	14	14.8	

SECTION 1D
SCALE 1:100
1:100



DATUM 51.0													
FINISHED SURFACE	57.895	58.194	58.366	58.608	58.679	58.75	58.875	58.975	58.75 / 58.746	58.709 / 58.704	58.761	58.791	
EXISTING SURFACE	52.992		52.504		52.814		53.687	54.338	54.558	54.786	55.019	55.112	
CHAINAGE	0	0.81	2	3.00	4	5.00	6	8	9.80 / 10	11.80 / 12	14	14.8	

SECTION 1E
SCALE 1:100
1:100

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 1 2 3 4 5m
Scale 1:100 - A1 (1:200 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

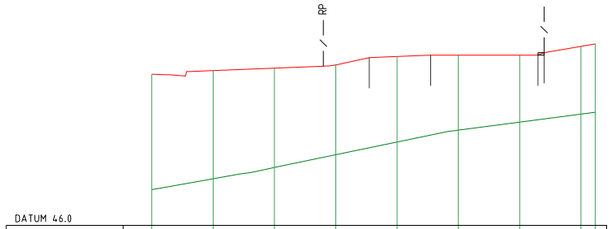
PADMOUNT SECTIONS
PADMOUNT 1
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

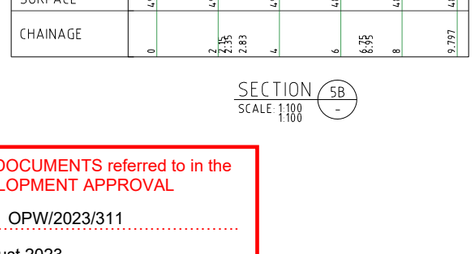
DRAWING NUMBER 41901-01-075 | REV A

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DATUM 46.0													
FINISHED SURFACE	50.925	51.046	51.126	51.231	51.47	51.506	51.55	51.555	51.555	51.555 51.583	51.836	51.95	
EXISTING SURFACE	47.164	47.517	47.885	48.301		48.775		49.103	49.364		49.625	49.686	
CHAINAGE	0	2	4	6	7.10	8	9.10	10	12	12.80	14	14.463	

SECTION 5A
SCALE: 1:100
1:100



DATUM 47.0									
FINISHED SURFACE	52.046	51.861 51.838 51.555	51.555	51.555	51.555	51.555 50.895	50.712	50.4	
EXISTING SURFACE	49.449	49.241	49.01	48.747		48.485	48.248		
CHAINAGE	0	2 2.35 2.83	4	6	6.95	8	9.797		

SECTION 5B
SCALE: 1:100
1:100

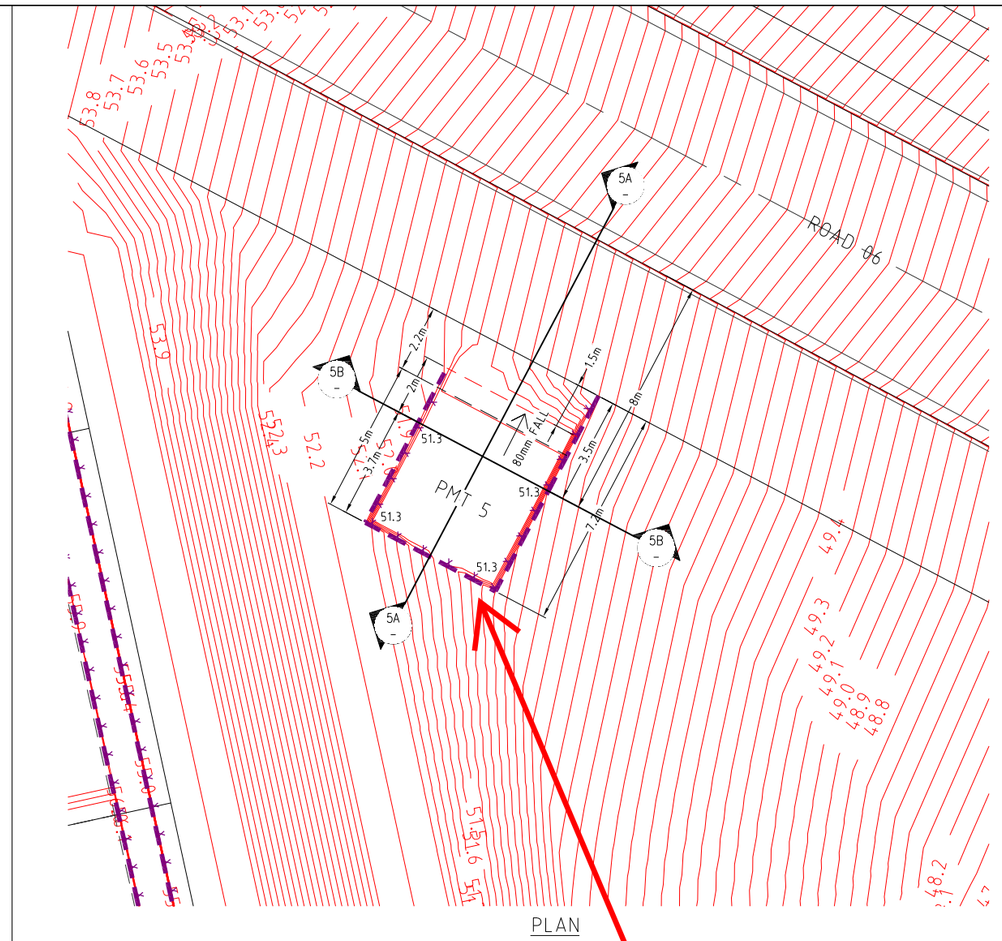
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PLAN

LEGEND

- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- 1.0 DESIGN CONTOURS

NOTE:
FOR DETAILS RELATING TO RETAINING WALLS REFER TO STRUCTURAL ARTS DRAWING SK-01 ENERGEX PADMOUNT TRANSFORMER 5 PLAN & DETAILS

Padmount Transformer Infrastructure to be owned and maintained by the service provider (Energex) inclusive of any retaining structures.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 1 2 3 4 5m
Scale 1:100 - A1 (1:200 - A3)

REV	DATE	DESCRIPTION	INT
A	01-08-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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PADMOUNT SECTIONS
PADMOUNT 5
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-076
REV: A

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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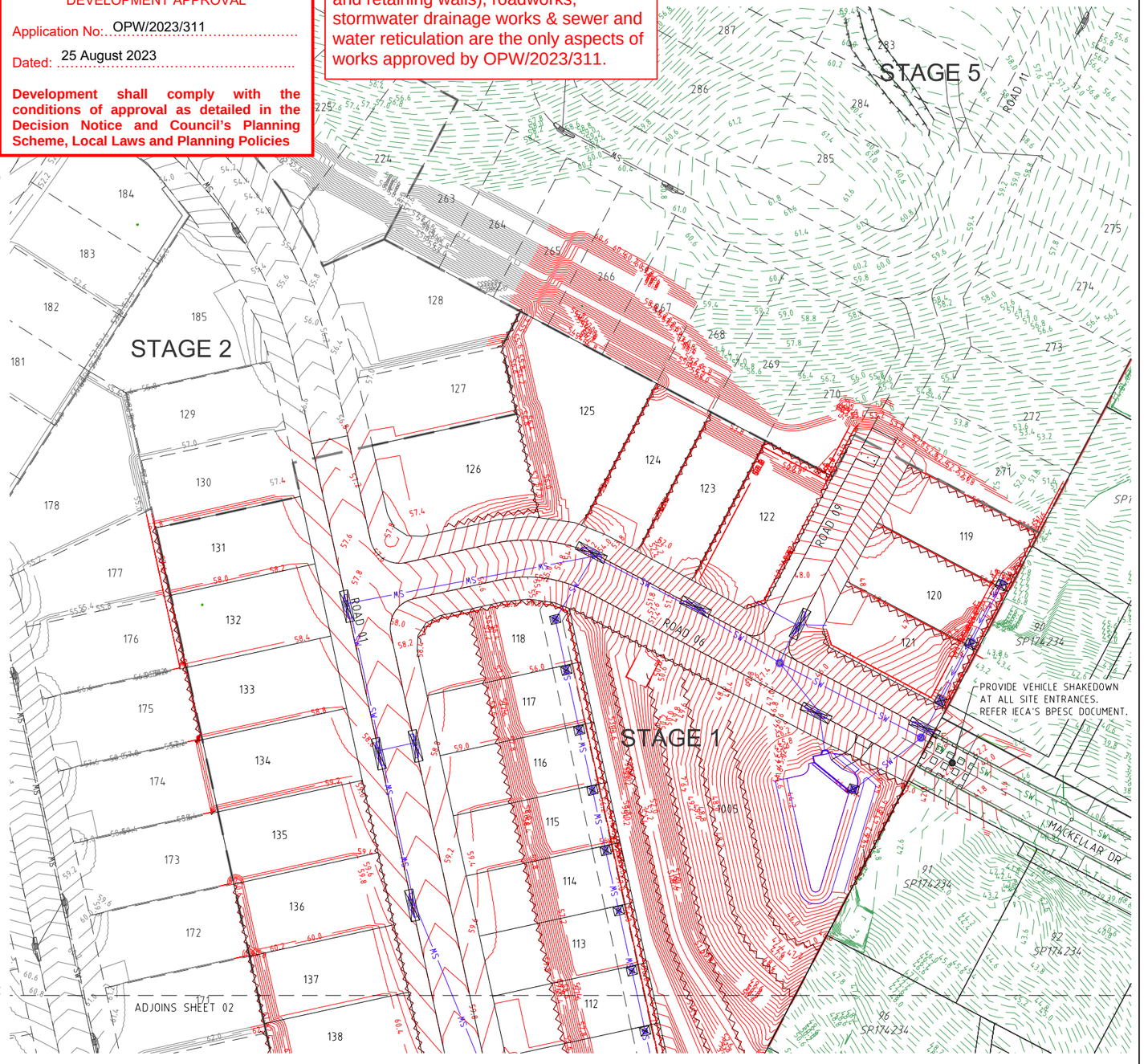
SEDIMENT AND EROSION

1. THE EROSION & SEDIMENT CONTROL DEVICES SHOWN ON THESE DRAWINGS ARE INDICATIVE & PROVIDED FOR SUBMISSION TO LOCAL AUTHORITY ONLY. NOTWITHSTANDING THE EROSION & CONTROL DEVICES SHOW ON THESE DRAWINGS, THE CONTRACTOR MUST PREPARE & FOLLOW A SITE SPECIFIC EROSION & SEDIMENT CONTROL PLAN TO MEET ALL LOCAL & STATE GOVERNMENT LEGISLATION INCLUDING BUT NOT LIMITED TO:
   a. ENVIRONMENTAL PROTECTION ACT WITH SPECIFIC REFERENCE TO PARTS S440G & S319
   b. STATE PLANNING POLICY

   PRESCRIBED WATER CONTAMINANTS (AS DEFINED IN THE ENVIRONMENTAL PROTECTION ACT 1994) MUST NOT BE RELEASED FROM THE SITE OR TO WATERS WITHIN THE SITE, OR BE LIKELY TO BE RELEASED SHOULD RAINFALL OCCUR, UNLESS ALL REASONABLE & PRACTICABLE MEASURES ARE TAKEN TO PREVENT OR MINIMISE THE RELEASE & CONCENTRATION OF CONTAMINATION. THE ESC PLAN MUST BE DESIGNED, IMPLEMENTED & MAINTAINED IN ACCORDANCE WITH "BEST PRACTICE EROSION & SEDIMENT CONTROL" PUBLISHED BY THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIAN CHAPTER) (IECA, 2008).
2. TO COMPLY WITH THE REQUIREMENTS OF THE EP ACT & BEST PRACTICE DESIGN, THE SEDIMENT BASINS ON THE SITE MUST BE DESIGNED & IMPLEMENTED TO ACHIEVE THE FOLLOWING:
   SEDIMENT BASINS ARE TO BE DESIGNED, IMPLEMENTED & MAINTAINED TO A STANDARD WHICH WOULD ACHIEVE AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME OF THE CONTRIBUTING CATCHMENT TREATED (I.E. 80% HYDROLOGIC EFFECTIVENESS) TO 50MG/L TSS OR LESS & PH IN THE RANGE 6.5-8.5

   THIS WILL REQUIRE THE INSTALLATION & OPERATION OF A HIGH-EFFICIENCY SEDIMENT BASIN(S) DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED IN THE "BEST PRACTICE EROSION & SEDIMENT CONTROL - APPENDIX B SEDIMENT BASIN DESIGN & OPERATION" PUBLISHED BY THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIAN CHAPTER) (IECA, 2016, DRAFT)
3. THE EROSION & SEDIMENT CONTROL PLAN MUST BE PREPARED & CERTIFIED BY A CERTIFIED PROFESSIONAL IN EROSION & SEDIMENT CONTROL & FOLLOW THE REQUIREMENTS OUTLINED IN IECA'S BEST PRACTICE EROSION & SEDIMENT CONTROL DOCUMENT & THE QUEENSLAND URBAN DRAINAGE MANUAL.
4. PRIOR TO THE COMMENCEMENT OF WORKS ONSITE THE CONTRACTOR MUST MAKE THEMSELVES AWARE OF ALL PREVIOUS GEOTECHNICAL REPORTS & DETERMINE THE DISPERSIVE CHARACTERISTICS OF THE SOIL (INCLUDING PERFORMING ANY SOIL TESTS IF REQUIRED). THE RESULTS OF THIS REVIEW & ANY TESTS MUST BE INCLUDED IN THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN. A COPY OF ALL TEST RESULTS MUST BE PROVIDED TO THE SUPERINTENDENT.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION & DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION (INCLUDING THE MAINTENANCE PERIOD). NOTWITHSTANDING THE CONTROL MEASURES OR FINISHED EARTHWORKS DESIGN SHOWN ON THESE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ADDITIONAL OR ALTERNATIVE EROSION & SEDIMENT CONTROL MEASURES TO MINIMISE SEDIMENT ACROSS OR LEAVING THE SITE.
6. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS (INCLUDING WEEKENDS & PUBLIC HOLIDAYS) & AT ALL TIMES REMAINS RESPONSIBLE TO:
   a) CLEAN & REPAIR CONTROL DEVICES WHENEVER THE ACCUMULATED SEDIMENT REDUCES THEIR CAPACITY BY 50%.
   b) MAINTAIN POSITIVE GRADES OF ALL PERIMETER BANKS & SWALES TO AN OUTLET.
   c) PROTECT ANY DOWNSTREAM CONSTRUCTION.
   d) CONTROLLING DUST.
   e) MEASURES HAVE BEEN INSTALLED IN ACCORDANCE WITH DETAILS OUTLINED IN THEIR EROSION & SEDIMENT CONTROL PLAN & AS DIRECTED BY THE SUPERINTENDENT.
7. THE CONTRACTOR'S PLAN SHALL ALLOW FOR SUITABLE ACCESS TO ALLOW MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. NO ADDITIONAL VEGETATION CLEARING IS PERMITTED FOR GAINING ACCESS UNLESS APPROVED BY THE SUPERINTENDENT.
8. THE CONTRACTOR MAY REQUEST APPROVAL FROM THE SUPERINTENDENT TO REUSE THE STOCKPILED MULCH FOR STABILISING BATTERS ONLY IN LOCATIONS WHERE THE APPROVED LANDSCAPE OPW DESIGN REQUIRES MULCH ULTIMATELY.
9. CONSTRUCTION STOCKPILING
   a) TOPSOIL SHALL BE STRIPPED & STOCKPILED IN LOCATIONS NOMINATED ON THE CONSTRUCTION DRAWINGS OR IN LOCATIONS AGREED WITH THE SUPERINTENDENT.
   b) ADDITIONAL VEGETATION CLEARING IS NOT PERMITTED TO FACILITATE THE STOCKPILING OF MATERIALS UNLESS SHOWN ON THE APPROVED VEGETATION MANAGEMENT PLAN.
   c) ANY STOCKPILE SITE MUST BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES.
   d) NO STOCKPILES ARE TO BE LOCATED WITHIN THE TREE PROTECTION ZONE OF VEGETATION.
   e) A TEMPORARY SILT FENCE IS TO BE ERECTED APPROXIMATELY 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING.
10. NOTWITHSTANDING THE DETAILS SHOWN IN THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN, DURING CONSTRUCTION THE CONTRACTOR MUST:
    a) SIZE ALL TEMPORARY SEDIMENT BASINS APPROPRIATELY TO TREAT THE UPSTREAM CATCHMENT. NOTE THAT THE PERMANENT BIO BASINS SHOWN ON THESE DRAWINGS ARE SIZED FOR THE ULTIMATE CATCHMENT NOT FOR THE CONSTRUCTION PHASE.
    b) PLACE A ROCK BUND AROUND ALL HEADWALLS DURING CONSTRUCTION.
    c) PROVIDE KERB INLET PROTECTION TO ALL GULLIES.
    c) PLACE A MINIMUM 1.0m WIDE TURF STRIP BEHIND ALL KERBS & IN A HERRINGBONE LAYOUT WITHIN THE ROAD VERGE.
    d) MAINTENANCE (INCLUDING FLOCCULATION IF REQUIRED & PUMP OUT) OF ALL CONSTRUCTION SEDIMENT BASINS (WHETHER EXISTING OR NEW).
    e) CLEAN OUT OF ALL GROSS POLLUTANT TRAPS, SEDIMENT FOREBAYS & ALL OTHER PERMANENT SEDIMENT CONTROL DEVICES AT BOTH ON & OFF MAINTENANCE.
11. CONTRACTOR TO CONFIRM THE EXTENTS OF REQUIRED GRASSING TREATMENTS WITH THE SUPERINTENDENT AT LEAST 7 DAYS PRIOR TO FINAL TRIMMING.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT GRASSING STRIKE RATES ARE ACHIEVED AT THE ON & OFF MAINTENANCE INSPECTIONS IN ACCORDANCE WITH COUNCIL REQUIREMENTS. THIS INCLUDES THE SUPPLY & INSTALLATION OF ANY REQUIRED CHEMICAL/FERTILISER AMELIORATION TO ACHIEVE THE SPECIFIED GRASS STRIKE RATES.
13. GEOFABRIC LINING OF CHANNELS & CHECK DAMS MAY BE REQUIRED SUBJECT TO THE SITE CONDITIONS.
14. BATTERS WITHIN PUBLIC OPEN SPACE TO BE VEGETATED IN ACCORDANCE WITH APPROVED OPEN SPACE MANAGEMENT PLAN & LANDSCAPING OPW. CONTRACT DOCUMENTATION WILL SPECIFY WHETHER THIS IS THE CIVIL CONTRACTOR OR THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO SUPPLY & INSTALL. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUITABLE ACCESS FOR THE LANDSCAPE CONTRACTOR TO PERFORM THEIR WORKS.
15. MAINTENANCE PERIOD (PRE TO POST CONSTRUCTION)
    a) ALL PROTECTION MEASURES ARE TO BE INSPECTED & MAINTAINED REGULARLY
    b) REPAIRS ARE TO BE EFFECTED IMMEDIATELY.
    c) SILT AFTER RAIN IS TO BE CLEANED FROM STREETS & ALLOTMENTS IMMEDIATELY & CORRECTIVE ACTION TAKEN TO AVOID A RE-OCCURRENCE.
    d) AT OFF-MAINTENANCE & ONLY WHEN DIRECTED BY COUNCIL, REMOVE & DISPOSE OFFSITE ALL TEMPORARY EROSION & SEDIMENT CONTROL DEVICES.

NOTE:
SEDIMENT AND EROSION CONTROL MEASURES SHOWN RELATE TO THE FINISHED SURFACE ONLY AND ARE CONCEPTUAL ONLY. THE CONTRACTOR IS TO PREPARE A SITE SPECIFIC CONSTRUCTION AND MAINTENANCE PHASE SEDIMENT AND EROSION CONTROL PLAN.



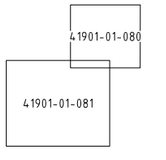
LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- EXISTING STORMWATER
- EXISTING CONTOURS
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- FUTURE STORMWATER
- FUTURE CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED STORMWATER
- DESIGN CONTOURS

- MANHOLE
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SEDIMENT FENCE
- SCOUR PROTECTION
- TEMPORARY SEDIMENT BASIN
- STORMWATER INLET FILTER
- ROCK CHECK DAM
- VEHICLE SHAKEDOWN (AT ALL SITE ENTRANCES MIN.)
- TREES

PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION BPESC DOCUMENT.

SHEET LAYOUT



DIAL BEFORE YOU DIG www.1100.com.au

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
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ASSOCIATED CONSULTANTS

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BENNETT+BENNETT

DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-080 REV B

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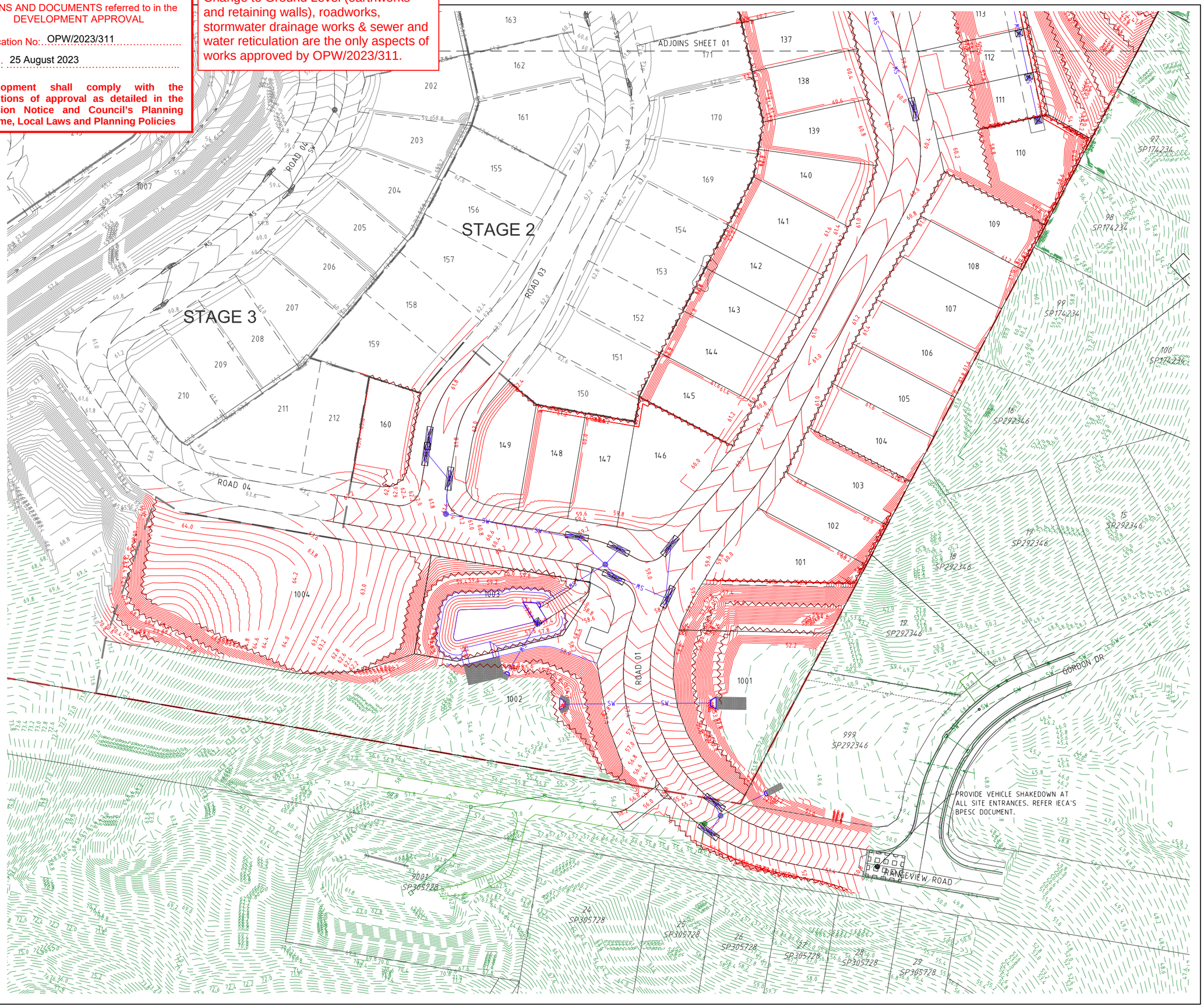
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RP DESCRIPTION

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LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
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CONSTRUCTION SERVICES

1. CONSTRUCTION OF SEWER/ROOFWATER/STORMWATER/SERVICES
   EXCAVATED MATERIAL TO BE PLACED ON HIGH SIDE OF TRENCH & TO PROTECT PIPE WORK & DIRECT SURFACE MATERIAL AWAY FROM EXCAVATIONS.
   TOPSOIL & GRASS SEED AREAS IN ALLOTMENTS IMMEDIATELY AFTER COMPLETING THE SEWER & ROOFWATER DRAINAGE CONSTRUCTION.
   DEPRESS GROUND AROUND TEMPORARY FIELD INLETS TO CREATE SILT POND.
2. TRIP HAZARD
   MANHOLES OR STRUCTURES INSTALLED IN THE ROAD, FOOTPATH OR VERGE MUST MATCH NEATLY WITH NO TRIP HAZARD.
3. EXISTING SERVICES - EXTERNAL WORKS
   THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- EXISTING FOOTPATH
- RM — EXISTING RISING MAIN
- S — EXISTING SEWER
- SW — EXISTING STORMWATER
- RW — EXISTING ROOFWATER
- SS — EXISTING SUBSOIL
- W100 — EXISTING WATER
- W150 — EXISTING WATER
- W200 — EXISTING WATER
- W225 — EXISTING WATER
- W250 — EXISTING WATER
- W300 — EXISTING WATER
- EXISTING WATER CONDUIT
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED FOOTPATH
- RM — PROPOSED RISING MAIN
- S — PROPOSED SEWER
- SW — PROPOSED STORMWATER
- RW — PROPOSED ROOFWATER
- SS — PROPOSED SUBSOIL
- W100 — PROPOSED WATER
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- W200 — PROPOSED WATER
- W225 — PROPOSED WATER
- W250 — PROPOSED WATER
- W300 — PROPOSED WATER
- PROPOSED WATER CONDUIT
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- FUTURE FOOTPATH
- RM — FUTURE RISING MAIN
- S — FUTURE SEWER
- SW — FUTURE STORMWATER
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- W200 — FUTURE WATER
- W225 — FUTURE WATER
- W250 — FUTURE WATER
- W300 — FUTURE WATER
- FUTURE WATER CONDUIT
- SITE BOUNDARY
- STAGE BOUNDARY

STAGE 1
STAGE 2
STAGE 4
STAGE 5

ROAD 01
ROAD 03
ROAD 04
ROAD 06
ROAD 08
ROAD 09
ROAD 10
ROAD 11
MACKELLAR DR

ADJOINS SHEET 02

86 SP174234
89 SP174234
90 SP174234
91 SP174234
92 SP174234
93 SP174
95 SP174234
96 SP174234
97 SP174234

SHEET LAYOUT

41901-01-090
41901-01-091

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	STORMWATER BASIN ACCESS AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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COMBINED SERVICES PLAN
SHEET 01

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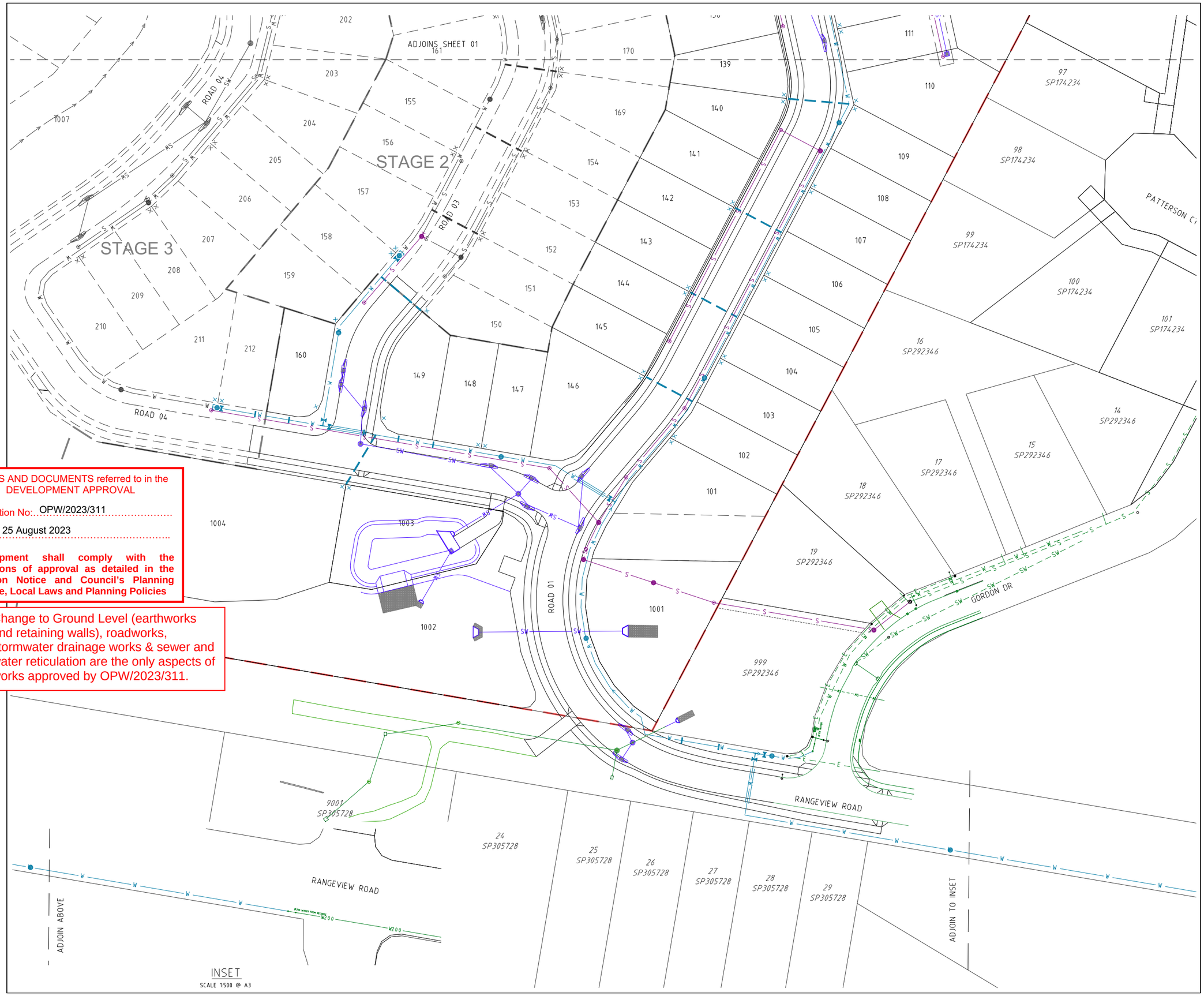
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APPROVED	RPEQ 4706	DATE	03-03-23

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HB Land

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0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

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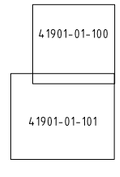
ROADWORKS

1. PAVEMENT DEPTHS
   a) THE DESIGN PAVEMENT DEPTHS ALLOWED IN EARTHWORKS CALCULATIONS ARE BASED ON THE DEPTHS SHOWN IN THE SCHEDULE OF PAVEMENT DEPTHS ON DRAWING 120.
   b) THE PAVEMENT DEPTHS GIVEN ARE DESIGN DEPTHS ONLY & MAY BE VARIED AFTER SUB-GRADE TESTS ARE TAKEN. THE CONTRACTOR IS TO PROVIDE THE SUPERINTENDENT A SUBGRADE C.B.R. REPORT PREPARED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.
   THE SUPERINTENDENT WILL COORDINATE THE AUTHORITIES APPROVAL OF THE PAVEMENT DESIGN.
   c) REFER TO DWG. 120 FOR TYPICAL ROAD SECTIONS.
2. TESTING
   ALL COMPACTION TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY. ALL SITE FILLING SHALL BE TESTED AT LEVEL 1 REQUIREMENTS.
3. SUBSOIL DRAINS
   SUBSOIL DRAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL AUTHORITY'S SPECIFICATIONS. SUBSOIL DRAINS SHALL BE PLACED UNDER ALL KERB STRUCTURES & ARE TO BE CONSTRUCTED TO A DEPTH GREATER THAN THAT OF THE INVERT OF THE DEEPEST SERVICE CROSSING.
4. MITRE DRAINS
   MITRE DRAINS ARE TO BE CONSTRUCTED ALONG THE CUT/FILL INTERFACE & SAG/LOW POINTS OF ALL ROADS. CONTRACTOR TO REQUEST DIRECTION FROM SUPERINTENDENT WHETHER TO INSTALL MITRE DRAIN AT ROCK ENCOUNTERED IN SUBGRADE. ALL MITRE DRAINS MUST BE FREE DRAINING & TIE INTO THE ADJACENT SUBSOIL DRAINS.
5. ROCK
   THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR RATES.
6. TURF
   1.0m TURF STRIP TO BE INSTALLED BEHIND THE BACK OF ALL KERBS. A PERPENDICULAR TURF STRIP AT MAXIMUM 10m INCREMENTS MUST BE INSTALLED TO FULL VERGE WIDTH FOR SEDIMENT & EROSION CONTROL PURPOSES.
7. KERBS
   ALL KERBS TO BE CONSTRUCTED IN ACCORDANCE WITH AUTHORITY STANDARDS
8. PAVEMENT TIE-IN
   PAVEMENT TIE-IN TO BE IN ACCORDANCE WITH DWG. 120

LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- FUTURE CONTOURS
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- DESIGN CONTOURS
- PROPOSED CONCRETE
- 41.065 CENTRELINE CHAINAGE

SHEET LAYOUT



REFER TO DRG. 120 FOR KERB TYPES — B1 BARRIER KERB & CHANNEL

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STAGE 4 · STAGE 5 · STAGE 2 · STAGE 1

ROAD 10 · ROAD 11 · ROAD 01 · ROAD 07 · ROAD 08 · ROAD 09

TYPE 3 METAL BOLLARDS AT 1.5m CENTRES AS GCCC DRAWING 05-717

LIMIT ROADWORKS CH 499.517

LIMIT ROADWORKS CH 34.324

LIMIT ROADWORKS CH 143.935

CONSTRUCT 1.5m WIDE FOOTPATH IN ACCORDANCE WITH GCCC STD DWG 02-401 & IPWEA STD DWG RS-065

CONSTRUCT PRAM RAMPS IN ACCORDANCE WITH IPWEAQ STANDARD DWG RS-090 (TYPICAL)

CONSTRUCT 2m WIDE FOOTPATH IN ACCORDANCE WITH GCCC STD DWG 02-401 & IPWEA STD DWG RS-065 (TYPICAL)

GUARD RAIL AS PER TMR STD DWG 1475. LOCATED 0.2m FROM KERB INVERT & LENGTH 30m.

1m x 1m BIN PADS, 2 PER LOT

SAWCUT & MATCH NEATLY TO EXISTING PAVEMENT

CONSTRUCT 4m WIDE 150mm THICK ACCESS DRIVEWAY FOR BASIN C, IN ACCORDANCE WITH IPWEA STD DWG RS-049 & RS-050

MACKELLAR DR · GORDON DR

ADJOINS SHEET 02

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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ROADWORKS PLAN SHEET 01

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41901-01-100	C

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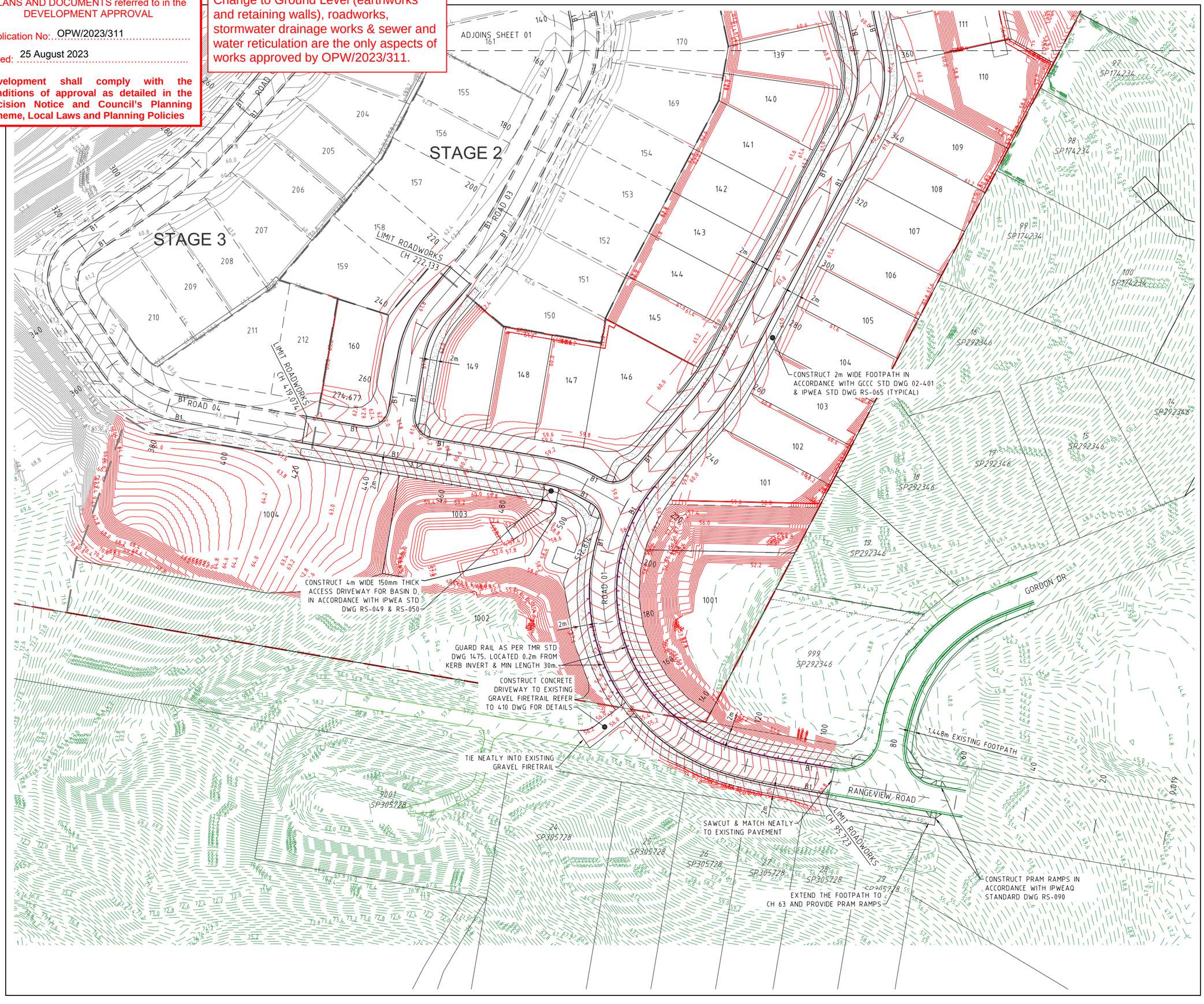
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ROADWORKS
PLAN
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41901-01-101	B

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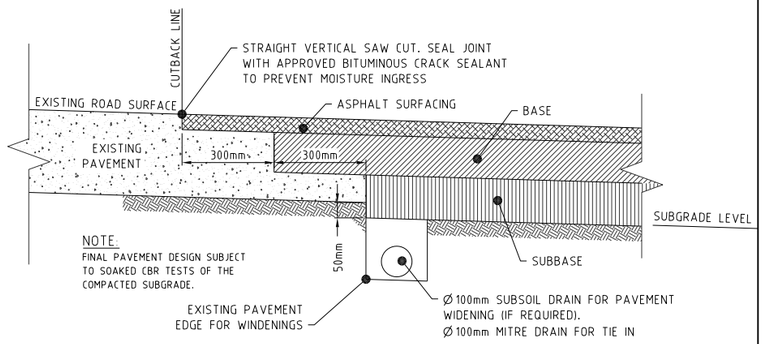
SCHEDULE OF PAVEMENT DEPTHS

ROAD NAME	SURFACING	BASE	SUB-BASE	LOWER SUB-BASE	CLASSIFICATION	DESA OR VPD	DESIGN GUIDE
ROAD 01	25mm ASPHALT	100mm TYPE 2.1 (CBR 60)	100mm TYPE 2.3 (CBR 45)	100mm TYPE 2.5 (CBR 15)	RESIDENTIAL COLLECTOR ST	3000	GCCC TABLE 2.11
ROAD 03, 04 & 06	25mm ASPHALT	100mm TYPE 2.1 (CBR 60)	100mm TYPE 2.3 (CBR 45)	100mm TYPE 2.5 (CBR 15)	RESIDENTIAL ACCESS ST	401-750	GCCC TABLE 2.11

NOTE. THE PAVEMENT DEPTHS ARE GIVEN AS A GUIDE ONLY AND FINAL PAVEMENT DESIGN WILL BE DETERMINED AFTER CBR TESTING IS UNDERTAKEN, AND COUNCIL HAVE APPROVED THE DESIGN. PLEASE NOTE CBR10 IS MAXIMUM INSITU CBR VALUE.

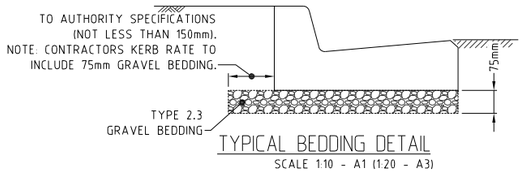
SCHEDULE OF KERB TYPES

KERB TYPE	IMAGE	REFERENCE
B1		IPWEA DWG. RS-080 NOTE: SUBSOIL DRAINS TO BE PLACED UNDER ALL KERBS.
B2		



PAVEMENT WIDENING AND TIE-IN DETAIL

NOT TO SCALE



TYPICAL BEDDING DETAIL

SCALE 1:10 - A1 (1:20 - A3)

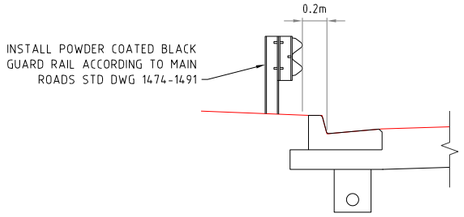
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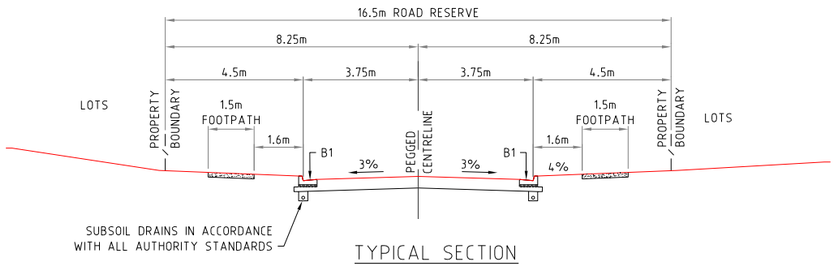
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GUARDRAIL DETAIL

SCALE: 1:25 - A1 (1:50 - A3)

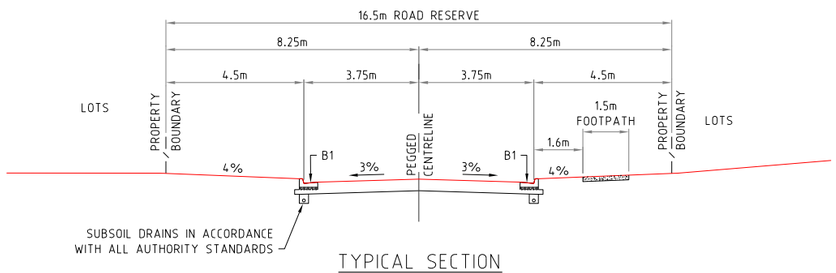


TYPICAL SECTION

7.5m ROAD-16.5m ROAD RESERVE

ROAD 01 & 04

SCALE 1:100 - A1 (1:200 - A3)

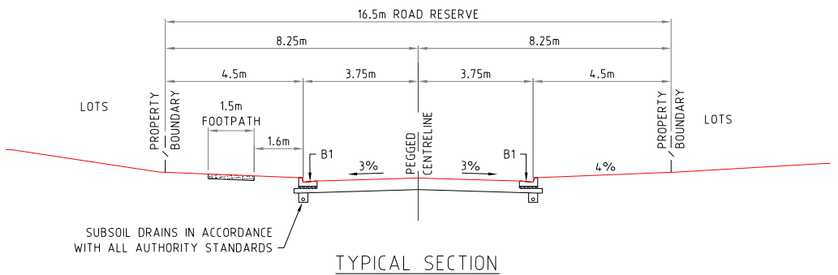


TYPICAL SECTION

7.5m ROAD-16.5m ROAD RESERVE

ROAD 04

SCALE 1:100 - A1 (1:200 - A3)

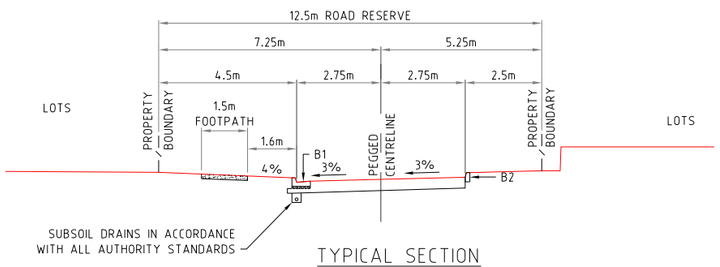


TYPICAL SECTION

7.5m ROAD-16.5m ROAD RESERVE

ROAD 03 & 06

SCALE 1:100 - A1 (1:200 - A3)



TYPICAL SECTION

5.5m ROAD-12.5m ROAD RESERVE

ROAD 09

SCALE 1:100 - A1 (1:200 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 0.1 0.2 0.3 0.4 0.5m
Scale 1:10 - A1 (1:20 - A3)
0 1 2 3 4 5m
Scale 1:100 - A1 (1:200 - A3)

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REV B

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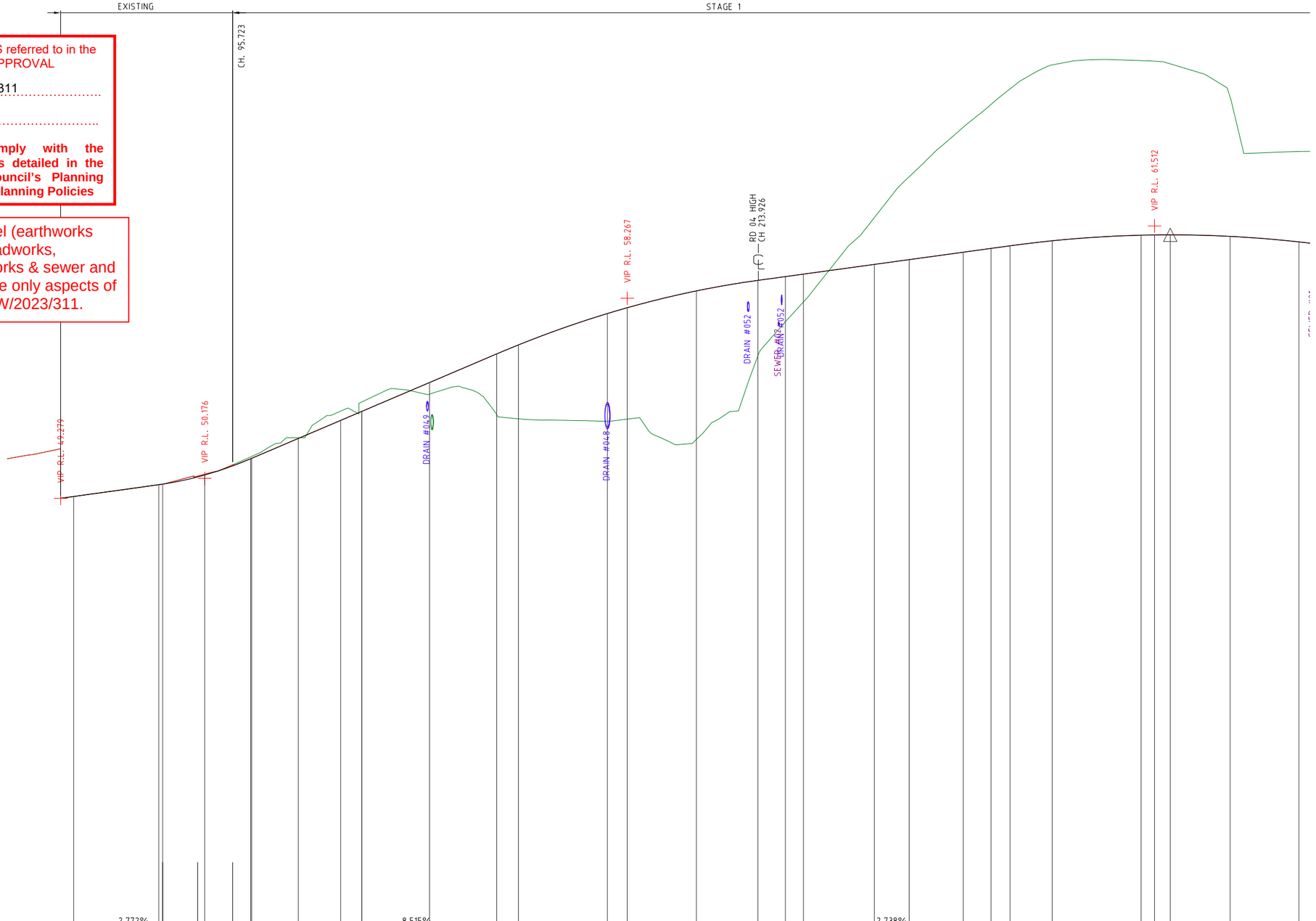
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| | | |

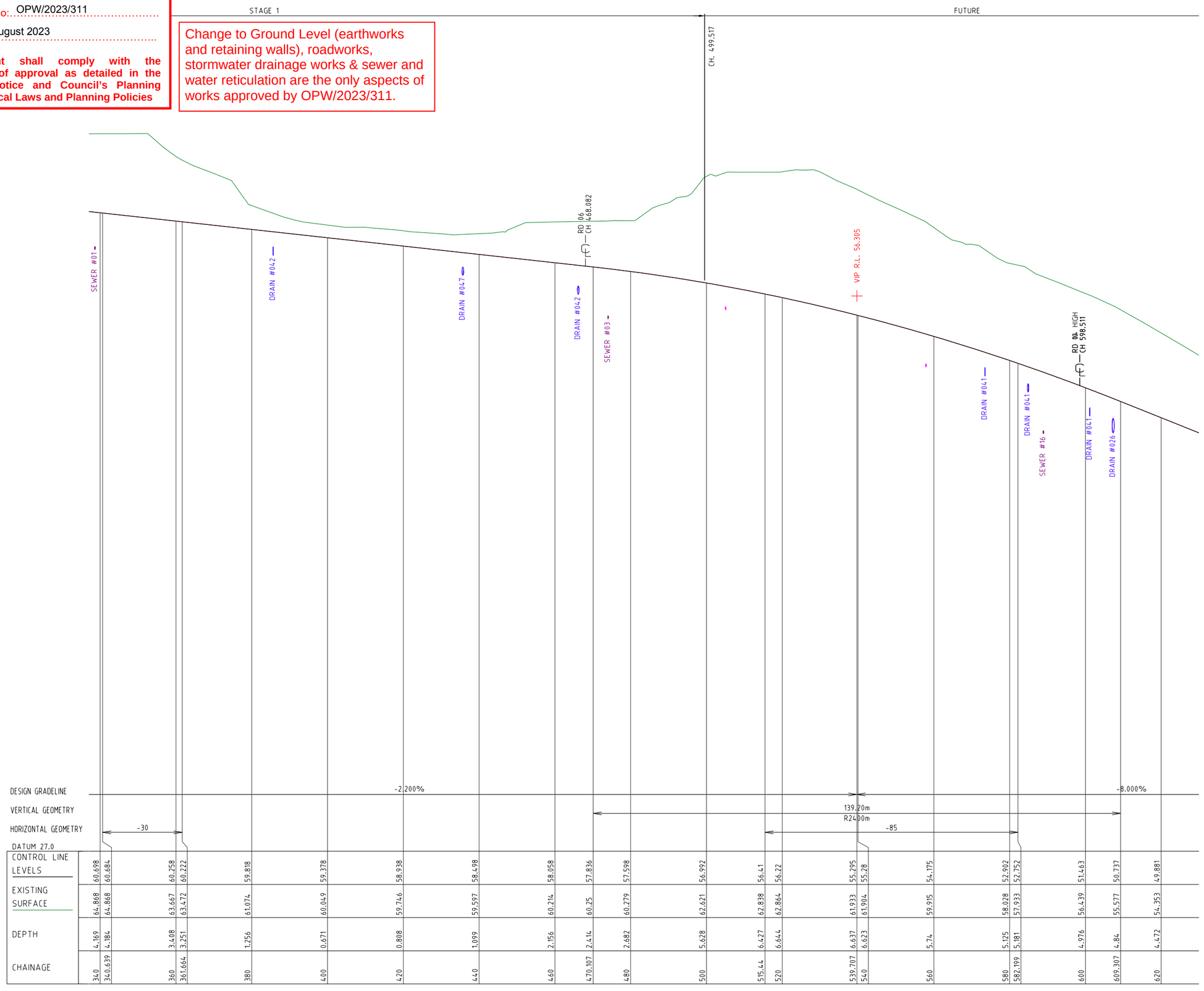
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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LONGITUDINAL SECTION ROAD 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

LONGITUDINAL SECTIONS
ROAD 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

Postal Address
PO Box 2484
Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
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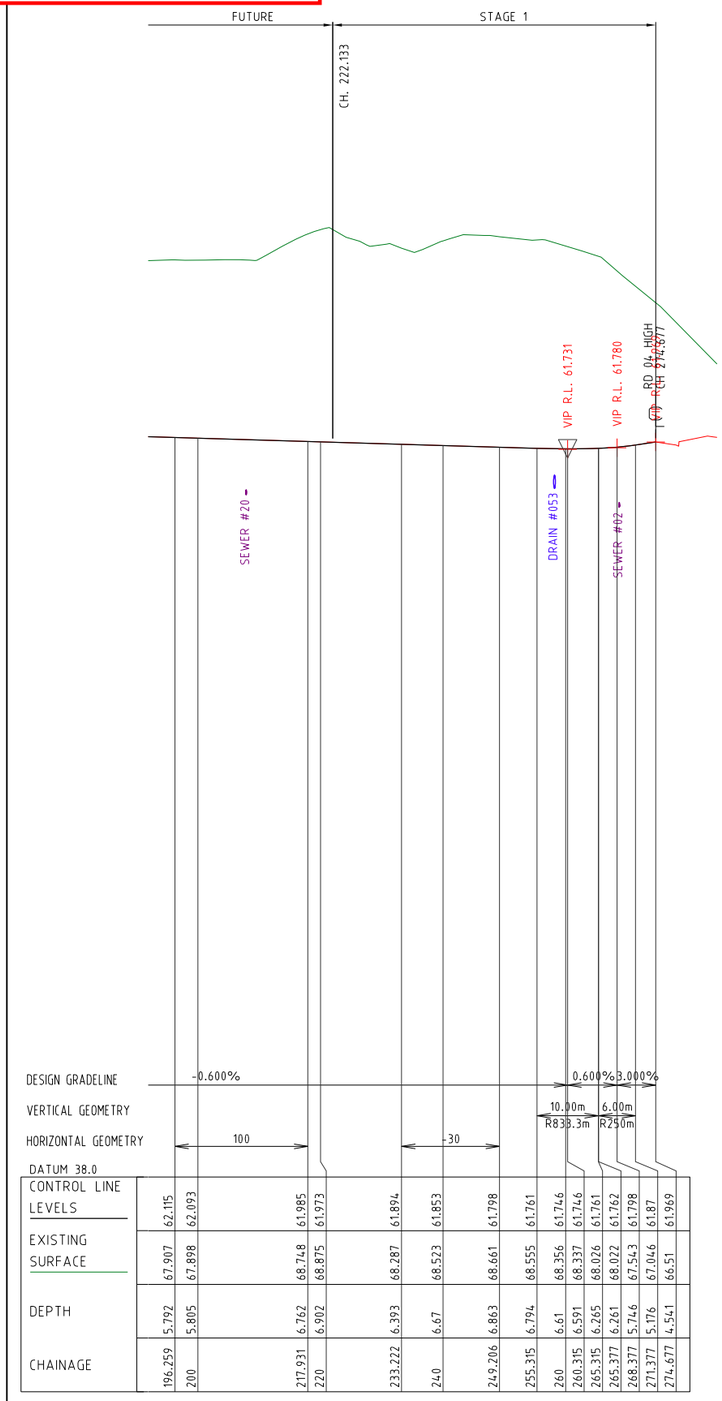
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Application No: OPW/2023/311

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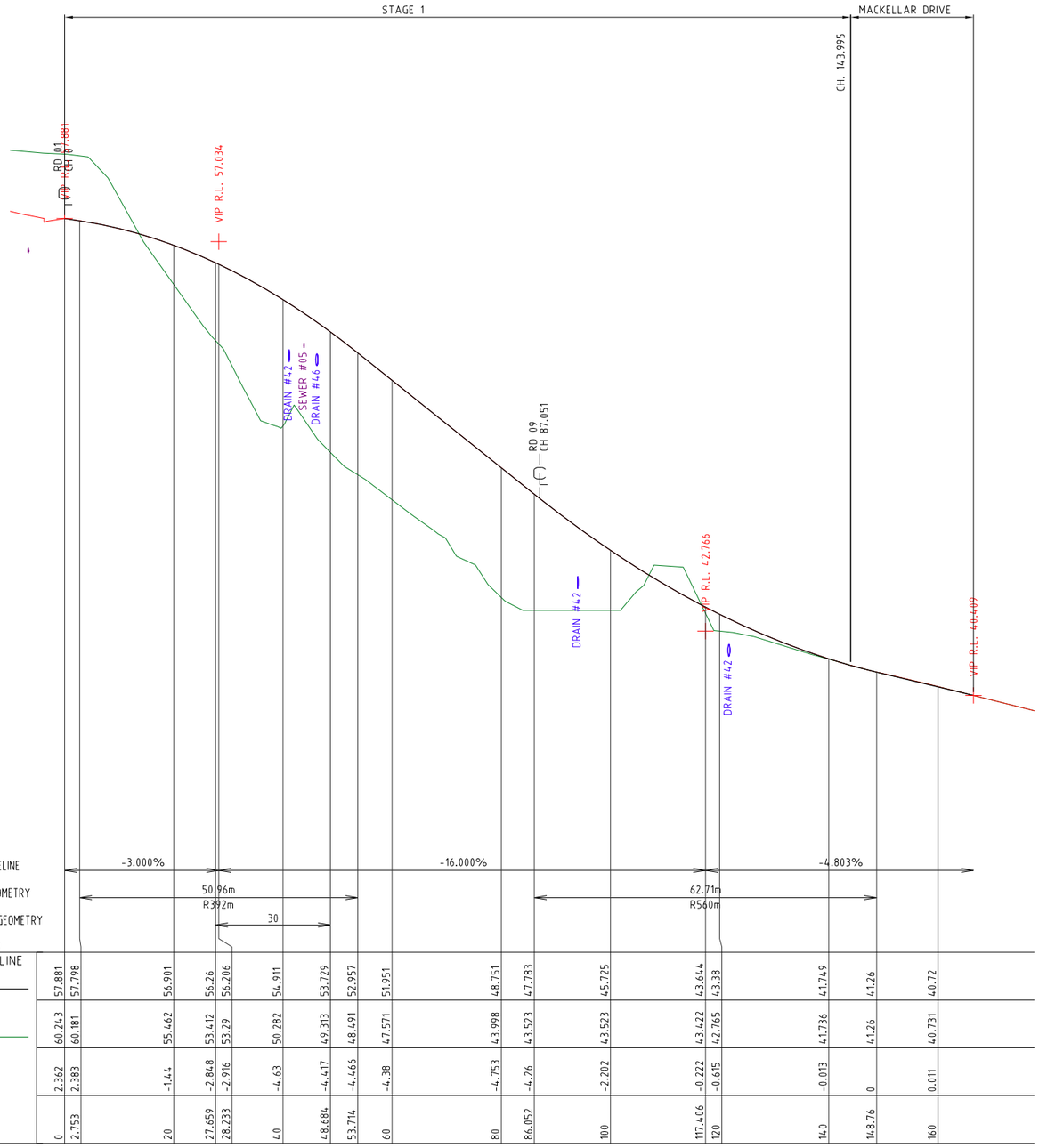
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Application No: OPW/2023/311

Dated: 25 August 2023

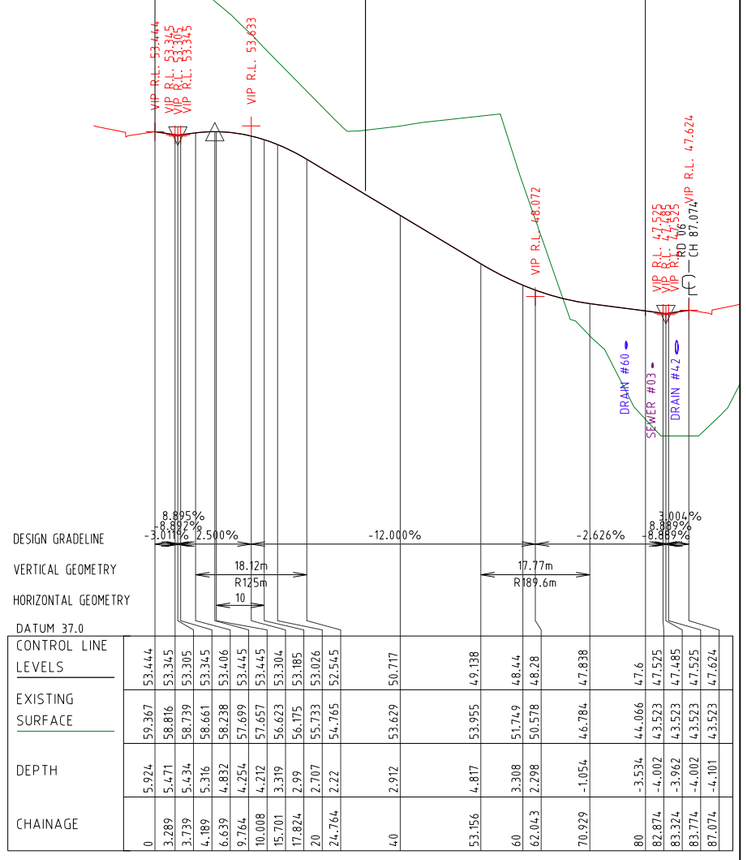
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CONTROL LINE LEVELS	57.881	57.798	56.901	56.26	56.206	54.911	53.729	52.957	51.951	48.751	47.783	45.725	43.644	43.38	41.749	41.26	40.72
EXISTING SURFACE	60.243	60.181	55.462	53.412	53.29	50.282	49.313	48.491	47.571	43.998	43.523	43.523	43.422	42.765	41.736	41.26	40.731
DEPTH	2.362	2.383	-1.44	-2.848	-2.916	-4.63	-4.417	-4.466	-4.38	-4.753	-4.26	-2.202	-0.222	-0.615	-0.013	0	0.011
CHAINAGE	0	2.753	20	27.659	28.233	40	48.684	53.714	60	80	86.052	100	117.406	120	140	148.76	160

LONGITUDINAL SECTION 06



CONTROL LINE LEVELS	53.444	53.345	53.305	53.345	53.406	53.445	53.445	53.304	53.185	53.026	52.545	50.717	49.138	48.44	48.28	47.838	47.6	47.525	47.485	47.525	47.624
EXISTING SURFACE	59.367	58.816	58.739	58.661	58.238	57.699	57.657	56.623	56.175	55.733	54.765	53.629	53.955	51.749	50.578	46.784	44.066	43.523	43.523	43.523	43.523
DEPTH	5.924	5.471	5.434	5.316	4.832	4.254	4.212	3.319	2.99	2.707	2.22	2.912	4.817	3.308	2.298	-1.054	-3.534	-4.002	-3.962	-4.002	-4.101
CHAINAGE	0	3.289	3.739	4.189	6.639	9.764	10.008	15.701	17.824	20	24.764	40	53.156	60	62.043	70.929	80	82.874	83.324	83.774	87.074

LONGITUDINAL SECTION 09

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
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REV	DATE	DESCRIPTION	INT
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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

LONGITUDINAL SECTIONS
ROADS 06 & 09

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

Postal Address
PO Box 2484
Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-203	B

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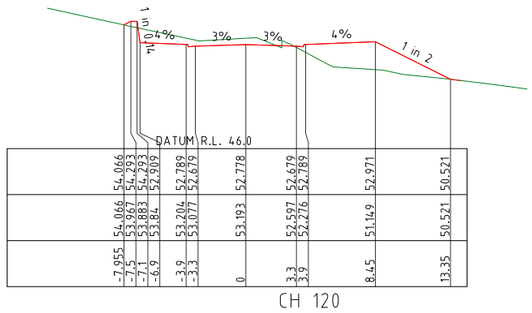
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

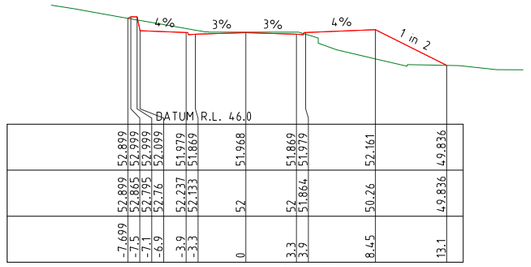
Application No: OPW/2023/311

Dated: 25 August 2023

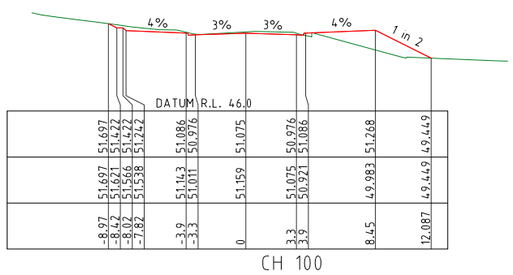
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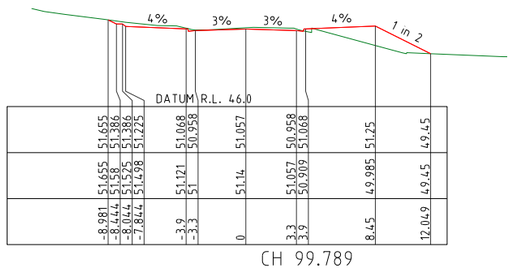
CH 120



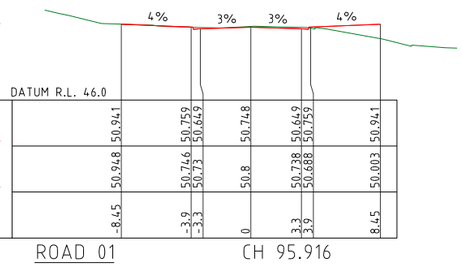
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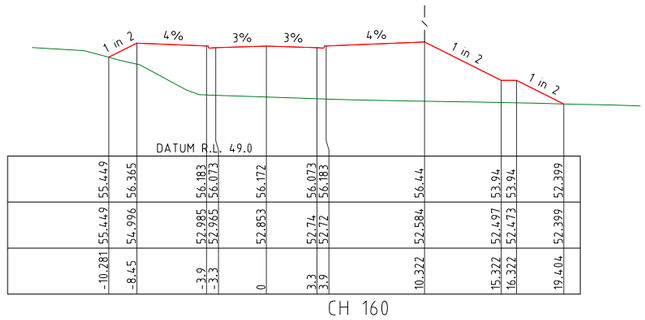
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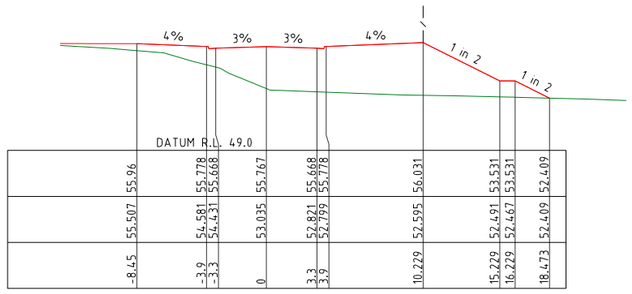
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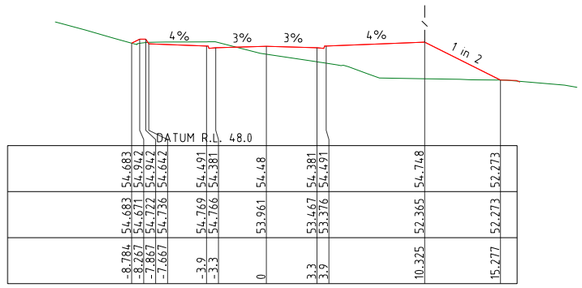
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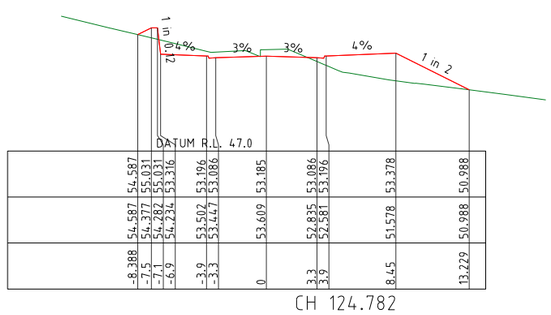
CH 160



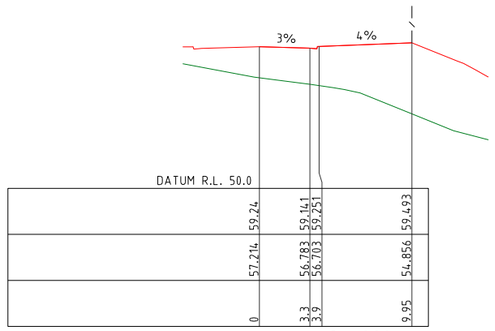
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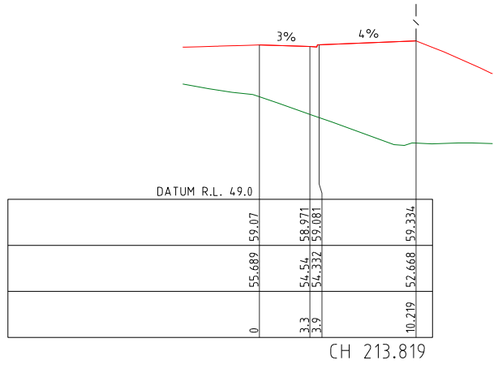
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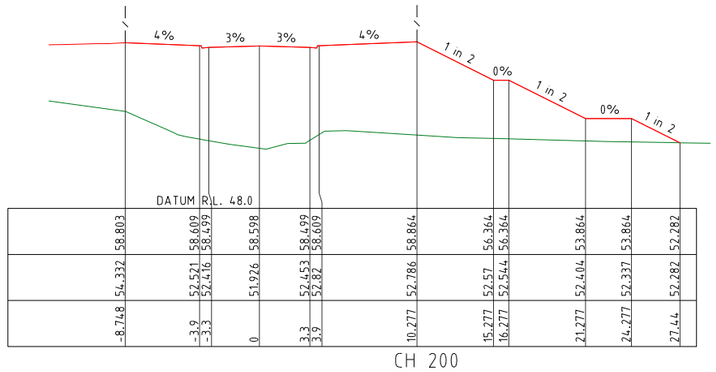
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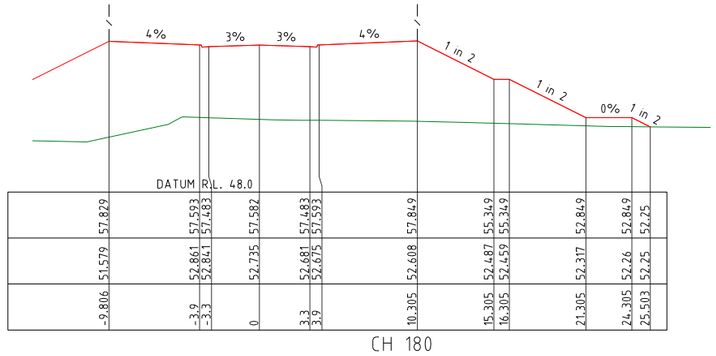
CH 220



CH 213.819



CH 200



CH 180

NOTES.

1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.

2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

CROSS SECTIONS
ROAD 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

Postal Address
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-300

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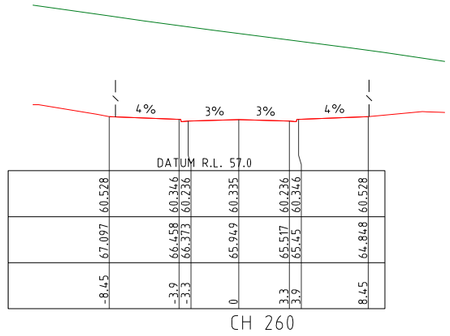
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

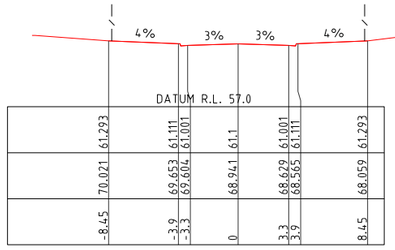
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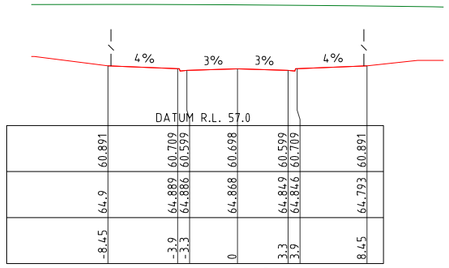
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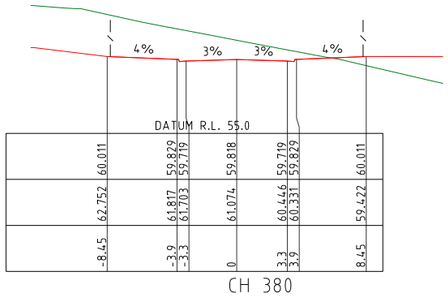
CH 260



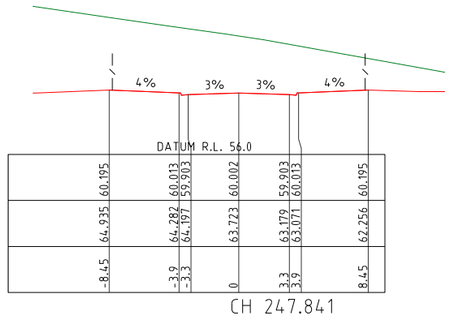
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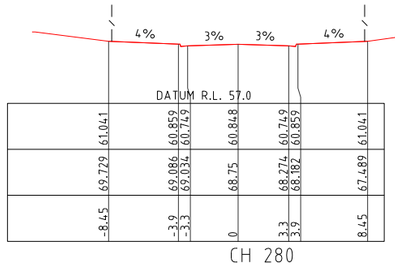
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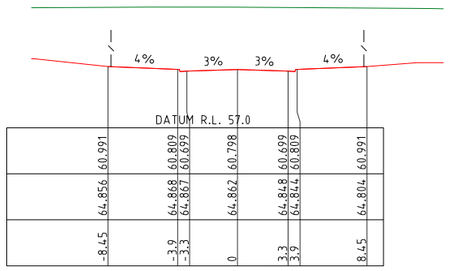
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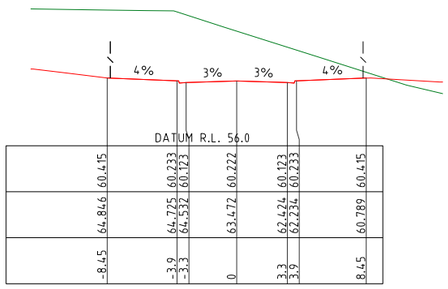
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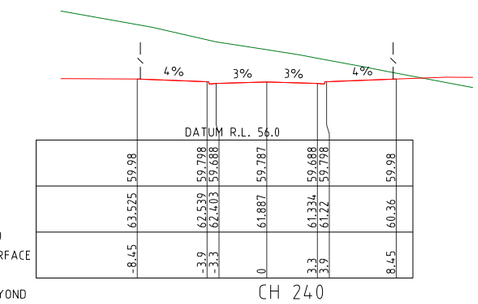
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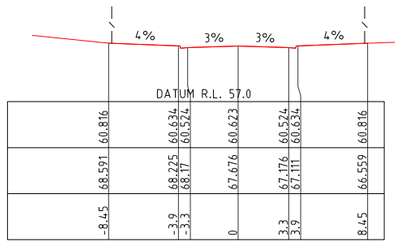
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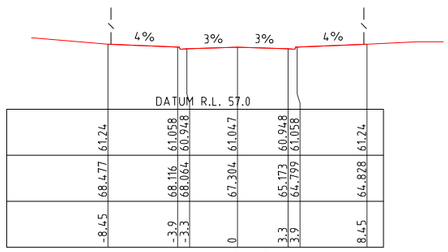
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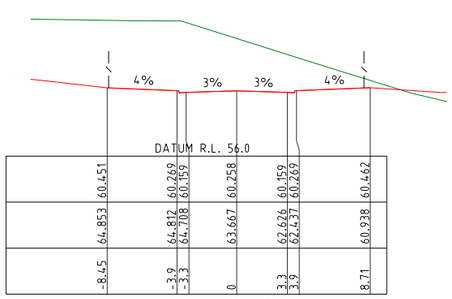
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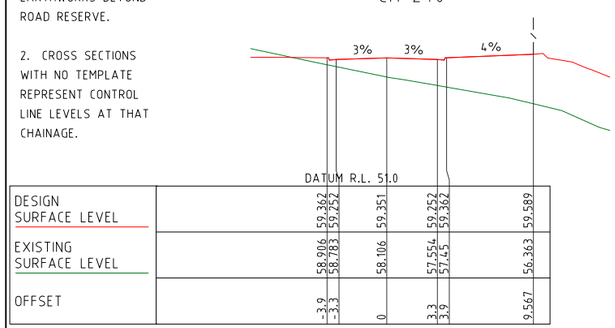


CH 360

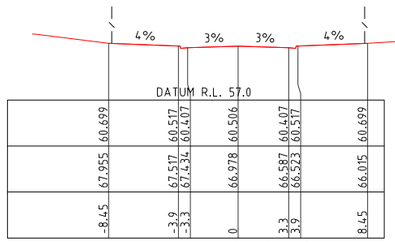
NOTES:

1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.

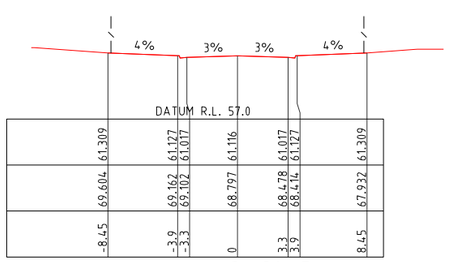
2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.



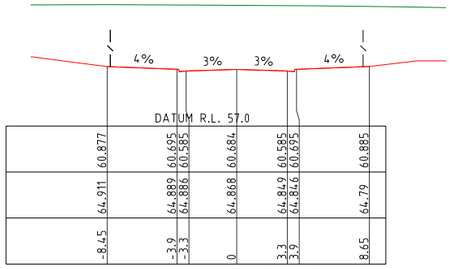
ROAD 01 CH 224.073



CH 266.262



CH 306.54



CH 340.639

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
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DRAWING TITLE

CROSS SECTIONS
ROAD 01
CONTINUED

MORTONS urbansolutions
Urban & Regional Planning
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Project Coordination

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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ4706	DATE	03-03-23

DRAWING NUMBER 41901-01-301

REV A

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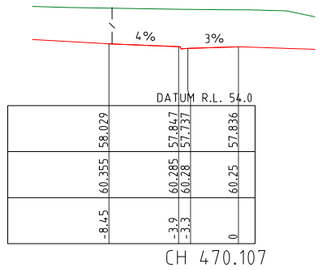
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

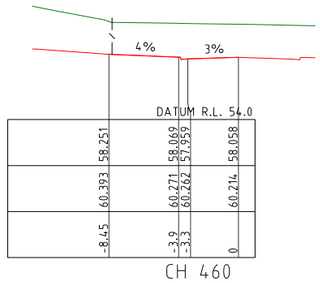
Application No: OPW/2023/311

Dated: 25 August 2023

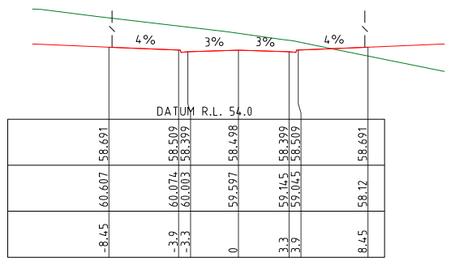
Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



CH 470.107



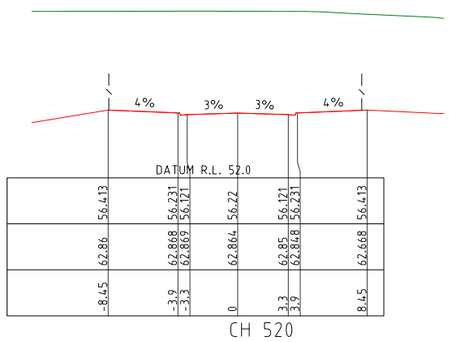
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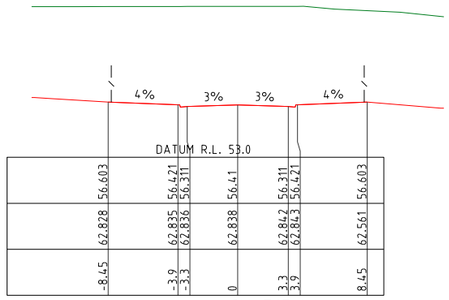
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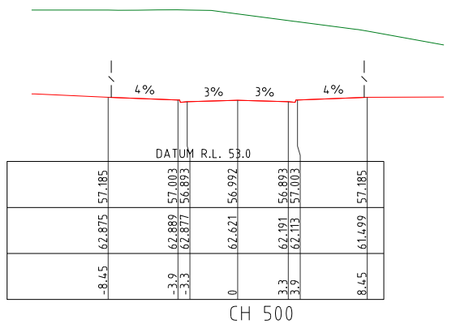
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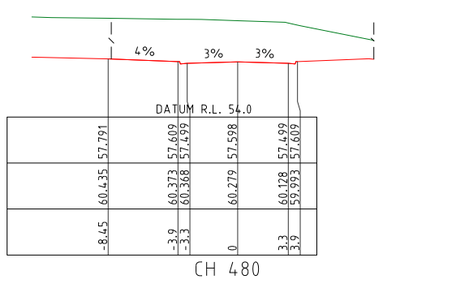
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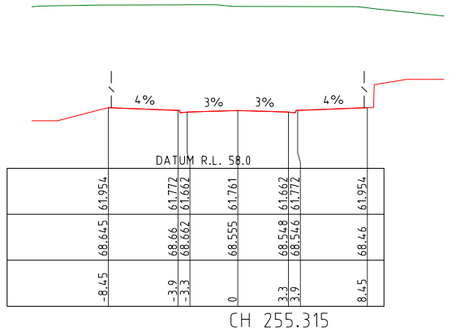
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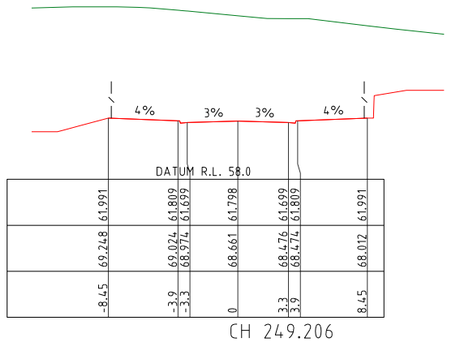
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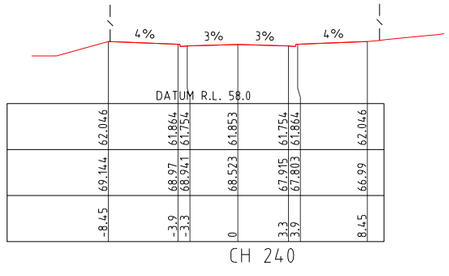
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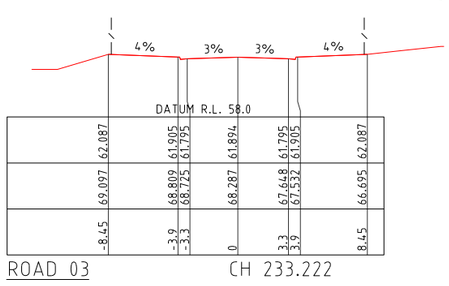
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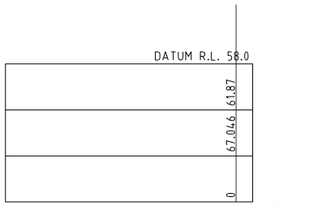
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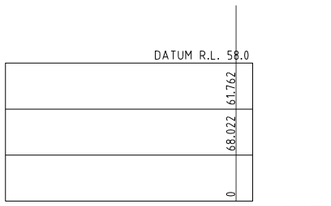
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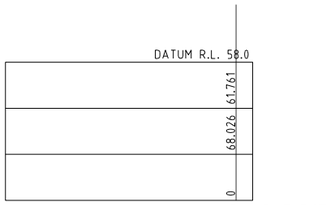
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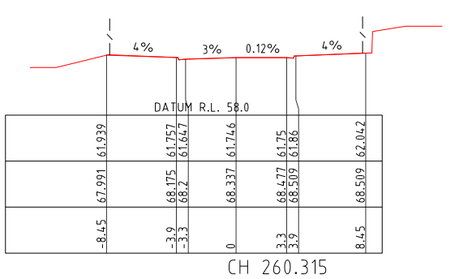
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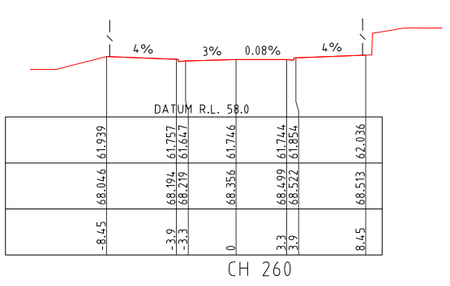
CH 265.377



CH 265.315



CH 260.315



CH 260

NOTES:

1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.

2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

CROSS SECTIONS ROAD 01 CONTINUED AND ROAD 03

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ4706	DATE	03-03-23

DRAWING NUMBER 41901-01-302

REV A

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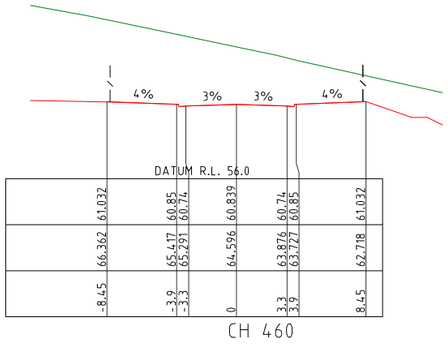
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Application No: OPW/2023/311

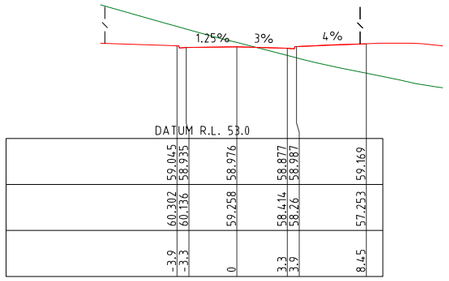
Dated: 25 August 2023

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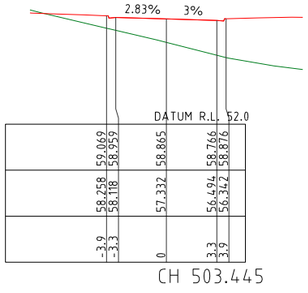
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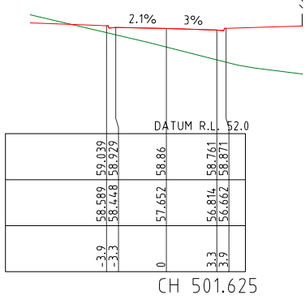
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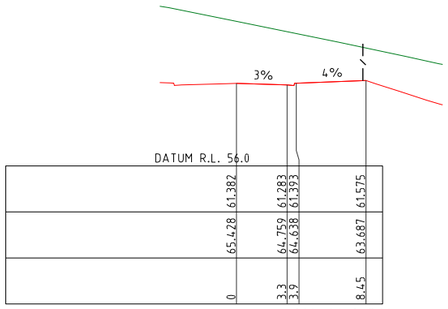
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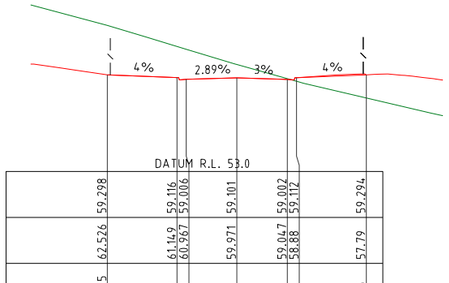
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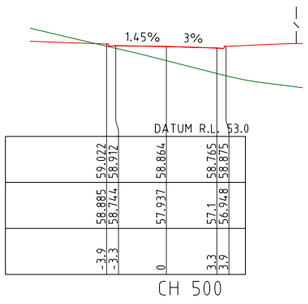
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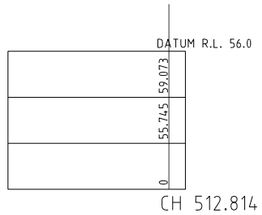
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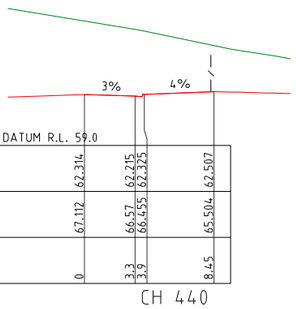
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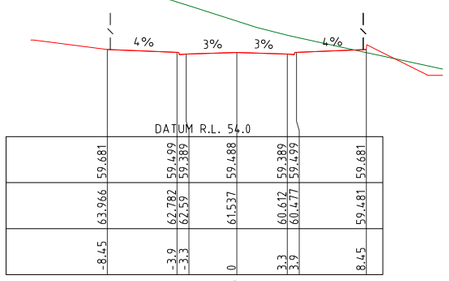
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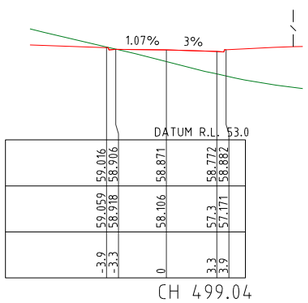
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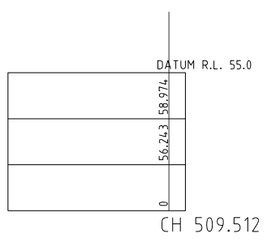
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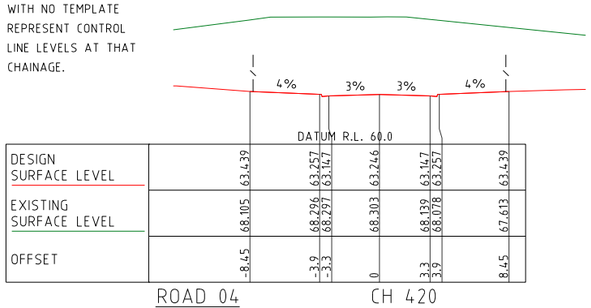


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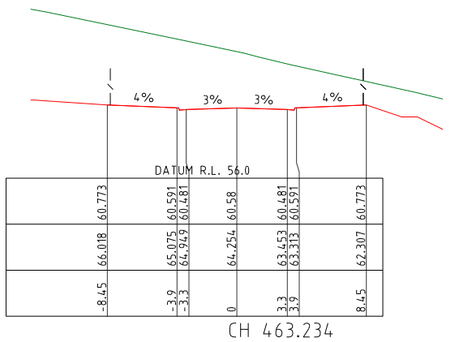
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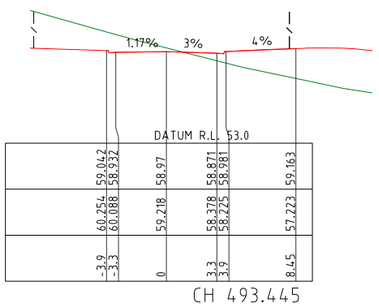
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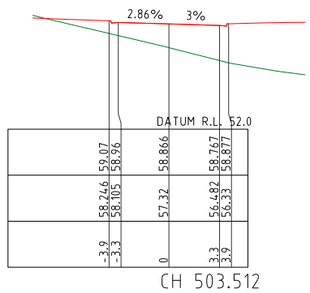
ROAD 04 CH 420



CH 463.234



CH 493.445



CH 503.512

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

CROSS SECTIONS
ROAD 04

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Mortons-Urban Solutions
ABN: 39 116 375 065
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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ4706	DATE	03-03-23

DRAWING NUMBER 41901-01-303

REV A

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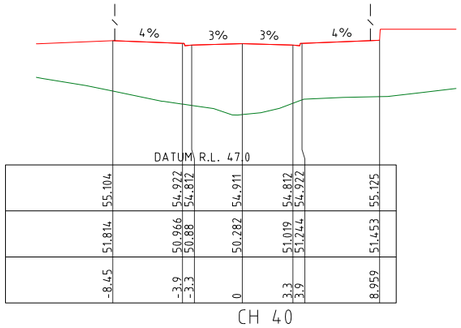
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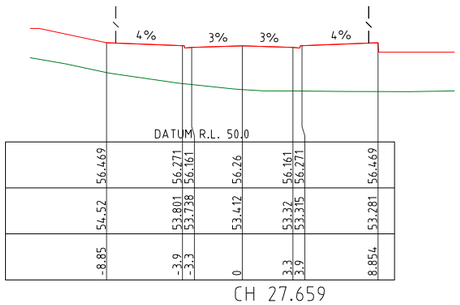
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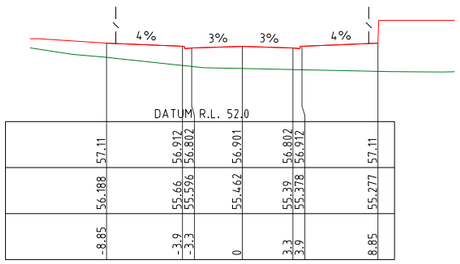
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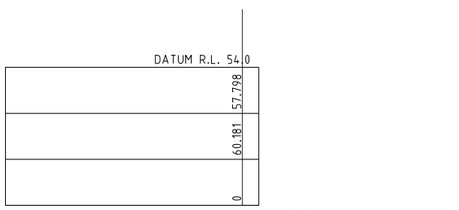
Dated: 25 August 2023

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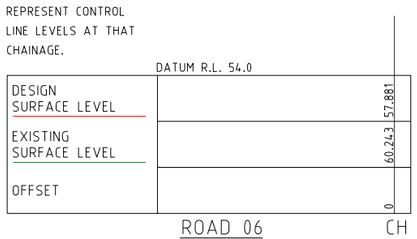


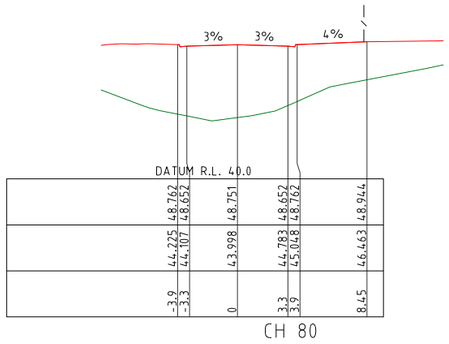


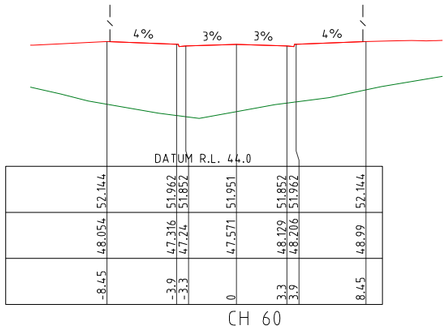
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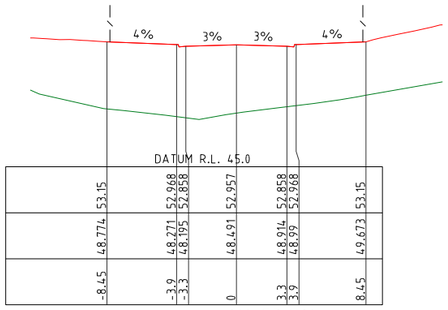
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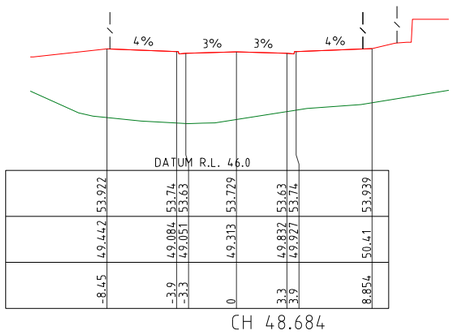
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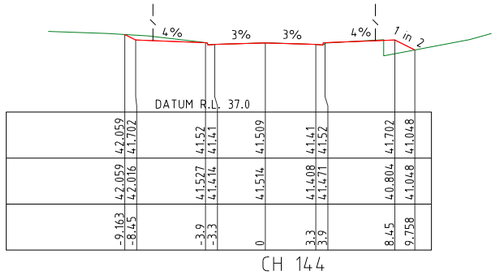


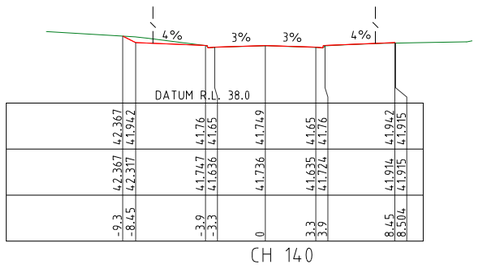


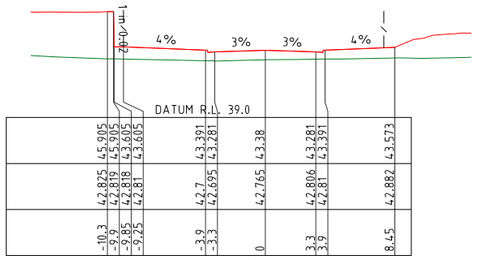











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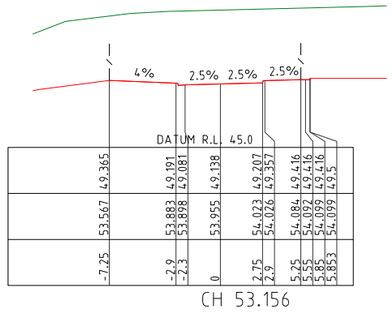
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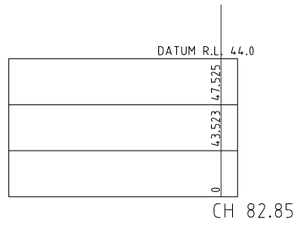
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

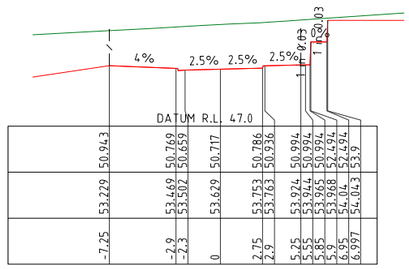
Application No: OPW/2023/311

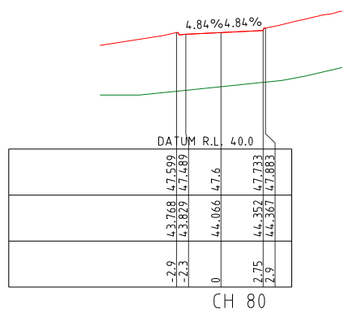
Dated: 25 August 2023

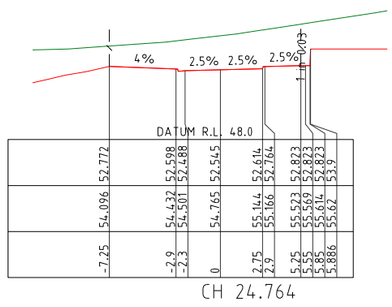
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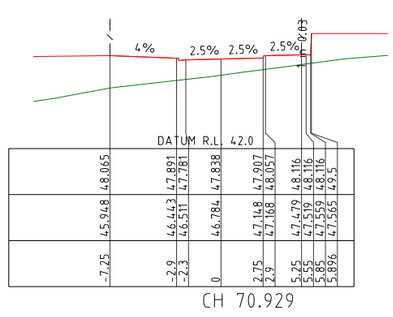












NOTES:

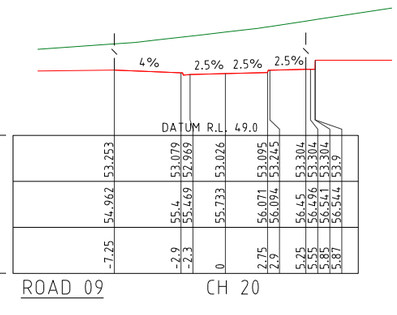
1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.

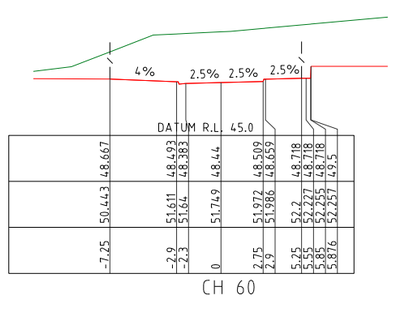
2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.

DESIGN SURFACE LEVEL

EXISTING SURFACE LEVEL

OFFSET





PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

CROSS SECTIONS
ROAD 09

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
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Tel 07 5571 1099

Postal Address
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-305	B

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-300.dwg, SHEET 06, 1/08/2023 7:51:53 AM, 1:2

LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- FUTURE CONTOURS
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- DESIGN CONTOURS
- PROPOSED CONCRETE

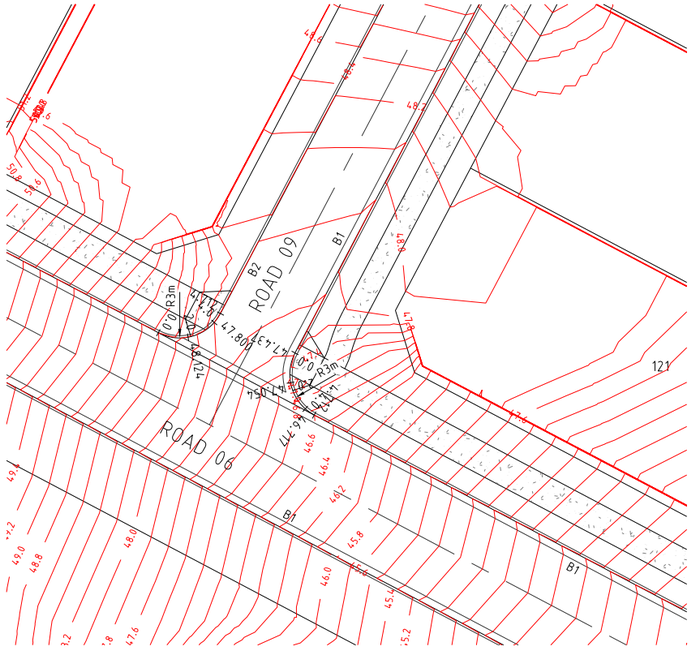
24.0 _ 41.065 INTERSECTION CHAINAGE & LEVEL

B1 BARRIER KERB & CHANNEL
B2 BARRIER KERB

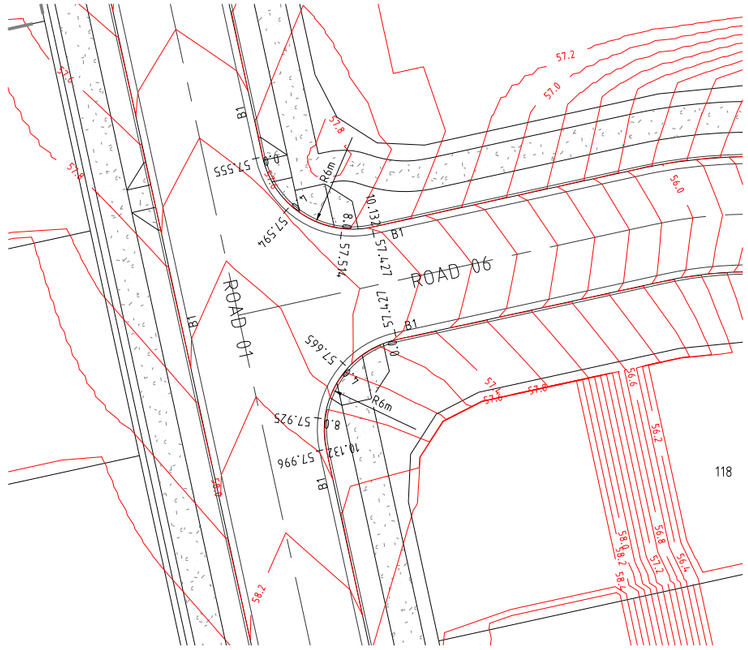
REFER TO DRG. 120 FOR KERB TYPES

NOTES:

1. SETOUT POINT DENOTES LIP OF KERB WHERE LIP OF KERB, OR FACE OF KERB WHERE NO LIP.
2. FOR KERB TYPES REFER TO SCHEDULE OF KERB TYPES ON DWG. 120



INTERSECTION
ROAD 06 & ROAD 09



INTERSECTION
ROAD 01 & ROAD 06

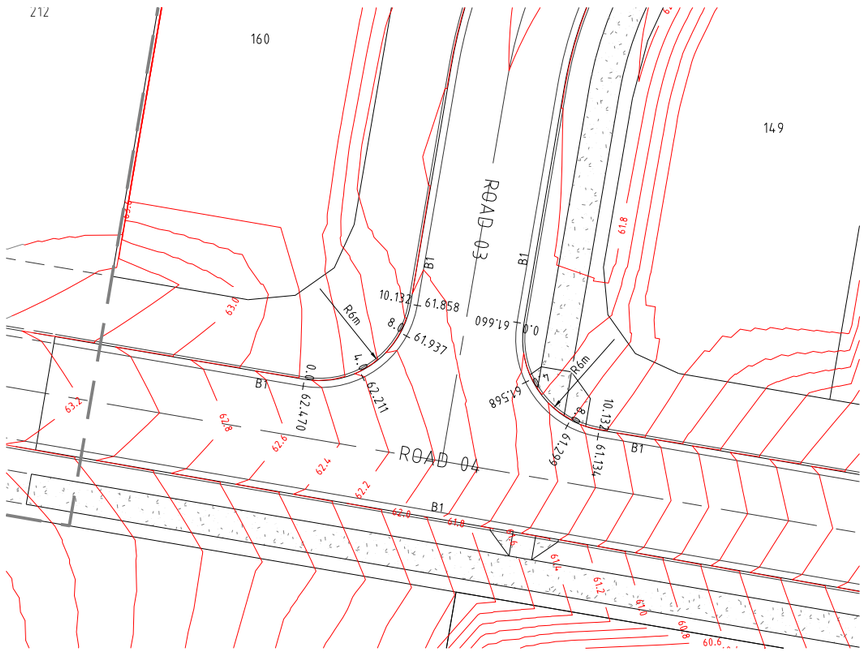
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

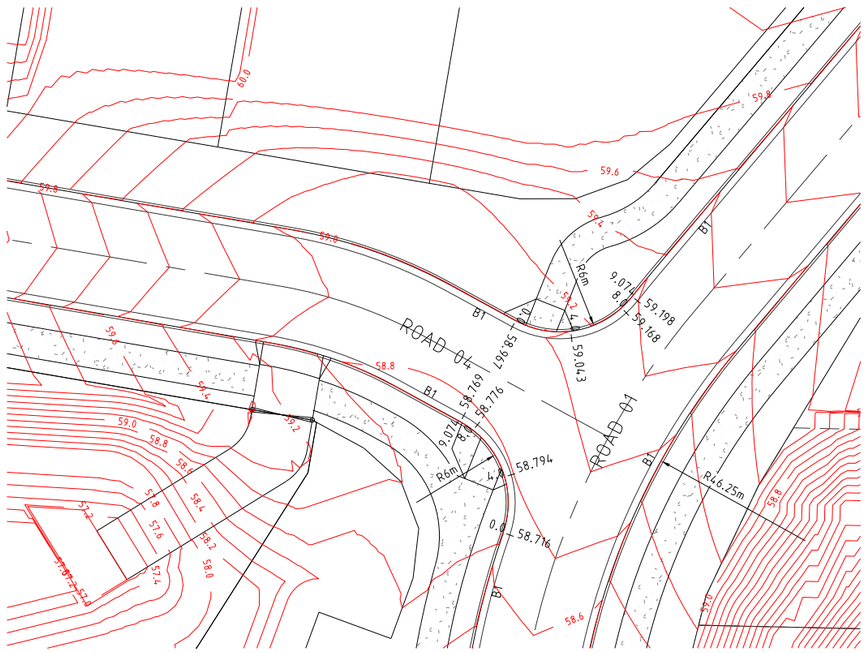
Dated: 25 August 2023

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INTERSECTION
ROAD 03 & ROAD 04



INTERSECTION
ROAD 01 & ROAD 04

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

INTERSECTION
GRADING DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
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Tel 07 5571 1099

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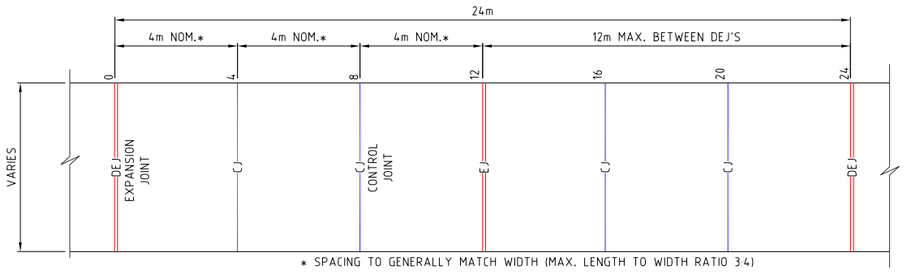
DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-400 REV B

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-400.dwg, DETAILS, 1/08/2023 7:52:25 AM, 1:2

CONCRETE PAVEMENT DRIVEWAY:

1. CONCRETE MIX
   THE CONCRETE SHALL HAVE A MINIMUM 28 DAY CHARACTERISTIC COMPRESSIVE STRENGTH AS SPECIFIED IN THE SCHEDULE OF CONCRETE PAVEMENTS TABLE, MAXIMUM WATER/CEMENT RATIO OF 0.45 & A MINIMUM CEMENT CONTENT OF 300kg/m³.
2. SUBGRADE PREPARATION
   THE SUBGRADE TO THE CONCRETE PAVEMENT AREAS SHALL BE PREPARED THE SAME AS CONVENTIONAL ROADS. REFER TO SCHEDULE OF CONCRETE PAVEMENTS TABLE.
3. TRAFFIC
   TRAFFIC SHALL NOT BE ALLOWED ON THE FINISHED CONCRETE PAVEMENT FOR AT LEAST 14 DAYS AFTER COMPLETION OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING MEASURES TO PREVENT UNAUTHORISED ACCESS.
4. JOINTS
   ALL JOINTS SHALL BE LOCATED GENERALLY PERPENDICULAR TO THE CENTRELINE. ALL CONTROL JOINTS TO BE COMPLETED AS SOON AS CONCRETE HAS CURED SUFFICIENTLY SO AS NOT TO DAMAGE THE SLAB SURFACE.
   ALL JOINTS ARE TO BE INSTALLED AS DETAILED ON IPWEAQ STD DWG RS-065.
5. GENERAL
   THE GRAVEL PAVEMENT SHALL BE NEATLY PROFILED & TRIMMED TO ENSURE CONSTANT CONCRETE DEPTHS & PROFILES. ACTUAL CONSTRUCTION REQUIREMENTS MAY VARY FROM THE DETAILS SHOWN & THEREFORE ALL CONSTRUCTION DETAILS SHOULD BE VERIFIED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION COMMENCING. PROVIDE ABLEFLEX BETWEEN KERB & DRIVEWAY.
6. COMPLIANCE ST&ARDS
   SLIP RESISTANCE OF SURFACE MATERIALS IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
   AS/NZS 4586: 2013 SLIP RESISTANCE OF NEW PEDESTRIAN SURFACE MATERIALS.
   AS/NZS 4663: 2013 SLIP RESISTANCE MEASUREMENT OF EXISTING PEDESTRIAN SURFACES
   HB A:A 197: 1999 "AN INTRODUCTORY GUIDE TO THE SLIP RESISTANCE OF PEDESTRIAN SURFACE MATERIALS"



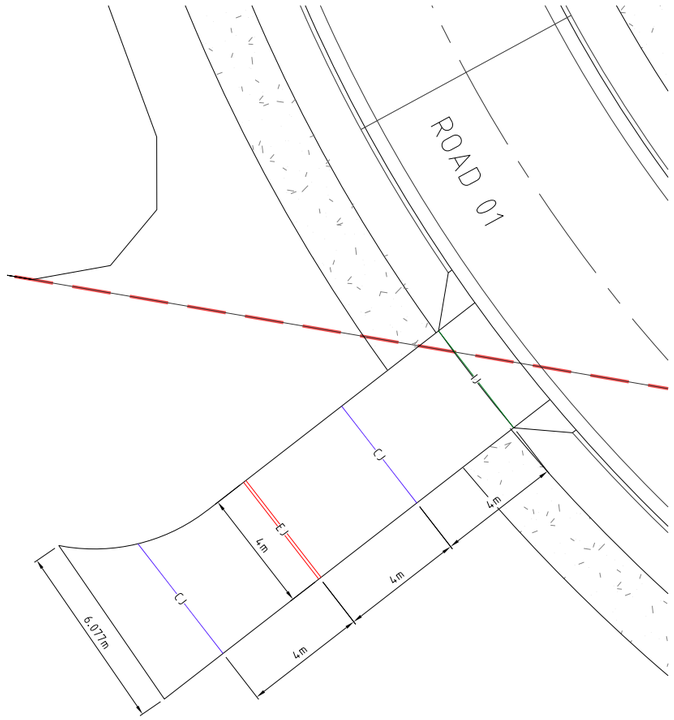
TYPICAL CONCRETE PAVEMENT DETAIL FOR DRIVEWAYS AND ROADS

SCALE 1:50 - A1 (1:100 - A3)

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

SCHEDULE OF CONCRETE PAVEMENTS					
FUNCTION	SURFACING	SUBGRADE PREPARATION	THICKNESS 'T'	STRENGTH	REINCORCING
FOOTPATH 1.5 AND 2.0M WIDE	HEAVY BROOM FINISH	50mm SAND BLINDING LAYER	100mm	32 mPa	SL 72 MESH
DRIVEWAY STORMWATER BASIN	HEAVY BROOM FINISH	100mm (CBR 15)	175mm	32 mPa	SL 72 MESH

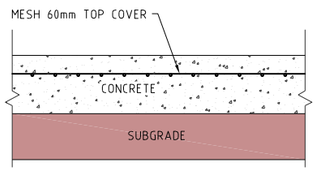
NOTE: FOOTPATH JOINTING TO BE IN ACCORDANCE WITH IPWEAQ DWG RS-065
SUPERINTENDENT TO CONFIRM SUBGRADE PREPARATION



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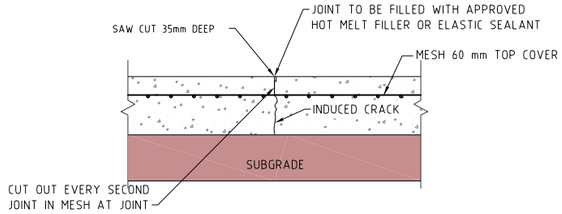
LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB
- FUTURE KERB
- FUTURE PROPERTY LINE
- PROPERTY LINE
- FACE OF KERB, FOOTPATHS
- LIP AND BACK OF KERB
- SITE BOUNDARY
- STAGE BOUNDARY
- EJ — EXPANSION JOINT
- DEJ — DOWELED EXPANSION JOINT
- IJ — ISOLATION JOINT
- -SJ- — SAW JOINT
- CJ — CONTROL JOINT
- KJ — KEY JOINT
- 2xN12 BARS AROUND PENETRATIONS TYP.



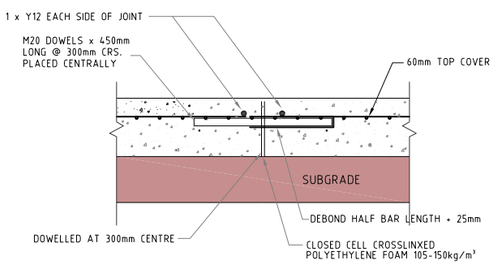
TYPICAL BROOM FINISHED CONCRETE PAVEMENT DETAIL

NOT TO SCALE



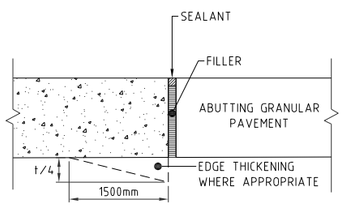
CONTROL JOINT (4m SPACING) (CJ)

NOT TO SCALE



DOWELLED EXPANSION JOINT DETAIL (24m SPACING) (EJ)

NOT TO SCALE



ISOLATION JOINT (IJ)

NOT TO SCALE

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 1 2 3 4 5m
Scale 1:100 - A1 (1:200 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

CONCRETE JOINTING PLAN AND DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-410	B

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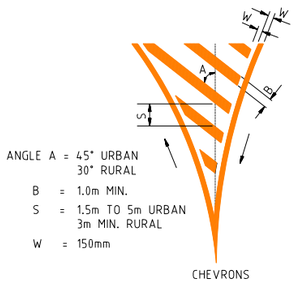
NOTES

1. LINEMARKING & SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES". ALL SIGNAGE SHOWN IS DIAGRAMMATIC ONLY, & MUST BE INSTALLED AT THE HEIGHT, ORIENTATION & WITH APPROPRIATE POLE SUPPORT AS SPECIFIED IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
2. ALL SIGN POSTS & SIGN RAILS TO BE GALVANISED UNLESS NOTED OTHERWISE.

PAVEMENT MARKING LEGEND

- EXISTING EDGE LINE - EL
- EXISTING EDGE LINE YELLOW - EL(Y)
- EXISTING CONTINUITY LINE - CL
- EXISTING TURN LINE - TL
- EXISTING BARRIER LINE - BL(B)
- EXISTING BARRIER LINE - BL
- EXISTING LANE LINE - LL
- EXISTING LANE LINE - LL(B)
- EXISTING GIVE WAY LINE - GWL
- EXISTING STOP LINE - SL
- EDGE LINE - EL
- EDGE LINE YELLOW - EL(Y)
- CONTINUITY LINE - CL
- TURN LINE - TL
- BARRIER LINE - BL(B)
- BARRIER LINE - BL
- LANE LINE - LL
- LANE LINE - LL(B)
- GIVE WAY LINE - GWL
- STOP LINE - SL

NOTE: REFER TO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ALL LINEMARKING AND SIGN STANDARDS



ANGLE A = 45° URBAN
30° RURAL

B = 1.0m MIN.

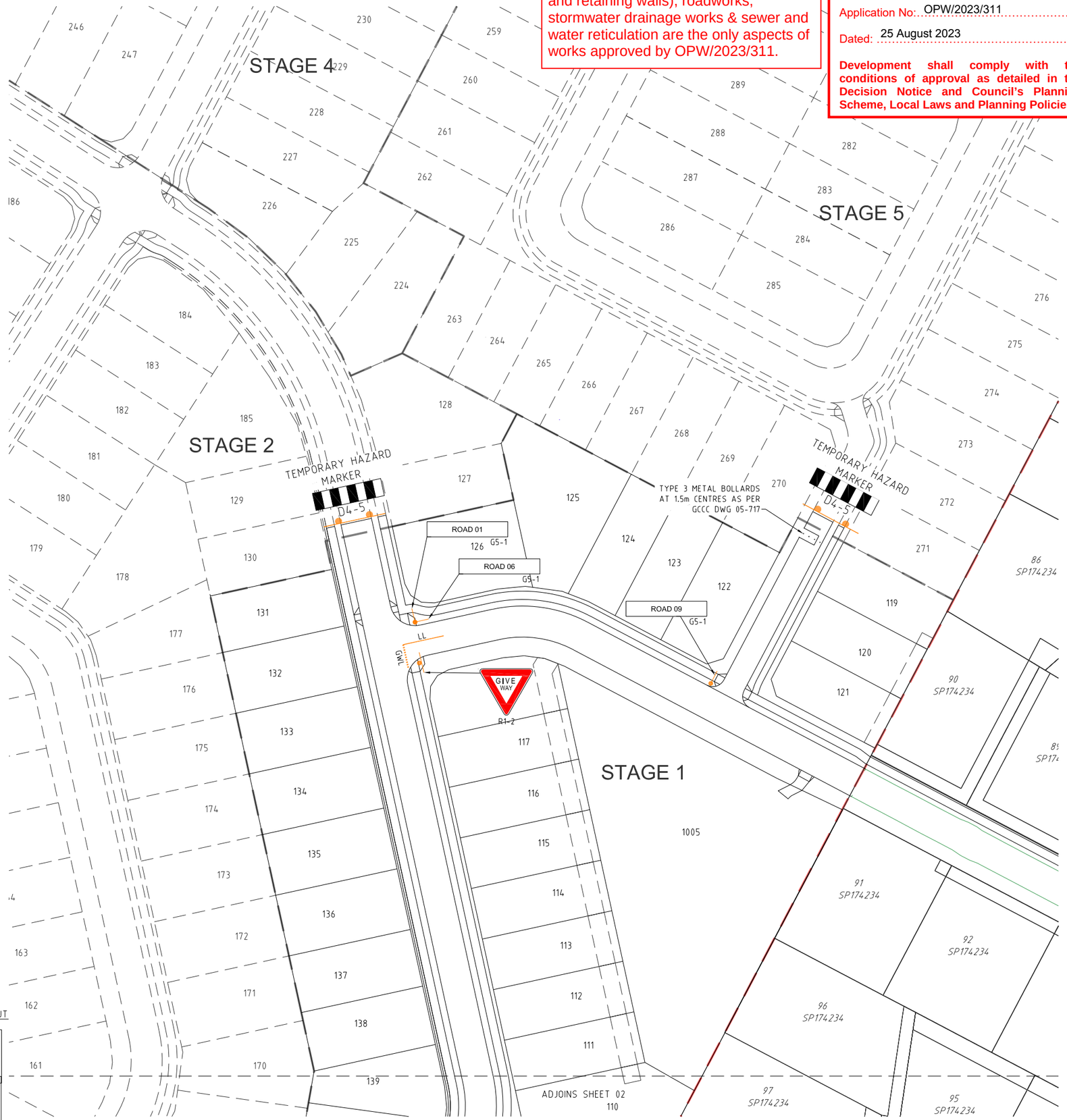
S = 1.5m TO 5m URBAN
3m MIN. RURAL

W = 150mm

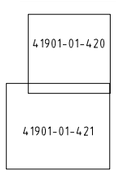
CHEVRONS

LEGEND

- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- EXISTING FOOTPATH
- FUTURE KERB (INVERT)
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- SIGN POST
- SIGN POST
- SIGN POST



SHEET LAYOUT



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

LINEMARKING & SIGNAGE PLAN SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-420

REV B

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ADJOINS SHEET 01

STAGE 2

STAGE 3

TEMPORARY HAZARD MARKER D4-5

TEMPORARY HAZARD MARKER D4-5

ROAD 03

ROAD 04

ROAD 01

GIVE WAY R1-2

GIVE WAY R1-2

SLOW DOWN

TC1622-1 (B SIZE)

RANGEVIEW ROAD

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-420.dwg, PLAN SHEET 02, 10/8/2023 7:52:45 AM, 1:2

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

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0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

LINEMARKING & SIGNAGE PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-421

REV B

SEQ CODE SEWER NOTES

SEQ CODE NOTES COPIED DIRECTLY FROM DRAWING SEQ-SEW-1101-3.

VEGETATION PROTECTION

A. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
B. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8 m BATTENS CLOSELY SPACED & ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION & REMAIN UNTIL COMPLETION.
C. 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 COUNCIL ARBORIST FOR FURTHER ADVICE.
D. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

A. TOPSOIL & SUBSOIL SHALL BE STOCKPILED SEPARATELY.
B. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
C. IF ACID SULPHATE SOILS EXIST IN THE WORKS AREA. THE CONTRACTOR MUST PREPARE A RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL & MANAGE THE ACID SULPHATE SOILS AS PER THE MANUAL.

CREEK CROSSINGS

A. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
B. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
C. NO SOIL SHALL BE STOCKPILED WITHIN 5 m OF THE CREEK.

REHABILITATION

A. PREDISTURBANCE SOIL PROFILES & COMPACTION LEVELS SHALL BE REINSTATED.
B. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

SAFETY

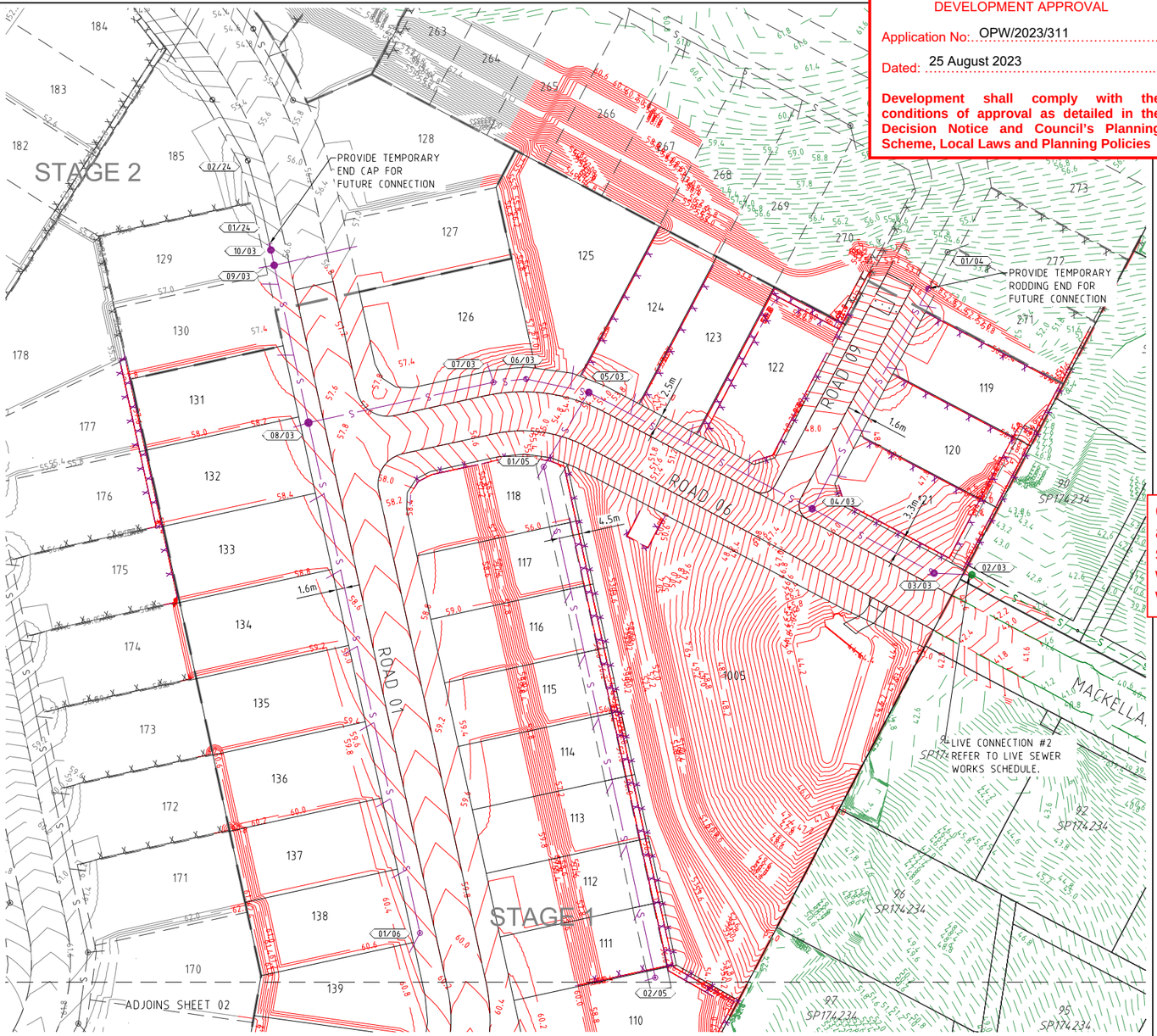
A. THE DESIGN & CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

GENERAL

1. ALL WORK & MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE SPECIFICATIONS & STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS & WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. 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 THE SEQ SERVICE PROVIDER SEWERAGE SYSTEM.
4. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY DEVELOPER'S APPROVED CONTRACTOR UNDER THE SUPERVISION OF SEQ'S AGENT AT THE DEVELOPER'S COST.
5. ALL PIPES & MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS & MATERIALS" LIST.
6. EACH ALLOTMENT SHALL BE SERVED BY A DN100 PVC PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL, A DN150 PVC PROPERTY CONNECTION SHALL BE PROVIDED.
7. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
8. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300 mm & A MAXIMUM OF 750 mm. UNITYWATER REQUIRES MINIMUM EXTENSION OF 500 mm INTO PROPERTY.
9. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300 mm (LOOSE) IN DEPTH & SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S. 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 SEQ SERVICE PROVIDER UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
10. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER,BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION & DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
12. SEWERS SHALL BE DISUSED /ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ SEWER CODE.
13. BENCH MARK & LEVELS TO AHD.
14. ~~THE EXISTING DWELLING ON LOT 3, REFER SEQ-SEW-1100, SERVED BY A SEPTIC SYSTEM, SHALL BE CONNECTED TO THE NEW SEWER BY A LICENCED PLUMBER IN ACCORDANCE WITH THE RELEVANT STATUTORY & COUNCIL REQUIREMENTS. THE SEPTIC SYSTEM, INCLUDING TRENCHES,SHALL BE REMOVED AT THE DEVELOPER'S COST. ALL FIXTURES SHALL BE UPGRADED IF REQUIRED BY PLUMBING CODE.~~ STANDARD NOTE NOT APPLICABLE & THEREFORE DELETED.
15. EXISTING ALLOTMENTS REQUIRING A PROPERTY CONNECTION FROM EXISTING SEWERS SHALL BE PROVIDED BY THE SEQ SERVICE PROVIDER AT THE DEVELOPERS COST.

PROJECT SPECIFIC SEWER NOTES

a. ALL SEWER MAINS TO BE AS PER SEWER PIPE SPECIFICATIONS TABLE.
b. NOTWITHSTANDING THE STANDARD SEQ NOTES ABOVE, ALL MATERIALS & WORKS MUST BE IN ACCORDANCE WITH THE SERVICE PROVIDER'S APPROVAL CONDITIONS & THE SEQ WS&S D&C CODE.
c. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR SEWER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
d. THE CONTRACTOR TO PROVIDE CALCAREOUS CONCRETE WHERE SPECIFIED IN THE SEQ CODE BY THE RELEVANT AUTHORITY.
e. WATER & ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENT'S INSTRUCTION
f. ALL BENDS TO BE LONG RADIUS BEND TO MEET MANUFACTURER'S MINIMUM RADIUS REQUIREMENTS U.N.O.
g. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF WORKS ON-SITE.
h. PROPERTY CONNECTIONS HAVE BEEN DESIGNED TO CONTROL THE REQUIRED SERVICE AREA OF EACH LOT AT A GRADE OF 1:60 & A MAXIMUM DEPTH OF PROPERTY CONNECTION AT 1.5m. UNLESS OTHERWISE STATED.
i. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.

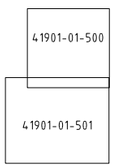


ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

SEWER PIPE SPECIFICATIONS

SEWER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
GRAVITY VERGE	PVC-U SN8
GRAVITY ROAD CROSSING	PVC-U SN8
HOUSE CONNECTIONS	PVC-U SN6

SHEET LAYOUT



LEGEND

- EXISTING SEWER
- EXISTING RISING MAIN
- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- EXISTING RETAINING WALL
- EXISTING CONTOURS
- FUTURE SEWER
- FUTURE RISING MAIN
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- FUTURE CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS
- PROPOSED SEWER
- PROPOSED RISING MAIN
- SEWER MANHOLE
- SEWER RODDING END
- SEWER BEND
- SEWER MAINTENANCE SHAFT
- SEWER END CAP
- SEWER PUMP STATION

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SERVICE PROVIDER AND CONSTRUCTOR LIVE SEWER WORKS SCHEDULE

No.	Description	Dia. Sewer	MH No.	MH/MS Type	Cover Type	Lot no	F.S.L	E.S.L	I.L	Depth to invert
1(A)	CONTRACTOR TO BREAK INTO EXISTING MAINTENANCE HOLE 01/01 AND CONSTRUCT SEWER MAIN AND PLUG PRIOR TO START OF CONSTRUCTION.	150	EXISTING 1/01	MH	B	LOT 19 ON SP292346	48.535	48.535	47.690	0.845
1(B)	CONTRACTOR TO LAY NEW LINES 1 AND 2 AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE.	150	1/01	MH			48.535	48.535	47.690	0.845
1(C)	GOLD COAST WATER AND WASTE TO CONFIRM THE REMOVAL OF PLUG LINE 1 AND MAKE LIVE CONNECTIONS AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.									
2(A)	CONTRACTOR TO BREAK INTO EXISTING MAINTENANCE HOLE 02/03 AND CONSTRUCT SEWER MAIN AND PLUG PRIOR TO START OF CONSTRUCTION.	150	EXISTING 02/03	MH	B	LOT 19 ON SP292346	42.710	42.710	40.760	1.950
2(B)	CONSTRUCTOR TO LAY NEW LINE 3 AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE.									
2(C)	GOLD COAST WATER AND WASTE TO CONFIRM THE REMOVAL OF PLUG LINE 3 AND MAKE LIVE CONNECTIONS AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.									

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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BENNETT+BENNETT

DRAWING TITLE

SEWER RETICULATION PLAN SHEET 01

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-500 REV B

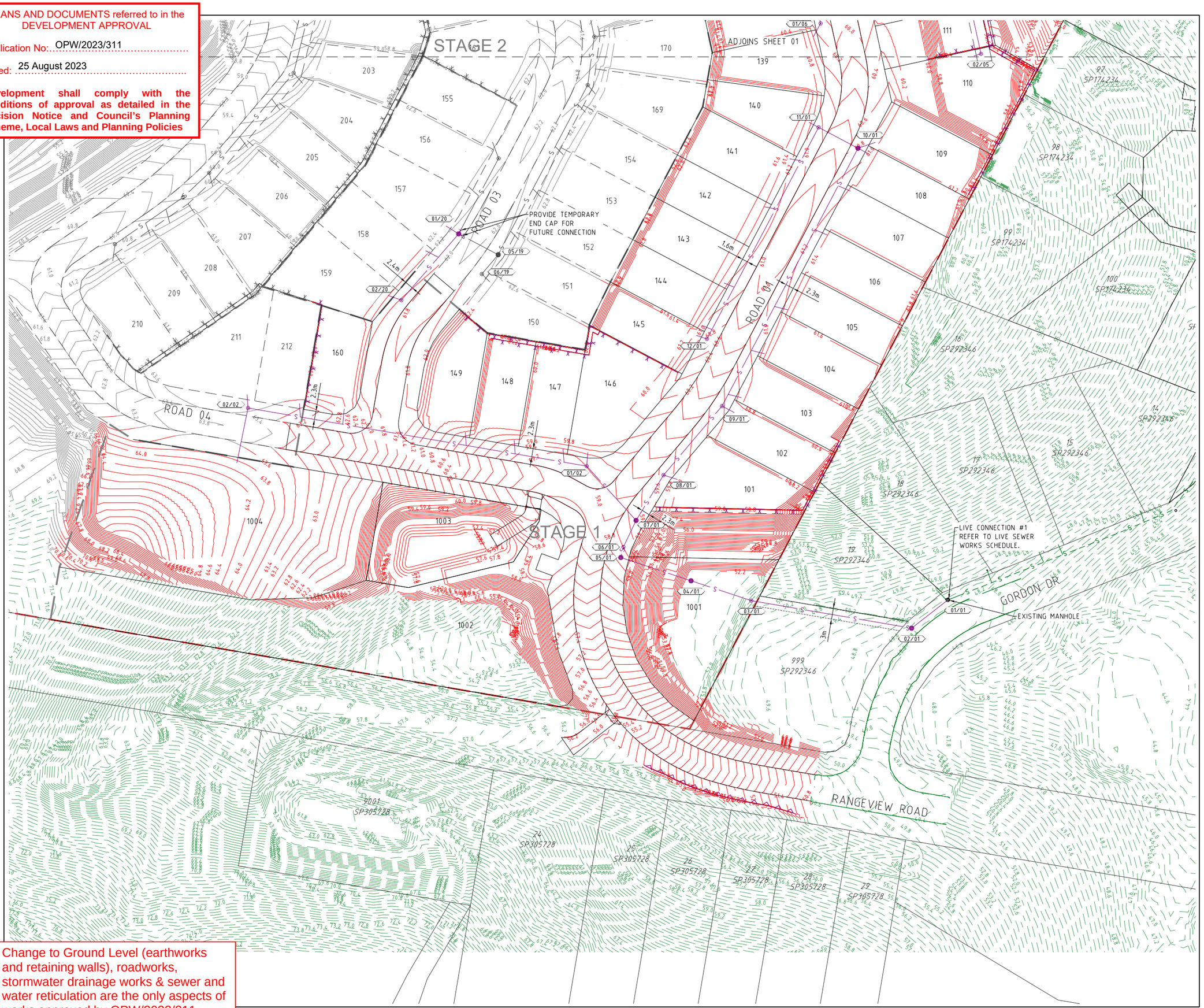
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
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ASSOCIATED CONSULTANTS

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SEWER RETICULATION PLAN SHEET 02

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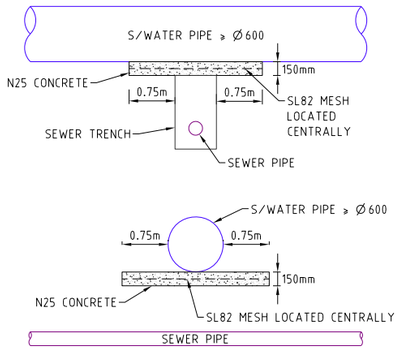
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-501

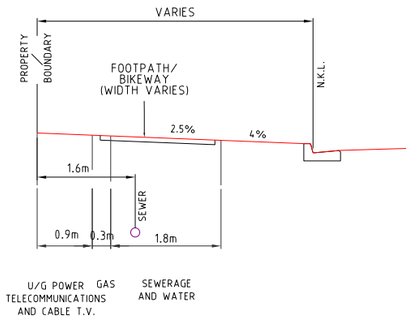
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BRIDGING DETAILS FOR STORMWATER PIPES ≥ Ø600

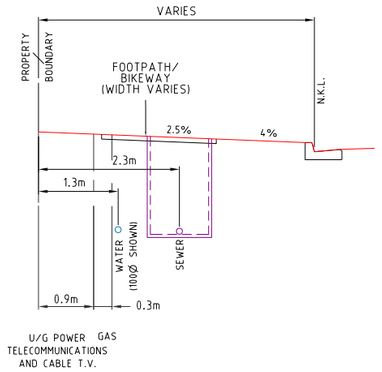
NOT TO SCALE



G.C.C.C. TYPICAL SERVICES SEWER RETICULATION ONLY

SCALE 1:50 - A1 (1:100 - A3)

1. PUBLIC UTILITIES ALLOCATIONS ARE MEASURED FROM THE REAL PROPERTY BOUNDARY.
2. LIGHT POLE, TREE ALLOCATIONS AND FOOTPATHS ARE MEASURED FROM THE NOMINAL KERB LINE.



G.C.C.C. TYPICAL POTABLE WATER AND SEWER RETICULATION (SAME SIDE)

SCALE 1:50

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

SEWER RETICULATION DETAILS

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-510	A

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SEWER STRUCTURE LIDS	
D	TRAFFICABLE LID
B	NON-TRAFFICABLE LID
M	'M' PREFIX DESIGNATES BOLT DOWN LID

RIGS STRUCTURE TYPES	
P(x)	PRECAST CONCRETE SEWER MAINTENANCE STRUCTURE REFER TO SEQ STD DWG SEQ-SEW-1300-1
A	TYPE 'A' 1050mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
B	TYPE 'B' 1200mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
C	TYPE 'C' 1500mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
J1	TYPE 'J1' MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1314-2
BND	BEND REFER TO SEQ STD DWGS SEQ-SEW-1314-3
RE	RODDING END MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1314-1
END	PROPRIETORY END CAP
PS	SEWER PUMP STATION REFER TO RELEVANT SEQ STD DWGS
RCM	RECEIVING MAINTENANCE STRUCTURE REFER TO RELEVANT SEQ STD SEWER PUMP STATION DWGS
G6	TYPE 'G6' TERMINAL MAINTENANCE SHAFT REFER TO SEQ STD DWGS SEQ-SEW-1314-1

RIGS STRUCTURE DROPS	
V	STRAIGHT THROUGH SEWER REFER TO SEQ STD DWG SEQ-SEW-1303-1
W	OBLIQUE BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1
X	INTERNAL BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1
Y	EXTERNAL BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1

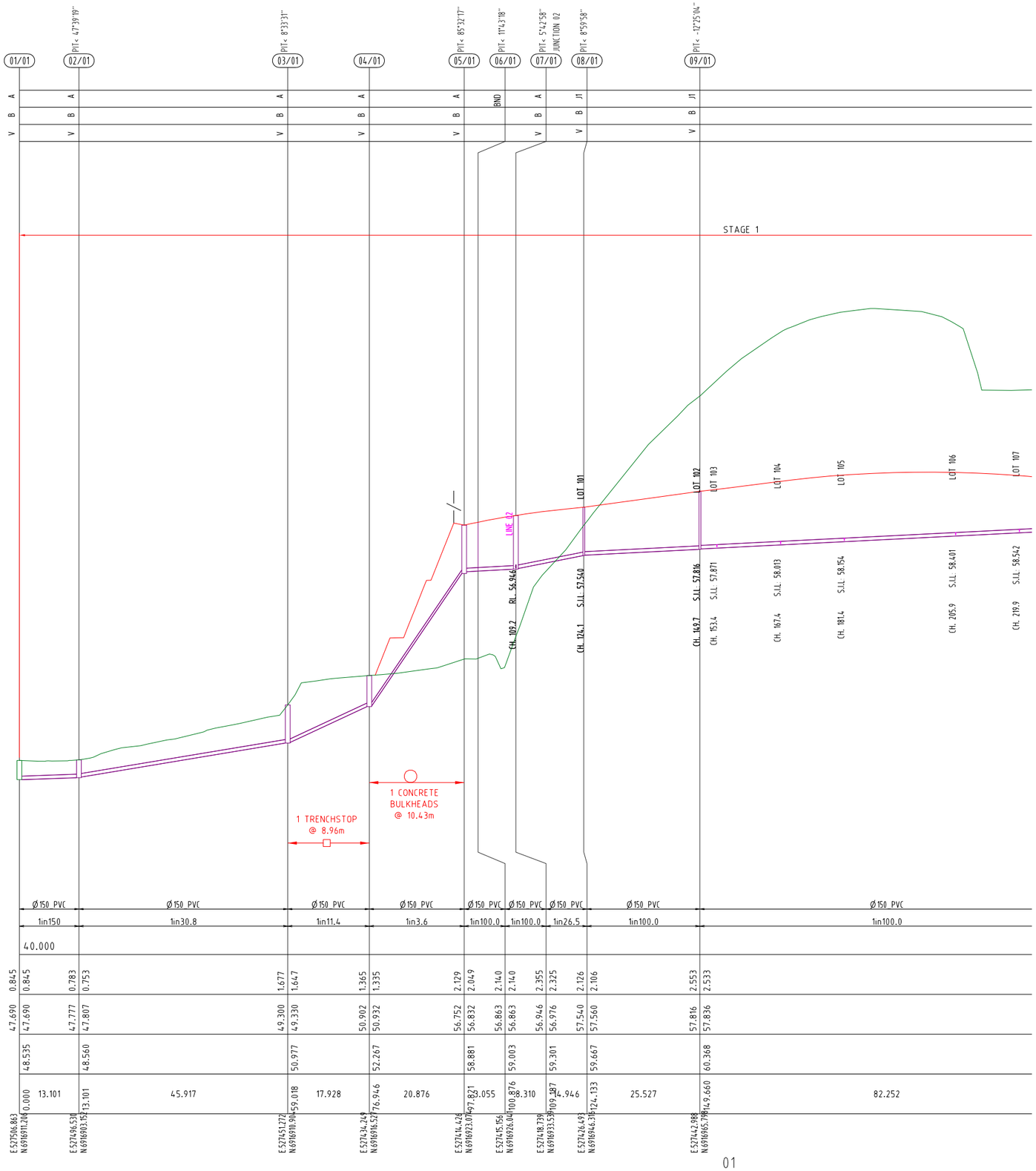
STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

1. IF SHOWN, WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAIN uPVC SEWER PIPE TO BE CLASS SN16 U.N.O.
4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
5. ALL BENDS TO BE LONG RADIUS BEND, 3m RADIUS
6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
7. PROTECTIV COATING IS TO BE INSTALLED TO MAINTENANCE STRUCTURES (WHERE REQUIRED) IN ACCORDANCE WITH CLAUSE 4.7.2 OF SEQ SEWERAGE CODE.



Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 01

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DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-530 | REV B

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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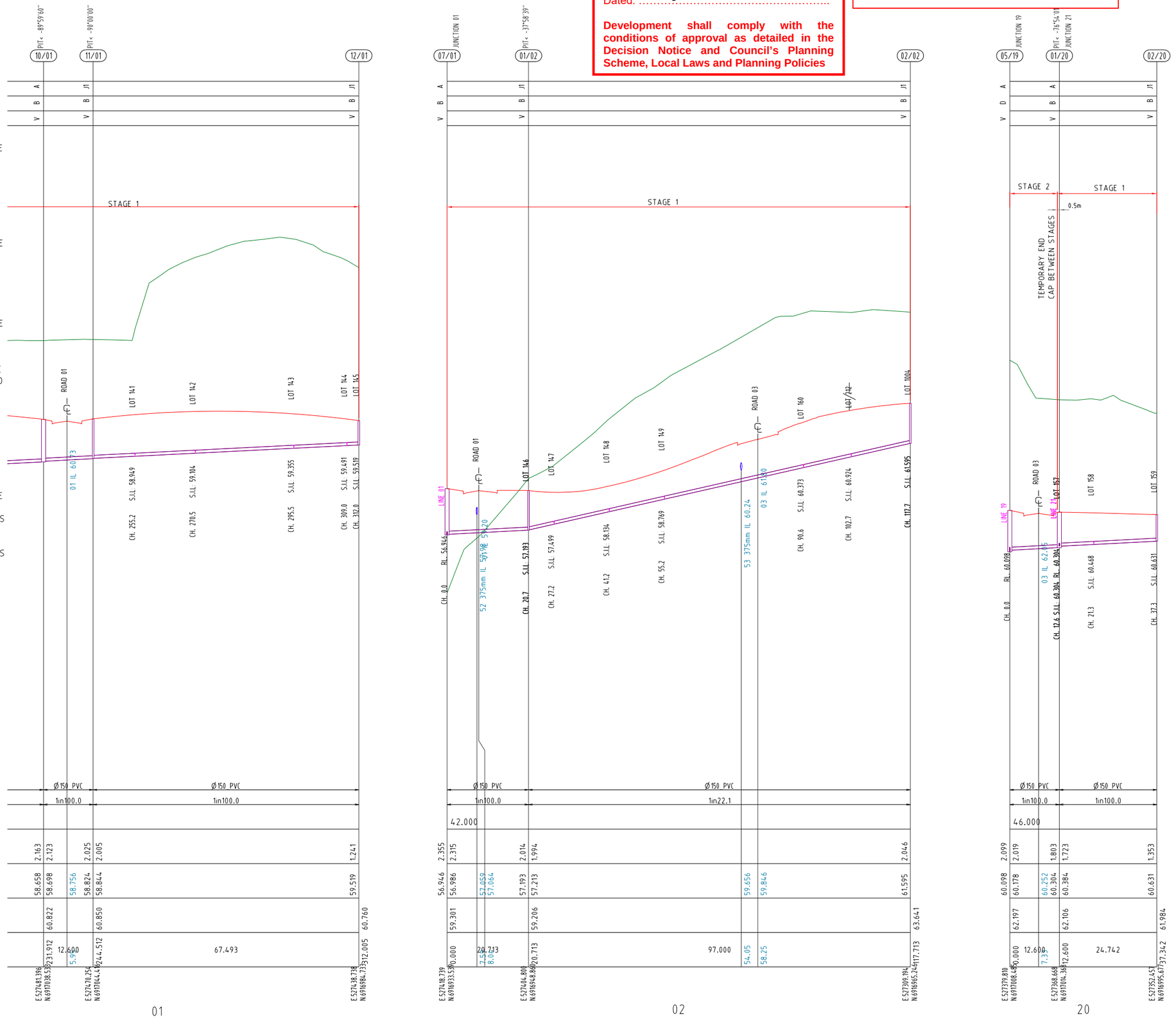
STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

1. IF SHOWN, WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAIN uPVC SEWER PIPE TO BE CLASS SN16 U.N.O.
4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
5. ALL BENDS TO BE LONG RADIUS BEND, 3m RADIUS
6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
7. PROTECTIV COATING IS TO BE INSTALLED TO MAINTENANCE STRUCTURES (WHERE REQUIRED) IN ACCORDANCE WITH CLAUSE 4.7.2 OF SEQ SEWERAGE CODE.



| | | |

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

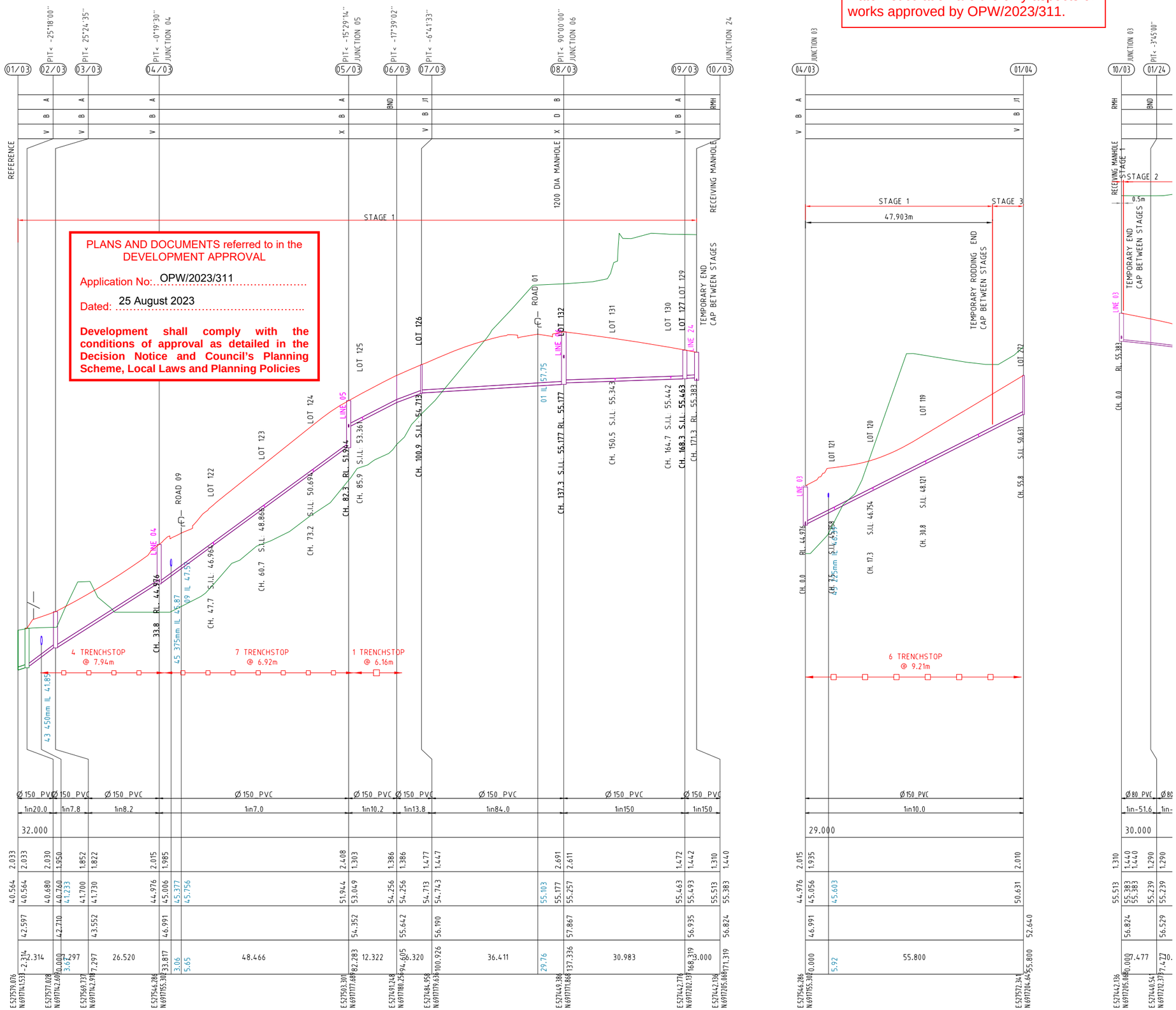
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

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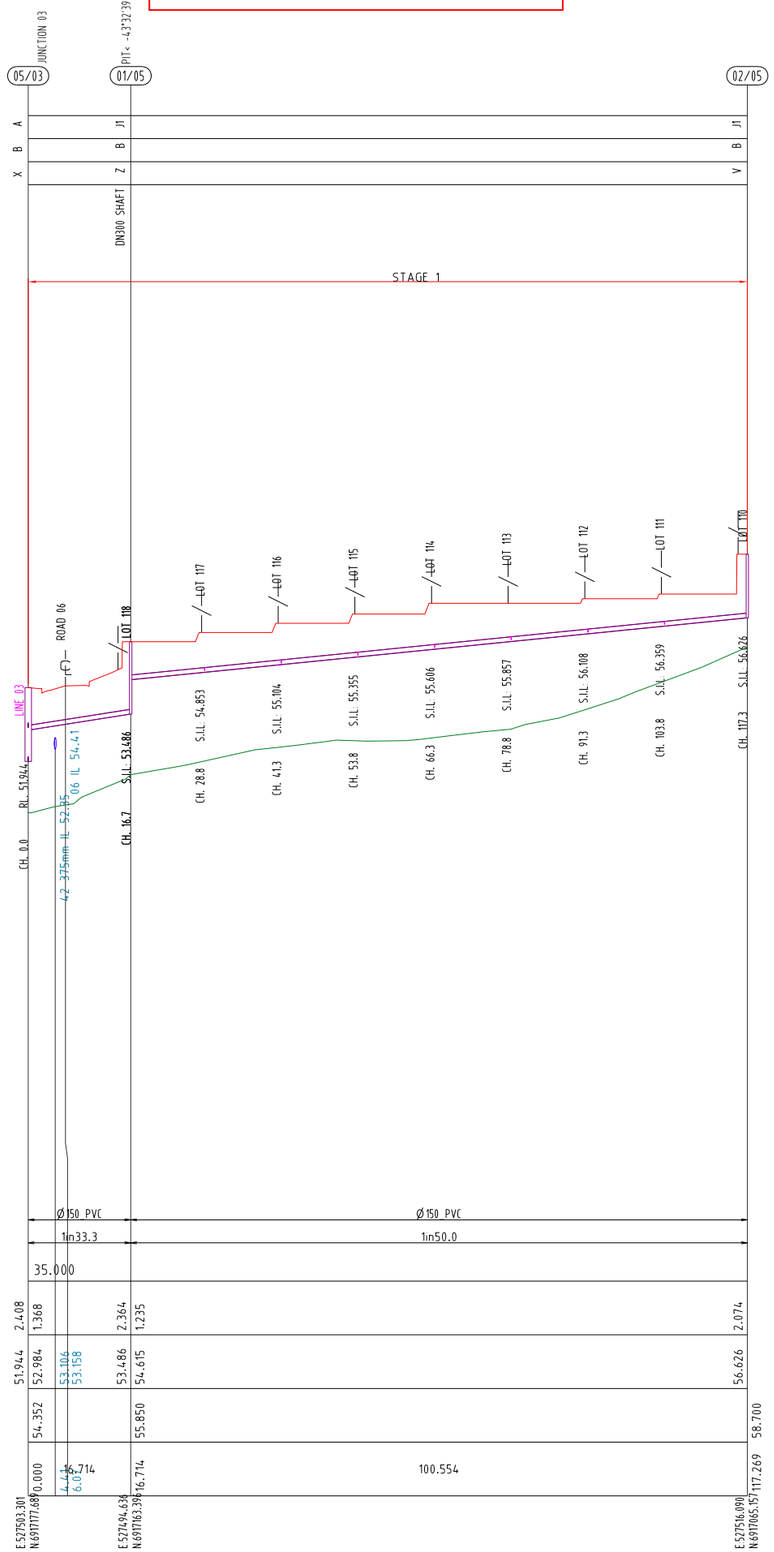
STRUCTURE TYPE
LID CLASS
DROP TYPE

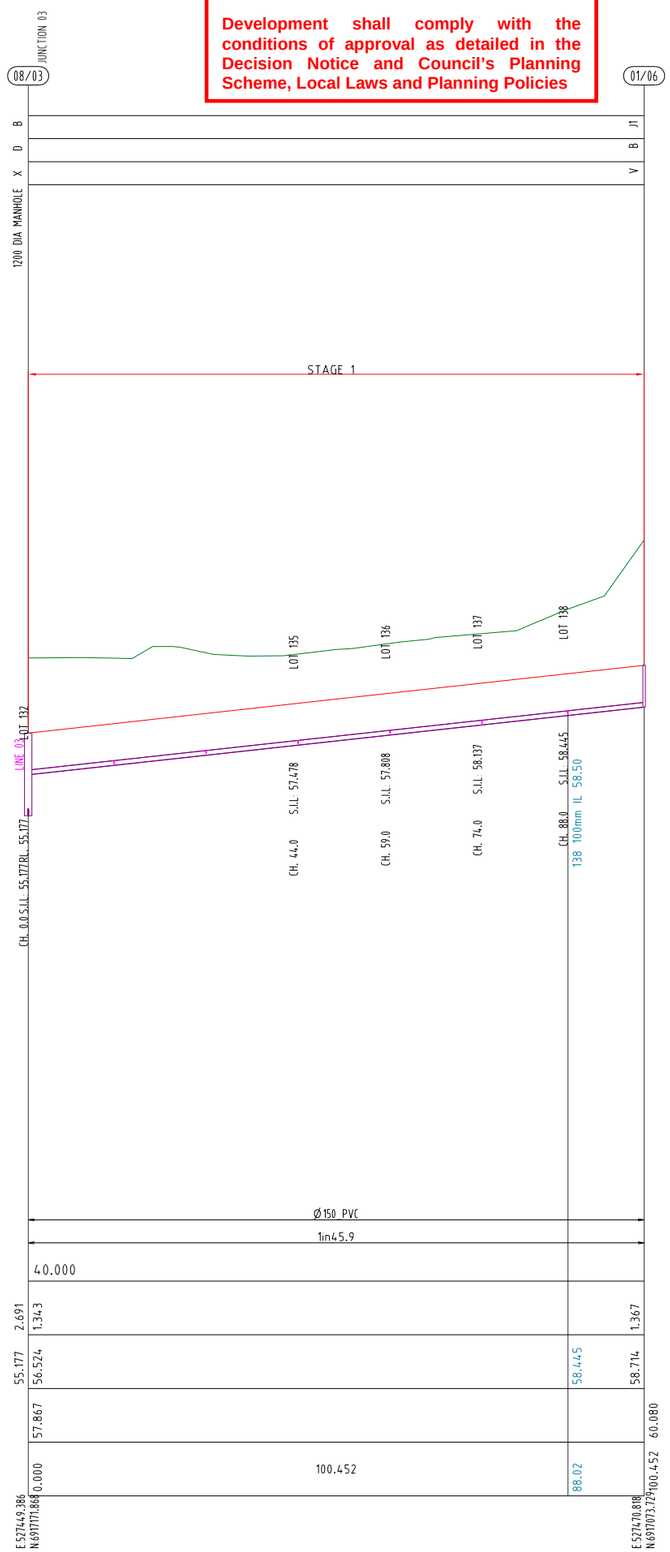
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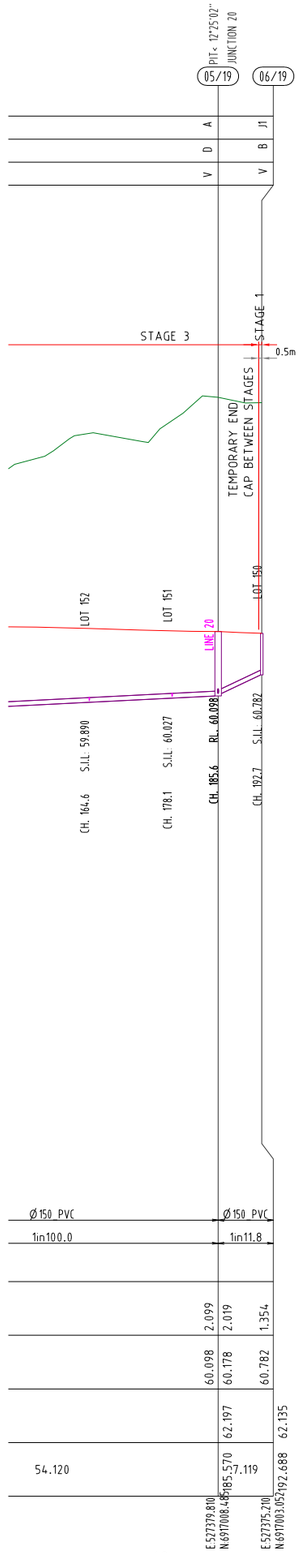
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| | 35.000 | | |

RIGS STRUCTURE DROPS	
A	SEWER PROPERTY CONNECTION (STANDARD & EXTENDED) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
B	SEWER PROPERTY CONNECTION (SLOPED CONNECTION) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
D	SEWER PROPERTY CONNECTION (VERTICAL RISER) REFER TO SEQ STD DWG SEQ-SEW-1105-1
V	SEWER PROPERTY CONNECTION (STRAIGHT THROUGH SEWER) REFER TO SEQ STD DWG SEQ-SEW-1303-1
X	SEWER PROPERTY CONNECTION (INTERNAL BACKDROP) REFER TO SEQ STD DWG SEQ-SEW-1303-1
Z	RISER CONNECTION TO PORTION OF MAINTENANCE SHAFT

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

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Dated: 25 August 2023

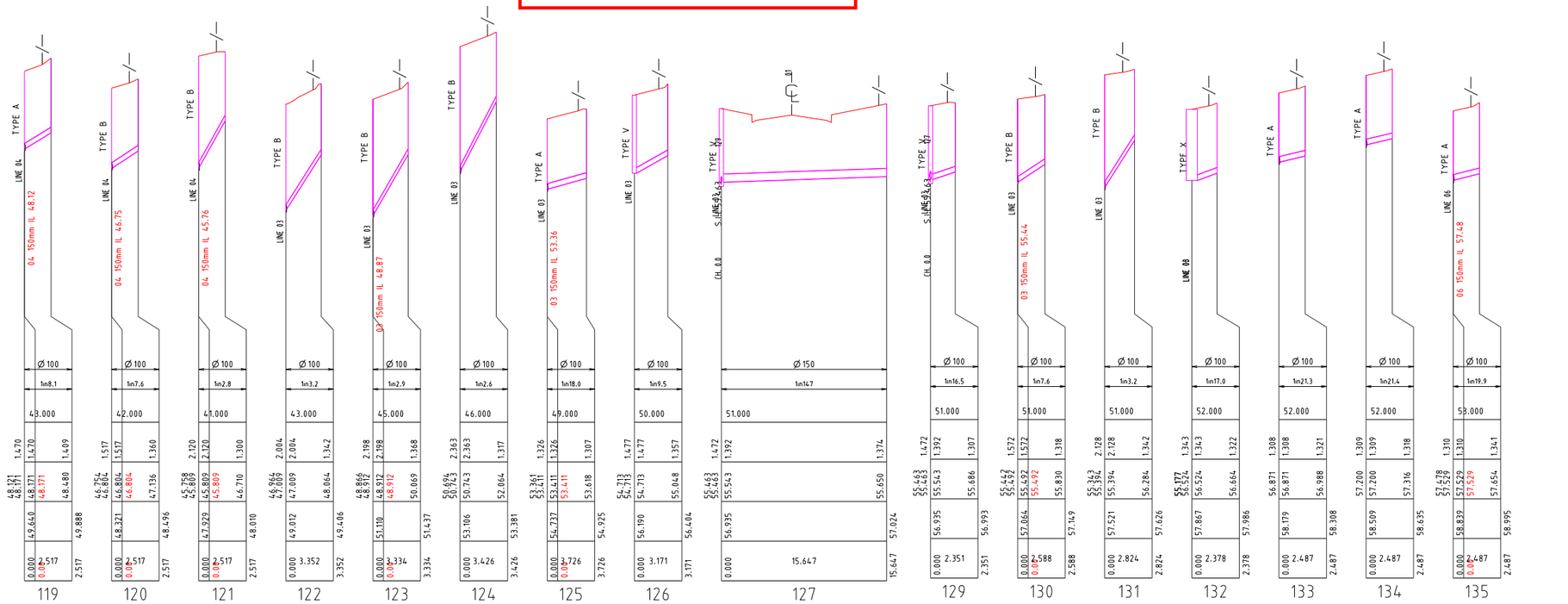
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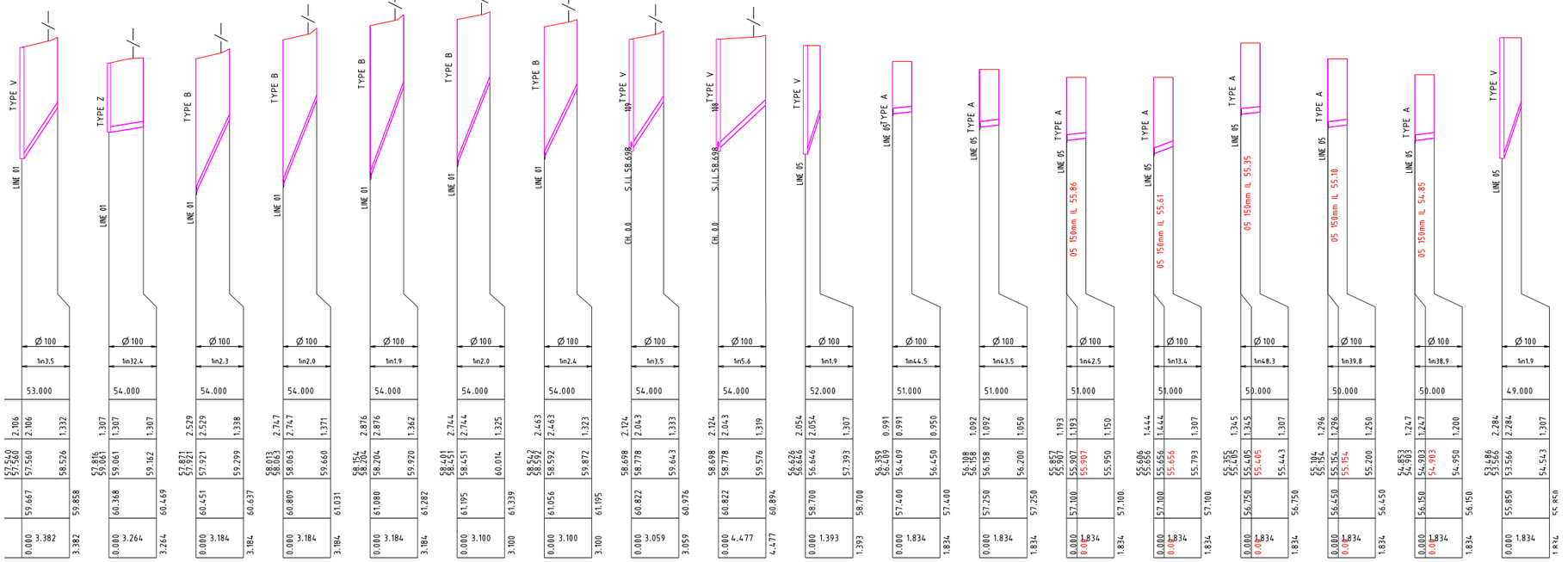
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2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2.5 5 7.5 10 12.5m
Horiz. Scale 1:250 - A1 (1:500 - A3)

0 0.5 1.0 1.5 2.0 2.5m
Vert. Scale 1:50 - A1 (1:100 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-550 REV B

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

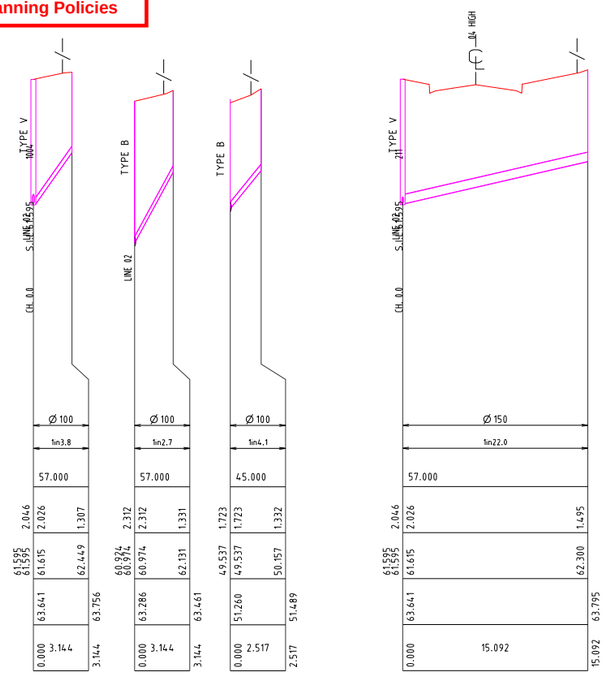
Dated: 25 August 2023

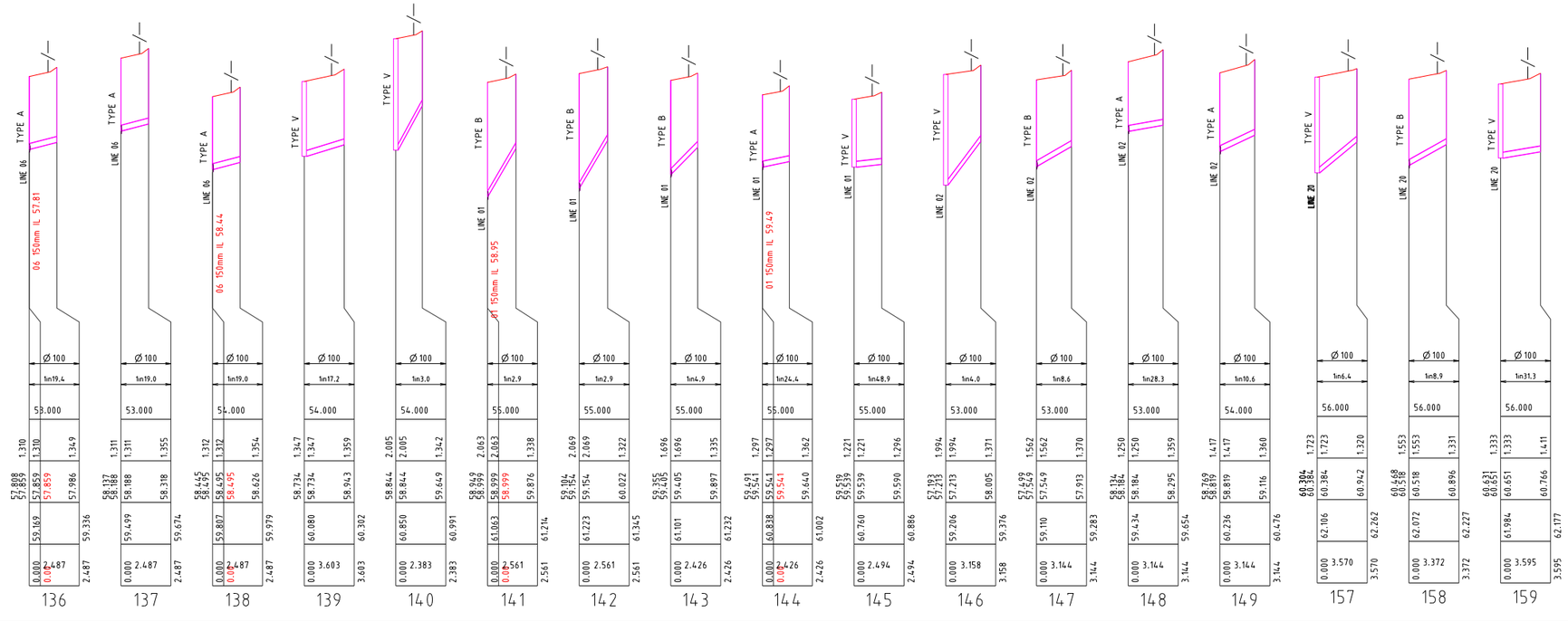
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STAGE 01

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COURTNEY DRIVE
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CLIENT

HB Land

0 2.5 5 7.5 10 12.5m
Horiz. Scale 1:250 - A1 (1:500 - A3)

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

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41901-01-551	B

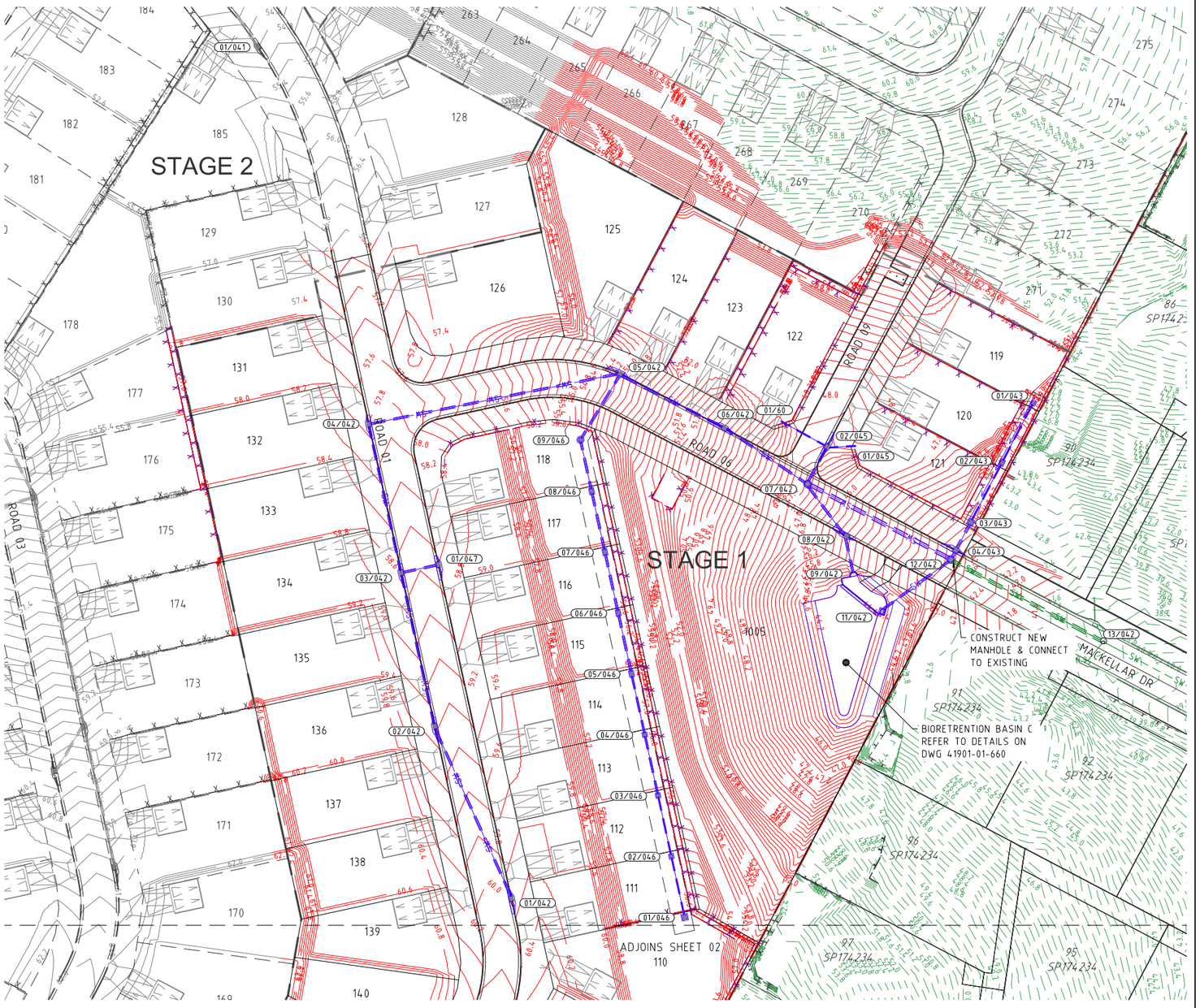
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STORMWATER

1. ALL FIELD GULLIES SHALL CONTAIN A 150mm DIA STUB 600mm BELOW GRADE LEVEL FOR FUTURE ROOFWATER DRAINAGE.
2. MANHOLES TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING No DS-010, DS-015, DS-018, DS-019, DS-020, DS-021 OR STRUCTURAL DRAWINGS (STRUCTURAL DRAWINGS TAKE PRECEDENCE).
3. OUTLET HEADWALLS TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARD DRAWINGS.
4. ALL HEADWALLS WITH A FALL GREATER THAN 900mm HIGH REQUIRE INSTALLATION OF PEDESTRIAN SAFETY FENCES.
5. PIPE JOINT TYPES TO BE IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.
6. ALL ALLOTMENTS TO BE GRADED SUCH THAT FUTURE ROOFWATER DRAINAGE DISCHARGES TO KERB OR TO PIPED DRAINAGE SYSTEM.
7. ALL PIPE 300mm DIA & GREATER SHALL BE CONSTRUCTED USING SRC OR FRC PIPES. CONTRACTOR MAY ELECT TO USE PVC PIPES WITHIN ALLOTMENTS FOR PIPES SMALLER THAN 300mm DIA.
8. FOR SETOUT DETAILS REFER TO 640 SERIES DRAWINGS (PROFILES & PIT DETAILS).
9. GULLY PITS TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING No DS-060, DS-061, DS-062, DS-063. WHERE PITS ARE CONSTRUCTED AS DRAINWAY PITS, TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWINGS No 05-068.
10. LOTS WHICH CAN DRAIN OVERLAND FLOW TO THE STREET SWALE / DRAINAGE WITHOUT FLOWING THROUGH ADJOINING PROPERTIES NEED TO PROVIDE FOR Q100 OVERLAND FLOW TO THE ROAD
11. LOT EARTHWORKS DURING BUILDING CONSTRUCTION MUST NOT CHANGE FLOW PATH DIRECTION UNLESS IT IS REPLACED WITH ANOTHER FLOW PATH DRAINING TO THE ROAD SWALE / DRAINAGE.
12. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR STORMWATER RATE.
13. PIPE CLASS - PIPE CLASSES/TRENCH BEDDING SHOWN ON THE DRAWINGS ARE SUBJECT TO THE CONTRACTORS PREFERRED INSTALLATION METHOD. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE APPROPRIATE PIPE CLASSES & BEDDING, & CONSIDERING CONSTRUCTION LOADING.
14. KERB ADAPTORS ARE TO BE INSTALLED TO AUTHORITIES REQUIREMENTS.
15. ALL RCBC SLABS ARE TO BE CAST INSITU.

LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING PROPERTY LINE
- EXISTING RETAINING WALL
- EXISTING STORMWATER (SW)
- EXISTING ROOFWATER (RW)
- EXISTING SUBSOIL (SS)
- EXISTING CONTOURS (1.0)
- FUTURE KERB
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- FUTURE STORMWATER (SW)
- FUTURE ROOFWATER (RW)
- FUTURE SUBSOIL (SS)
- SITE BOUNDARY
- STAGE BOUNDARY
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS (1.0)
- PROPOSED STORMWATER (SW)
- PROPOSED ROOFWATER (RW)
- PROPOSED SUBSOIL (SS)
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION

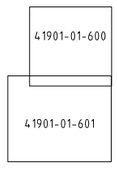


REFERENCE POINT LOCATION FOR DRAINAGE STRUCTURES

STRUCTURE TYPE	HORIZONTAL CONTROL (Reference Point Location)	VERTICAL CONTROL (Reference Level)
MANHOLE / GRATED PIT	CENTRE OF MANHOLE / PIT	FINISHED SURFACE LEVEL
GULLY PIT	LIP AT CENTRE OF PIT	FINISHED SURFACE LEVEL (LIP OF CHANNEL)
HEADWALL	INTERSECTION OF HEADWALL FACE & PIPE CENTRELINE	INVERT LEVEL

REFER TO DWG SERIES 640 FOR ALL DRAINAGE STRUCTURE SETOUT AND/OR CUSTOM DETAILS.

SHEET LAYOUT



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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	STORMWATER BASIN ACCESS AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

STORMWATER DRAINAGE PLAN SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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ABN: 39 116 375 065
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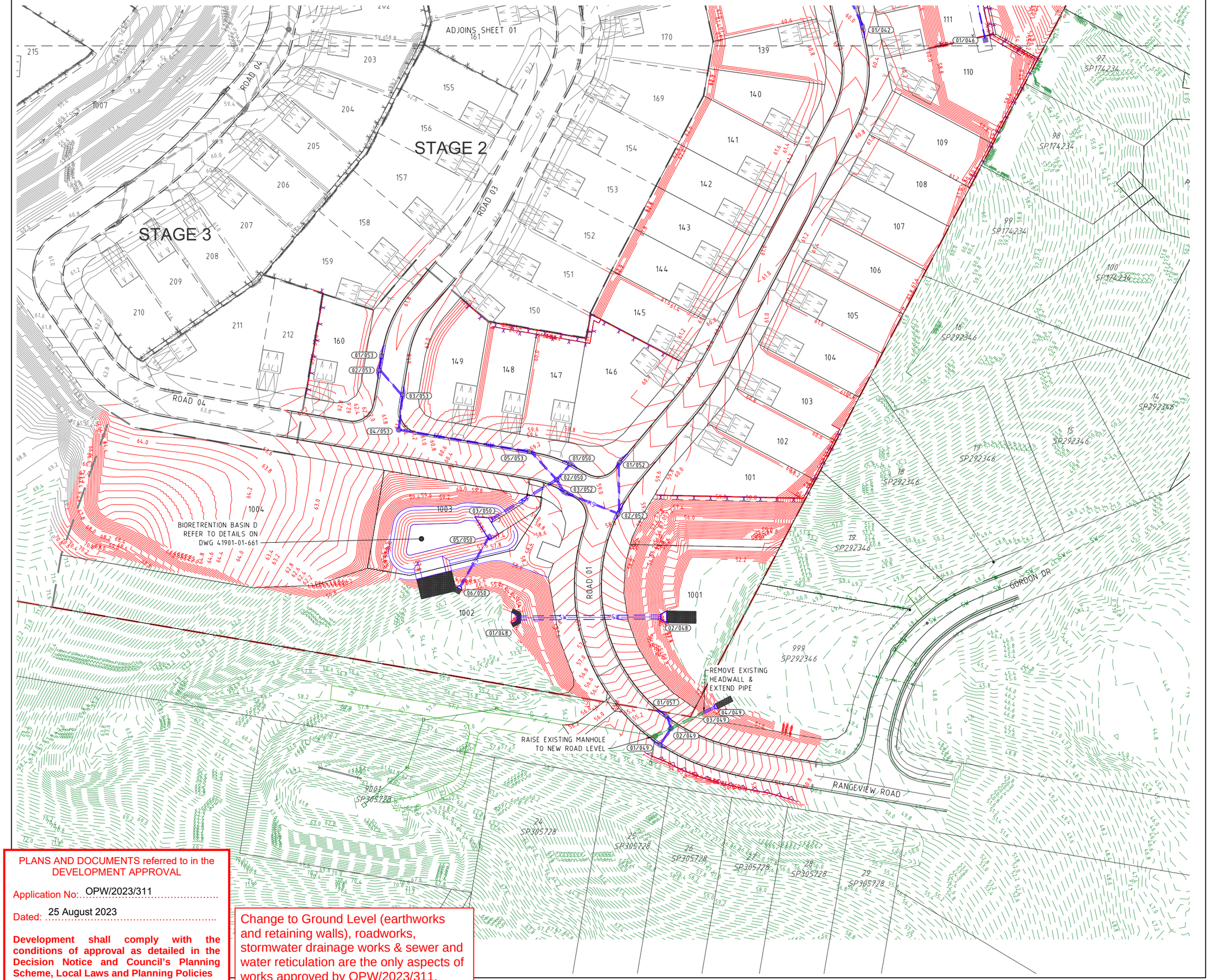
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-600	C

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CLIENT

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NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

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BENNETT + BENNETT

DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 02

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Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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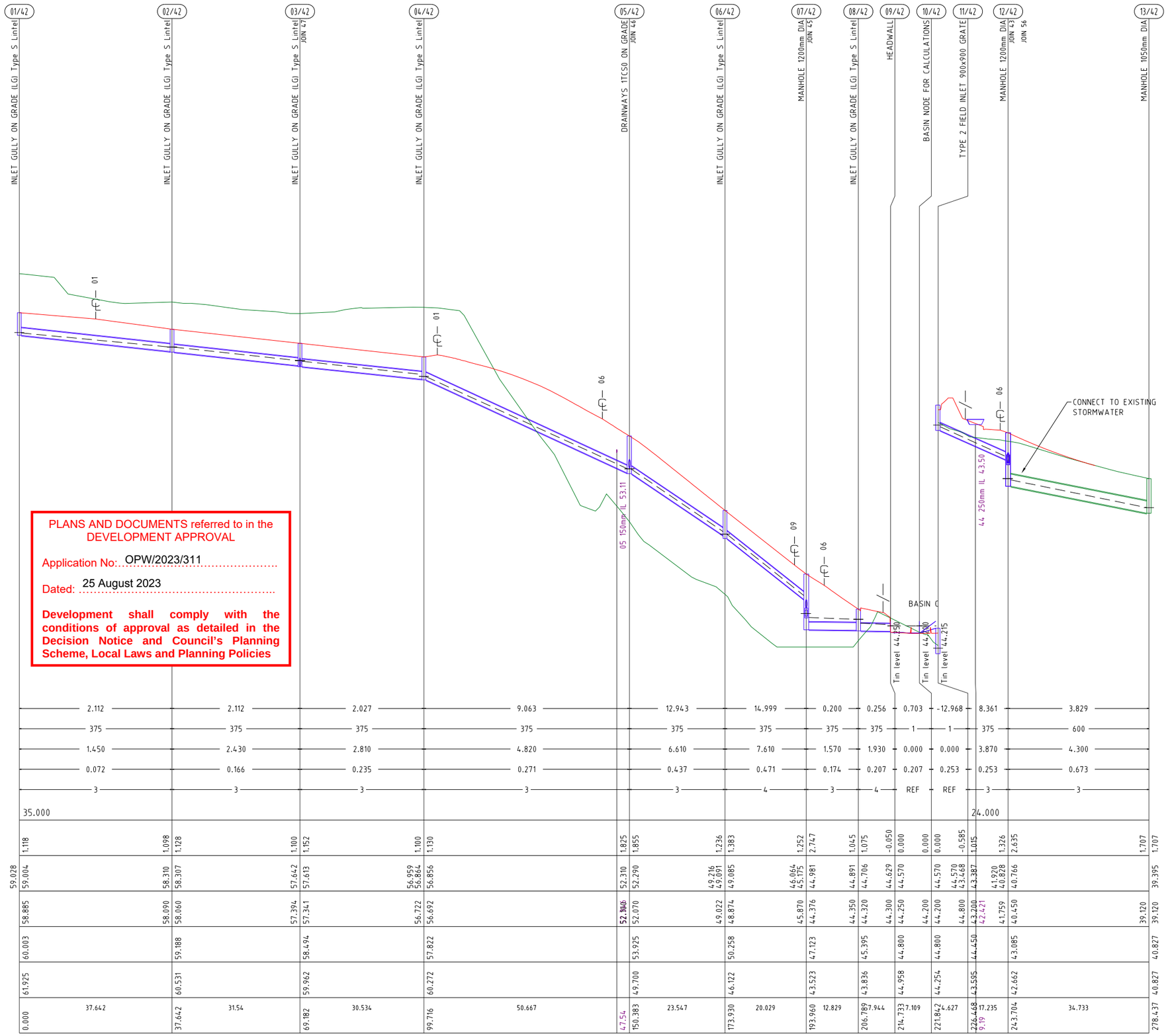
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DRAWING NUMBER	REV
41901-01-601	C

STRUCTURE NAME

STRUCTURE DESCRIPTION



| | | |

STRUCTURE NAME

STRUCTURE DESCRIPTION



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

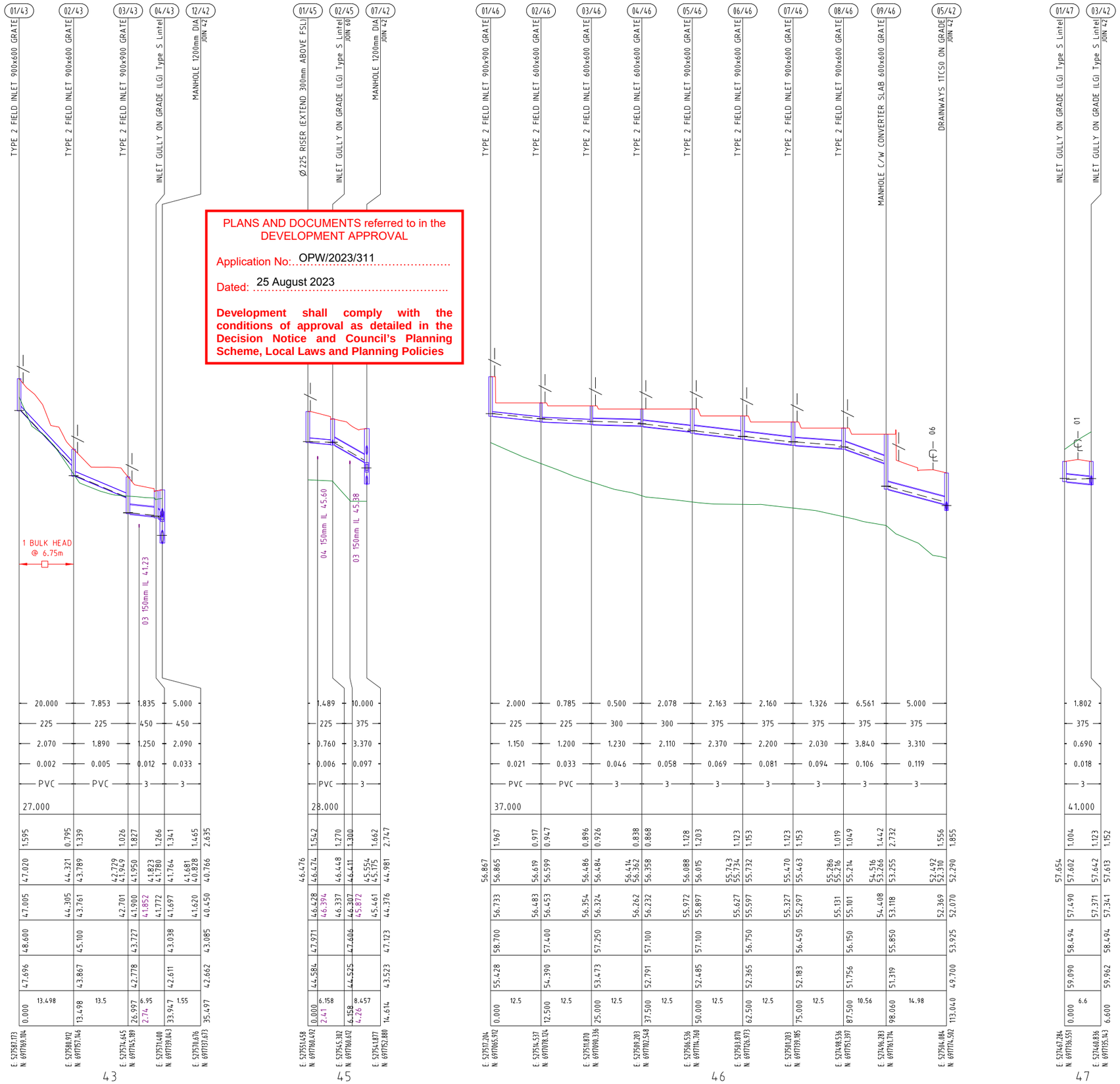
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2. STRUCTURAL DESIGN IS NOT PROVIDED AS PART OF THE TENDER DOCUMENTS, THE CONTRACTOR SHALL INCLUDE IN THEIR PRICE THE STRUCTURAL DESIGN AND CERTIFICATION OF THESE STRUCTURES.



	43					45				46										47		
PIPE GRADE (%)	20.000		7.853		1.835	5.000		1.489	10.000		2.000	0.785	0.500	2.078	2.163	2.160	1.326	6.561	5.000		1.802	
PIPE DIAMETER (mm)	225		225		450	450		225	375		225	225	300	300	375	375	375	375	375		375	
VELOCITY (m/s)	2.070		1.890		1.250	2.090		0.760	3.370		1.150	1.200	1.230	2.110	2.370	2.200	2.030	3.840	3.310		0.690	
PIPE FLOW (m3/s)	0.002		0.005		0.012	0.033		0.006	0.097		0.021	0.033	0.046	0.058	0.069	0.081	0.094	0.106	0.119		0.018	
PIPE CLASS	PVC		PVC		3	3		PVC	3		PVC	PVC	3	3	3	3	3	3	3		3	
DATUM R.L.	27.000							28.000			37.000										41.000	
DEPTH TO INVERT	1.595		1.339		1.026	1.465		1.542	1.662		1.967	0.917	0.947	0.896	0.926	0.838	0.868	1.128	1.203	1.123	1.153	1.019	1.049	1.442	2.732	1.556	1.855		1.004	1.123	1.152
HYDRAULIC GRADE LINE	47.020		44.321	0.795	43.789	42.729	1.026	41.950	1.827	41.823	1.266	41.780	1.341	41.764	1.681	41.620	0.828	40.766	2.635	46.476	46.474	1.542	46.448	1.270	46.411	1.300	45.554	45.175	1.662	44.981	2.747	56.867	56.865	56.619	56.599	56.486	56.484	56.414	56.362	56.358	56.088	56.015	55.743	55.734	55.732	55.470	55.463	55.286	55.216	55.214	54.516	53.266	53.255	52.492	52.310	52.369	52.290	52.070	57.654	57.602	57.490	57.371	57.341	57.613
PIPE INVERT LEVELS	47.005		44.305	43.761		42.701	41.900		41.852	41.772	41.697		41.620	40.450							46.394	46.337	46.307	46.411	45.872	45.461	44.376									

STRUCTURE NAME

STRUCTURE DESCRIPTION

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

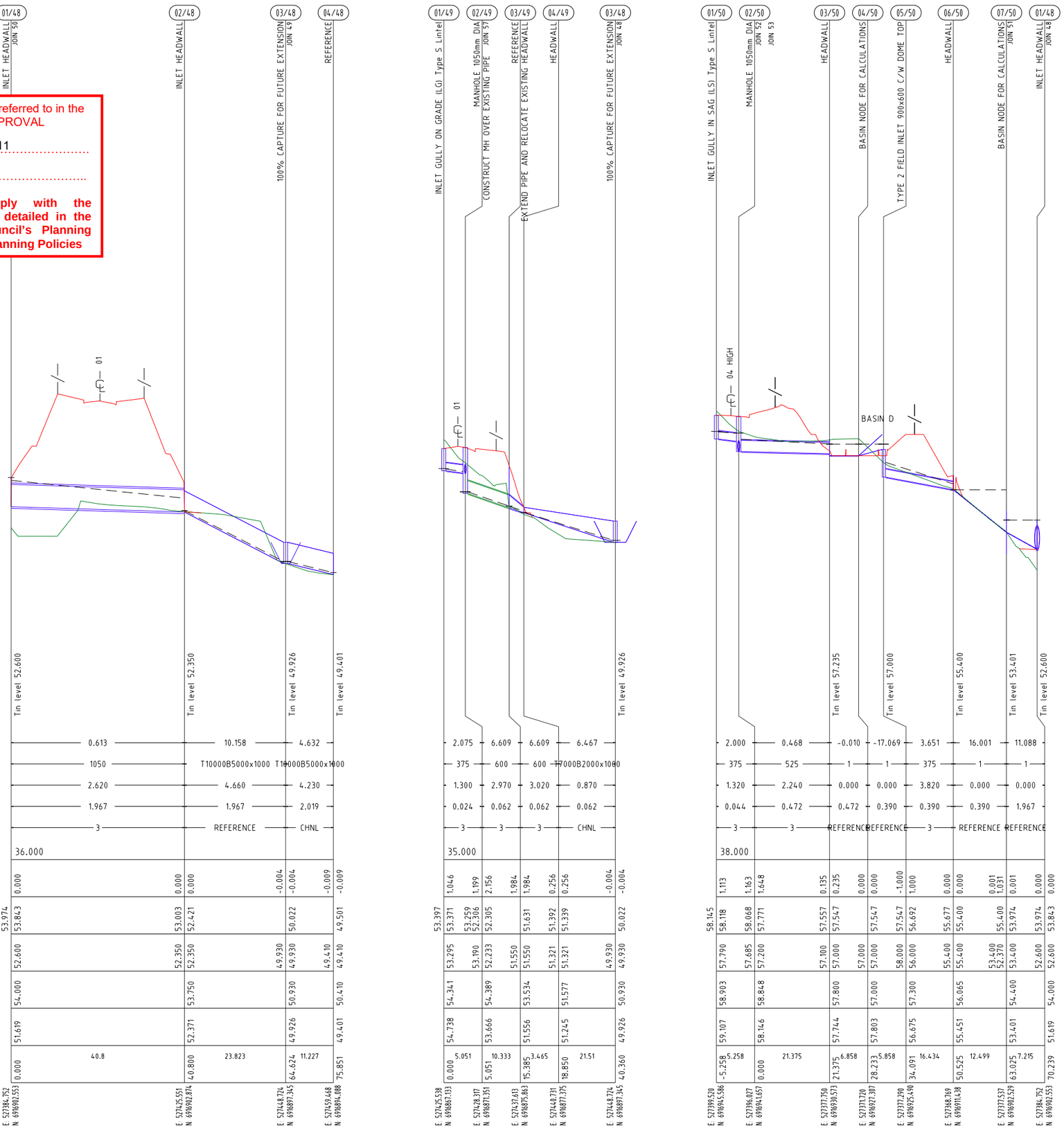
Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

DIAL BEFORE YOU DIG www.1100.com.au

NOTES

1. WHERE STRUCTURE DEPTHS ARE 0m TO 3m REFER TO IPWEA STANDARD DRAWINGS FOR STRUCTURE DETAILS. WHERE STRUCTURE DEPTHS ARE 3m TO 5m REFER TO TMR STANDARD DRAWINGS FOR STRUCTURE DETAILS. WHERE STRUCTURE DEPTHS EXCEED 5m STRUCTURES ARE NON-STANDARD AND STRUCTURAL DESIGN IS REQUIRED.
2. STRUCTURAL DESIGN IS NOT PROVIDED AS PART OF THE TENDER DOCUMENTS, THE CONTRACTOR SHALL INCLUDE IN THEIR PRICE THE STRUCTURAL DESIGN AND CERTIFICATION OF THESE STRUCTURES.



| | | |

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

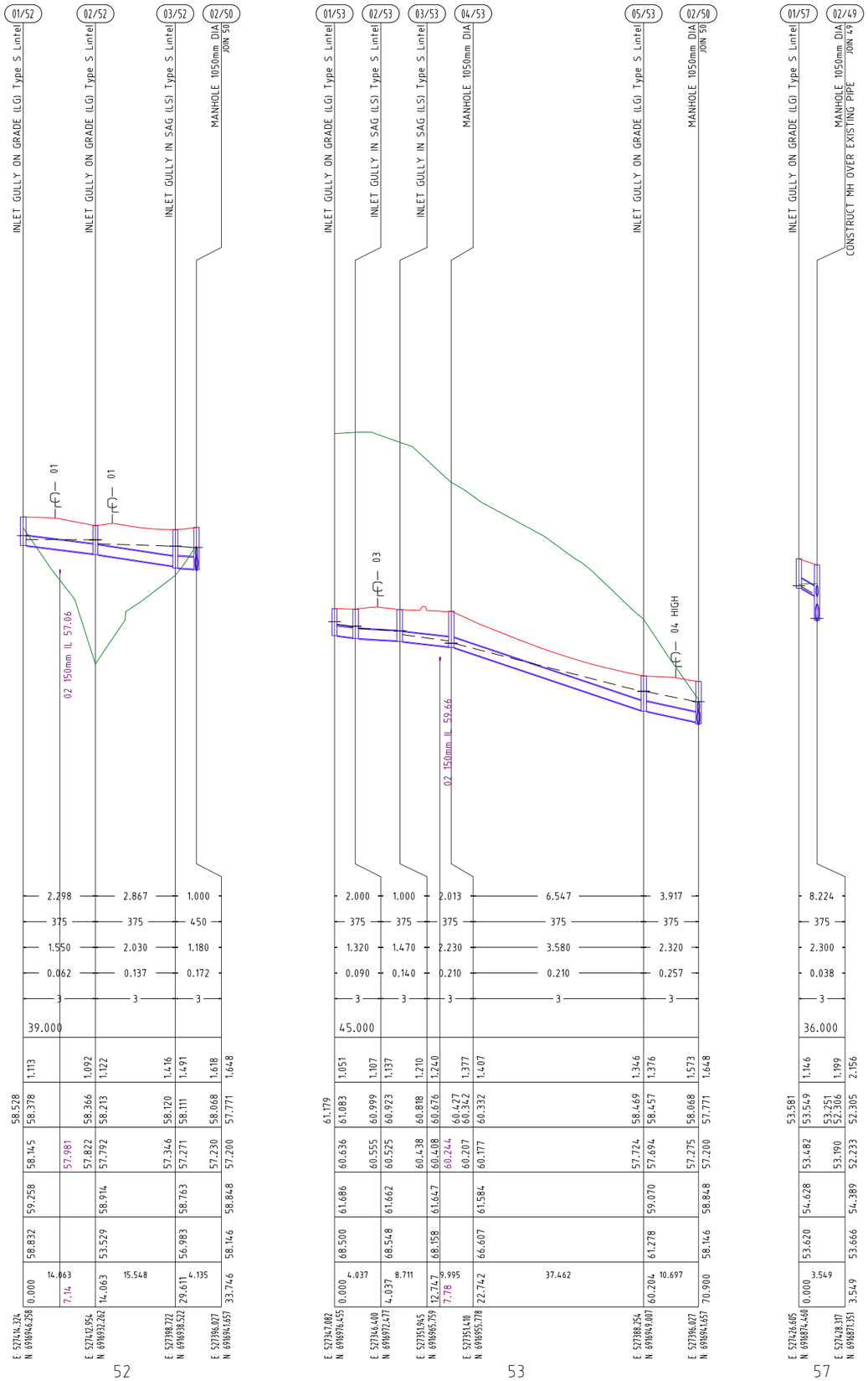
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1. WHERE STRUCTURE DEPTHS ARE 0m TO 3m REFER TO IPWEA STANDARD DRAWINGS FOR STRUCTURE DETAILS.
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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

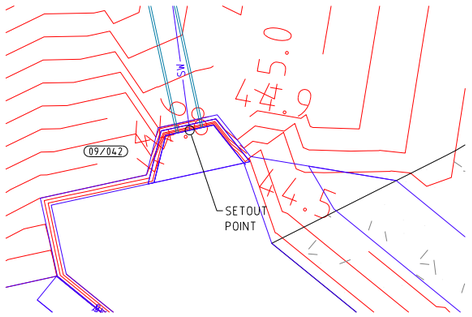
STORMWATER PROFILES SHEET 04

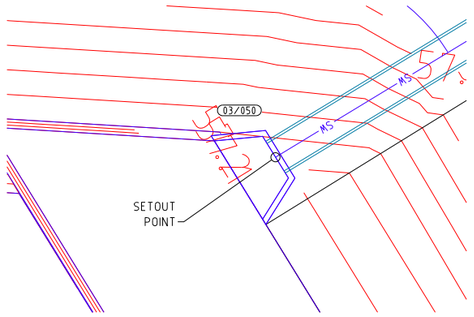
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
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Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

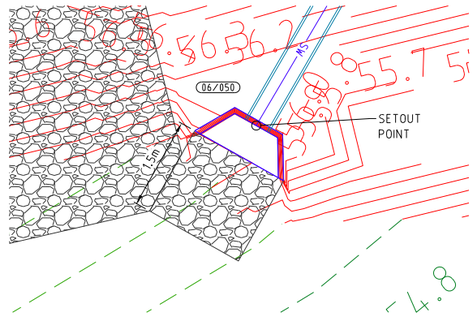
DESIGNED RB	DRAWN EMH
APPROVED	RPEQ 4706 DATE 03-03-23

DRAWING NUMBER 41901-01-623 REV B

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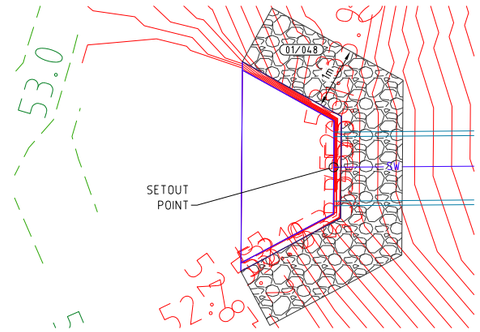






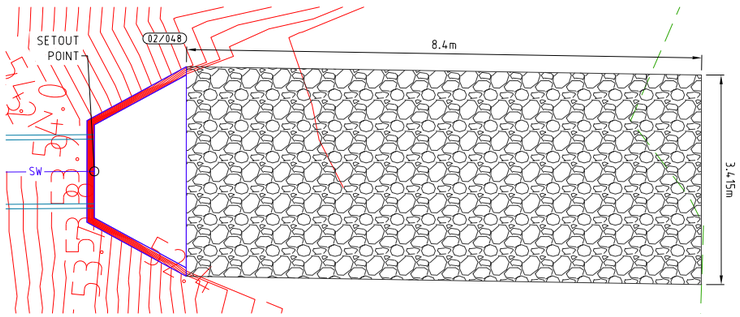
SCOUR PROTECTION DESIGN	
HW 06/050	SIZE 375mm
VELOCITY = 3.91m/s	
LENGTH = 1.5m	d50 = 200mm
SCOUR PROTECTION TYPE = RENO MATTRESS 400mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



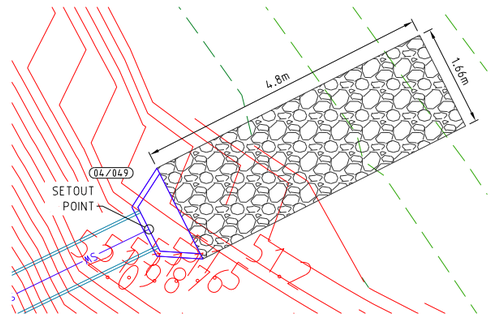
SCOUR PROTECTION DESIGN	
HW 01/048	SIZE 1050mm
VELOCITY = 3.91 m/s	
WIDTH = 1m	d50 = 200mm
SCOUR PROTECTION TYPE = GROUTED ROCK PITCHING 400mm THICK	

CALCULATIONS UNDERTAKEN USING FIGURE 8.12 FROM QUDM 2016



SCOUR PROTECTION DESIGN	
HW 02/048	SIZE 1050mm
VELOCITY = 3.6m/s	
LENGTH = 8.4m	d50 = 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 600mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



SCOUR PROTECTION DESIGN	
HW 04/049	SIZE 375mm
VELOCITY = 4.2m/s	
LENGTH = 4.8m	d50 = 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 600mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

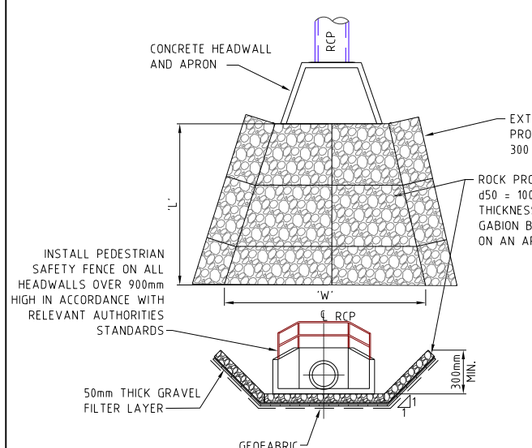
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

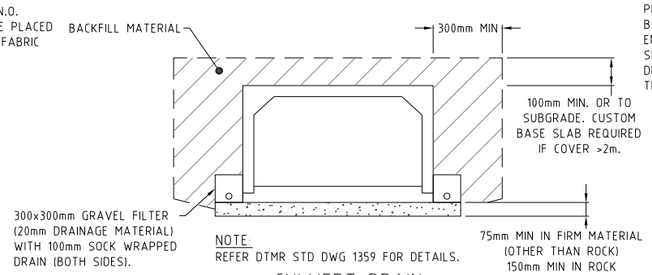
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TYPICAL GABION SCOUR PROTECTION DETAIL

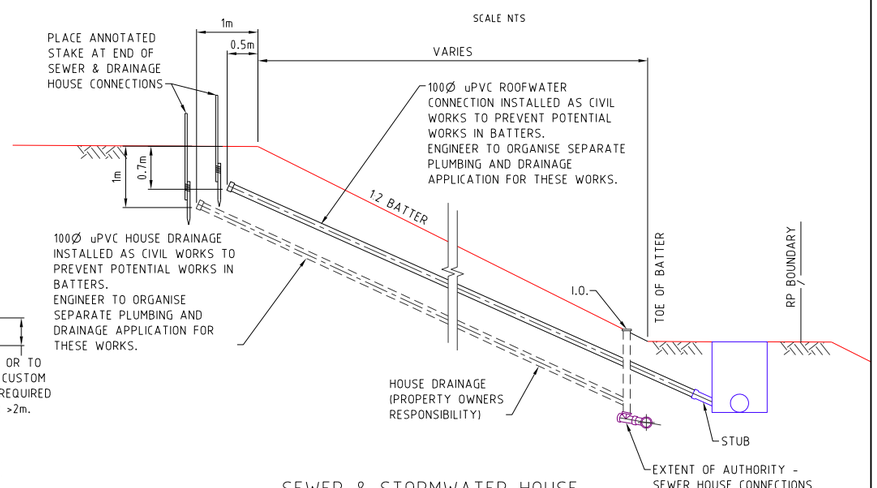
SCALE 1 : 100 - A1 (1:200 - A3)



NOTE
REFER DTMR STD DWG 1359 FOR DETAILS.

CULVERT DRAIN

SCALE NTS



SEWER & STORMWATER HOUSE CONNECTION DETAIL

(WHERE INDICATED ON PLAN)

SCALE 1:50 - A1 (1:100 - A3)

0 0.1 0.2 0.3 0.4 0.5m
Scale 1:10 - A1 (1:20 - A3)

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

0 1 2 3 4 5m
Scale 1:100 - A1 (1:200 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

STORMWATER OUTLETS AND TYPICAL DETAILS SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
Mortons-Urban Solutions
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mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
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PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-640

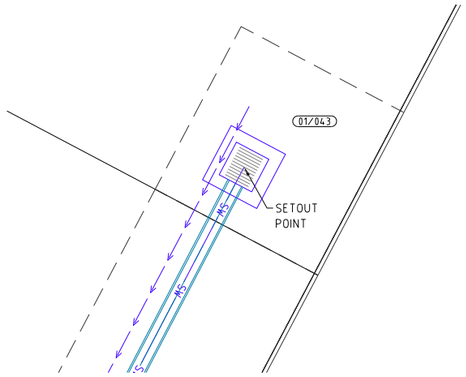
REV B

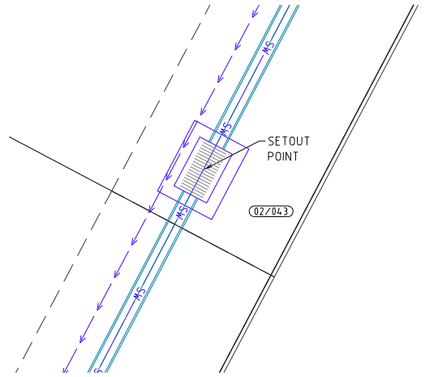
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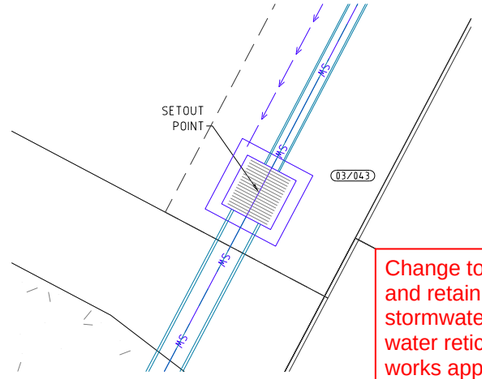
LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING STORMWATER
- EXISTING ROOFWATER
- EXISTING STORMWATER PIPES
- EXISTING ROOFWATER PIPES
- FUTURE KERB (INVERT)
- FUTURE KERB (LIP & BACK)
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- FUTURE STORMWATER
- FUTURE ROOFWATER
- FUTURE STORMWATER PIPES
- FUTURE ROOFWATER PIPES
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- PROPOSED STORMWATER
- PROPOSED ROOFWATER
- PROPOSED STORMWATER PIPES
- PROPOSED ROOFWATER PIPES
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- (10/001) DRAINAGE PIT & LINE NO.
- CONCRETE

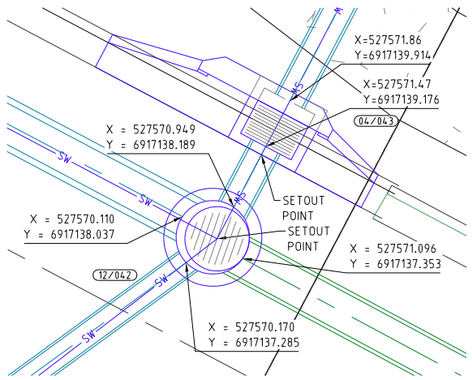
NOTE
THE STORMWATER PIT IMAGE ARE DIAGRAMATIC ONLY & THE CONTRACTOR MUST ENSURE THEY MATCH NEATLY INTO THE WORKS

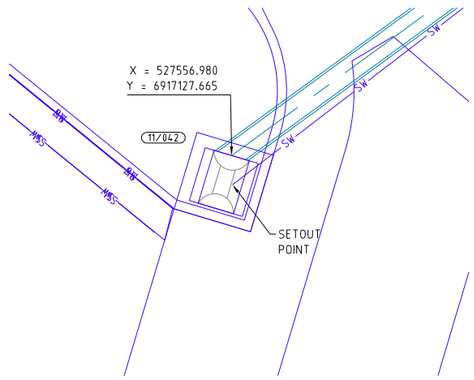


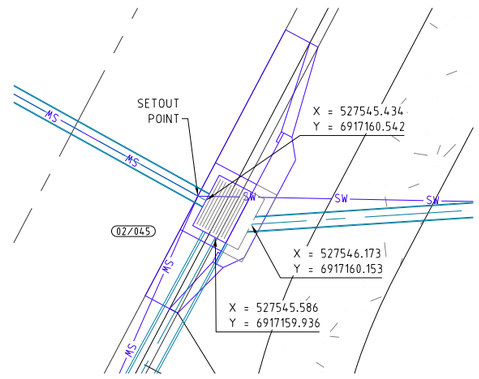


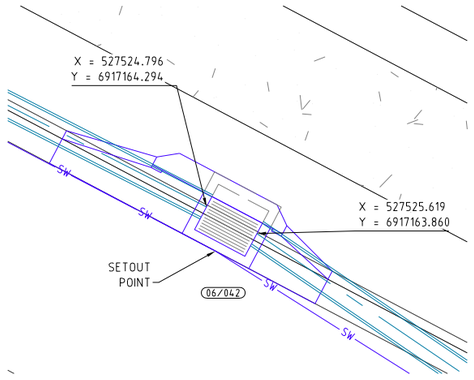


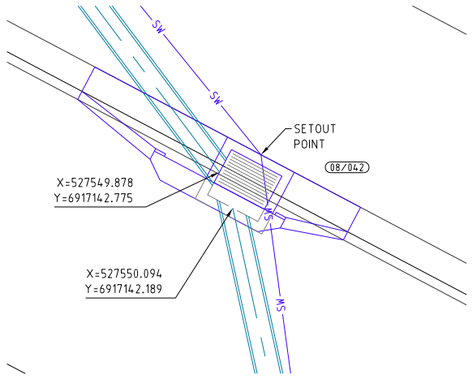
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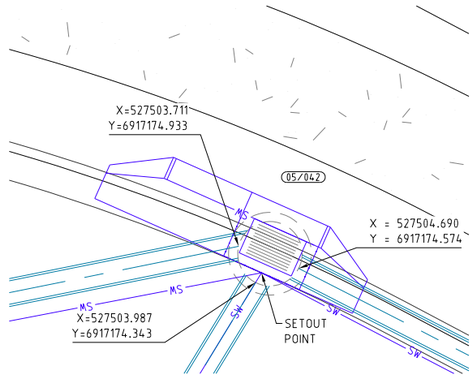


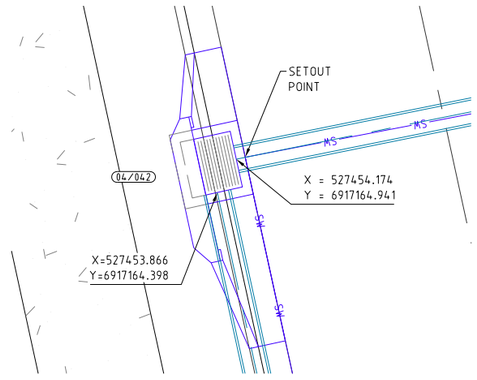


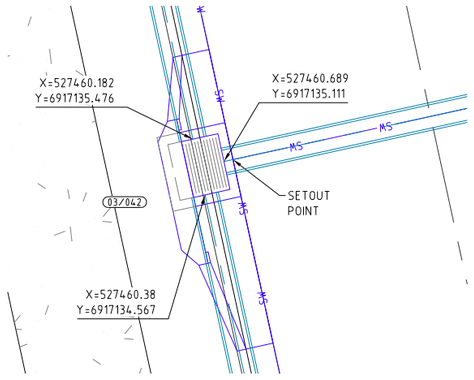


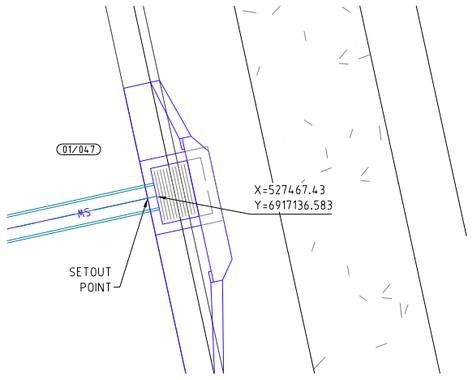


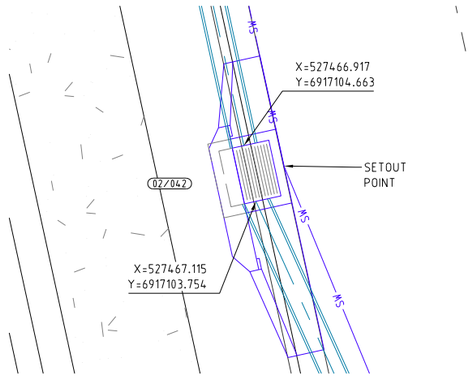


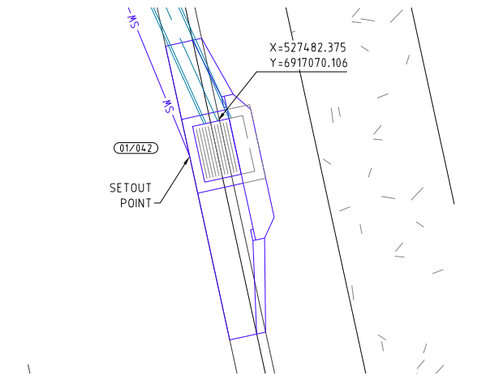












PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

NORTH

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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BENNETT + BENNETT

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

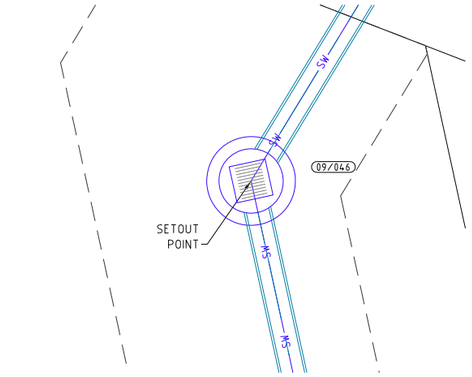
Postal Address
PO Box 2484
Southport QLD 4215

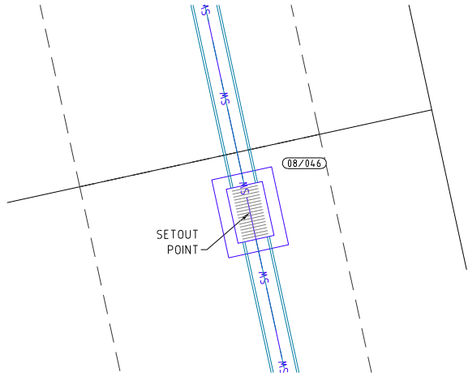
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

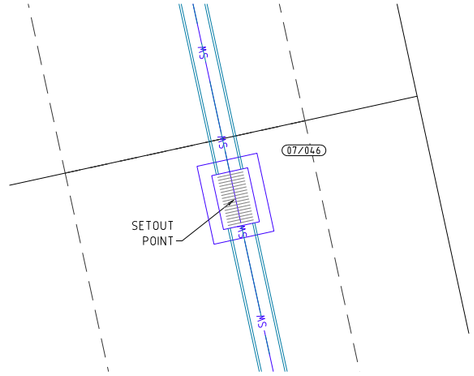
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APPROVED	RPEQ 4706	DATE	03-03-23

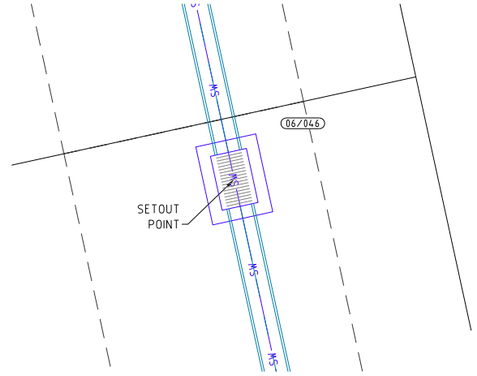
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REV: B

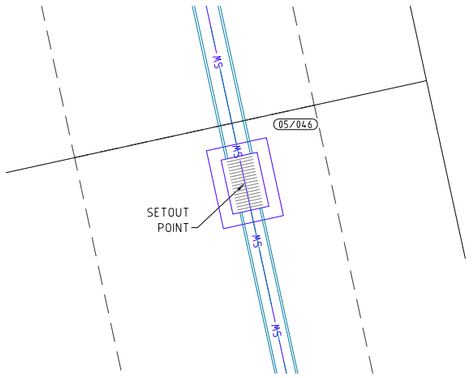
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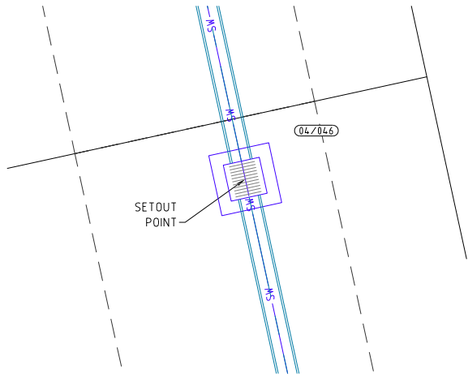


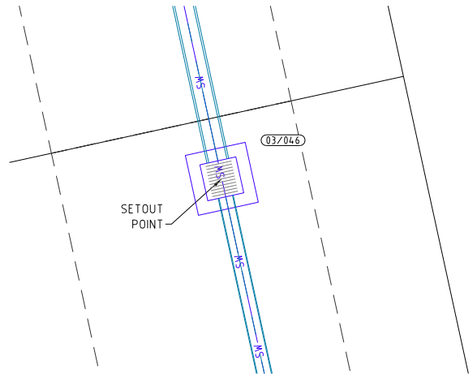


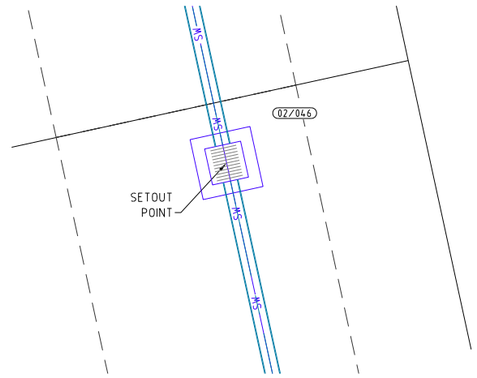


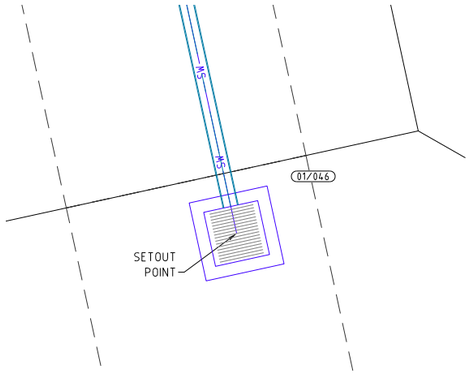


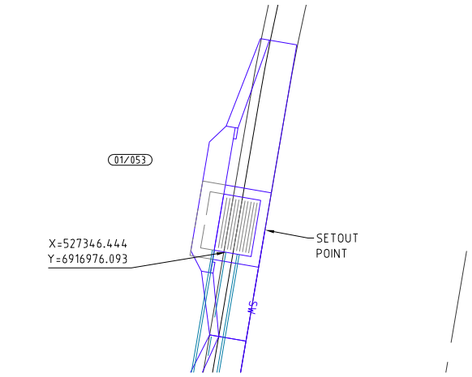


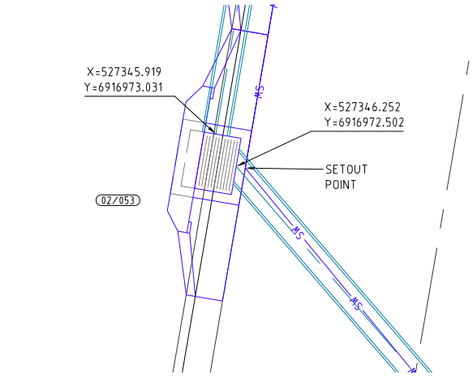


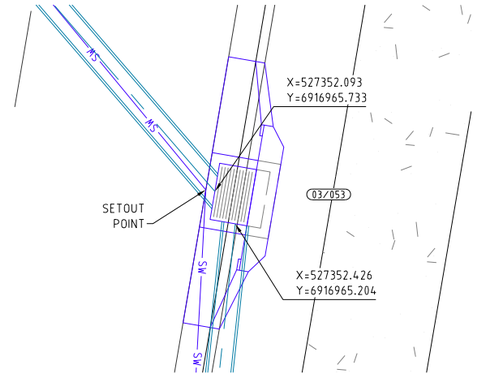


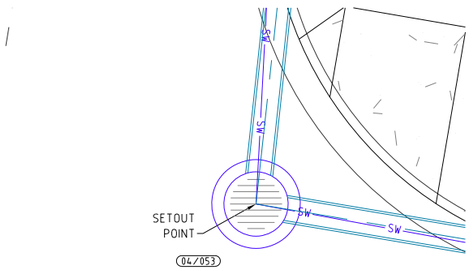


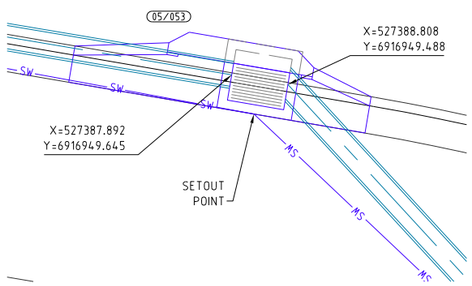


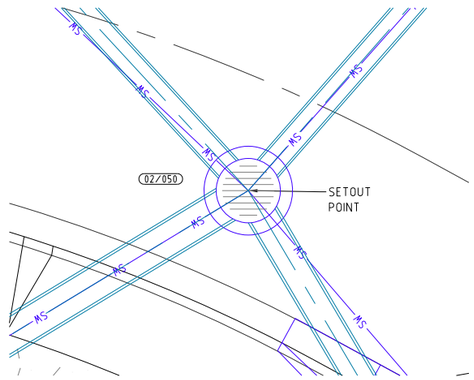


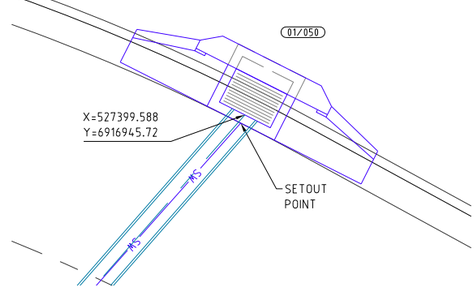












Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Tel 07 5571 1099

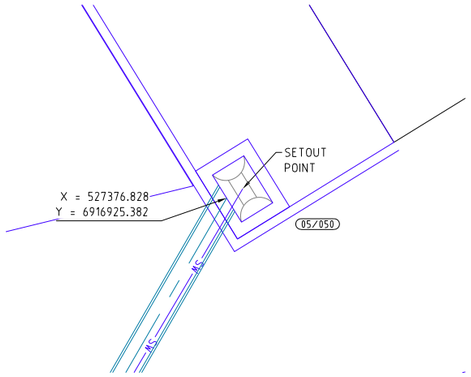
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Southport QLD 4215

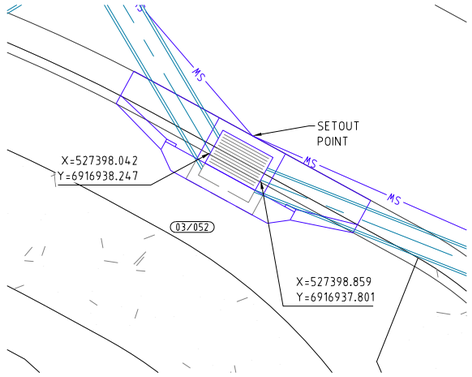
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Southport QLD 4215

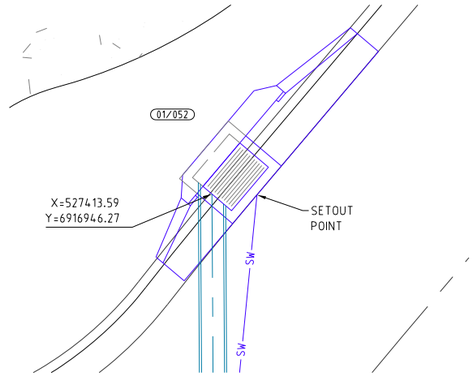
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APPROVED	RPEQ 4706	DATE	03-03-23

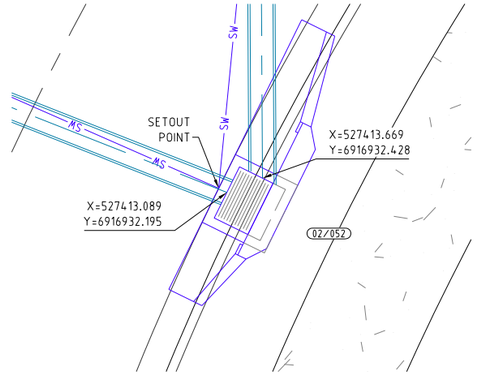
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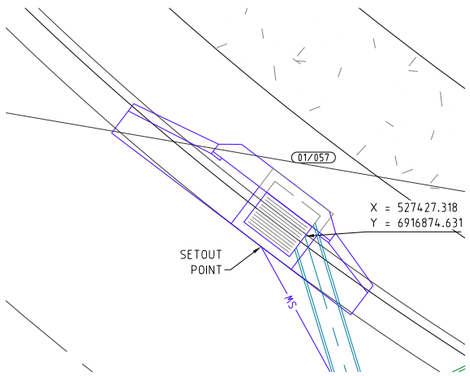
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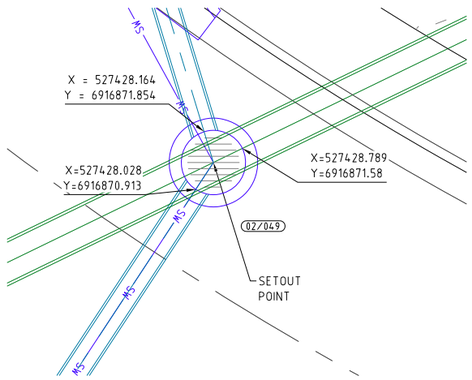


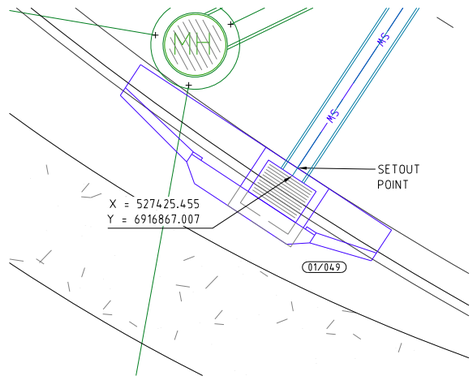












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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 0.5 1.0 1.5 2.0 2.5m

Scale 1:50 - A1 (1:100 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 03

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-652	B

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BASIN CONSTRUCTION

1. PRIOR TO COMMENCING CONSTRUCTION OF THE DETENTION BASIN THE DIVERSION OF SURFACE WATER FROM THE PROPOSED WORKS AREA, USING MEASURES SUCH AS OPEN DRAINS/SUMPS, ARE REQUIRED TO AID IN SITE DEWATERING.
2. FOR THE ENTIRE EMBANKMENT AREA STRIPPING OF VEGETATION & ANY HIGHLY ORGANIC TOP SOILS & ANY SOFT CLAYS TO DEPTHS OF APPROXIMATELY 0.3m IS REQUIRED.
3. THE STRIPPED SURFACE IS TO BE INSPECTED & TESTED BY A GEOTECHNICAL ENGINEER.
4. SUBJECT TO GEOTECHNICAL ENGINEER'S INSPECTION EXCAVATION OF A CUTOFF KEY ALONG THE EMBANKMENT CENTERLINE AT LEAST 0.5m - 1.0m INTO THE FOUNDATION MATERIALS SHALL BE REQUIRED.
5. THE CLAY FILLING FOR THE BASIN WALLS SHALL BE PLACED IN HORIZONTAL LAYERS OF 200mm THICKNESS & COMPACTED TO A DENSITY RATIO WITHIN THE RANGE 98% - 102% STANDARD COMPACTION (AS 1289.5.1.1). PLACEMENT MOISTURE CONTENTS SHOULD BE WITHIN THE RANGE OMC -1% TO OMC +2% (WHERE OMC = OPTIMUM MOISTURE CONTENT FOR STANDARD COMPACTION).
6. IF THE CIVIL CONTRACTOR IS CONSTRUCTING THE BIO BASIN FILTER MEDIA AFTER THE CONSTRUCTION OF THE BASIN INLET & OUTLET STRUCTURES, THE CIVIL CONTRACTOR IS TO CONFIRM THE LEVELS OF THE INLET & OUTLET STRUCTURES PRIOR TO COMMENCING BASIN CONSTRUCTION.

WALL DETAILS CONTAINED WITH THIS SET ARE INDICATIVE ONLY. ALL RETAINING WALLS AND FOOTINGS ARE SUBJECT TO DETAILED DESIGN AND CERTIFICATION BY AN APPROPRIATELY QUALIFIED R.P.E.Q CERTIFIED ENGINEER.

LEGEND

- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- SW EXISTING STORMWATER
- FUTURE PROPERTY LINE
- SW FUTURE STORMWATER
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPERTY LINE
- PROPOSED KERB
- 1.0 DESIGN CONTOURS
- SW PROPOSED STORMWATER
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- 10/001 STORMWATER PIT & LINE NO.

DIAL BEFORE YOU DIG www.1100.com.au

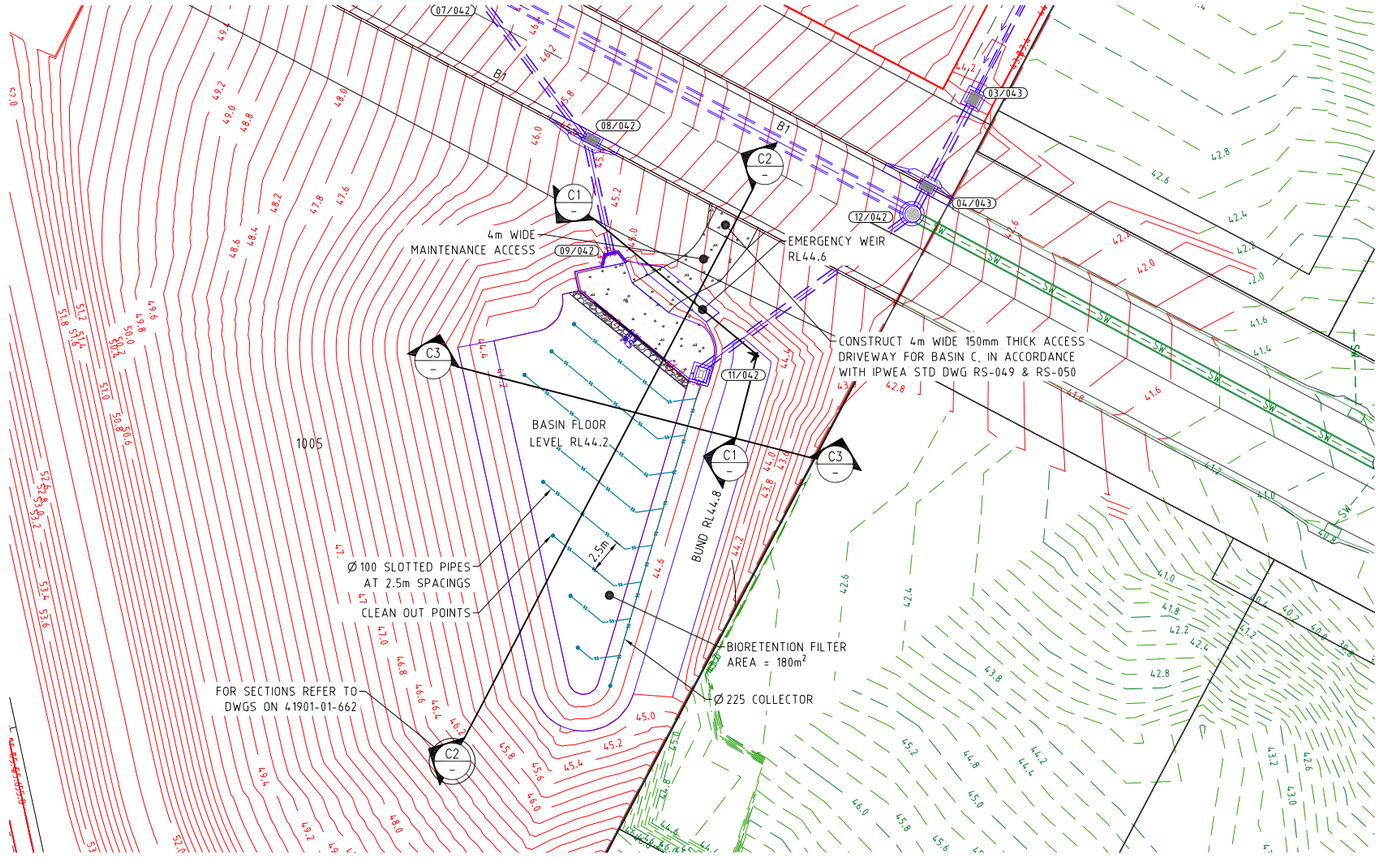
PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

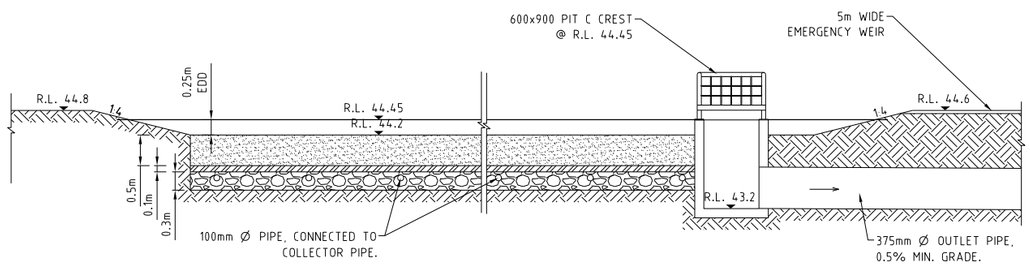
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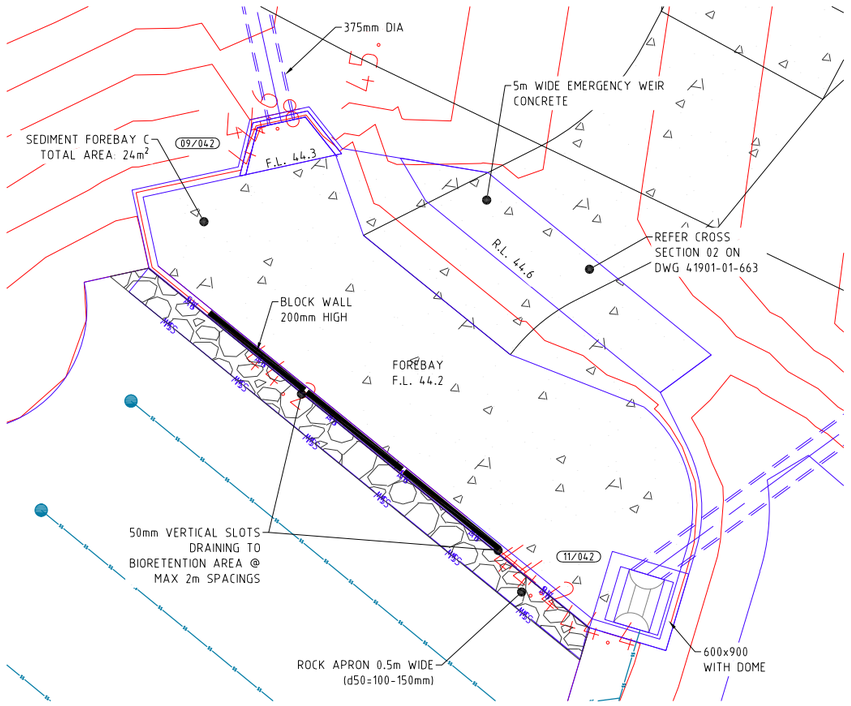
BASIN C PLAN

SCALE 1:200 - A1 (1:400 - A3)



BASIN C CROSS SECTION

SCALE 1:50 - A1 (1:100 - A3)



SEDIMENT FOREBAY C DETAIL

SCALE 1:50 - A1 (1:100 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)
0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	NOTES & SCOUR PROTECTION AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

STORMWATER
BASIN
PLAN AND DETAILS
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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ABN: 39 116 375 065
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Southport QLD 4215

Gold Coast Office
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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-660 REV C

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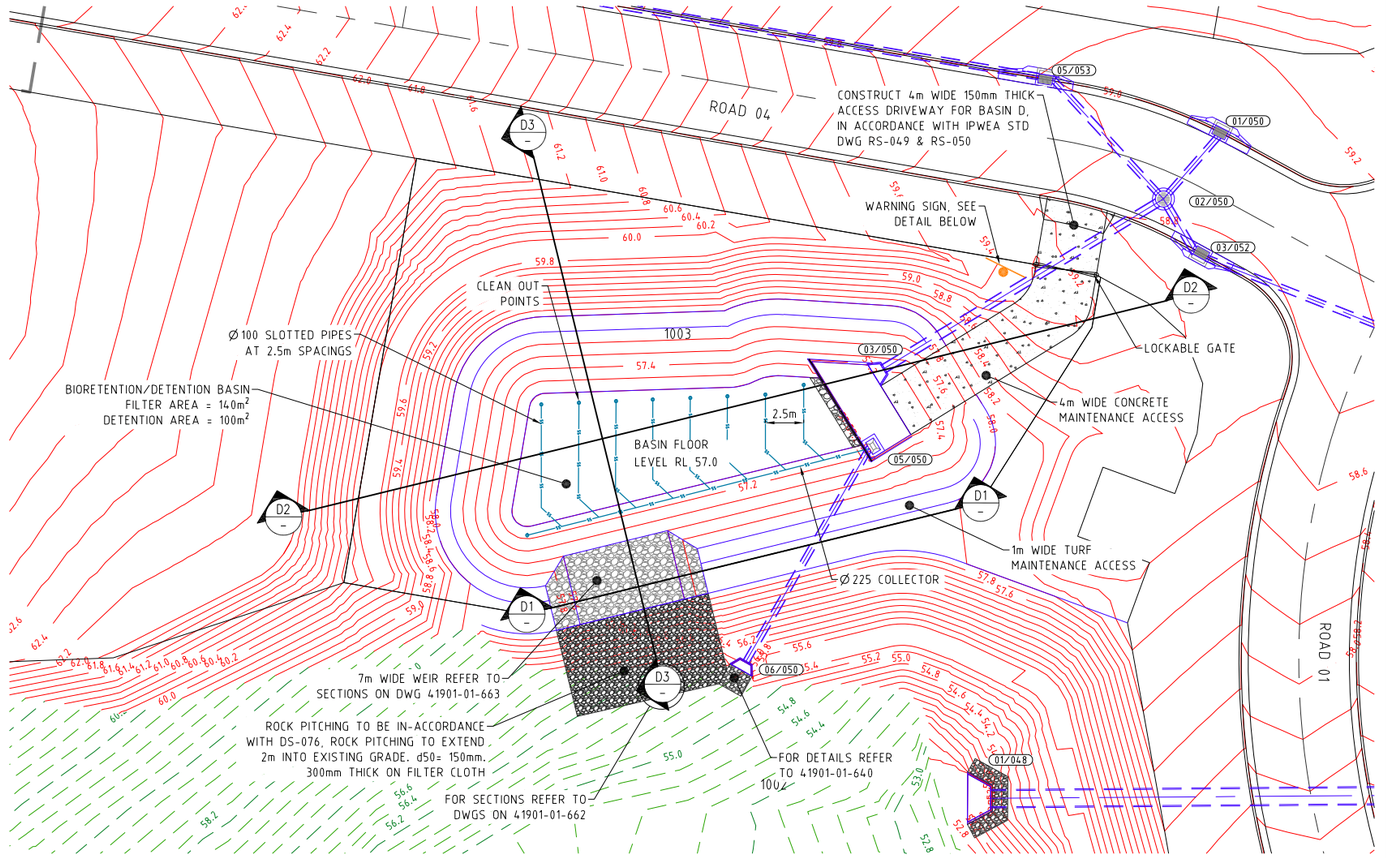
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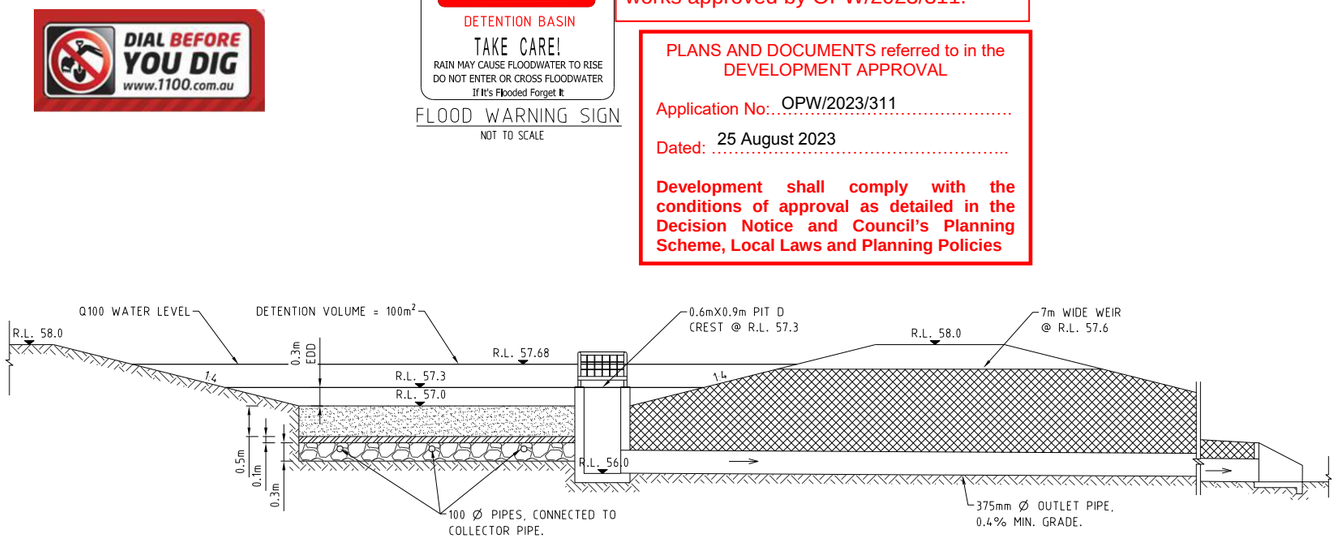
LEGEND

- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- SW EXISTING STORMWATER
- FUTURE PROPERTY LINE
- SW FUTURE STORMWATER
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPERTY LINE
- PROPOSED KERB
- 1.0 DESIGN CONTOURS
- SW PROPOSED STORMWATER
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- 10/001 STORMWATER PIT & LINE NO.



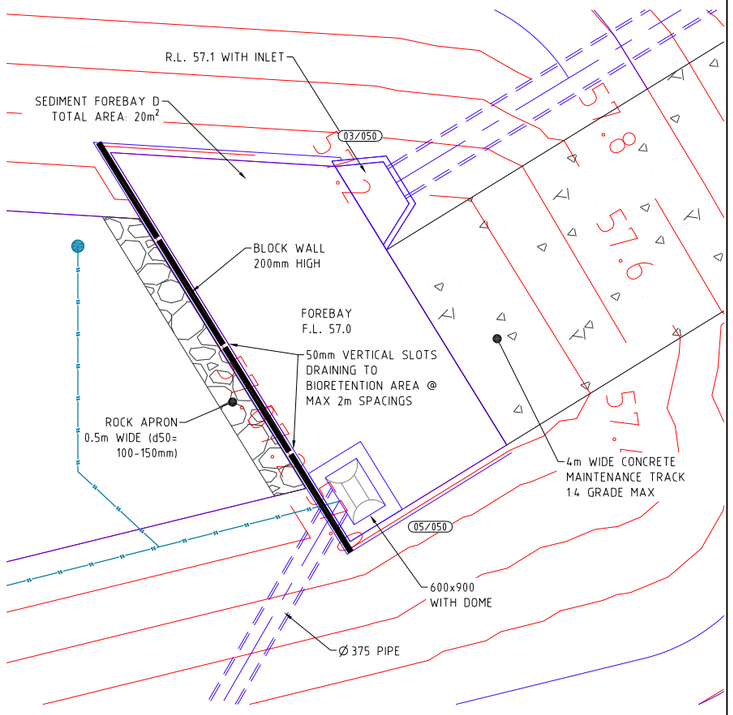
BASIN D PLAN

SCALE 1:200 - A1 (1:400 - A3)



BASIN D CROSS SECTION

SCALE 1:50 - A1 (1:100 - A3)



SEDIMENT FOREBAY D DETAIL

SCALE 1:50 - A1 (1:100 - A3)





DETENTION BASIN

TAKE CARE!

RAIN MAY CAUSE FLOODWATER TO RISE
DO NOT ENTER OR CROSS FLOODWATER
If It's Flooded Forget It

FLOOD WARNING SIGN

NOT TO SCALE

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Application No: OPW/2023/311

Dated: 25 August 2023

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PROJECT NAME

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STAGE 01

RP DESCRIPTION

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COURTNEY DRIVE
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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)
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Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	LOCKABLE GATE AND NOTES ADDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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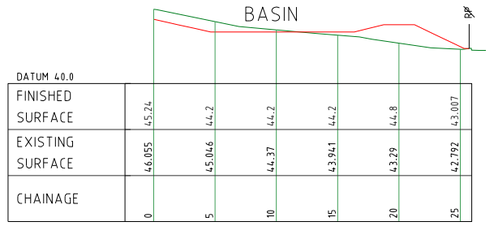
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Suite 9, 19 Short St
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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-661

REV C

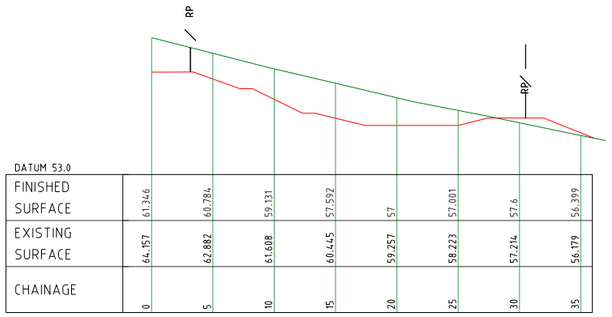
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DATUM 40.0						
FINISHED SURFACE	45.24	44.2	44.2	44.2	44.8	43.007
EXISTING SURFACE	46.055	45.046	44.37	43.941	43.29	42.792
CHAINAGE	0	5	10	15	20	25

LONGITUDINAL SECTION C3

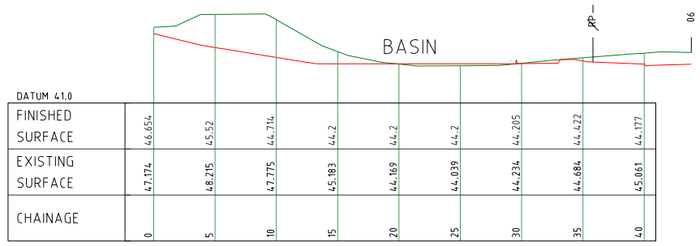
Horizontal scale 1:250
Vertical scale 1:250



DATUM 53.0								
FINISHED SURFACE	61.346	60.784	59.131	57.592	57	57.001	57.6	56.399
EXISTING SURFACE	64.157	62.882	61.608	60.445	59.257	58.223	57.214	56.179
CHAINAGE	0	5	10	15	20	25	30	35

LONGITUDINAL SECTION D3

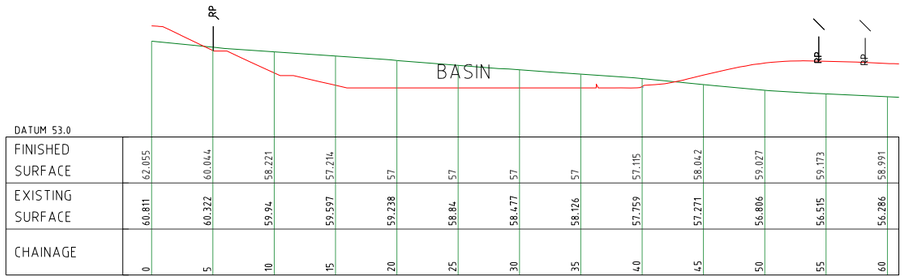
Horizontal scale 1:250
Vertical scale 1:250



DATUM 41.0									
FINISHED SURFACE	46.654	45.52	44.714	44.2	44.2	44.2	44.205	44.422	44.177
EXISTING SURFACE	47.174	48.215	47.775	45.183	44.169	44.039	44.234	44.684	45.061
CHAINAGE	0	5	10	15	20	25	30	35	40

LONGITUDINAL SECTION C2

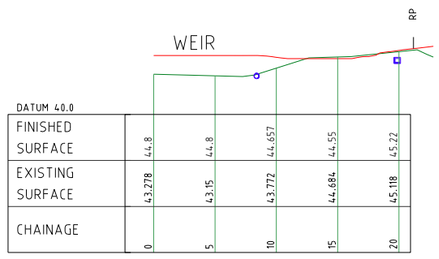
Horizontal scale 1:250
Vertical scale 1:250



DATUM 53.0												
FINISHED SURFACE	62.055	60.044	58.221	57.214	57	57	57	57	57.115	58.042	59.027	59.173	58.991
EXISTING SURFACE	60.811	60.322	59.94	59.597	59.238	58.84	58.477	58.126	57.759	57.271	56.806	56.515	56.286
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60

LONGITUDINAL SECTION D2

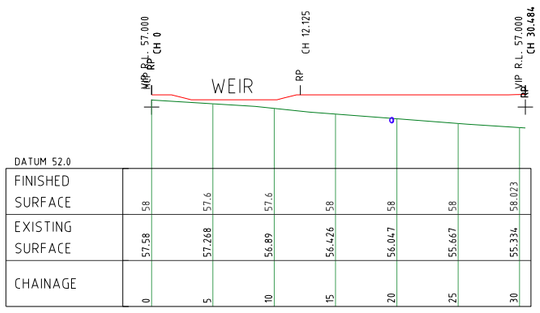
Horizontal scale 1:250
Vertical scale 1:250



DATUM 40.0					
FINISHED SURFACE	44.8	44.8	44.657	44.55	45.22
EXISTING SURFACE	43.278	43.15	43.772	44.684	45.118
CHAINAGE	0	5	10	15	20

LONGITUDINAL SECTION C1

Horizontal scale 1:250
Vertical scale 1:250



DATUM 52.0							
FINISHED SURFACE	58	57.6	57.6	58	58	58	58.023
EXISTING SURFACE	57.58	57.268	56.89	56.426	56.047	55.667	55.334
CHAINAGE	0	5	10	15	20	25	30

LONGITUDINAL SECTION D1

Horizontal scale 1:250
Vertical scale 1:250

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

0 2.5 5 7.5 10 12.5m
Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

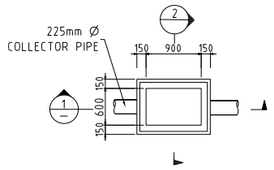
STORMWATER
BASIN
SECTIONS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
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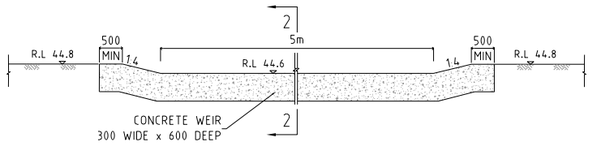
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APPROVED	RPEQ4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-662
REV: A

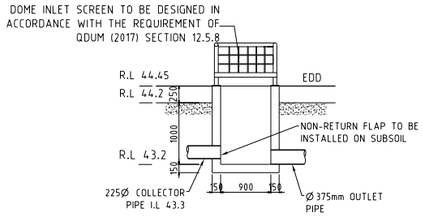
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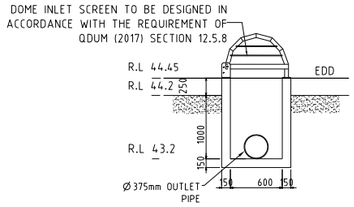
OVERFLOW STRUCTURE PLAN - PIT C



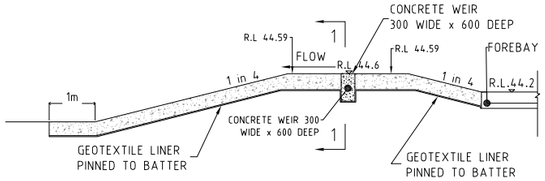
WEIR DETAIL SECTION 1-1



SECTION 1 - 1

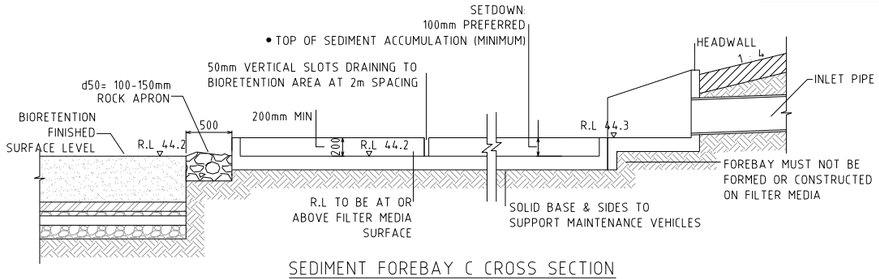


SECTION 2 - 2



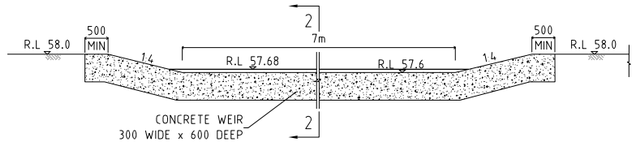
WEIR CROSS SECTION 2-2

BASIN C OUTLET DETAILS

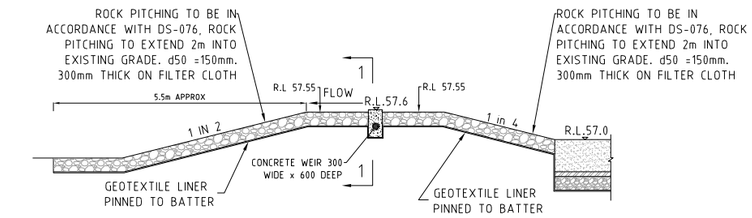


SEDIMENT FOREBAY C CROSS SECTION

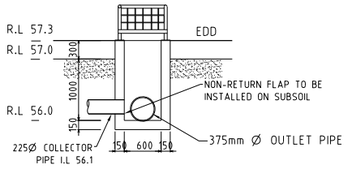
BASIN C INLET DETAILS



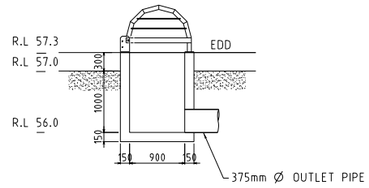
WEIR DETAIL SECTION 1-1



WEIR CROSS SECTION 2-2

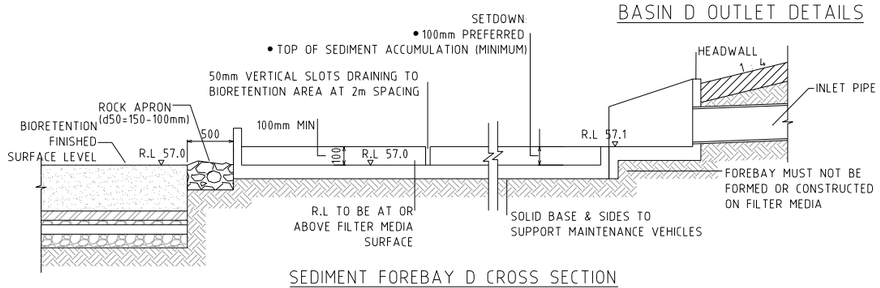


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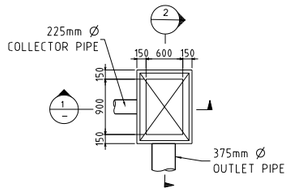
SECTION 2 - 2

BASIN D OUTLET DETAILS



SEDIMENT FOREBAY D CROSS SECTION

BASIN D INLET DETAILS



OVERFLOW STRUCTURE PLAN - PIT D

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	NOTES AND DETAILS AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER BASIN DETAILS SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Mortons-Urban Solutions
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mortons@urbansolutions.net.au
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Gold Coast Office
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Southport QLD 4215

DESIGNED RB	DRAWN EMH
APPROVED RPEQ 4706	DATE 03-03-23

DRAWING NUMBER: 41901-01-663

REV: C

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NOTES:
1. STRUCTURAL STABILITY AND PERMEABILITY OF WATER RETENTION BUNDS TO BE DESIGNED BY GEOTECHNICAL ENGINEER.
2. CONSTRUCTION TIMING OF BIO-RETENTION MEDIA DETAILED IN CONTRACT. PLANTING OF MEDIA TO OCCUR AFTER 80% DWELLING COMPLETION

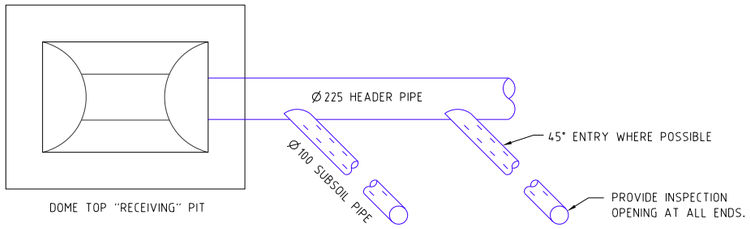
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

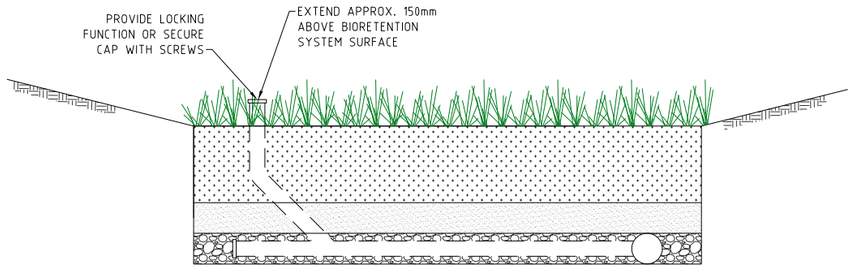
Application No: OPW/2023/311

Dated: 25 August 2023

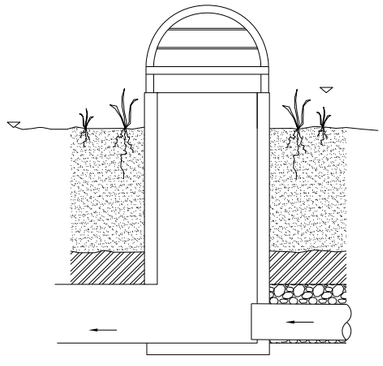
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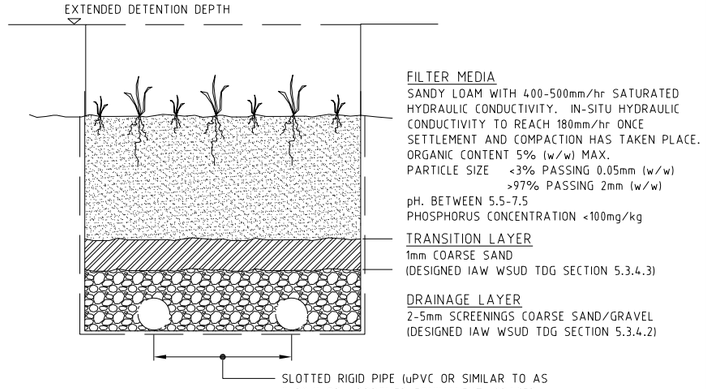
HEADER & SUBSOIL DETAILS
N.T.S.



BIORETENTION FILTER TYPICAL SECTION
N.T.S.



HEADER PIPE CONNECTION DETAIL
N.T.S.



BIO-RETENTION MEDIA CROSS SECTION
N.T.S.
* LAYER THICKNESSES AND MATERIAL SPECIFICATIONS ARE INDICATIVE ONLY, REFER TO APPROVED STORMWATER MANAGEMENT PLAN.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

STORMWATER
BASIN
DETAILS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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Tel 07 5571 1099

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Southport QLD 4215

DESIGNED RB	DRAWN EMH	
APPROVED	RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-664	A

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

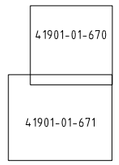
Dated: 25 August 2023

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LEGEND

- SW — EXISTING STORMWATER
- RW — EXISTING ROOFWATER
- SS — EXISTING SUBSOIL
- EXISTING KERB (INVERT)
- 1.0 — EXISTING CONTOURS
- EXISTING PROPERTY LINE
- SW — FUTURE STORMWATER
- RW — FUTURE ROOFWATER
- SS — FUTURE SUBSOIL
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- 1.0 — FUTURE CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- 1.0 — DESIGN CONTOURS
- CATCHMENT BOUNDARY (MINOR)
- CATCHMENT BOUNDARY (MAJOR)
- OVERLAND FLOW
- SW — PROPOSED STORMWATER
- RW — PROPOSED ROOFWATER
- SS — PROPOSED SUBSOIL
- MANHOLE
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- 01/015 0.2552ha — CATCHMENT NUMBER & AREA

SHEET LAYOUT



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 10 20 30 40 50m

Scale 1:1000 - A1 (1:2000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

STORMWATER
CATCHMENT PLAN
SHEET 01

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Urban & Regional Planning
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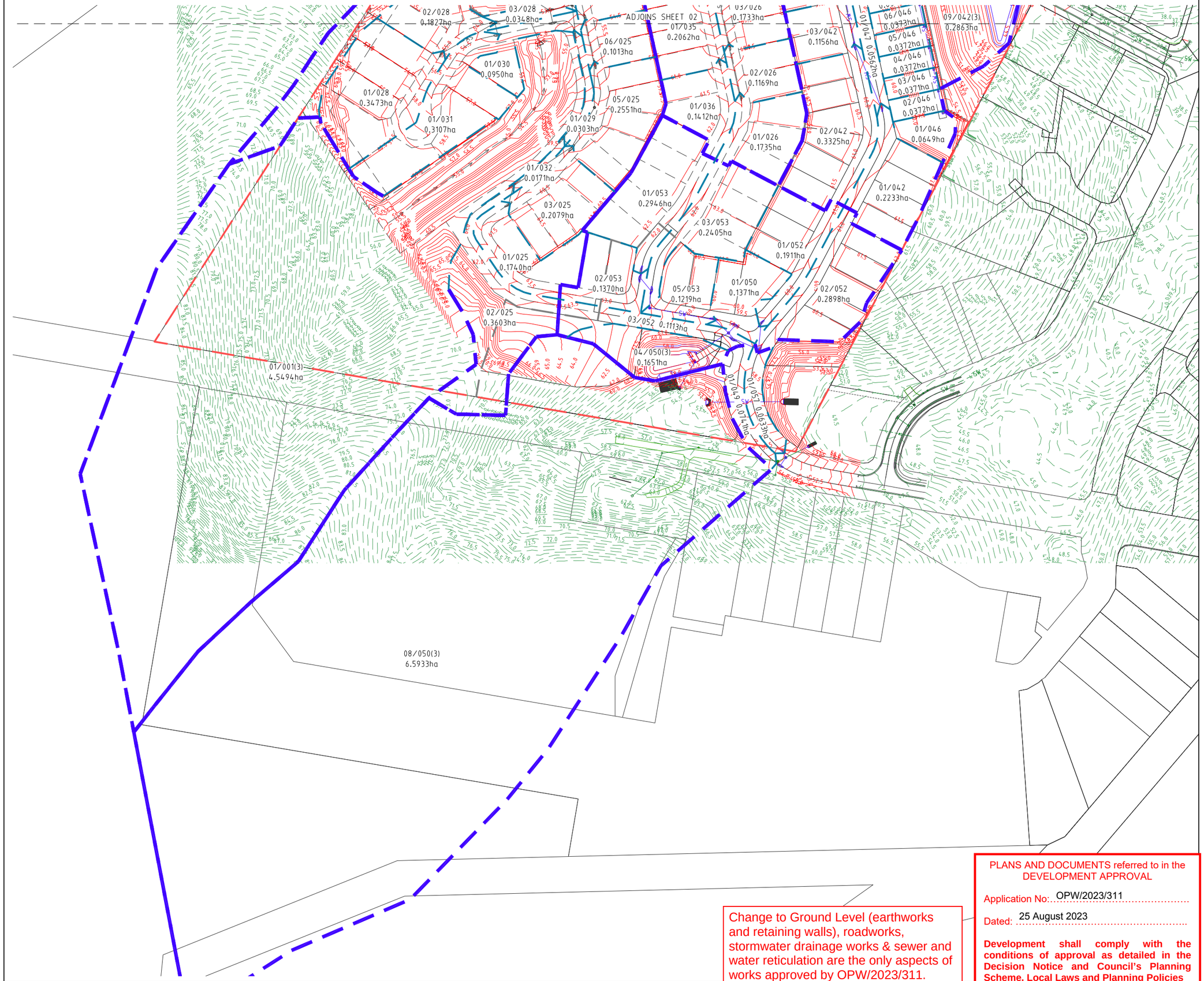
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Southport QLD 4215

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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-670	B

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Application No: OPW/2023/311

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STAGE 01

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COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 10 20 30 40 50m

Scale 1:1000 - A1 (1:2000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

STORMWATER CATCHMENT PLAN SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ4706	DATE	03-03-23

DRAWING NUMBER 41901-01-671

REV B

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CALCULATION TABLES-MINOR 2YR ARI

0.5 ARI (Q2) MINOR FLOW - 12D DYNAMIC DRAINAGE RESULTS

* REFER TO IFD TABLE FOR MAXIMUM INTENSITY DURING STORM

NOTE NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS

NODE			CATCHMENT AREA			RAINFALL VOLUME*		RAINFALL Coef.	CATCHMENT FLOW				APPROACH FLOW					FLOW AT PIT				PIT		HGL			PIPE	HEADLOSSES							
			A.1	A.2	A.3	CRITICAL	INTENSITY		CURRENT	A.1	A.2	A.3	CRITICAL	GRADE	FLOW				CAPTURED	BYPASS			GRADE	GRATE	PIT	PIPE		GRADE	FLOW	COEFFICIENT		HEADLOSS		CAPACITY	VELOCITY	
FROM	TO	NODE TYPE	HA	HA	HA	STORM	MM/HR	10 YR	Storm	HA	HA	HA	ARI MIN.	%	L/S	WIDTH	DxV	L/S	L/S	DxV	NODE	%	RL.	RL	U/S RL.	D/S RL.	%	M3/S	Ku	Kw	Ku	Kw	RATIO	M/S	
01/42	02/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.223			90	61.3	0.877	0.830	0.074			60	2.2	74	1.07	0.00	72	0	0.00	01/47	2.200	60.003	59.03	59.00	58.31	1.84	0.07	7.0	0.0	0.0	0.0	0.220	1.450	01/42
02/42	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.333			90	61.3	0.877	0.830	0.110			60	2.2	110	1.53	0.01	94	14	0.01	03/42	2.200	59.188	58.31	58.31	57.64	2.11	0.17	3.3	0.0	0.0	0.0	0.500	2.430	02/42
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			90	61.3	0.877	0.830	0.038			60	2.2	52	1.07	0.00	52	0	0.00	04/42	2.200	58.494	57.64	57.61	56.96	2.14	0.24	1.1	0.0	0.0	0.0	0.720	2.810	03/42
04/42	05/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.115			90	61.3	0.877	0.830	0.038			60	2.2	38	0.00	0.00	38	0	0.00	01/41	2.200	57.822	56.86	56.86	52.31	8.97	0.27	1.8	0.0	0.0	0.0	0.390	4.820	04/42
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			90	61.3	0.877	0.830	0.057			60	12.5	57	1.19	0.01	50	7	0.01	06/42	12.528	53.925	52.31	52.29	49.22	13.05	0.44	1.1	0.0	0.0	0.0	0.530	6.610	05/42
06/42	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.100			90	61.3	0.877	0.830	0.033			60	16.0	40	1.13	0.00	36	3	0.00	04/43	16.000	50.258	49.09	49.08	46.06	15.08	0.47	0.5	0.0	0.0	0.0	0.530	7.610	06/42
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.17	44.98	44.85	0.97	0.21	1.8	0.0	0.3	0.0	1.330	1.980	07/42
08/42	09/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.113			90	61.3	0.877	0.830	0.037			60	13.4	37	0.00	0.00	37	0	0.00	O 08/42	13.420	45.395	44.85	44.66	44.60	0.82	0.25	1.0	0.0	0.2	0.0	1.710	2.310	08/42
09/42	10/42	HEADWALL											25	1.0	0			0				1.000	44.800	44.57	44.57	44.57	0.00	0.25	0.0	0.0	0.0	0.0			09/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.060	60	1.0	60			60				1.000	44.800	44.57	44.57	44.57	0.00	0.26	0.0	0.0	0.0	0.0			10/42
11/42	12/42	TYPE 2 FIELD INLET 900x900 GRATE											60	1.0	259	0.00	0.00	259	0	0.00	O 11/42	1.000	44.450	43.47	43.39	41.92	8.52	0.26	3.4	0.0	0.1	0.0	0.390	3.880	11/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	40.83	40.76	39.40	3.94	0.67	2.1	0.0	0.1	0.0	0.430	4.300	12/42
13/42		MANHOLE 1050mm DIA											25	1.0	0			0				1.000	40.827	39.40											13/42
01/43	02/43	TYPE 2 FIELD INLET 900x600 GRATE	0.008			90	61.3	0.877	0.830	0.002			25	1.0	2	0.00	0.00	2	0	0.00	02/43	1.000	48.600	47.02	47.02	44.32	20.00	0.00	9.7	0.0	0.0	0.0	0.010	2.070	01/43
02/43	03/43	TYPE 2 FIELD INLET 900x600 GRATE	0.009			90	61.3	0.877	0.830	0.003			25	1.0	3	0.00	0.00	3	0	0.00	03/43	1.000	45.100	43.79	43.79	42.73	7.85	0.01	3.3	0.0	0.0	0.0	0.030	1.890	02/43
03/43	04/43	TYPE 2 FIELD INLET 900x900 GRATE	0.020			90	61.3	0.877	0.830	0.006			25	1.0	6	0.00	0.00	6	0	0.00	04/43	1.000	43.727	41.95	41.95	41.82	1.83	0.01	3.2	0.0	0.0	0.0	0.020	1.250	03/43
04/43	12/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.053			90	61.3	0.877	0.830	0.017			60	9.7	20	0.00	0.00	20	0	0.00	O 04/43	9.670	43.038	41.78	41.76	41.68	5.35	0.03	4.1	0.0	0.0	0.0	0.040	2.090	04/43
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	40.83											12/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.060	60	1.0	60			60				1.000	44.800	44.57	44.57	44.57	0.00	0.02	0.0	0.0	0.0	0.0			10/42
01/45	02/45	Ø 225 RISER (EXTEND 300mm ABOVE FSL)	0.020			90	61.3	0.877	0.830	0.006			25	1.0	6			6				1.000	47.971	46.48	46.47	46.45	0.42	0.01	6.9	0.0	0.0	0.0	0.090	0.760	01/45
02/45	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.224			90	61.3	0.877	0.830	0.074			60	1.0	74			74				1.000	47.606	46.45	46.41	45.55	10.13	0.10	6.4	0.0	0.0	0.0	0.130	3.370	02/45
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.17											07/42
01/46	02/46	TYPE 2 FIELD INLET 900x900 GRATE	0.065			90	61.3	0.877	0.830	0.021			60	1.0	21			21				1.000	58.700	56.87	56.87	56.62	1.97	0.02	9.7	0.0	0.0	0.0	0.260	1.150	01/46
02/46	03/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	57.400	56.62	56.60	56.49	0.90	0.03	1.7	0.0	0.0	0.0	0.650	1.200	02/46
03/46	04/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	57.250	56.49	56.48	56.41	0.56	0.05	0.6	0.0	0.0	0.0	0.510	1.230	03/46
04/46	05/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	57.100	56.36	56.36	56.09	2.16	0.06	1.1	0.0	0.0	0.0	0.320	2.110	04/46
05/46	06/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	57.100	56.02	56.01	55.74	2.18	0.07	0.4	0.0	0.0	0.0	0.210	2.370	05/46
06/46	07/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	56.750	55.73	55.73	55.47	2.10	0.08	1.0	0.0	0.0	0.0	0.240	2.200	06/46
07/46	08/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	56.450	55.47	55.46	55.29	1.42	0.09	0.8	0.0	0.0	0.0	0.360	2.030	07/46
08/46	09/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12			12				1.000	56.150	55.22	55.21	54.52	6.61	0.11	0.8	0.0	0.0	0.0	0.180	3.840	08/46
09/46	05/42	MANHOLE C/W CONVERTER SLAB 600x600 GRATE	0.041			90	61.3	0.877	0.830	0.014			60	1.0	14			14				1.000	55.850	53.27	53.26	52.49	5.09	0.12	2.2	0.0	0.0	0.0	0.230	3.310	09/46
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			90	61.3	0.877	0.830	0.057			60	12.5	57	1.19	0.01	50	7	0.01	06/42	12.528	53.925	52.31											05/42
01/47	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.056			90	61.3	0.877	0.830	0.019			60	2.2	19	0.00	0.00	19	0	0.00	08/42	2.200	58.494	57.65	57.60	57.64	-0.61	0.02	7.0	0.0	0.1	0.0	0.060	0.680	01/47
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			90	61.3	0.877	0.830	0.038			60	2.2	52	1.07	0.00	52	0	0.00	04/42	2.200	58.494	57.64											03/42
01/48	02/48	INLET HEADWALL											25	1.0	0			0				1.000	54.000	53.98	53.84	53.00	2.06	1.97	0.5	0.0	0.1	0.0	0.710	2.620	01/48
02/48	03/48	INLET HEADWALL											25	1.0	0			0				1.000	53.750	52.42	52.42	50.02	10.07	1.97	0.0	0.0	0.0	0.0	0.010	4.660	02/48
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	50.930	50.02	50.02	49.50	4.64	2.02	0.0	0.0	0.0	0.0	0.020	4.230	03/48
04/48		REFERENCE											25	1.0	0			0				1.000	50.410	49.50											04/48
01/49	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.074			90	61.3	0.877	0.830	0.024			60	8.0	24			24				7.988	54.341	53.40	53.37	53.26	2.22	0.02	9.7	0.0	0.0	0.0	0.070	1.300	01/49
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	54.389	52.31	52.31	51.63	6.52	0.06	2.1	0.0	0.0	0.0	0.030	2.970	02/49
03/49	04/49	REFERENCE											25	1.0	0			0				1.000	53.534	51.63	51.63	51.39	6.90	0.06	0.0	0.0	0.0	0.0	0.030	3.020	03/49
04/49	03/48	HEADWALL											25	1.0	0			0				1.000	51.577	51.34	51.34	50.02	6.12	0.06	0.0	0.0	0.0	0.0	0.000	0.870	04/49
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	50.930	50.02											03/48
01/50	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.137			90	61.3	0.877	0.830	0.045			60	0.5	45	1.07	0.00	45	0	0.00	03/52	0.479	58.903	58.10	58.08	58.02	1.08	0.04	9.7	0.0	0.1	0.0	0.130	1.320	01/50
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.02	57.76	57.55	1.02	0.47	1.6	0.0	0.3	0.0	1.000	2.220	02/50
03/50	04/50	HEADWALL											25	1.0	0			0				1.000	57.800	57.55	57.55	57.55	0.00	0.47	0.0	0.0	0.0	0.0			03/50
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.034	60	1.0	34			34				1.000	57.000	57.55	57.55	57.55	0.00	0.39	0.0	0.0	0.0	0.0			04/50
05/50	06/50	TYPE 2 FIELD INLET 900x600 C/W DOME TOP											60	1.0	390	0.00	0.00	390	0	0.00	07/50	1.000	57.300	57.55	56.69	55.68	6.18	0.39	1.9	0.0	0.9	0.0	0.890	3.820	05/50
06/50	07/50	HEADWALL											25	1.0	0			0				1.000	56.065	55.40	55.40	55.40	0.00	0.39	0.0	0.0	0.0	0.0			06/50
07/50	01/48	BASIN NODE FOR CALCULATIONS			6.593							1.814	60	1.0	1814			1814				1.000	54.400	53.98	53.97	53.97	0.00	1.97	0.0	0.0	0.0	0.0			07/50
01/48	02/48	INLET HEADWALL											25	1.0	0			0				1.000	54.000	53.98											01/48
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.034	60	1.0	34			34				1.000	57.000	57.55	57.60	57.60	0.00	0.00	0.0	0.0	0.0	0.0			04/50
01/52	02/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.191			90	61.3	0.877	0.830	0.063			60	2.7	63	0.00	0.00	63	0	0.00	01/50	2.738	59.258	58.48	58.33	58.32	0.03	0.06	9.7	0.0	0.2	0.0	0.180	1.550	01/52
02/52	03/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.290			90	61.3	0.877	0.830	0.096			60	3.1	96	1.40	0.01	77	17	0.01	01/57	3.071	58.914	58.32	58.17	58.07	0.62	0.14	4.5	0.0	0.2	0.0	0.350	2.100	02/52
03/52	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.111			90	61.3	0.877	0.830	0.037			60	0.7	37	1.07	0.00	37	0	0.00	01/49	0.694	58.763	58.07	58.06	58.02	1.04	0.17	0.8	0.0	0.0	0.0	0.460	1.200	03/52
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.02											02/50
01/53	02/53	INLET GULLY ON GRADE (LG) Type S Lintel	0.295			90	61.3	0.877	0.830	0.097			60	0.6	97	1.53	0.00	91	6	0.01	02/53	0.600	61.686	61.18	61.08	61.00	2.08	0.09	6.9	0.0	0.1	0.0	0.280	1.320	01/53
02/53	03/53	INLET GULLY IN SAG (LS) Type S Lintel	0.137			90	61.3	0.877	0.830	0.045			60	1.6	51	1.07	0.00	51	0	0.00	03/53	1.602	61.662	61.00	60.92	60.82	1.19	0.14	1.9	0.0	0.1	0.0	0.610	1.470	02/53
03/53	04/53	INLET GULLY IN SAG (LS) Type S Lintel	0.241			90	61.3	0.877	0.830	0.079			60	0.3	79	1.28	0.01	69	9	0.01	05/53	0.262	61.647	60.82	60.68	60.43	2.49	0.21	1.7	0.0	0.1	0.0	0.650	2.230	03/53
04/53	05/53	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	61.584	60.34	60.33	58.42	5.09	0.21	1.9	0.0	0.0	0.0	0.360	3.520	04/53
05/53	02/50	INLET GULLY ON GRADE (LG) Type S Lintel	0.122			90	61.3	0.877	0.830	0.040			60	3.9	49	0.00	0.00	48	0	0.00	01/50	3.888	59.070	58.42	58.41	58.02	3.67	0.26	1.1	0.0	0.2	0.0	0.570	2.330	05/53
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.02											02/50
14/25	15/25	BASIN NODE FOR CALCULATIONS			1.016							0.211	60	1.0	211			211				1.000	44.500	45.25	45.60	45.60	0.00	0.00	0.0	0.0	0.0	0.0			14/25
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.17	45.17	41.71	10.63	0.38	1.9	0.0	0.0	0.0	0.300	5.580	07/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	40.83											12/42
01/57	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.063			90	61.3	0.877	0.830	0.021			60	9.2	38	0.00	0.00	38	0	0.00	O 01/57	9.206	54.628	53.58	53.55	53.25	8.40	0.04	9.7	0.0	0.0	0.0	0.060	2.300	01/57
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	54.389	52.31											02/49
14/25	15/25	BASIN NODE FOR CALCULATIONS			1.016							0.211	60	1.0	211			211				1.000	44.500	45.25	45.25	45.25	0.00	1.00	0.0	0.0	0.0	0.0			14/25
01/60	02/45	Ø 225 RISER (EXTEND 300mm ABOVE FSL)	0.049			90	61.3	0.877	0.830	0.016			60	1.0	16			16				1.000	49.390	46.65	46.64	46.45	1.98	0.02	9.4	0.0	0.0	0.0	0.200	1.170	01/60
02/45	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.224			90	61.3	0.877	0.830	0.074			60	1.0	74			74				1.000	47.606	46.45											02/45

INTENSITY - FREQUENCY - DURATION (IFD) TABLE

DURATION	ARI INTENSITY (YEAR)							
MINUTES	TREAT	1	2	5	10	20	50	100
5	62.5	125	158	193	212	239	275	301
6	58.5	117	148	181	199	225	258	284
10	48	96	122	149	164	186	214	235
20	35.2	70.4	89.3	110	122	138	159	175
30	28.7	57.4	72.9	90.1	99.8	113	131	144
60	19.45	38.9	49.5	61.7	68.6	78.1	90.6	100
120	12.6	25.2	32.2	40.5	45.3	51.8	60.3	66.8
180	9.6	19.2	24.7	31.2	35	40.2	46.9	52.1
360	6.05	12.1	15.6	20	22.5	26	30.5	34
720	3.89	7.78	10.1	13	14.8	17.1	20.3	22.7
1440	2.595	5.19	6.73	8.8	10.1	11.7	13.9	15.6
2880	1.74	3.48	4.53	5.98	6.87	8.04	9.59	10.8
4320	1.325	2.65	3.46	4.61	5.3	6.23	7.45	8.42

DERIVED FROM BUREAU OF METEOROLOGY

NOTES:

1. THESE CALCULATIONS ARE BASED ON IISAX2 DYNAMIC DRAINAGE ANALYSIS USING 12D SOFTWARE ANALYSIS.
2. INDIVIDUAL TIMES OF CONCENTRATION ARE GENERATED FOR EACH NODE & CATCHMENT TYPE USING TEMPORAL PATTERNS DETERMINED FROM THE RELEVANT AUTHORITY.
3. "TREAT" IN THE IFD TABLE REFERS TO 0.5x1 YEAR ARI, USED TO DETERMINE WATER QUALITY TREATMENT FLOWS.
4. CATCHMENT 1 REFERS TO TYPICAL URBANISED CATCHMENTS WITH LOTS <1000m2. THE IMPERVIOUS PORTION OF THE CATCHMENT TIME OF CONCENTRATION (TC) IS TYPICALLY 5 MINUTES & THE PERVIOUS PORTION OF THE CATCHMENT TYPICALLY HAS AN 8 MINUTE TC.
5. CATCHMENT 2 IS TYPICALLY USED TO MODEL LOTS >1000m2, WITH INDIVIDUAL PERCENTAGES OF IMPERVIOUS SURFACE & TC'S.
6. CATCHMENT 3 IS TYPICALLY USED TO MODEL OPEN SPACE & RURAL CATCHMENTS WITH INDIVIDUAL PERCENTAGES OF IMPERVIOUS SURFACE & TC'S.

FLOW CAPACITY m3/s 7.5m RD (KERB AND CHANNEL)

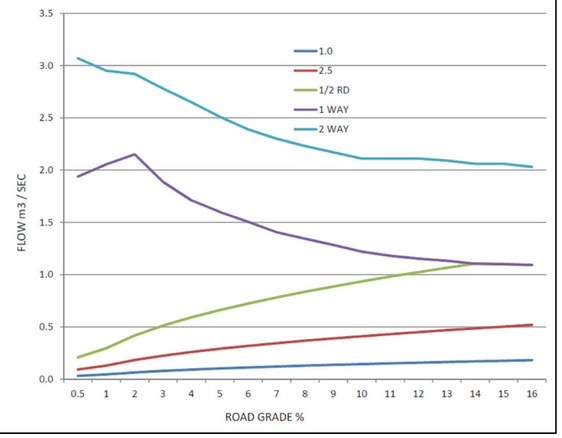
	KR	LANE	1/2 RD	1 WAY	2 WAY
MAX. WIDTH	1.0	2.5	3.75	11.175	14.8
MAX. AREA m2	0.021	0.101	0.219	1.421	2.104
Rd Grade %					
0.5	0.032	0.092	0.209	1.938	3.070
1	0.046	0.130	0.296	2.054	2.950
2	0.064	0.184	0.418	2.150	2.920
3	0.079	0.225	0.512	1.886	2.780
4	0.091	0.260	0.591	1.711	2.650
5	0.102	0.291	0.661	1.600	2.510
6	0.112	0.318	0.724	1.505	2.390
7	0.120	0.344	0.782	1.407	2.300
8	0.129	0.368	0.836	1.345	2.230
9	0.137	0.390	0.887	1.285	2.170
10	0.144	0.411	0.935	1.220	2.110
11	0.151	0.431	0.981	1.180	2.110
12	0.158	0.450	1.024	1.154	2.110
13	0.164	0.469	1.066	1.133	2.090
14	0.170	0.486	1.106	1.105	2.060
15	0.176	0.503	1.101	1.101	2.060
16	0.182	0.520	1.093	1.093	2.030

NOTES:

FLOW CONSTRAINED TO 0.4 DxV

FLOW CONSTRAINED TO 250mm DEEP MAX.

CAPACITY COMPOUND CROSS SECTION (ARR 1987 , 4.38) (n varies)



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER
CALCULATION TABLES
MINOR STORM EVENT

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-680

REV B

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-680.dwg, MINOR, 1/08/2023 7:58:28 AM, 1:2

CALCULATION TABLES-MAJOR 100YR ARI

0.01 ARI (Q100) Major FLOW - 12D DYNAMIC DRAINAGE RESULTS

* REFER TO IFD TABLE FOR MAXIMUM INTENSITY DURING STORM

NOTE NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS

NODE			CATCHMENT AREA			RAINFALL VOLUME*		RAINFALL Coef.		CATCHMENT FLOW			APPROACH FLOW					FLOW AT PIT				PIT		HGL			PIPE	HEADLOSSES							
			A.1	A.2	A.3	CRITICAL	INTENSITY		CURRENT	A.1	A.2	A.3	CRITICAL	GRADE	FLOW				BYPASS			GRADE	GRATE	PIT	PIPE			PIPE	COEFFICIENT		HEADLOSS		CAPACITY	VELOCITY	
FROM	TO	NODE TYPE	HA	HA	HA	STORM	MM/HR	10 YR	Storm	HA	HA	HA	ARI MIN.	%	L/S	WIDTH	DxV	L/S	L/S	DxV	NODE	%	RL.	RL	U/S RL.	D/S RL.	%	M3/S	Ku	Kw	Ku	Kw	RATIO	M/S	
01/42	02/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.223			120	133.6	0.877	0.916	0.124			25	2.2	124	1.74	0.02	96	27	0.02	01/47	2.200	60.003	59.26	59.02	58.96	0.17	0.10	7.0	0.0	0.2	0.0	0.300	1.470	01/42
02/42	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.333			120	133.6	0.877	0.916	0.185			25	2.2	185	2.35	0.04	121	62	0.04	03/42	2.200	59.188	58.96	58.91	58.39	1.65	0.21	2.8	0.0	0.1	0.0	0.640	2.380	02/42
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			120	133.6	0.877	0.916	0.064			25	2.2	126	1.76	0.02	96	28	0.02	04/42	2.200	58.494	58.39	58.12	57.10	3.35	0.36	1.0	0.0	0.3	0.0	1.120	3.290	03/42
04/42	05/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.115			120	133.6	0.877	0.916	0.064			25	2.2	91	1.41	0.01	77	14	0.01	01/41	2.200	57.822	57.01	56.91	53.89	5.96	0.44	1.5	0.0	0.1	0.0	0.640	4.940	04/42
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			120	133.6	0.877	0.916	0.096			25	12.5	96	1.44	0.03	65	31	0.03	06/42	12.528	53.925	53.89	53.16	49.50	15.53	0.73	1.1	0.0	0.8	0.0	0.880	6.960	05/42
06/42	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.100			120	133.6	0.877	0.916	0.055			25	16.0	86	1.44	0.02	56	29	0.02	04/43	16.000	50.258	49.50	49.40	46.13	16.28	0.75	0.4	0.0	0.1	0.0	0.850	8.130	06/42
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.27	45.07	44.93	1.04	0.21	1.8	0.0	0.3	0.0	1.320	1.980	07/42
08/42	09/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.113			120	133.6	0.877	0.916	0.063			25	13.4	63	1.64	0.01	49	10	0.01	O 08/42	13.420	45.395	44.93	44.71	44.60	1.30	0.24	1.1	0.0	0.2	0.0	1.690	2.290	08/42
09/42	10/42	HEADWALL											25	1.0	0			0				1.000	44.800	44.60	44.60	44.60	0.00	0.24	0.0	0.0	0.0	0.0			09/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.128	25	1.0	128			128				1.000	44.800	44.60	44.60	44.60	0.00	0.18	0.0	0.0	0.0	0.0			10/42
11/42	12/42	TYPE 2 FIELD INLET 900x900 GRATE											25	1.0	181	0.00	0.00	181	0	0.00	O 11/42	1.000	44.450	43.41	43.35	41.89	8.47	0.18	4.7	0.0	0.1	0.0	0.270	3.720	11/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	41.02	40.87	39.46	4.05	0.96	1.9	0.0	0.2	0.0	0.620	4.410	12/42
13/42		MANHOLE 1050mm DIA											25	1.0	0			0				1.000	40.827	39.46											13/42
01/43	02/43	TYPE 2 FIELD INLET 900x600 GRATE	0.008			120	133.6	0.877	0.916	0.004			25	1.0	4	0.00	0.00	4	0	0.00	02/43	1.000	48.600	47.03	47.03	44.33	20.00	0.00	9.7	0.0	0.0	0.0	0.020	2.400	01/43
02/43	03/43	TYPE 2 FIELD INLET 900x600 GRATE	0.009			120	133.6	0.877	0.916	0.005			25	1.0	5	0.00	0.00	5	0	0.00	03/43	1.000	45.100	43.80	43.80	42.74	7.86	0.01	3.1	0.0	0.0	0.0	0.060	2.190	02/43
03/43	04/43	TYPE 2 FIELD INLET 900x900 GRATE	0.020			120	133.6	0.877	0.916	0.011			25	1.0	11	0.00	0.00	11	0	0.00	04/43	1.000	43.727	41.97	41.96	41.87	1.38	0.02	2.9	0.0	0.0	0.0	0.040	1.380	03/43
04/43	12/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.053			120	133.6	0.877	0.916	0.029			25	9.7	58	1.53	0.01	49	7	0.01	O 04/43	9.670	43.038	41.87	41.79	41.71	5.29	0.07	5.3	0.0	0.1	0.0	0.080	2.030	04/43
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	41.02											12/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.128	25	1.0	128			128				1.000	44.800	44.60	44.60	44.60	0.00	0.17	0.0	0.0	0.0	0.0			10/42
01/45	02/45	Ø 225 RISER (EXTEND 300mm ABOVE FSL)	0.020			120	133.6	0.877	0.916	0.011			25	1.0	11			11				1.000	47.971	46.55	46.50	46.52	-0.31	0.01	7.0	0.0	0.1	0.0	0.150	0.760	01/45
02/45	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.224			120	133.6	0.877	0.916	0.125			25	1.0	125			125				1.000	47.606	46.52	46.44	45.58	10.18	0.16	5.0	0.0	0.1	0.0	0.230	3.470	02/45
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.27											07/42
01/46	02/46	TYPE 2 FIELD INLET 900x900 GRATE	0.065			120	133.6	0.877	0.916	0.036			25	1.0	36			36				1.000	58.700	57.08	57.07	56.82	2.02	0.04	8.0	0.0	0.0	0.0	0.430	1.160	01/46
02/46	03/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.400	56.82	56.74	56.57	1.34	0.06	1.6	0.0	0.1	0.0	1.090	1.430	02/46
03/46	04/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.250	56.57	56.56	56.48	0.63	0.08	0.6	0.0	0.0	0.0	0.870	1.340	03/46
04/46	05/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.100	56.43	56.41	56.13	2.23	0.10	1.1	0.0	0.0	0.0	0.540	2.250	04/46
05/46	06/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.100	56.06	56.06	55.81	2.00	0.12	0.3	0.0	0.0	0.0	0.350	2.540	05/46
06/46	07/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	56.750	55.81	55.79	55.56	1.90	0.14	0.9	0.0	0.0	0.0	0.410	2.210	06/46
07/46	08/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	56.450	55.56	55.53	55.34	1.51	0.16	0.8	0.0	0.0	0.0	0.610	2.190	07/46
08/46	09/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	56.150	55.26	55.26	54.55	6.69	0.18	0.8	0.0	0.0	0.0	0.310	4.270	08/46
09/46	05/42	MANHOLE C/W CONVERTER SLAB 600x600 GRATE	0.041			120	133.6	0.877	0.916	0.023			25	1.0	23			23				1.000	55.850	54.25	54.00	53.89	0.74	0.21	2.1	0.0	0.3	0.0	0.410	3.400	09/46
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			120	133.6	0.877	0.916	0.096			25	12.5	96	1.44	0.03	65	31	0.03	06/42	12.528	53.925	53.89											05/42
01/47	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.056			120	133.6	0.877	0.916	0.031			25	2.2	57	1.07	0.00	57	0	0.00	08/42	2.200	58.494	58.44	58.39	58.39	0.06	0.06	7.0	0.0	0.1	0.0	0.180	0.680	01/47
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			120	133.6	0.877	0.916	0.064			25	2.2	126	1.76	0.02	96	28	0.02	04/42	2.200	58.494	58.39											03/42
01/48	02/48	INLET HEADWALL											25	1.0	0			0				1.000	54.000	54.94	54.62	53.31	3.22	3.07	0.5	0.0	0.3	0.0	1.100	3.600	01/48
02/48	03/48	INLET HEADWALL											25	1.0	0			0				1.000	53.750	52.44	52.44	50.05	10.04	3.07	0.0	0.0	0.0	0.0	0.020	5.490	02/48
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	50.930	50.05	50.05	49.53	4.63	3.17	0.0	0.0	0.0	0.0	0.020	5.010	03/48
04/48		REFERENCE											25	1.0	0			0				1.000	50.410	49.53											04/48
01/49	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.074			120	133.6	0.877	0.916	0.041			25	8.0	131			85				7.988	54.341	53.69	53.43	53.32	2.24	0.09	9.7	0.0	0.3	0.0	0.260	1.310	01/49
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	54.389	52.36	52.36	51.67	6.62	0.15	2.1	0.0	0.0	0.0	0.070	3.760	02/49
03/49	04/49	REFERENCE											25	1.0	0			0				1.000	53.534	51.67	51.67	51.43	6.90	0.15	0.0	0.0	0.0	0.0	0.070	4.020	03/49
04/49	03/48	HEADWALL											25	1.0	0			0				1.000	51.577	51.35	51.35	50.05	6.05	0.15	0.0	0.0	0.0	0.0	0.000	0.970	04/49
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	50.930	50.05											03/48
01/50	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.137			120	133.6	0.877	0.916	0.076			25	0.5	216	2.97	0.06	112	105	0.06	03/52	0.479	58.903	58.76	58.68	58.57	1.96	0.11	9.7	0.0	0.1	0.0	0.350	1.290	01/50
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.57	58.08	57.68	1.86	0.66	1.3	0.0	0.5	0.0	1.410	3.040	02/50
03/50	04/50	HEADWALL											25	1.0	0			0				1.000	57.800	57.68	57.68	57.68	0.00	0.66	0.0	0.0	0.0	0.0			03/50
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.074	25	1.0	74			74				1.000	57.000	57.68	57.68	57.68	0.00	0.40	0.0	0.0	0.0	0.0			04/50
05/50	06/50	TYPE 2 FIELD INLET 900x600 C/W DOME TOP											25	1.0	402	0.00	0.00	402	0	0.00	07/50	1.000	57.300	57.68	56.75	55.68	6.50	0.40	1.9	0.0	0.9	0.0	0.920	3.910	05/50
06/50	07/50	HEADWALL											25	1.0	0			0				1.000	56.065	55.40	55.40	55.40	0.00	0.40	0.0	0.0	0.0	0.0			06/50
07/50	01/48	BASIN NODE FOR CALCULATIONS			6.593							3.391	25	1.0	3391			3391				1.000	54.400	54.94	54.94	54.94	0.00	3.07	0.0	0.0	0.0	0.0			07/50
01/48	02/48	INLET HEADWALL											25	1.0	0			0				1.000	54.000	54.94											01/48
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.074	25	1.0	74			74				1.000	57.000	57.68	57.68	57.68	0.00	0.32	0.0	0.0	0.0	0.0			04/50
01/52	02/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.191			120	133.6	0.877	0.916	0.106			25	2.7	106	1.61	0.02	86	20	0.01	01/50	2.738	59.258	59.11	58.99	58.97	0.12	0.09	9.7	0.0	0.2	0.0	0.250	1.560	01/52
02/52	03/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.290			120	133.6	0.877	0.916	0.161			25	3.1	161	1.86	0.05	102	68	0.04	01/57	3.071	58.914	58.97	58.88	58.67	1.36	0.19	5.2	0.0	0.2	0.0	0.480	2.080	02/52
03/52	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.111			120	133.6	0.877	0.916	0.062			25	0.7	164	2.17	0.06	71	92	0.05	01/49	0.694	58.763	58.67	58.62	58.57	1.06	0.25	0.8	0.0	0.1	0.0	0.660	1.540	03/52
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.57											02/50
01/53	02/53	INLET GULLY ON GRADE (LG) Type S Lintel	0.295			120	133.6	0.877	0.916	0.164			25	0.6	164	2.46	0.02	127	37	0.02	02/53	0.600	61.686	61.60	61.47	61.38	2.18	0.13	4.2	0.0	0.1	0.0	0.390	1.330	01/53
02/53	03/53	INLET GULLY IN SAG (LS) Type S Lintel	0.137			120	133.6	0.877	0.916	0.076			25	1.6	113	2.62	0.02	86	26	0.02	03/53	1.602	61.662	61.38	61.18	61.04	1.64	0.21	1.6	0.0	0.2	0.0	0.930	1.920	02/53
03/53	04/53	INLET GULLY IN SAG (LS) Type S Lintel	0.241			120	133.6	0.877	0.916	0.134			25	0.3	160	2.11	0.06	69	90	0.06	05/53	0.262	61.647	61.04	60.79	60.48	3.08	0.28	1.4	0.0	0.3	0.0	0.870	2.780	03/53
04/53	05/53	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	61.584	60.45	60.36	59.18	3.14	0.28	1.7	0.0	0.1	0.0	0.480	3.470	04/53
05/53	02/50	INLET GULLY ON GRADE (LG) Type S Lintel	0.122			120	133.6	0.877	0.916	0.068			25	3.9	157	3.10	0.06	97	124	0.07	01/50	3.888	59.070	59.18	59.03	58.57	4.30	0.35	1.4	0.0	0.3	0.0	0.770	3.130	05/53
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.57											02/50
14/25	15/25	BASIN NODE FOR CALCULATIONS			1.016							0.455	25	1.0	455			455				1.000	44.500	45.74	45.74	45.74	0.00	1.80	0.0	0.0	0.0	0.0			14/25
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.27	45.24	41.76	10.68	0.72	1.5	0.0	0.0	0.0	0.570	6.350	07/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	41.02											12/42
01/57	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.063			120	133.6	0.877	0.916	0.035			25	9.2	101	2.11	0.02	69	30	0.02	O 01/57	9.206	54.628	53.67	53.57	53.27	8.37	0.07	9.7	0.0	0.1	0.0	0.110	2.300	01/57
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	54.389	52.36											02/49
14/25	15/25	BASIN NODE FOR CALCULATIONS			1.016							0.455	25	1.0	455			455				1.000	44.500	45.74	45.74	45.74	0.00	0.76	0.0	0.0	0.0	0.0			14/25
01/60	02/45	Ø 225 RISER (EXTEND 300mm ABOVE FSL)	0.049			120	133.6	0.877	0.916	0.027			25	1.0	27			27				1.000	49.390	46.75	46.72	46.52	2.01	0.03	9.1	0.0	0.0	0.0	0.330	1.150	01/60
02/45	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.224			120	133.6	0.877	0.916	0.125			25	1.0	125			125				1.000	47.606	46.52											02/45

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-680.dwg, MAJOR, 10/8/2023 7:56:11 AM, 1:2

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER
CALCULATION TABLES
MAJOR STORM EVENT

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-681

REV B

SEQ CODE WATER NOTES

SEQ CODE NOTES COPIED DIRECTLY FROM DRAWING SEQ-WAT-1101-3.

VEGETATION PROTECTION

A. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
B. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED & ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION & REMAIN UNTIL COMPLETION.
C. 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 COUNCIL ARBORIST FOR FURTHER ADVICE.
D. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

A. TOPSOIL & SUBSOIL SHALL BE STOCKPILED SEPARATELY.
B. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
C. IF ACID SULPHATE SOILS EXIST IN THE WORKS AREA. THE CONTRACTOR MUST PREPARE A RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL & MANAGE THE ACID SULPHATE SOILS AS PER THE MANUAL.

CREEK CROSSINGS

A. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
B. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
C. NO SOIL SHALL BE STOCKPILED WITHIN 5m OF THE CREEK.

REHABILITATION

A. PREDISTURBANCE SOIL PROFILES & COMPACTION LEVELS SHALL BE REINSTATED.
B. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

GENERAL NOTES

1. ALL WORK & MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND WATER SUPPLY CODE SPECIFICATIONS & STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS & WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN SEQ-WAT-1200-2.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.
6. A WATER METER SUPPLIED AT THE DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE STANDARD DRAWING FOR THE SEQ-SP.
7. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE SEQ-SP's ACCEPTED PRODUCTS & MATERIALS LIST OR BE APPROPRIATELY SHOWN, LISTED & DEFINED IN THE ENGINEERING SUBMISSION SO THAT THE ALTERNATIVE PRODUCT OR MATERIAL CAN BE ASSESSED & IF APPROPRIATE, APPROVED BY THE SEQ-SP.
8. ALL CONCRETE FOOTPATHS TO BE CLEAR OF WATER MAINS.
9. TEST/CHLORINATION POINTS TO BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING NO.SEQ-WAT-1410-1.
10. THE 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 TO THE RETICULATION SYSTEM.

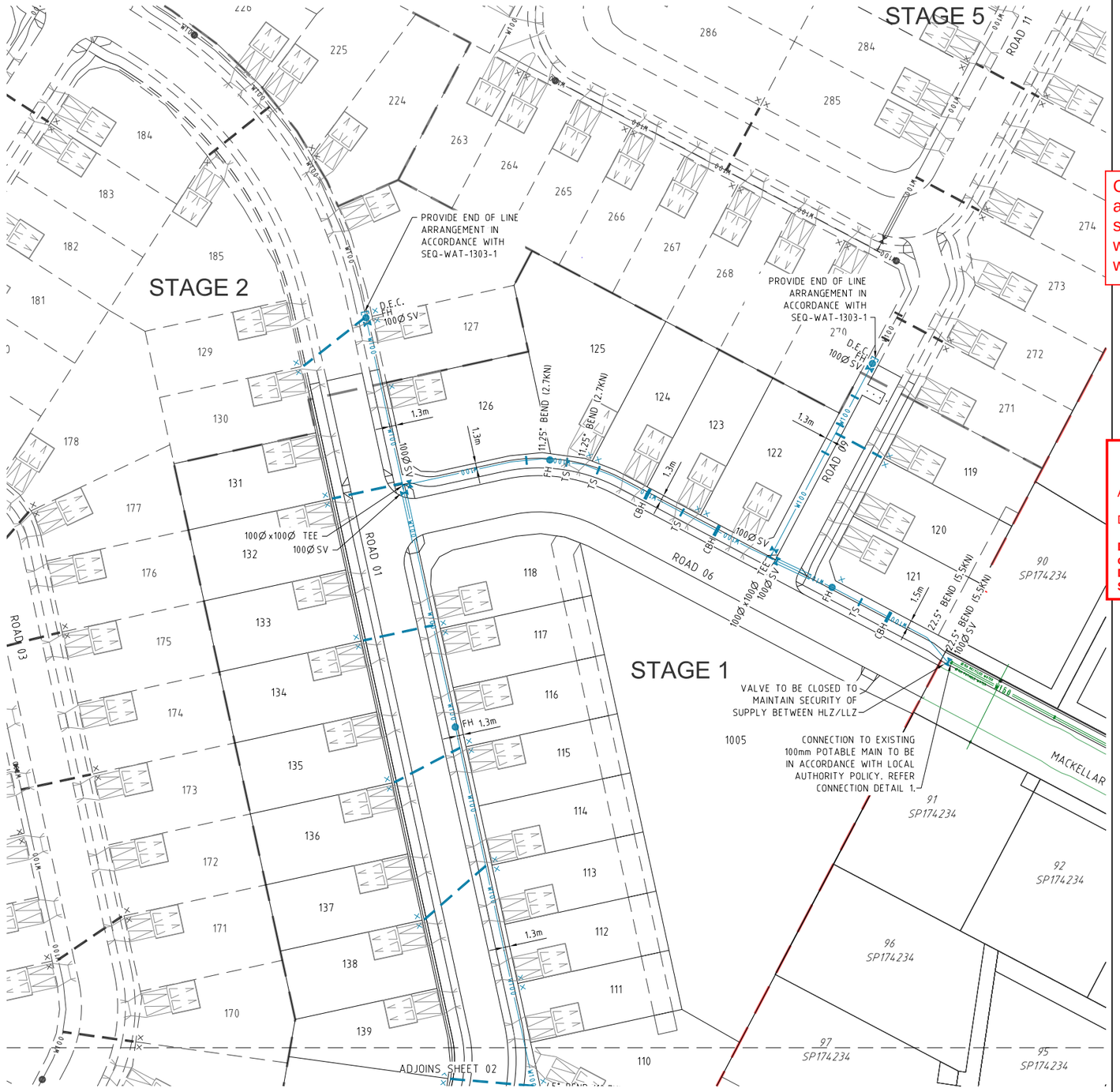
ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

PROJECT SPECIFIC WATER NOTES

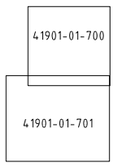
a. ALL PROPERTY CONNECTION ROAD CROSSINGS TO BE SLEEVED WITH DN100 uPVC PN12 CONDUIT IN ACCORDANCE WITH SEQ-WAT-1106-1.
b. ALL MATERIALS ARE TO BE SUPPLIED & CONSTRUCTED IN ACCORDANCE WITH SEQ CODE.
c. WATER METERS ARE TO BE SUPPLIED & INSTALLED AT ALL WATER SERVICE / CONNECTION POINTS IN ACCORDANCE WITH SEQ-WAT-1106-1.
d. THRUST BLOCKS TO BE LOCATED & INSTALLED BY CONTRACTOR IN ACCORDANCE WITH SEQ CODE.
e. TRENCH STOPS & BULKHEADS TO BE IN ACCORDANCE WITH WATER AUTHORITY REQUIREMENTS.
f. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR WATER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
g. FOOTPATHS SHOWN FOR INFORMATION PURPOSES ONLY.
h. ALL WATER CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH & SAFETY LEGISLATION.
i. MINIMUM WATERMAIN COVER TO BE IN ACCORDANCE WITH SECTION 7.4.2 TABLE 7.2 OF THE SEQ AMENDMENT TO WATER SUPPLY CODE OF AUSTRALIA.
j. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.
k. END OF LINE ARRANGEMENTS (EG. CUL-DE-SAC HEADS) TO BE CONSTRUCTED IN ACCORDANCE WITH SEQ-WAT-1104-1.
l. TEMPORARY CONSTRUCTION HYDRANTS TO BE PROVIDED IN ACCORDANCE WITH SEQ-WAT-1303-1 AT ALL CONNECTIONS.
m. ALL LIVE CONNECTIONS ARE TO BE ORGANISED BY THE CIVIL CONTRACTOR & UNDERTAKEN BY COUNCIL AT THE DEVELOPERS EXPENSE.

LEGEND

- EXISTING 100Ø WATER MAIN
- EXISTING 150Ø WATER MAIN
- EXISTING 200Ø WATER MAIN
- EXISTING 225Ø WATER MAIN
- EXISTING 250Ø WATER MAIN
- EXISTING 300Ø WATER MAIN
- EXISTING FOOTPATH
- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- FUTURE 100Ø WATER MAIN
- FUTURE 150Ø WATER MAIN
- FUTURE 200Ø WATER MAIN
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE FOOTPATH
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED FOOTPATH
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED 100Ø WATER MAIN
- PROPOSED 150Ø WATER MAIN
- PROPOSED 200Ø WATER MAIN
- HYDRANT (FH)
- TEE
- REDUCER
- SCOUR VALVE
- ENDCAP
- SLUICE VALVE
- AIR VALVE
- METER LOCATION
- TRENCH STOP (TS)
- CONCRETE BULKHEAD (CBH)
- SERVICE CONDUIT
- DICL ROAD CROSSING

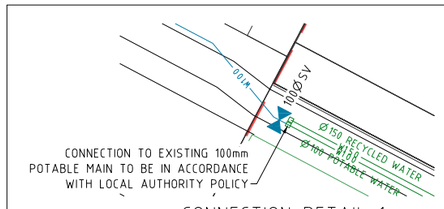


SHEET LAYOUT



WATER PIPE SPECIFICATIONS

WATER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
FOOTPATH VERGE	PVC-M SERIES 2 PN16
ROAD CROSSING	DICL PN35



CONNECTION DETAIL 1
SCALE 1:200 - A1 (1:400 - A3)
0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

WATER RETICULATION PLAN SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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ABN 39 116 375 065

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mortons@urbansolutions.net.au
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Tel 07 5571 1099

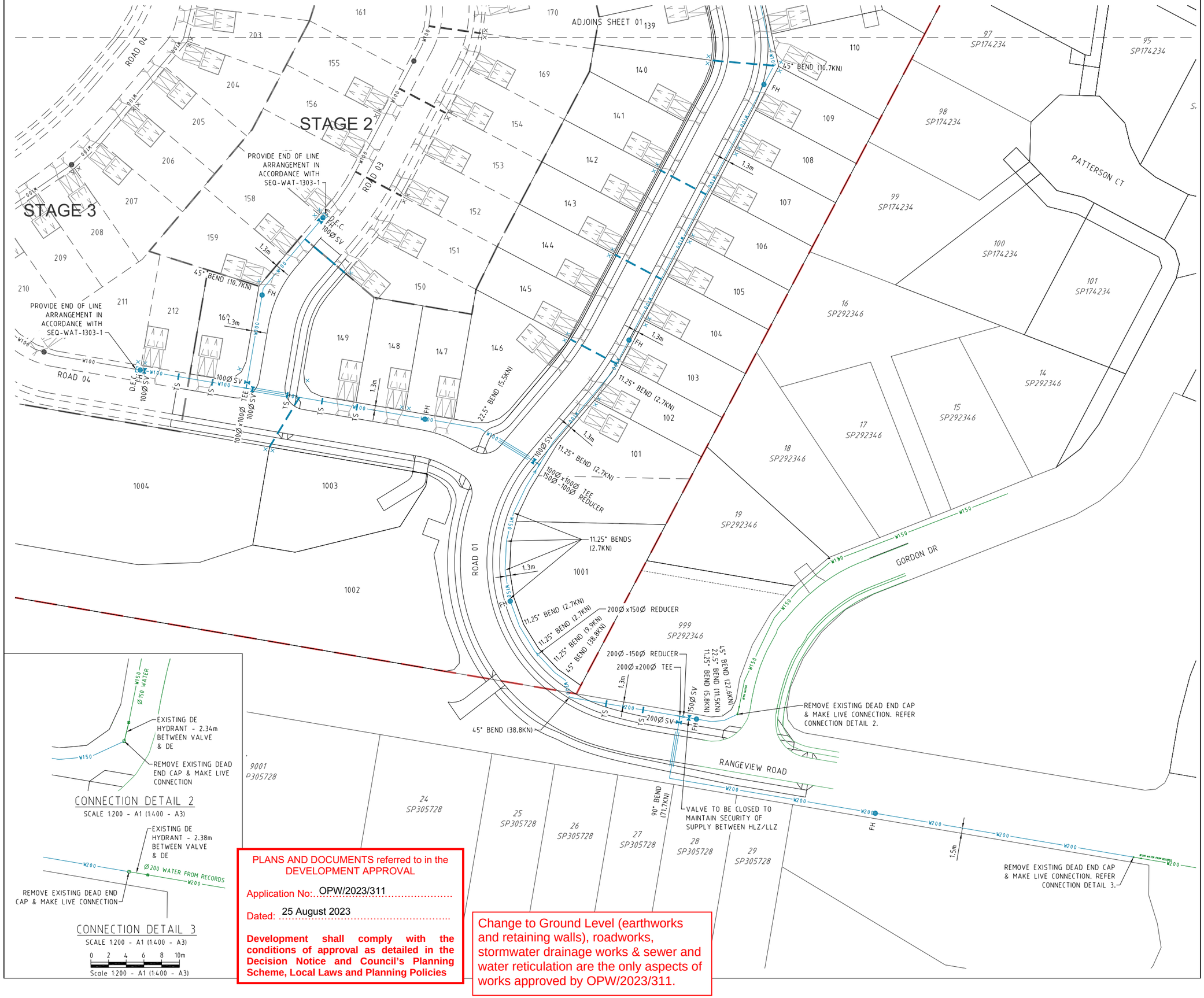
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-700
REV: B

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

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Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

WATER RETICULATION PLAN SHEET 02

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DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-701 REV B

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THRUST BLOCK LENGTH

PIPE DN.	FITTING	MAX. THRUST IN KN	THRUST BLOCK HEIGHT	STIFF CLAY 50 KPa.	VERY STIFF CLAY SANDY LOAM 100KPa.	SAND & GRAVEL HARDCLAY 150KPa.	SAND & GRAVEL CEMENTED WITH CLAY 200KPa.	ROCK 240kPa
100	90° BEND	19.8	400	1000	●	●	●	●
	60° BEND	14.0		700	●	●	●	●
	45° BEND	10.7		●	●	●	●	●
	22.5° BEND	5.5		●	●	●	●	●
	11.25° BEND	2.7		●	●	●	●	●
	TEE OR CLOSED END	14.0		700	●	●	●	●
150	90° BEND	41.7	450	1860	930	●	●	●
	60° BEND	29.5		1320	660	●	●	●
	45° BEND	22.6		1000	●	●	●	●
	22.5° BEND	11.5		●	●	●	●	●
	11.25° BEND	5.8		●	●	●	●	●
	TEE OR CLOSED END	29.5		1300	660	●	●	●
200	90° BEND	71.7	550	*	1300	870	650	●
	60° BEND	50.7		1850	920	●	●	●
	45° BEND	38.8		1410	700	●	●	●
	22.5° BEND	19.8		720	●	●	●	●
	11.25° BEND	9.9		●	●	●	●	●
	TEE OR CLOSED END	50.7		1850	920	●	●	●
225	90° BEND	89.4	600	*	1500	1000	750	●
	60° BEND	63.2		2110	1060	700	●	●
	45° BEND	48.4		1620	810	●	●	●
	22.5° BEND	24.6		830	●	●	●	●
	11.25° BEND	12.4		●	●	●	●	●
	TEE OR CLOSED END	63.2		210	1060	700	●	●
250	90° BEND	109.0	650	*	1700	1120	840	700
	60° BEND	77.1		2400	1200	800	●	●
	45° BEND	59.0		1820	910	●	●	●
	22.5° BEND	30.1		930	●	●	●	●
	11.25° BEND	15.1		●	●	●	●	●
	TEE OR CLOSED END	77.1		2400	1200	800	●	●
300	90° BEND	158.6	700	*	2270	1510	1140	950
	60° BEND	112.2		*	1600	1070	800	670
	45° BEND	85.9		2453	1230	820	●	●
	22.5° BEND	43.8		1250	630	●	●	●
	11.25° BEND	22.0		630	●	●	●	●
	TEE OR CLOSED END	112.2		*	1600	1070	800	750

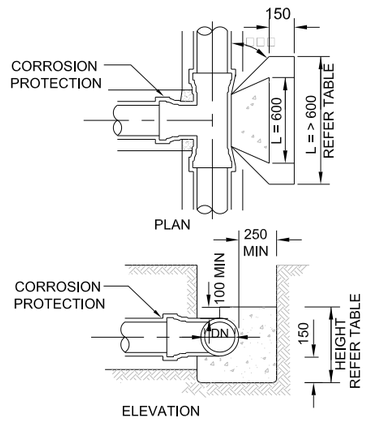
THRUST BLOCK LENGTH

PIPE DN.	FITTING	MAX. THRUST IN KN	THRUST BLOCK HEIGHT	STIFF CLAY 50 KPa.	VERY STIFF CLAY SANDY LOAM 100KPa.	SAND & GRAVEL HARDCLAY 150KPa.	SAND & GRAVEL CEMENTED WITH CLAY 200KPa.	ROCK 240kPa
375	90° BEND	241.9	800	*	*	2220	1510	1260
	60° BEND	171.0		*	2140	1430	1070	890
	45° BEND	130.9		*	1640	1090	820	680
	22.5° BEND	66.7		1670	840	●	●	●
	11.25° BEND	33.5		840	●	●	●	●
	TEE OR CLOSED END	171.0		*	2140	1430	1070	890
450	90° BEND	342.6	900	*	*	2540	1900	1590
	60° BEND	242.3		*	2690	1800	1350	1120
	45° BEND	185.4		*	2060	1375	1030	860
	22.5° BEND	94.5		2100	1050	700	●	●
	11.25° BEND	47.5		1060	●	●	●	●
	TEE OR CLOSED END	242.3		*	2690	1800	1350	1120
500	90° BEND	418	1000	*	*	2790	2090	1740
	60° BEND	295.6		*	*	1970	1480	1230
	45° BEND	226.2		*	2260	1510	1130	940
	22.5° BEND	115.3		2310	1150	770	●	●
	11.25° BEND	58.0		1160	●	●	●	●
	TEE OR CLOSED END	295.5		*	*	1970	1480	1230
600	90° BEND	593	1100	*	*	*	2700	2250
	60° BEND	419		*	*	2540	1910	1590
	45° BEND	320		*	2920	1950	1460	1220
	22.5° BEND	164		2980	1490	990	750	620
	11.25° BEND	82.2		1500	750	●	●	●
	TEE OR CLOSED END	419		*	*	2540	1910	1590
750	90° BEND	909	1300	*	*	*	*	2920
	60° BEND	643		*	*	*	2480	2060
	45° BEND	492		*	*	2530	1890	1580
	22.5° BEND	251		*	1930	1290	970	810
	11.25° BEND	126.1		1940	970	650	●	●
	TEE OR CLOSED END	643		*	*	*	2480	2060
900 (Ø960 MSCL)	90° BEND	1,228	1500	*	*	*	*	3420
	60° BEND	868		*	*	*	2900	2420
	45° BEND	664		*	*	2960	2220	1850
	22.5° BEND	339		*	2260	1510	1130	940
	11.25° BEND	170		2270	1140	760	●	●
	TEE OR CLOSED END	868		*	*	*	3300	2650

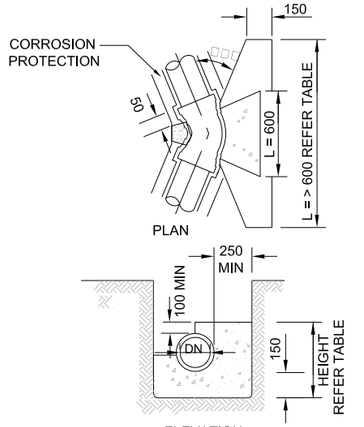
THRUST BLOCK DIMENSIONS - 1200kPa

● INDICATES BLOCK LENGTH OF 600

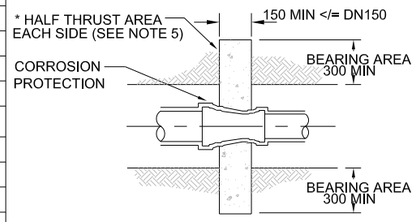
* = SPECIAL DESIGN



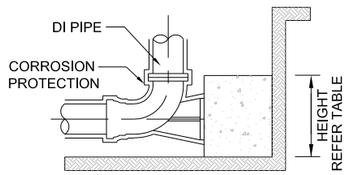
THRUST BLOCK FOR TEES
(FOR HORIZONTAL THRUST)



THRUST BLOCK FOR BENDS
(FOR HORIZONTAL THRUST)



TAPER THRUST BLOCK
(FOR HORIZONTAL THRUST)



FLUSHING/WASHOUT BEND THRUST BLOCK
(FOR HORIZONTAL THRUST) (MINIMUM REQUIRED THRUST AREA AS PER TEE OR CLOSED END)

NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. CAST THE THRUST AREA OF ALL THRUST BLOCKS AGAINST A CLEAN FACE OF UNDISTURBED NATURAL SOIL. SOIL CLASSIFICATIONS USED ON THIS DRAWING ARE EXPLAINED IN SEQ-WAT-12110-1. DO NOT USE STANDARD THRUST BLOCKS AS SPECIFIED IN THIS DRAWING IN SOILS WITH < 50kPa BEARING CAPACITY EG;
   –VERY SOFT, SOFT OR FIRM CLAY.
   –LOOSE CLEAN SAND.
   –UNCOMPACTED FILL OR REFUSE.
   A GEOTECHNICAL ASSESSMENT AND INDIVIDUAL DESIGN IS REQUIRED FOR THESE SOILS.
3. THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES OR BE LOCATED OUTSIDE THE WATER MAIN ALLOCATION WITHOUT WATER AGENCY APPROVAL.
4. ALL CONCRETE GRADE N20. TABLE OF DIMENSIONS BASED ON REQUIRED TEST PRESSURE OF 1200kPa AND ACTUAL DICL PIPE DIAMETERS.
5. THE MINIMUM THRUST AREA FOR TAPER THRUST BLOCKS TO BE EQUAL TO THE DIFFERENCE BETWEEN THE THRUST AREAS FOR TEES OR CLOSED ENDS OF EQUIVALENT DIAMETER TO THOSE EACH SIDE OF TAPER. THE DETAIL SHOWN IS FOR < OR = DN150 MAINS. FOR LARGER MAINS, THE TAPER THRUST BLOCK SHALL BE REINFORCED AND OF A SIZE AS SHOWN IN SEQ-WAT-1206-1.
6. FOR DOWNWARD VERTICAL THRUST, THE ALLOWABLE BEARING PRESSURE FOR VARIOUS SOILS MAY BE TAKEN AS TWICE THAT FOR HORIZONTAL THRUST SHOWN.
7. WHEN POURING CONCRETE AGAINST FITTINGS PLACE A MEMBRANE OF POLYETHYLENE, PVC OR FELT BETWEEN THE FITTING AND CONCRETE TO PREVENT DAMAGE TO THE FITTING. PIPE
8. JOINTS TO BE CLEAR OF CONCRETE.
   CONCRETE THRUST BLOCK ANCHORS FOR VALVES TO BE AS DETAILED ON SEQ-WAT-1206-1.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/311

Dated: 25 August 2023

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

Change to Ground Level (earthworks and retaining walls), roadworks, stormwater drainage works & sewer and water reticulation are the only aspects of works approved by OPW/2023/311.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

WATER RETICULATION DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
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DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-710

REV A

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