DATA TRANSMITTAL

MORTONS urbansolutions
Civil Engineering
Project Coordination
ABN: 39 116 375 065 Tel: (07) 55711099

PROJECT NAME: **Courtney Drive - Stage 2 OPW**
JOB NO: **41901-02**

DAY	13
MONTH	10
YEAR	23

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FILE NO.	**DESCRIPTION**	**AMENDMENT**
	GENERAL	
41901-02-000	COVER SHEET	A
41901-02-003	SAFETY IN DESIGN	A
41901-02-004	RISK MATRIX & NOTES	A
41901-02-005	ROAD HIERARCHY & STAGING PLAN SHEET 1	A
41901-02-006	ROAD HIERARCHY & STAGING PLAN SHEET 2	
	SEDIMENT AND EROSION	A
41901-02-020	PLAN SHEET 1	A
41901-02-021	PLAN SHEET 2	
	BULK EARTHWORKS	A
41901-02-040	CUT FILL PLAN SHEET 1	A
41901-02-041	CUT FILL PLAN SHEET 2	A
41901-02-042	CUT FILL PLAN SHEET 3	A
41901-02-045	GEOTECHNICAL REQUIREMENTS PLAN	A
41901-02-050	EARTHWORKS SECTION KEY PLAN	A
41901-02-051	SECTIONS-SHEET 01	A
41901-02-052	SECTIONS-SHEET 02	A
	EARTHWORKS: RETAINING WALL & DETAIL GRADING	
41901-02-060	PLAN SHEET 01	A
41901-02-061	PLAN SHEET 02	A
41901-02-062	PLAN SHEET 03	A
41901-02-063	PLAN SHEET 04	A
41901-02-070	DETAILS	A
41901-02-071	FINAL TRIM DETAILS	A
	EARTHWORKS: PADMOUNT SECTIONS	
41901-02-075	PADMOUNT 4 SHEET 01	A
41901-02-076	PADMOUNT 6SHEET 02	A
	EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL	
41901-02-080	PLAN SHEET 01	A
41901-02-081	PLAN SHEET 02	A
	ROADS: COMBINED SERVICES	
41901-02-090	PLAN SHEET 01	A
41901-02-091	PLAN SHEET 02	A
41901-02-092	PLAN SHEET 03	
	ROADS: ROADWORKS	
41901-02-100	PLAN SHEET 01	A
41901-02-101	PLAN SHEET 02	A
41901-02-102	PLAN SHEET 03	A
41901-02-120	DETAILS	A
	ROADS: LONGITUDINAL SECTIONS	
41901-02-200	SHEET 01	A
41901-02-201	SHEET 02	A
41901-02-202	SHEET 03	A
41901-02-203	SHEET 04	A
41901-02-204	SHEET 05	A
	ROADS: CROSS SECTIONS	
41901-02-300	SHEET 01	A
41901-02-301	SHEET 02	A
41901-02-302	SHEET 03	A

DATA TRANSMITTAL

MORTONS urbansolutions
Civil Engineering
Project Coordination
ABN: 39 116 375 065 Tel: (07) 55711099

PROJECT NAME: **Courtney Drive - Stage 2 OPW**
JOB NO: **41901-02**

41901-02-303	SHEET 04	A														
41901-02-304	SHEET 05	A														
41901-02-305	SHEET 06	A														
	ROADS: INTERSECTION GRADING															
41901-02-400	DETAILS	A														
	ROADS: LINEMARKING AND SIGNAGE															
41901-02-420	PLAN SHEET 01	A														
41901-02-421	PLAN SHEET 02	A														
	SEWER: SEWER RETICULATION															
41901-02-500	PLAN SHEET 01	A														
41901-02-501	PLAN SHEET 02	A														
41901-02-502	PLAN SHEET 03	A														
41901-02-510	DETAILS	A														
	SEWER: SEWER PUMP STATION															
41901-02-520	NOTES	A														
41901-02-521	LAYOUT	A														
41901-02-522	SECTION	A														
41901-02-525	PROFILE	A														
	SEWER: PROFILES															
41901-02-530	SHEET 01	A														
41901-02-531	SHEET 02	A														
41901-02-532	SHEET 03	A														
41901-02-533	SHEET 04	A														
41901-02-534	SHEET 05	A														
41901-02-535	SHEET 06	A														
41901-02-536	SHEET 07	A														
41901-02-537	SHEET 08	A														
	SEWER: HOUSE CONNECTION PROFILES															
41901-02-550	SHEET 01	A														
41901-02-551	SHEET 02	A														
	DRAINAGE: STORMWATER															
41901-02-600	PLAN SHEET 01	A														
41901-02-601	PLAN SHEET 02	A														
41901-02-602	PLAN SHEET 03	A														
	DRAINAGE: PROFILES															
41901-02-620	SHEET 01	A														
41901-02-621	SHEET 02	A														
41901-02-622	SHEET 03	A														
41901-02-623	SHEET 04	A														
41901-02-624	SHEET 05	A														
41901-02-625	SHEET 06	A														
41901-02-626	SHEET 07	A														
41901-02-627	SHEET 08	A														
41901-02-628	SHEET 09	A														
	DRAINAGE: PIT DETAILS & TYPICAL DETAILS															
41901-02-641	OUTLETS & TYPICAL DETAILS	A														
41901-02-642	RCBC OUTLET	A														
41901-02-650	PIT DETAILS SHEET 01	A														
41901-02-651	PIT DETAILS SHEET 02	A														
41901-02-652	PIT DETAILS SHEET 03	A														
	DRAINAGE: BASINS & CULVERTS															
41901-02-660	PLAN SHEET 01	A														
41901-02-661	PLAN SHEET 02	A														
41901-02-662	SECTIONS SHEET 01	A														
41901-02-663	SECTIONS SHEET 02	A														
41901-02-664	DETAILS SHEET 01	A														
41901-02-665	DETAILS SHEET 02	A														
	DRAINAGE: CATCHMENT															
41901-02-670	PLAN SHEET 01	A														
41901-02-671	PLAN SHEET 02	A														
	DRAINAGE: CALCULATION TABLES															
41901-02-680	MINOR	A														
41901-02-681	MAJOR	A														
	WATER: WATER RETICULATION															
41901-02-700	PLAN SHEET 01	A														
41901-02-701	PLAN SHEET 02	A														
41901-02-702	PLAN SHEET 03	A														
41901-02-710	DETAILS	A														
TYPE: **C** - CIVILCAD **A** - AUTOCAD **P** - PLOT **H** - PHOTOCOPY OF APPROVED DWG **D** - Pdfs		D														
REASON: **Z** - COUNCIL **R** - REVISION **A** - APPROVAL **C** - CONSTRUCTION **S** - AS REQUESTED **T** - TENDER **P** - PRELIMINARY **X** - INFORMATION		Z														

PLEASE CHECK THAT YOU HAVE RECEIVED ALL DOCUMENTS AS LISTED ABOVE.

DATA TRANSMITTAL

MORTONS urbansolutions
Civil Engineering
Project Coordination
ABN: 39 116 375 065 Tel: (07) 55711099

PROJECT NAME: **Courtney Drive - Stage 2 OPW**
JOB NO: **41901-02**

I hereby acknowledge receipt of the documents as detailed above.
Signed: _____ Date: / /
Company: _____

DISCLAIMER

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COURTNEY DRIVE
UPPER COOMERA

OPERATIONAL WORKS
STAGE 02
No. 41901-02

SCHEDULE OF DRAWINGS

NUMBER	REV. NO.	TITLE
GENERAL		
41901-02-000	A	COVER SHEET
41901-02-003	A	SAFETY IN DESIGN
41901-02-004	A	RISK MATRIX & NOTES
41901-02-005	A	ROAD HIERARCHY & STAGING PLAN SHEET 01
41901-02-006	A	ROAD HIERARCHY & STAGING PLAN SHEET 02
EARTHWORKS: EXISTING FEATURES & DEMOLITION		
41901-02-020	A	PLAN SHEET 01
41901-02-021	A	PLAN SHEET 02
EARTHWORKS: BULK EARTHWORKS CUT FILL		
41901-02-040	A	PLAN SHEET 01
41901-02-041	A	PLAN SHEET 02
41901-02-042	A	PLAN SHEET 03
41901-02-045	A	GEOTECHNICAL REQUIREMENTS PLAN
41901-02-050	A	EARTHWORKS SECTION KEY PLAN
41901-02-051	A	SECTIONS-SHEET 01
41901-02-052	A	SECTIONS-SHEET 02
EARTHWORKS: RETAINING WALL & DETAIL GRADING		
41901-02-060	A	PLAN SHEET 01
41901-02-061	A	PLAN SHEET 02
41901-02-062	A	PLAN SHEET 03
41901-02-063	A	PLAN SHEET 04
41901-02-070	A	DETAILS
41901-02-071	A	FINAL TRIM DETAILS
EARTHWORKS: PADMOUNT SECTIONS		
41901-02-075	A	PADMOUNT 4 SHEET 01
41901-02-076	A	PADMOUNT 6 SHEET 01
EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL		
41901-02-080	A	PLAN SHEET 01
41901-02-081	A	PLAN SHEET 02
41901-02-082	A	PLAN SHEET 03
41901-02-083	A	PLAN SHEET 04
ROADS: COMBINED SERVICES		
41901-02-090	A	PLAN SHEET 01
41901-02-091	A	PLAN SHEET 02
41901-02-092	A	PLAN SHEET 03
ROADS: ROADWORKS		
41901-02-100	A	PLAN SHEET 01
41901-02-101	A	PLAN SHEET 02
41901-02-102	A	PLAN SHEET 03
41901-02-120	A	DETAILS
ROADS: LONGITUDINAL SECTIONS		
41901-02-200	A	COURTNEY DRIVE-ROAD 01 SHEET 01
41901-02-201	A	COURTNEY DRIVE-ROAD 01 (Cont.) SHEET 02
41901-02-202	A	ROAD 03
41901-02-203	A	ROAD 04 & ROAD 07
41901-02-204	A	ROAD 10 & ROAD BASIN 01
ROADS: CROSS SECTIONS		
41901-02-300	A	COURTNEY DRIVE-ROAD 01 SHEET 01
41901-02-301	A	COURTNEY DRIVE-ROAD 01 (Cont.) SHEET 02
41901-02-302	A	COURTNEY DRIVE-ROAD 01 (Cont.) SHEET 03
41901-02-303	A	ROAD 03 SHEET 01
41901-02-304	A	ROAD 03 (Cont.) SHEET 02
41901-02-305	A	ROAD 04
41901-02-306	A	ROAD 07 & ROAD 10
41901-02-307	A	ROAD BASIN 01
ROADS: INTERSECTION GRADING		
41901-02-400	A	DETAILS
ROADS: JOINTING DETAILS		
41901-02-410	A	DETAILS SHEET 01
41901-02-411	A	SHEET 02
ROADS: LINEMARKING AND SIGNAGE		
41901-02-420	A	PLAN SHEET 01
41901-02-421	A	PLAN SHEET 02
SEWER: SEWER RETICULATION		
41901-02-500	A	PLAN SHEET 01
41901-02-501	A	PLAN SHEET 02
41901-02-502	A	PLAN SHEET 03
41901-02-510	A	DETAILS
SEWER: SEWER PUMP STATION		
41901-02-520	A	NOTES
41901-02-521	A	LAYOUT
41901-02-522	A	SECTION
41901-02-525	A	PROFILES
SEWER: PROFILES		
41901-02-530	A	SHEET 01
41901-02-531	A	SHEET 02
41901-02-532	A	SHEET 03
41901-02-533	A	SHEET 04
41901-02-534	A	SHEET 05
41901-02-535	A	SHEET 06
41901-02-536	A	SHEET 07
41901-02-537	A	SHEET 08
SEWER: HOUSE CONNECTION PROFILES		
41901-02-550	A	SHEET 01
41901-02-551	A	SHEET 02
DRAINAGE: STORMWATER		
41901-02-600	A	PLAN SHEET 01
41901-02-601	A	PLAN SHEET 02
41901-02-602	A	PLAN SHEET 03
DRAINAGE: PROFILES		
41901-02-620	A	SHEET 01
41901-02-621	A	SHEET 02
41901-02-622	A	SHEET 03
41901-02-623	A	SHEET 04
41901-02-624	A	SHEET 05
41901-02-625	A	SHEET 06
41901-02-626	A	SHEET 07
41901-02-627	A	SHEET 08
41901-02-628	A	SHEET 09
DRAINAGE: PIT OUTLETS & TYPICAL DETAILS		
41901-02-640	A	OUTLETS & TYPICAL DETAILS SHEET 01
41901-02-641	A	RCBC OUTLET
DRAINAGE: PIT DETAILS		
41901-02-650	A	PIT DETAILS SHEET 01
41901-02-651	A	PIT DETAILS SHEET 02
41901-02-652	A	PIT DETAILS SHEET 03
DRAINAGE: BASINS & CULVERTS		
41901-02-660	A	PLAN SHEET 01
41901-02-661	A	PLAN SHEET 02
41901-02-662	A	SECTIONS SHEET 01
41901-02-663	A	SECTIONS SHEET 02
41901-02-664	A	DETAILS SHEET 01
41901-02-665	A	DETAILS SHEET 02
DRAINAGE: CATCHMENT		
41901-02-670	A	PLAN SHEET 01
41901-02-671	A	PLAN SHEET 02
DRAINAGE: CALCULATION TABLES		
41901-02-680	A	MINOR TABLE
41901-02-681	A	MAJOR TABLE
WATER: WATER RETICULATION		
41901-02-700	A	PLAN SHEET 01
41901-02-701	A	PLAN SHEET 02
41901-02-702	A	PLAN SHEET 03
41901-02-710	A	DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

COMPASS ASSURANCE ISO 9001 QUALITY

CLIENT

HB Land

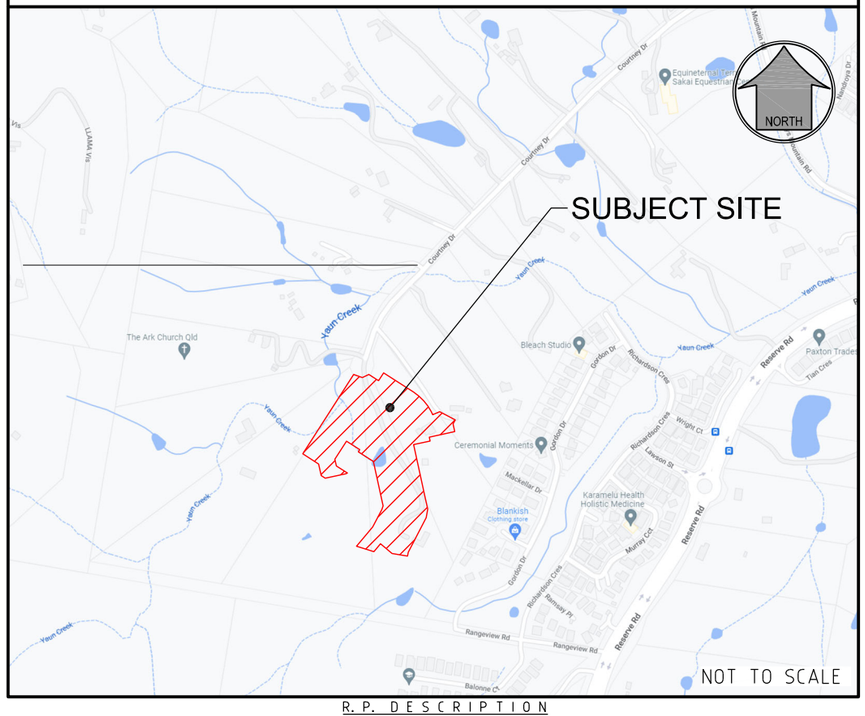
SUB-CONSULTANTS

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 41901-02-000

AMEND. A

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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	Permanent Disability	Possible	12	High	- 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	Failing 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
Temporary Stormwater Construction Sediment Ponds	Drowning	Construction and Maintenance	Public, Contractors & Council	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
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 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

SAFETY IN DESIGN

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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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	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-003
REV: A

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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 02

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

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

DRAWING TITLE

RISK MATRIX
& NOTES

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-004	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.

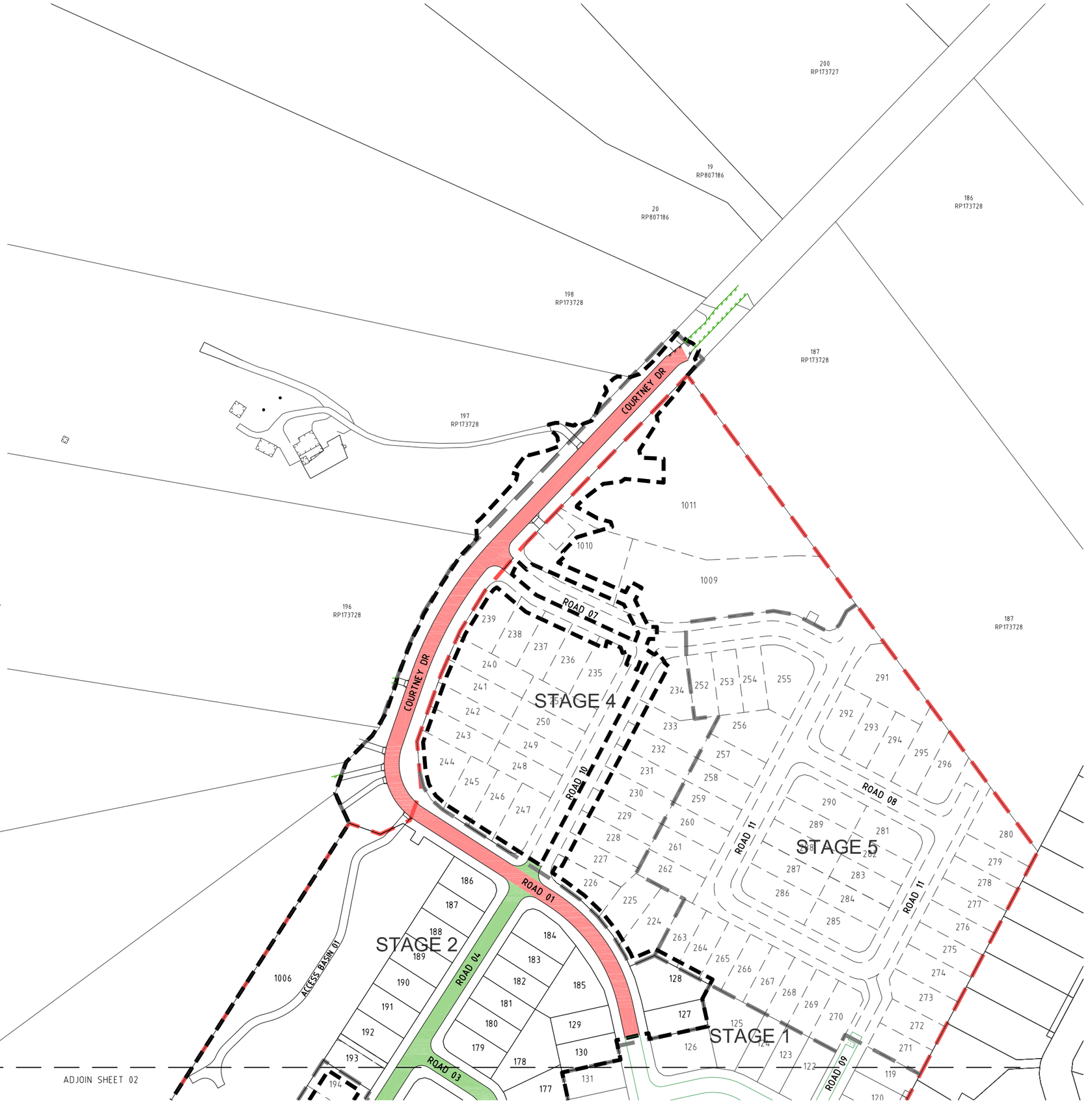
a) GEOTECHNICAL INVESTIGATION REPORTS (INCLUDING ANY ACID SULPHATE OR DISPERSIVE SOIL REPORTING)
b) VEGETATION & FAUNA MANAGEMENT PLANS
c) OTHER MANAGEMENT PLANS NOMINATED IN THE CONTRACT, AUTHORITIES APPROVAL CONDITIONS OR BY THE SUPERINTENDENT.

LEGEND

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

REFER 120 DRAWING 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



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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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 SHEET 01

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	EP
APPROVED		RPEQ 4706	DATE 13-10-23

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41901-02-005	A

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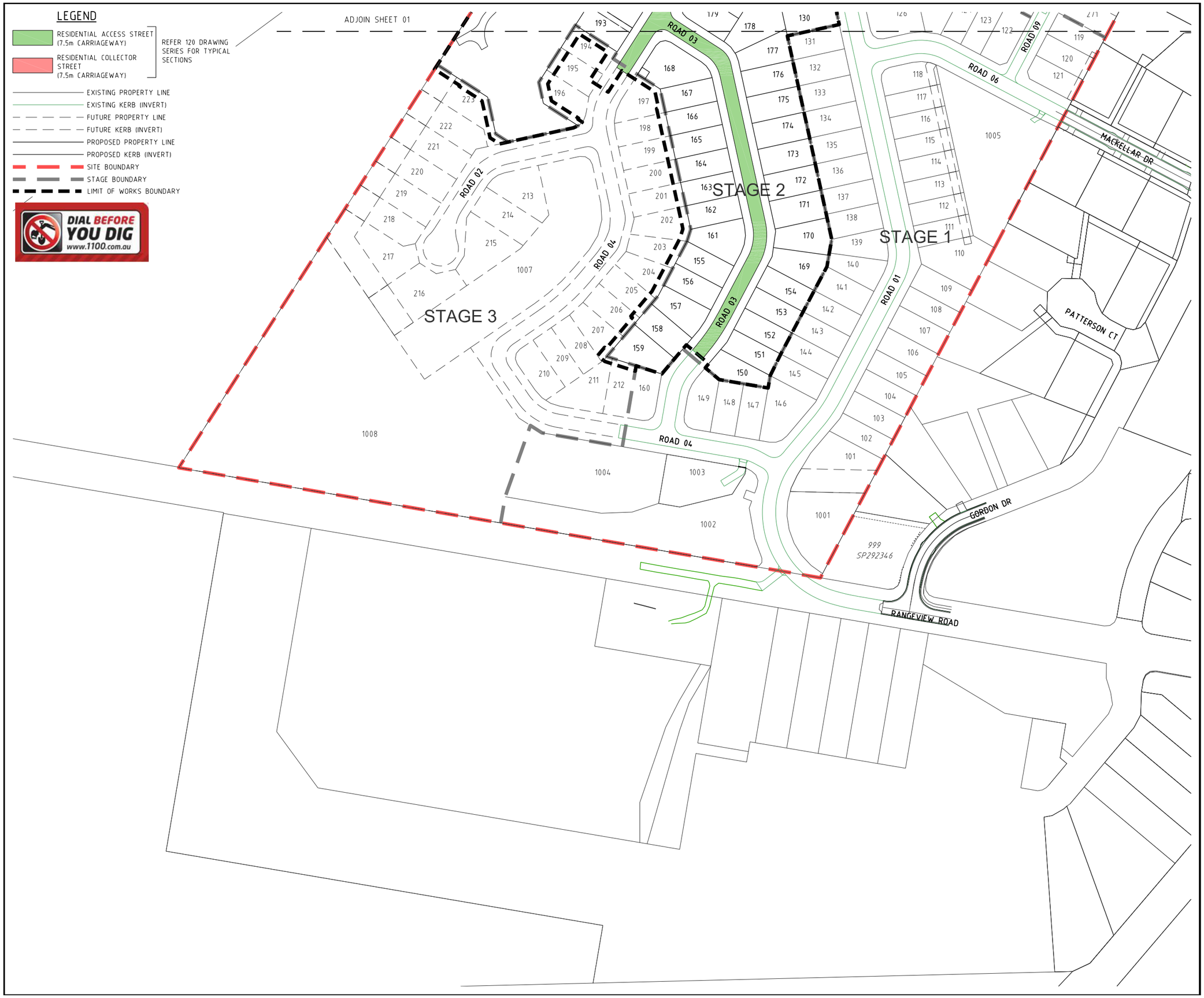
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ROAD HIERARCHY,
STAGING PLAN
&
GENERAL NOTES
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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GENERAL

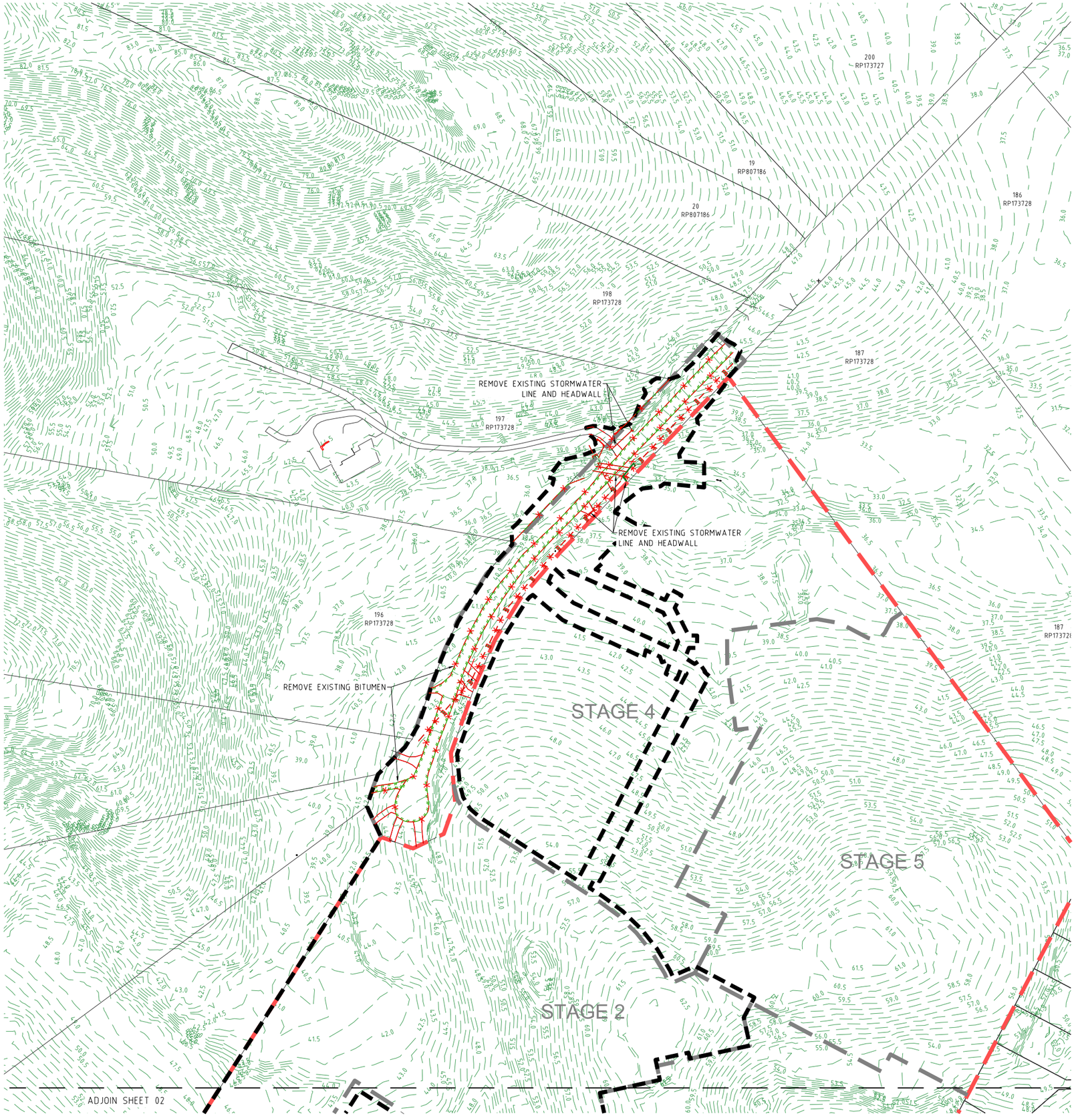
1. EXISTING SERVICES - EXTERNAL WORKS
   THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED 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

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- EXISTING FENCE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- CONTROL LINE / CENTER OF ROAD
- EXISTING FOOTPATH
- EXISTING EDGE OF VEGETATION
- RM — RM — EXISTING RISING MAIN
- S — S — EXISTING SEWER
- SW — SW — EXISTING STORMWATER
- W — W — EXISTING WATER
- G — G — EXISTING GAS
- E — E — EXISTING UNDERGROUND ELECTRICITY
- E — E — EXISTING OVERHEAD ELECTRICITY
- T — T — EXISTING TELSTRA
- C — C — EXISTING COMMUNICATIONS
- 1.0 EXISTING CONTOURS MAJOR
- 1.5 EXISTING CONTOURS MINOR
- RM — RM — DEMOLISH RISING MAIN
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- SITE BOUNDARY
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- 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 02

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

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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 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
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APPROVED	RPEQ 4706	DATE	13-10-23

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41901-02-020	A

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GENERAL

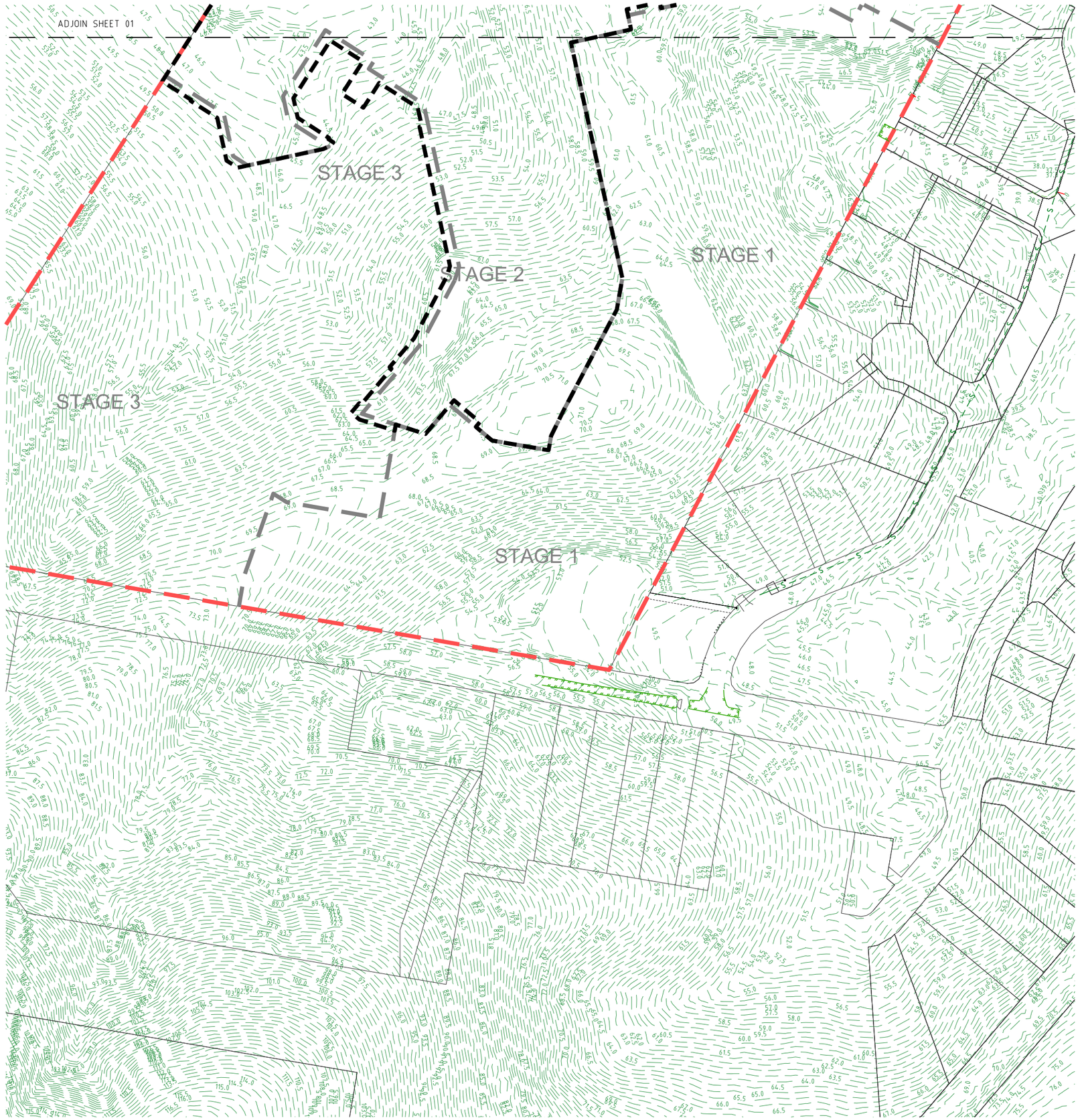
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EXISTING FEATURES AND DEMOLITION PLAN SHEET 02

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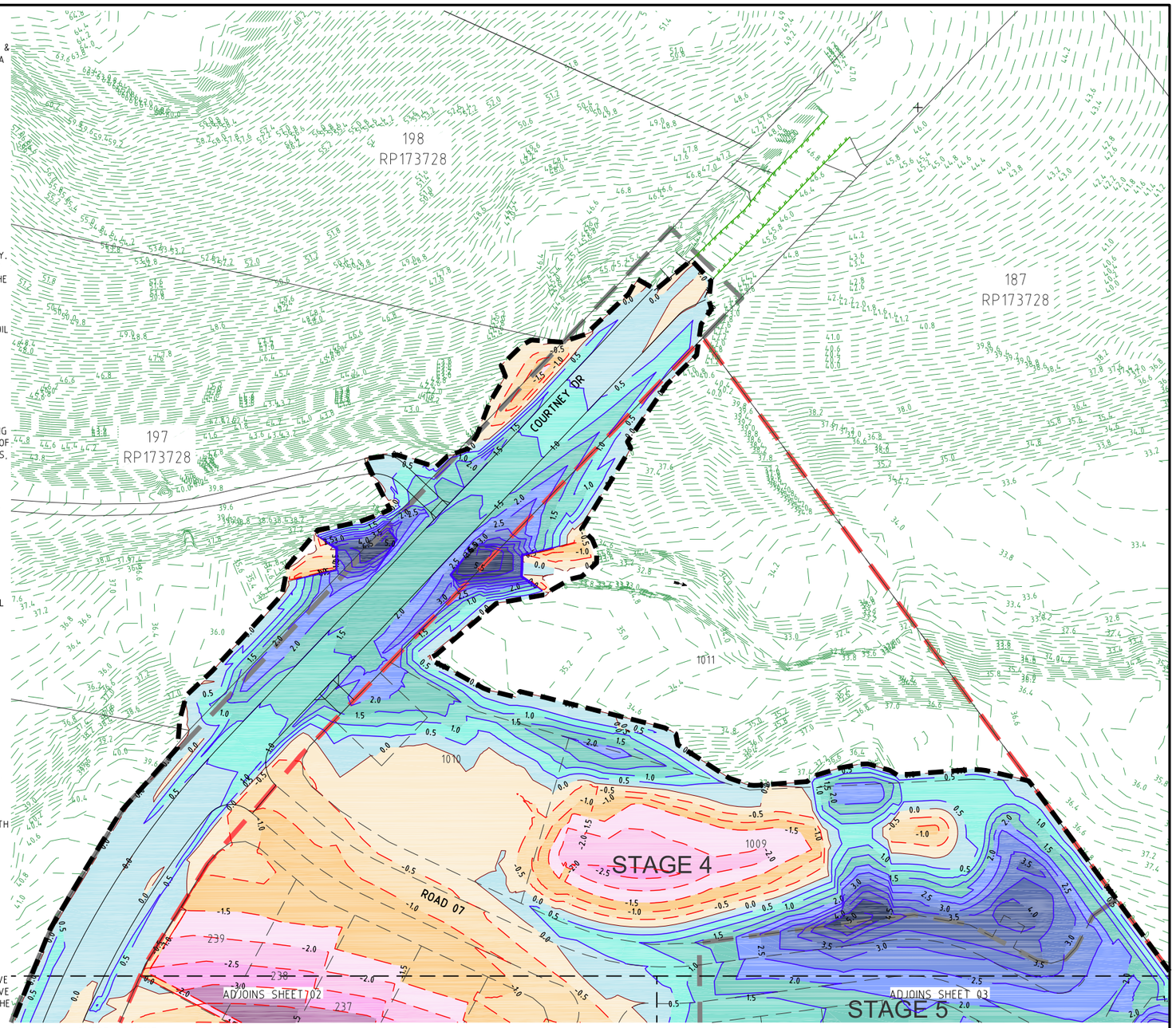
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APPROVED	RPEQ 4706	DATE	13-10-23

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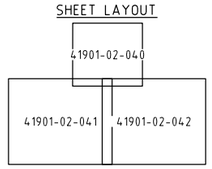
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EARTHWORKS

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.



SHEET LAYOUT



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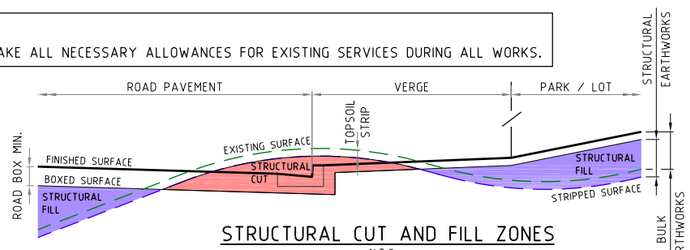
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- FUTURE PROPERTY LINE
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- STAGE BOUNDARY
- LIMIT OF EARTHWORKS BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- -0.5 CUT CONTOUR
- 0.0 INTERFACE CONTOUR
- 0.5 FILL CONTOUR

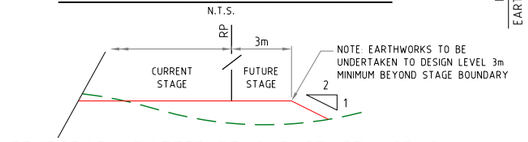
CUT #	FILL #
4.5m +	0.0 - 0.5m
4.0 - 4.5m	0.5 - 1.0m
3.5 - 4.0m	1.0 - 1.5m
3.0 - 3.5m	1.5 - 2.0m
2.5 - 3.0m	2.0 - 2.5m
2.0 - 2.5m	2.5 - 3.0m
1.5 - 2.0m	3.0 - 3.5m
1.0 - 1.5m	3.5 - 4.0m
0.5 - 1.0m	4.0 - 4.5m
0.0 - 0.5m	4.5m +

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 02

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

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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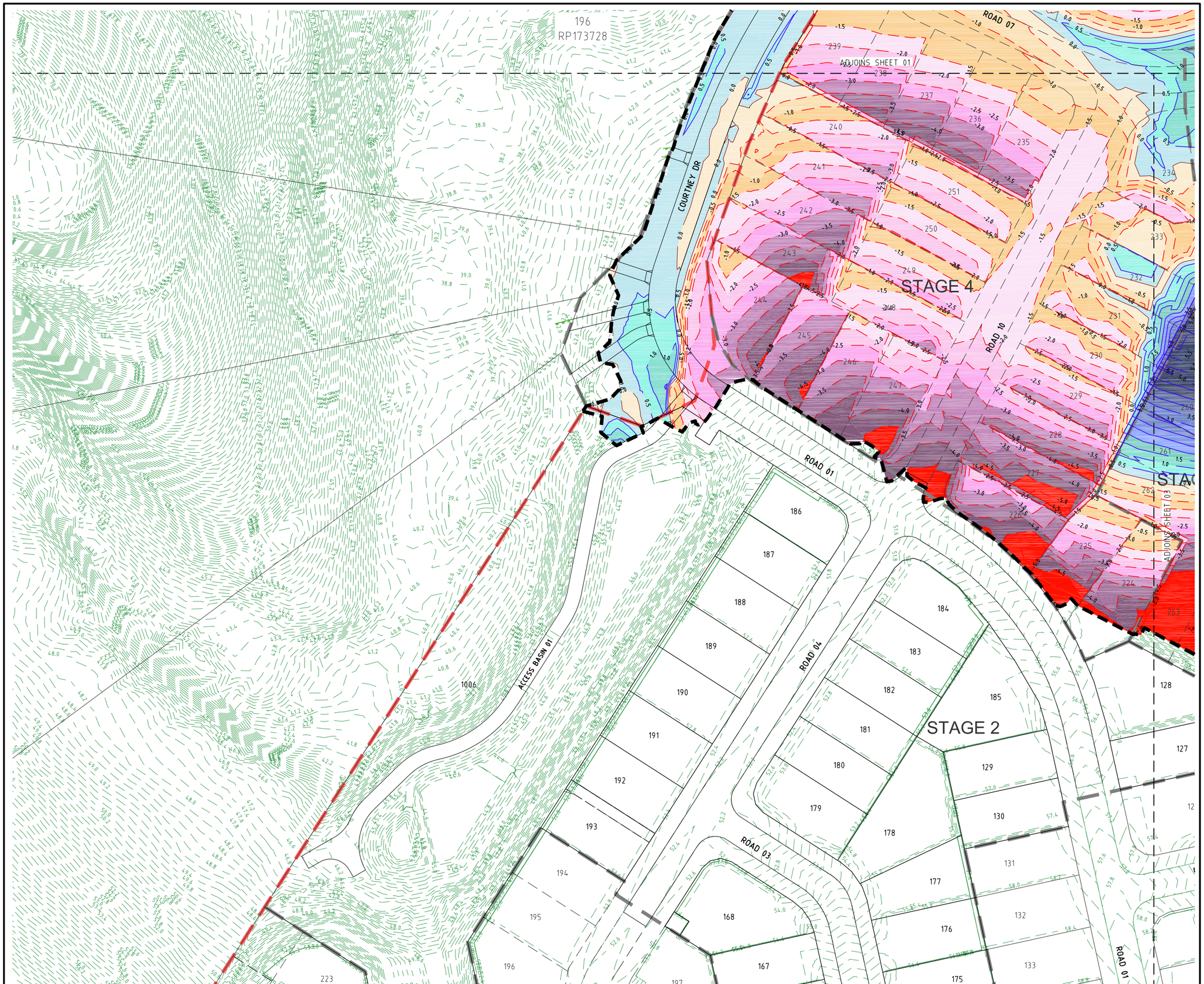
EARTHWORKS
CUT TO FILL
PLAN
SHEET 01

MORTONS urbansolutions
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Civil Engineering
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APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-040
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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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EARTHWORKS
CUT TO FILL
PLAN
SHEET 02

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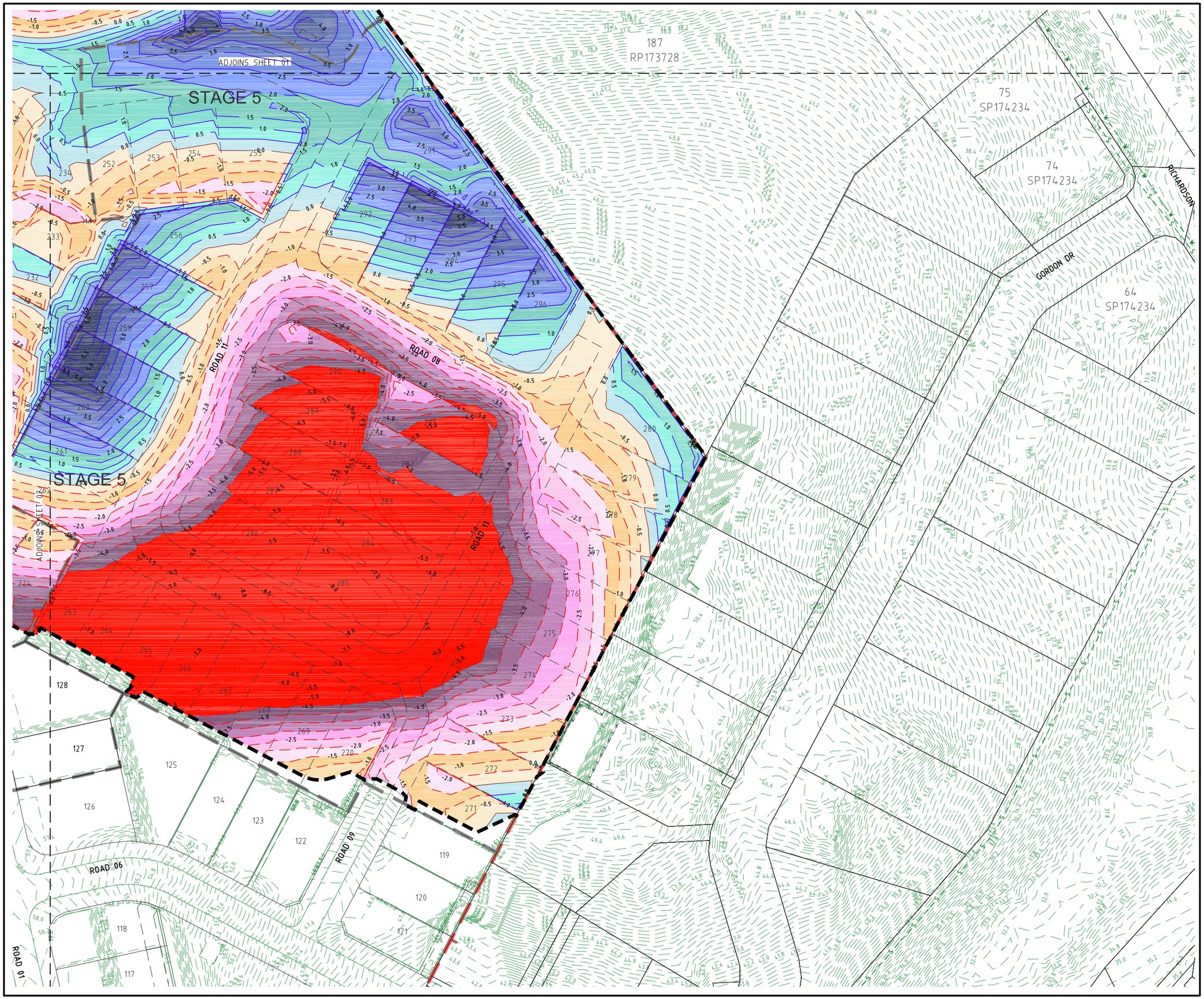
Postal Address
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APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER	REV
41901-02-041	A

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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EARTHWORKS
CUT TO FILL
PLAN
SHEET 03

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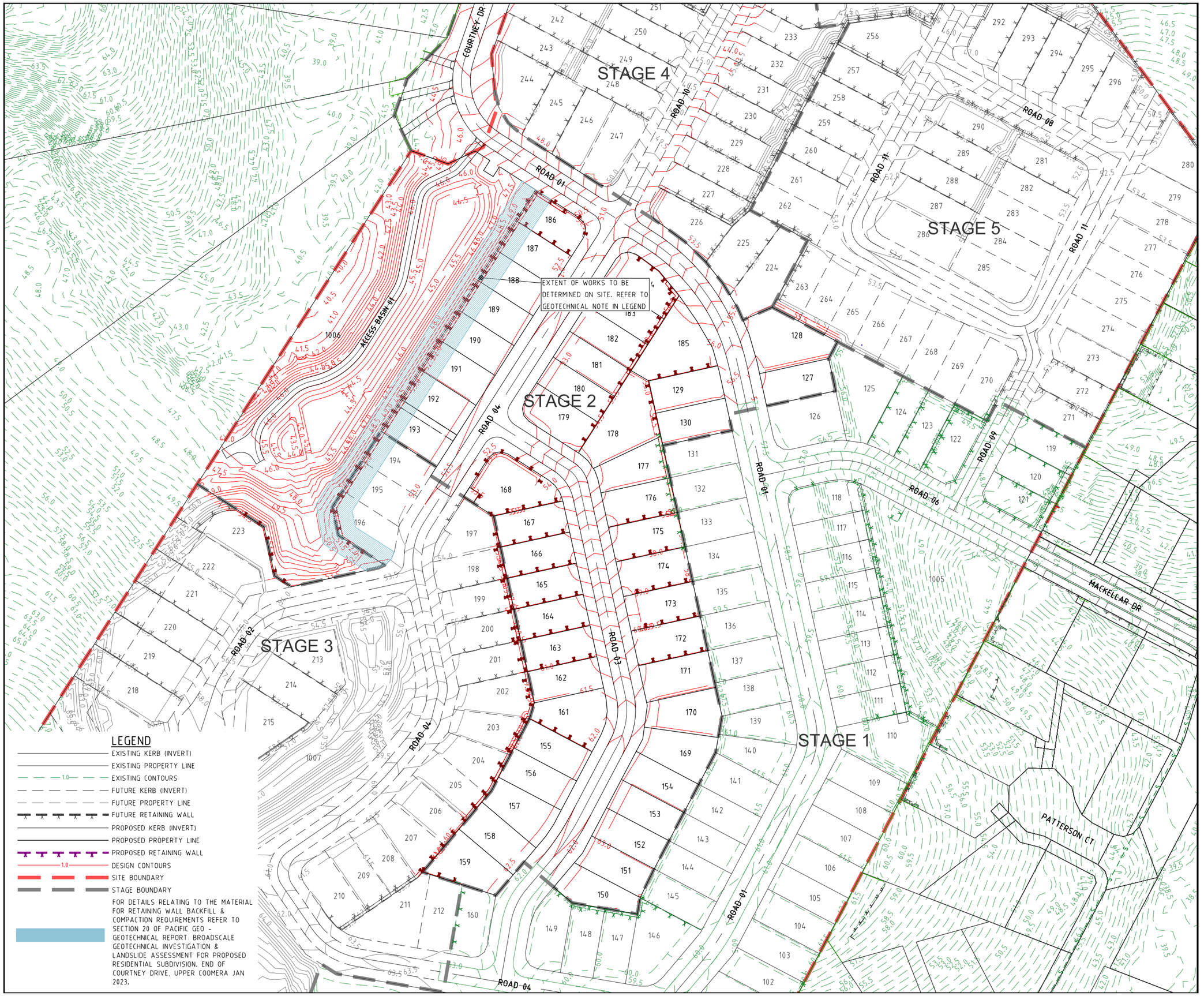
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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-042	A

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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)

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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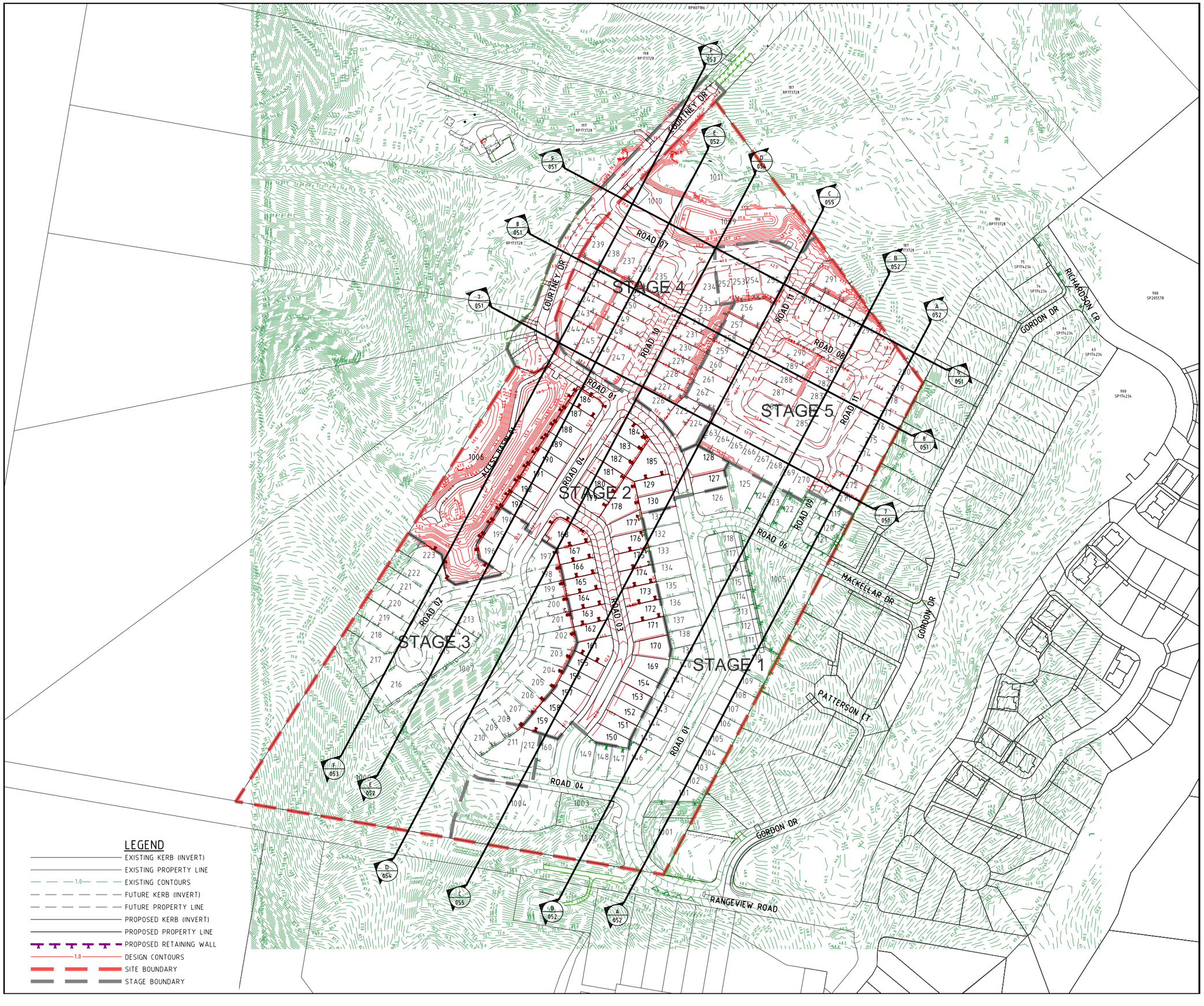
GEOTECHNICAL REQUIREMENTS PLAN

MORTONS urbansolutions
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APPROVED		RPEQ	4706
		DATE	13-10-23

DRAWING NUMBER 41901-02-045 REV A

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

Scale 1:1500 - A1 (1:3000 - A3)

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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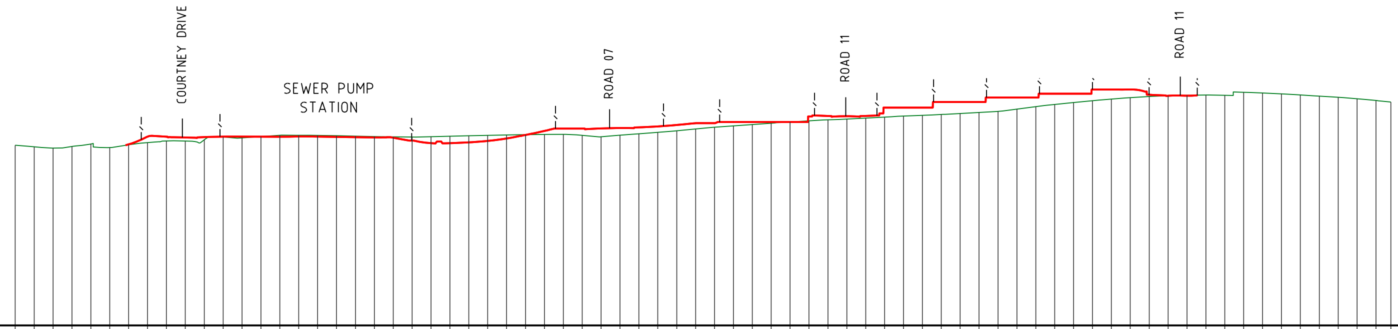
BULK EARTHWORKS
SECTION KEY PLAN

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DRAWING NUMBER 41901-02-050
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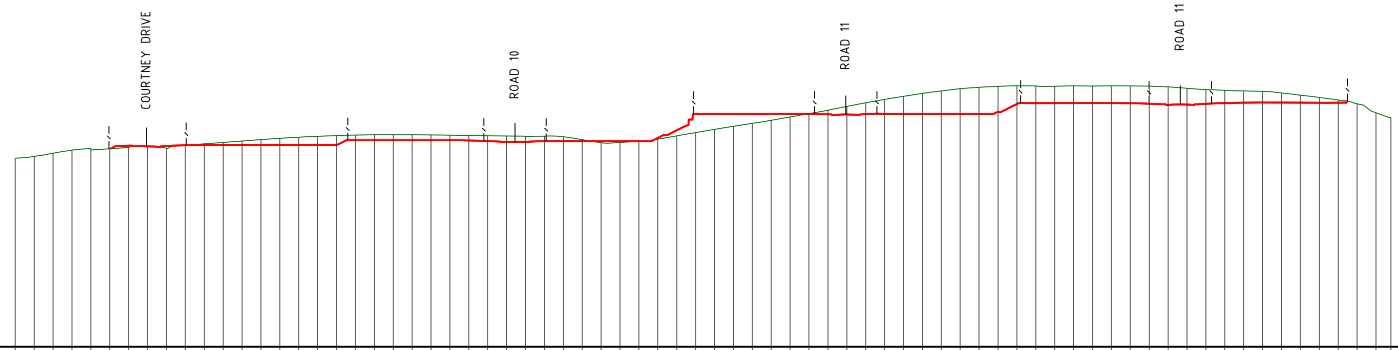


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		36.681
5		36.249
10		35.931
15		36.342
20		36.998
25		36.057
30	36.91	36.792
35	38.939	37.358
40	38.937	37.807
45	38.733	37.769
50	38.806	38.087
55	38.959	38.857
60	38.95	38.64
65	38.93	38.971
70	38.919	39.303
75	38.98	39.285
80	38.968	39.229
85	38.891	39.172
90	38.815	39.067
95	38.738	38.938
100	38.665	38.927
105	37.9	38.857
110	37.215	38.944
115	37.217	39.064
120	37.433	39.183
125	37.798	39.29
130	38.479	39.385
135	39.39	39.476
140	40.461	39.513
145	41.07	39.558
150	41.066	39.273
155	41.116	38.902
160	41.218	39.335
165	41.412	39.709
170	41.638	40.088
175	42.051	40.488
180	42.487	40.965
185	42.5	41.43
190	42.8	41.789
195	42.8	42.147
200	42.8	42.505
205	42.8	42.828
210	44.3	43.125
215	44.401	43.389
220	44.349	43.591
225	44.423	43.855
230	46.6	44.118
235	46.6	44.382
240	46.6	44.591
245	48.1	44.815
250	48.1	45.079
255	48.1	45.355
260	49.3	45.637
265	49.3	46.23
270	49.3	46.89
275	50.3	47.445
280	50.3	47.952
285	51.4	48.437
290	51.4	48.867
295	51.4	49.248
300	50.02	49.536
305	49.739	49.771
310	49.782	49.871
315		49.953
320		49.885
325		50.665
330		50.485
335		50.285
340		49.97
345		49.661
350		49.353
355		48.958
360		48.501
363.922		48.122

SECTION 9

Horizontal scale 1:1000
Vertical scale 1:1000

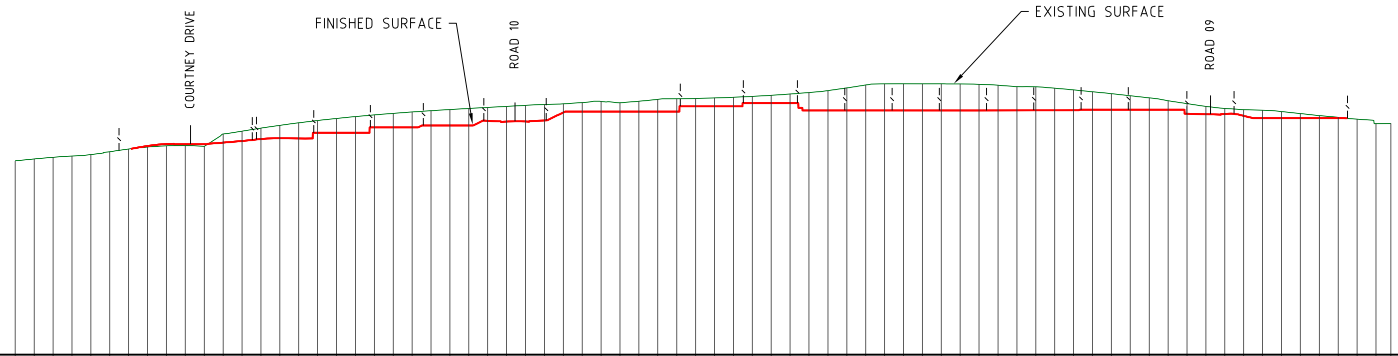


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		38.982
5		39.435
10		40.304
15		41.145
20		41.174
25		41.475
30	42.281	41.884
35	42.092	42.069
40	42.172	41.597
45	42.38	42.385
50	42.496	42.706
55	42.5	43.154
60	42.5	43.6
65	42.5	43.898
70	42.5	44.199
75	42.5	44.467
80	42.5	44.695
85	42.5	44.922
90	43.7	45.083
95	43.7	45.165
100	43.7	45.195
105	43.7	45.176
110	43.7	45.147
115	43.7	45.065
120	43.677	44.996
125	43.483	44.926
130	43.273	44.854
135	43.256	44.776
140	43.505	44.784
145	43.509	44.615
150	43.5	43.876
155	43.5	43.058
160	43.5	43.119
165	43.5	43.38
170	44.337	44.009
175	46.337	44.888
180	50.7	45.773
185	50.7	46.6
190	50.7	47.419
195	50.7	48.168
200	50.7	49.009
205	50.7	49.899
210	50.73	50.789
215	50.606	51.686
220	50.554	52.667
225	50.628	53.647
230	50.741	54.525
235	50.7	55.348
240	50.7	56.114
245	50.7	56.79
250	50.7	57.378
255	50.7	57.773
260	51.2	58.011
265	53.312	58.158
270	53.6	58.104
275	53.6	58.034
280	53.6	58.143
285	53.6	58.106
290	53.6	58.125
295	53.599	58.123
300	53.399	58.034
305	53.118	57.875
310	53.161	57.501
315	53.341	57.173
320	53.611	56.979
325	53.7	56.803
330	53.7	56.683
335	53.7	56.241
340	53.7	55.663
345	53.7	55.085
350	53.7	54.407
355		53.392
360		51.007
363.922		49.753

SECTION 8

Horizontal scale 1:1000
Vertical scale 1:1000



DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		40.35
5		40.857
10		41.302
15		41.628
20		42.027
25		42.729
30		43.475
35	44.27	44.069
40	44.808	44.312
45	44.766	44.354
50	44.767	44.202
55	45.184	47.453
60	45.617	48.216
65	46.142	49.01
70	46.354	49.796
75	46.3	50.429
80	47.8	51.013
85	47.8	51.589
90	47.8	52.092
95	49.2	52.49
100	49.2	52.914
105	49.2	53.334
110	49.7	53.673
115	49.7	54.004
120	49.7	54.258
125	50.965	54.503
130	50.754	54.772
135	50.786	55.068
140	51.043	55.288
145	53.165	55.462
150	53.4	55.8
155	53.4	56.111
160	53.4	55.749
165	53.4	56.165
170	53.4	56.647
175	53.4	56.769
180	54.8	56.928
185	54.8	57.088
190	54.8	57.27
195	55.7	57.451
200	55.7	57.773
205	55.7	58.138
210	53.7	58.504
215	53.7	58.965
220	53.7	59.667
225	53.7	60.441
230	53.7	60.76
235	53.7	60.75
240	53.7	60.75
245	53.7	60.75
250	53.7	60.734
255	53.7	60.628
260	53.7	60.382
265	53.7	60.02
270	53.8	59.964
275	53.8	59.618
280	53.8	59.161
285	53.9	58.671
290	53.9	58.151
295	53.9	57.599
300	53.9	57.047
305	53.9	56.272
310	52.85	55.507
315	52.725	54.778
320	52.782	54.258
325	52.299	53.906
330	51.7	53.77
335	51.7	53.416
340	51.7	52.875
345	51.7	52.356
350	51.7	51.904
355		51.402
360		50.242
363.922		50.277

SECTION 7

Horizontal scale 1:1000
Vertical scale 1:1000

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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)

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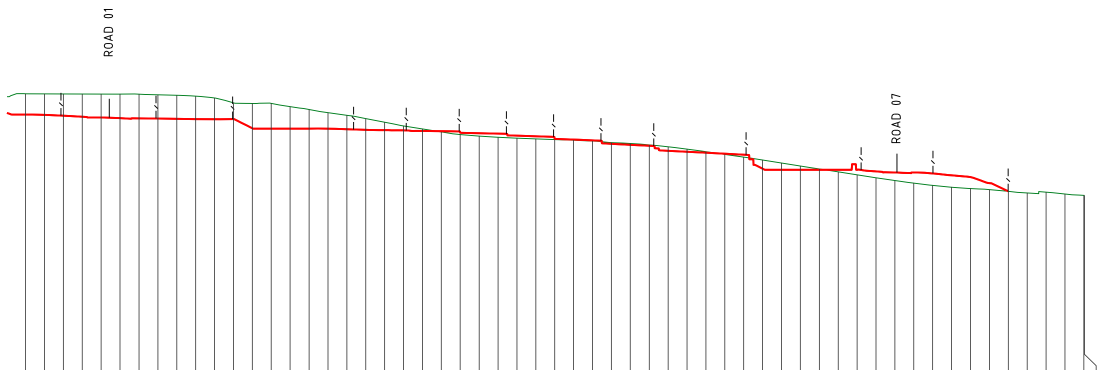
DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 01

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Urban & Regional Planning
Civil Engineering
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MUS Pty Ltd T/As:
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Southport QLD 4215

DESIGNED RB	DRAWN EP	
APPROVED [signature]	RPEQ 4706	DATE 13-10-23

DRAWING NUMBER: 41901-02-051
REV: A

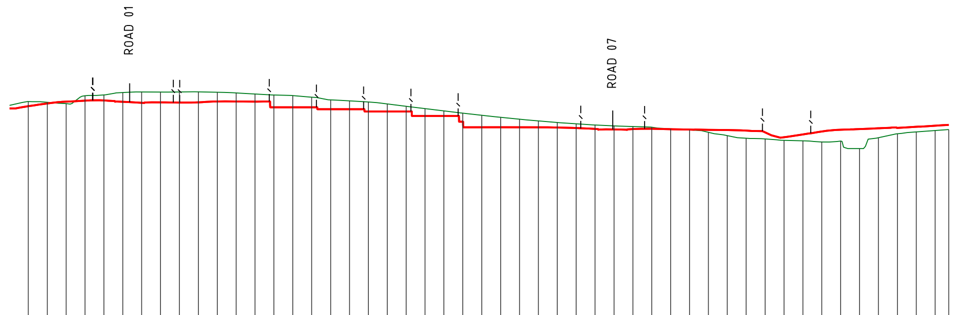


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
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	56.217	62.485
410	56.2	62.217
415	56.2	61.824
420	56.2	60.527
425	53.789	60.378
430	53.7	60.363
435	53.7	59.513
440	53.7	58.755
445	53.7	57.924
450	53.548	57.236
455	53.4	56.353
460	53.29	55.384
465	53.241	54.397
470	53.09	53.621
475	53.021	52.844
480	52.6	52.204
485	52.485	51.794
490	52.361	51.401
495	51.826	51.178
500	51.666	50.954
505	51.015	50.822
510	50.799	50.664
515	50.583	50.414
520	49.672	50.011
525	49.412	49.733
530	49.171	49.368
535	47.824	48.894
540	47.569	48.289
545	47.314	47.544
550	47.059	46.849
555	46.8	46.154
560	43.088	45.412
565	42.8	44.612
570	42.8	43.813
575	42.8	43.026
580	42.8	42.251
585	42.8	41.477
590	42.378	40.663
595	42.078	39.964
600	42.064	39.276
605	41.858	38.654
610	41.35	38.293
615	40.906	37.932
620	39.297	37.554
625		37.12
630		36.689
635		36.893
640		36.407
645		36.024
645.166		36.014

SECTION C

Horizontal scale 1:1000
Vertical scale 1:1000

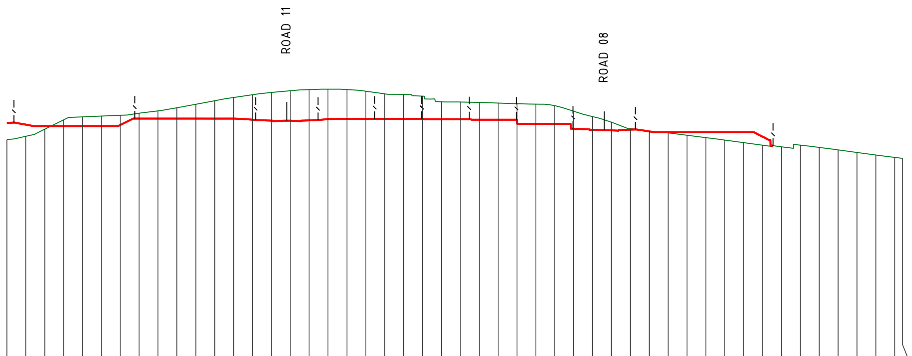


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
355	45.08	46.293
360	45.828	46.114
365	46.291	45.766
370	46.533	47.829
375	46.584	48.05
380	46.236	48.694
385	45.98	48.844
390	46.09	48.81
395	46.046	48.834
400	46.099	48.861
405	46.3	48.76
410	46.3	48.593
415	46.3	48.317
420	44.8	48.048
425	44.8	47.877
430	44.8	47.474
435	44.3	46.748
440	44.3	46.478
445	43.7	46.177
450	43.7	45.682
455	43.7	45.068
460	42.5	44.454
465	42.5	43.857
470	41	43.279
475	39.5	42.692
480	39.5	42.114
485	39.5	41.643
490	39.5	41.155
495	39.5	40.765
500	39.279	40.4
505	39.059	40.146
510	38.954	39.934
515	39.019	39.743
520	39.103	39.533
525	38.998	39.077
530	38.906	38.8
535	38.826	38.17
540	38.8	37.28
545	38.618	36.591
550	38.167	36.406
555	36.856	36.038
560	37.603	35.906
565	38.375	35.683
570	38.842	35.875
575	39.028	33.884
580	39.24	36.744
585	39.326	37.78
590	39.621	38.271
595	39.917	38.652
598.595	40.145	38.926

SECTION F

Horizontal scale 1:1000
Vertical scale 1:1000

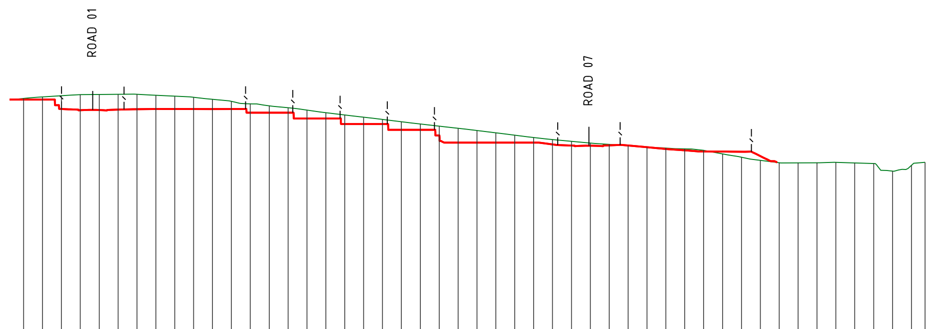


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
365	52.27	49.182
370	51.9	51.069
375	51.9	53.545
380	51.9	54.343
385	51.9	54.551
390	52.18	54.759
395	53.9	55.285
400	53.9	55.932
405	53.9	56.741
410	53.9	57.676
415	53.9	58.619
420	53.9	59.469
425	53.567	60.208
430	53.341	60.783
435	53.296	61.239
440	53.414	61.543
445	53.728	61.668
450	53.8	61.568
455	53.8	61.12
460	53.8	60.438
465	53.8	60.276
470	53.8	59.809
475	53.7	58.336
480	53.7	58.264
485	53.6	58.132
490	53.6	58.002
495	53.6	57.829
500	52.5	57.695
505	52.5	57.32
510	51.179	55.826
515	50.895	54.431
520	50.745	52.951
525	50.934	51.196
530	50.501	50.546
535	50.3	50.106
540	50.3	49.48
545	50.3	48.853
550	50.3	48.182
555	50.3	47.511
560	49.1	46.84
565		46.416
570		46.841
575		46.246
580		45.581
585		44.913
590		44.218
595		43.602
597.051		43.325

SECTION B

Horizontal scale 1:1000
Vertical scale 1:1000

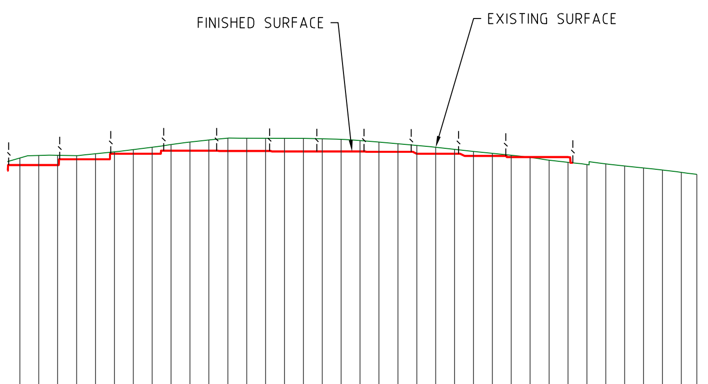


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
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	49.16	53.077
395	49.2	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	47.616
450	45.2	47.02
455	45.2	46.418
460	43.7	45.82
465	43.7	45.226
470	42.2	44.658
475	40.3	44.08
480	40.3	43.482
485	40.3	42.878
490	40.3	42.263
495	40.3	41.649
500	39.831	41.09
505	39.531	40.63
510	39.486	40.171
515	39.573	39.822
520	39.545	39.503
525	39.082	39.039
530	38.618	38.839
535	38.243	38.647
540	37.95	38.255
545	37.913	37.323
550	37.889	36.441
555	36.734	35.609
560		34.984
565		34.929
570		34.957
575		35.063
580		34.922
585		34.774
590		32.755
595		34.296
598.595		35.092

SECTION E

Horizontal scale 1:1000
Vertical scale 1:1000

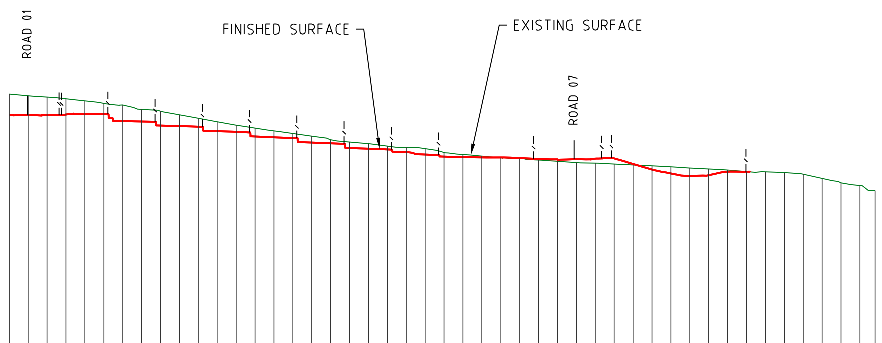


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
375	50.2	52.057
380	50.2	52.73
385	50.2	52.777
390	51.7	52.7
395	51.7	53.193
400	53.2	53.678
405	53.2	54.284
410	53.2	54.92
415	54	55.628
420	54	56.3
425	54	56.836
430	53.9	57.334
435	53.9	57.298
440	53.9	57.281
445	53.8	57.263
450	53.8	57.245
455	53.8	57.143
460	53.8	57
465	53.8	56.649
470	53.7	56.249
475	53.7	55.851
480	53.2	55.39
485	53.2	54.906
490	53.2	54.347
495	52.6	53.787
500	52.6	53.302
505	52.3	52.798
510	52.3	52.165
515	52.3	51.498
520	52.3	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



DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
430	52.46	57.54
435	52.448	57.196
440	52.577	56.746
445	52.758	56.198
450	52.655	55.518
455	50.858	55.099
460	50.738	53.951
465	49.678	53.46
470	49.522	52.482
475	49.363	51.572
480	48.177	50.66
485	47.988	49.772
490	46.793	48.991
495	46.57	48.25
500	46.366	47.552
505	45.15	46.841
510	44.948	45.911
515	43.75	45.297
520	43.544	44.853
525	43.322	44.228
530	42.583	43.884
535	41.975	43.562
540	41.468	42.553
545	41.3	42.006
550	41.232	41.575
555	41.222	41.164
560	41.067	40.934
565	40.82	40.526
570	40.716	40.194
575	40.756	39.85
580	40.893	39.71
585	40.982	39.471
590	39.505	39.24
595	38.006	38.999
600	36.988	38.761
605	36.4	38.425
610	36.532	38.168
615	37.45	37.906
620	37.45	37.472
625		37.409
630		37.218
635		36.797
640		35.693
645		34.512
650		33.811
653.995		32.46

SECTION D

Horizontal scale 1:1000
Vertical scale 1:1000

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 02

MORTONS urbansolutions
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DESIGNED RB	DRAWN EP	
APPROVED (signature)	RPEQ 4706	DATE 13-10-23

DRAWING NUMBER	REV
41901-02-052	A

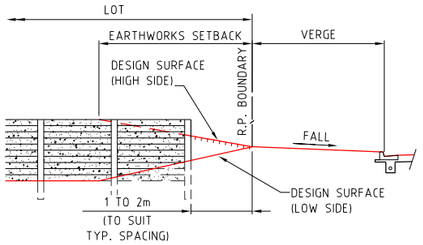
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GENERAL

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.

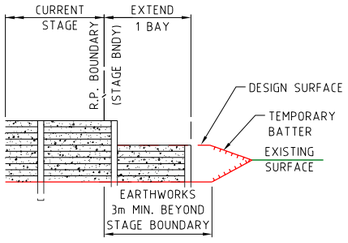
LEGEND

- 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
- 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 DRG. 071)



TYPICAL SIDE BOUNDARY CONSTRUCTION

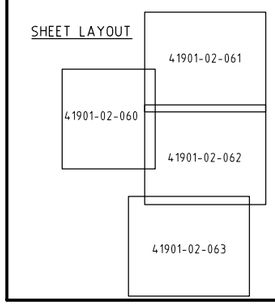
SCALE 1:100 - A1 (1:200 - A3)

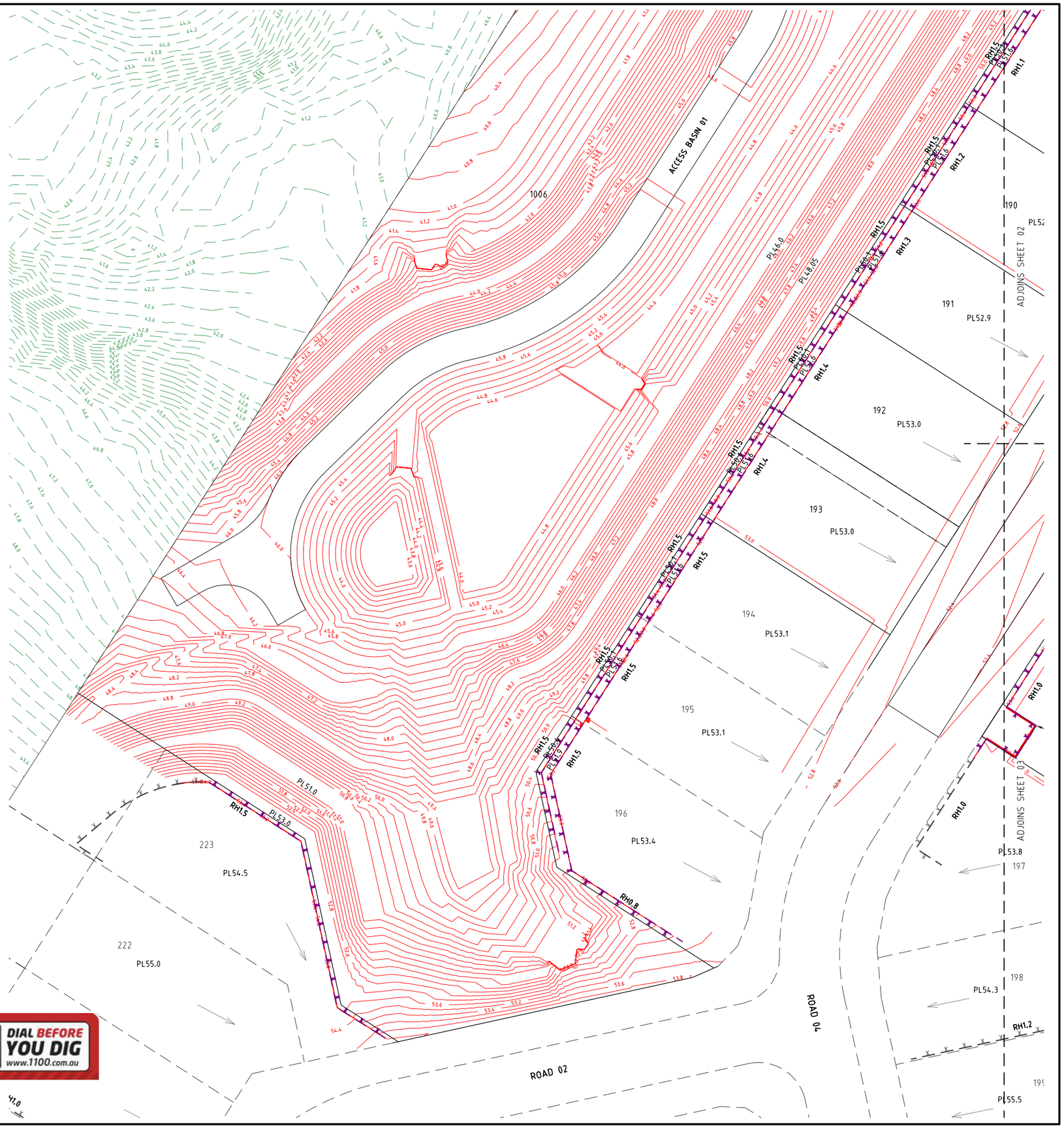


TYPICAL STAGE BOUNDARY CONSTRUCTION

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

SHEET LAYOUT





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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

RETAINING WALL AND DETAIL GRADING PLAN SHEET 01

MORTONS urbansolutions
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Project Coordination

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-060	A

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 02

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Project Coordination

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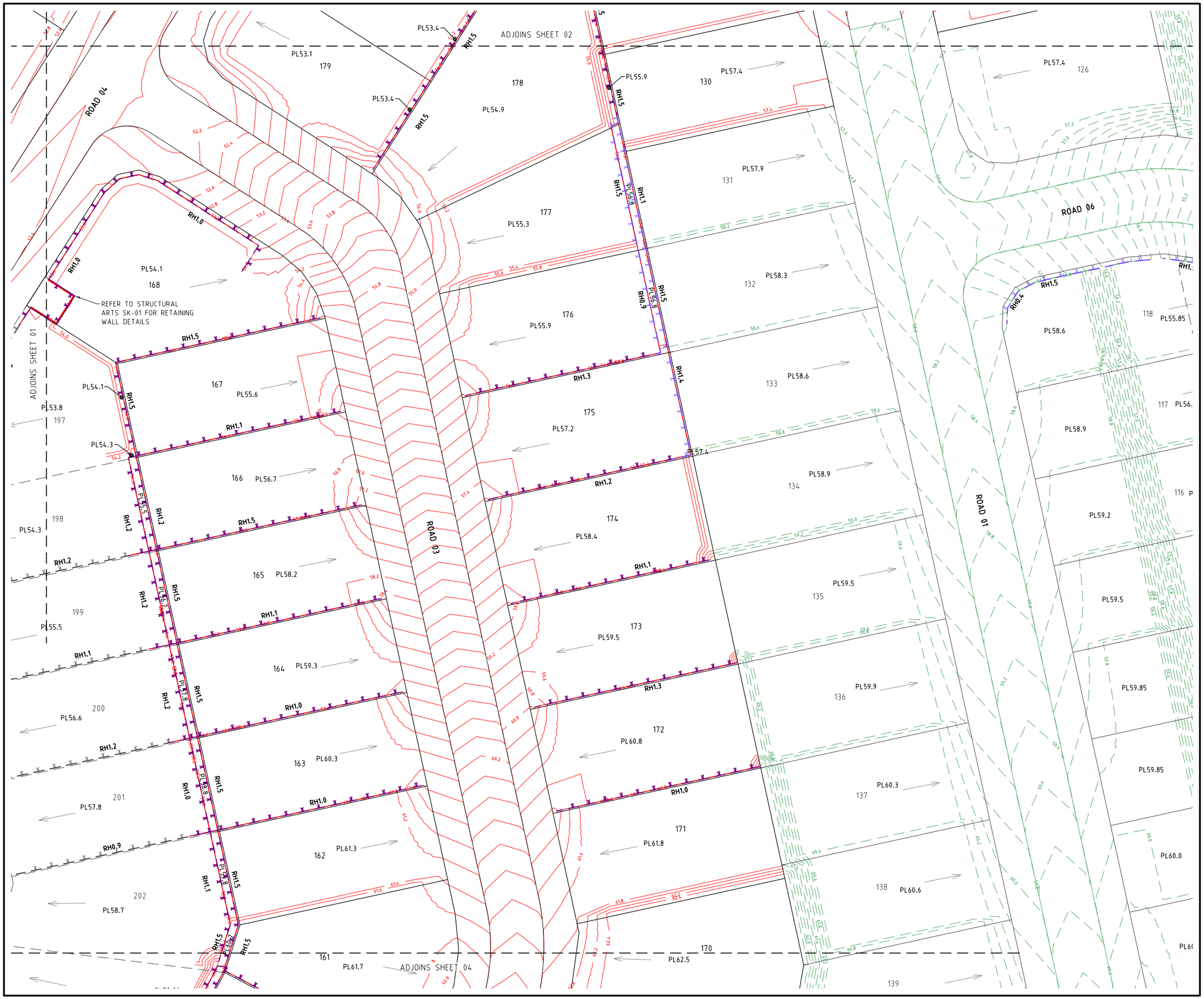
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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-061
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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 03

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-062	A

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ADJOINS SHEET 03

ROAD 04

ROAD 03

ROAD 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	INIT
A	13-10-23	COUNCIL ISSUE	EP

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RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 04

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Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER	REV
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NOTES:

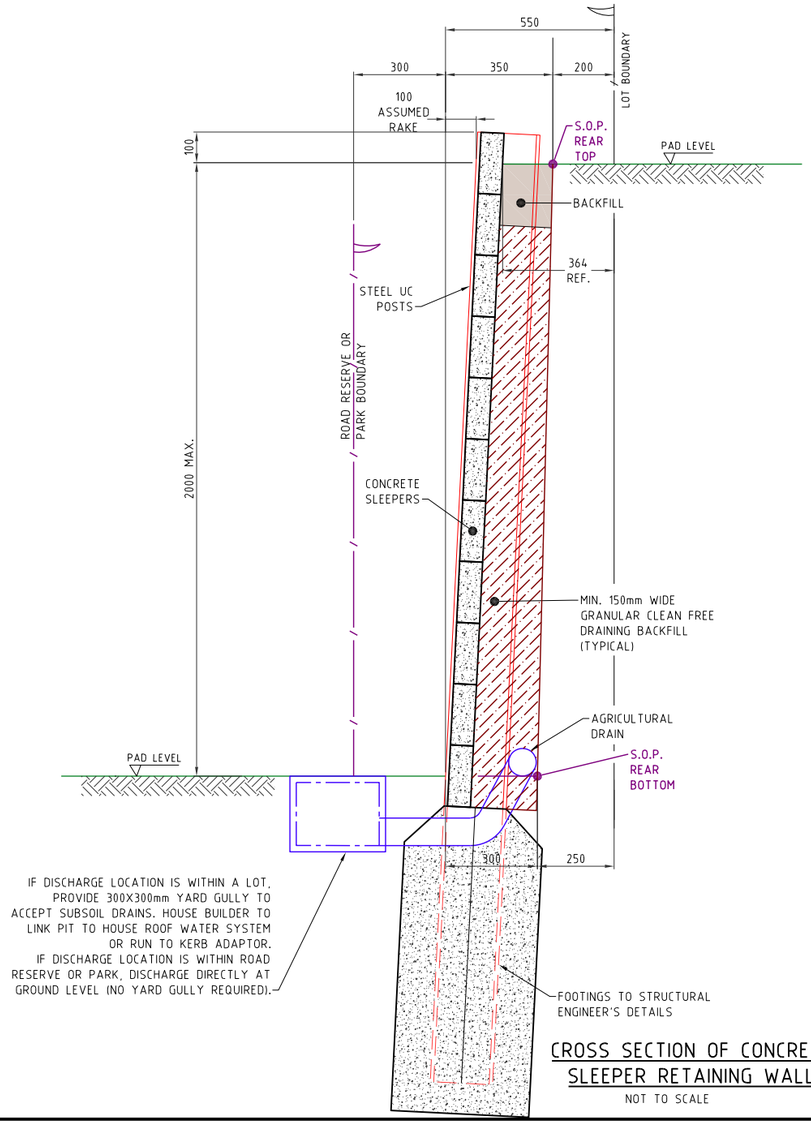
1. RETAINING WALL DETAILS ARE INDICATIVE ONLY.
2. CONTRACTOR TO ARRANGE FOR DESIGN & CONSTRUCTION OF WALLS BY RPEQ STRUCTURAL ENGINEER. CONTRACTOR TO PROVIDE STRUCTURAL CERTIFICATION OF DESIGN & FINAL CONSTRUCTION.
3. ALLOW FOR 5KPa LOADING TO WALLS EXCEPT ADJACENT TO ROADS WHICH REQUIRE A 10kPa LOADING.
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.

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

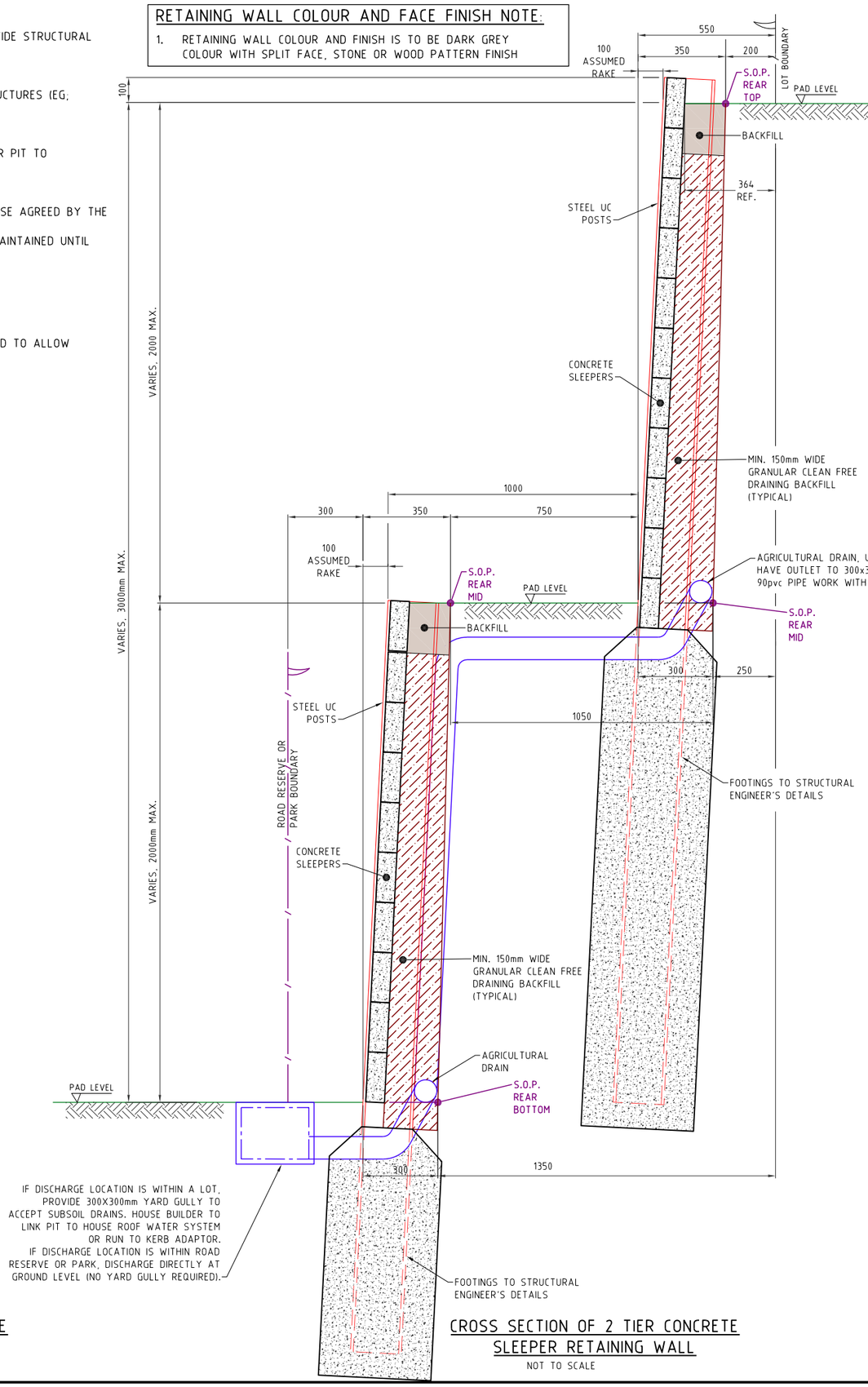
RETAINING WALL COLOUR AND FACE FINISH NOTE:

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



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 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

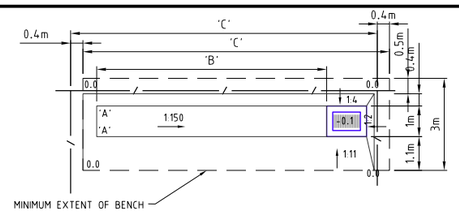
RETAINING WALL DETAILS

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-070
REV: A

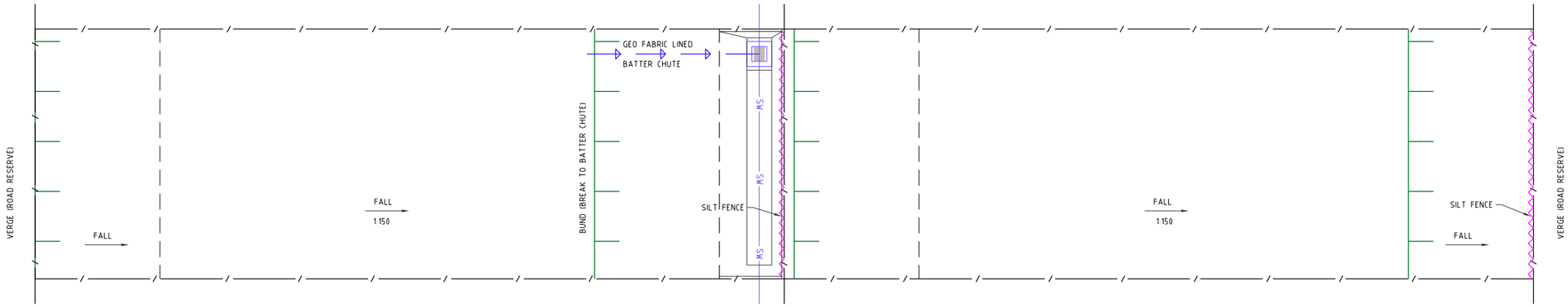
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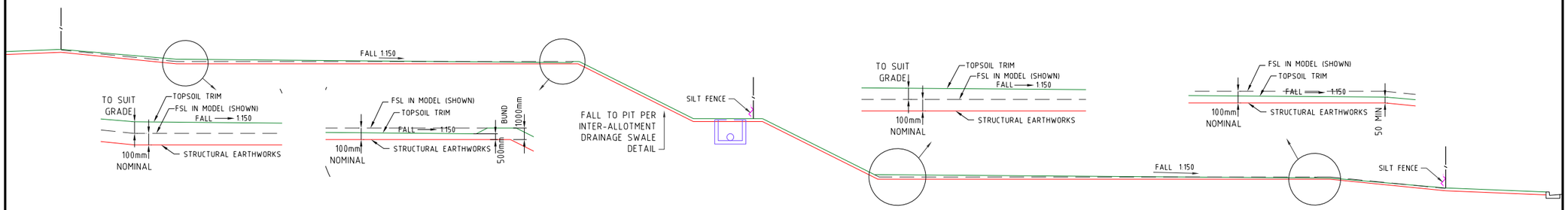


LOT WIDTH 'C'	HEIGHT 'A'	LENGTH 'B'
10	-0.050	7.500
12.5	-0.033	10.000
14	-0.023	11.500
16	-0.01	13.500
18	0.0	15.000
20	0.0	15.000

INTER-ALLOTMENT DRAINAGE SWALE

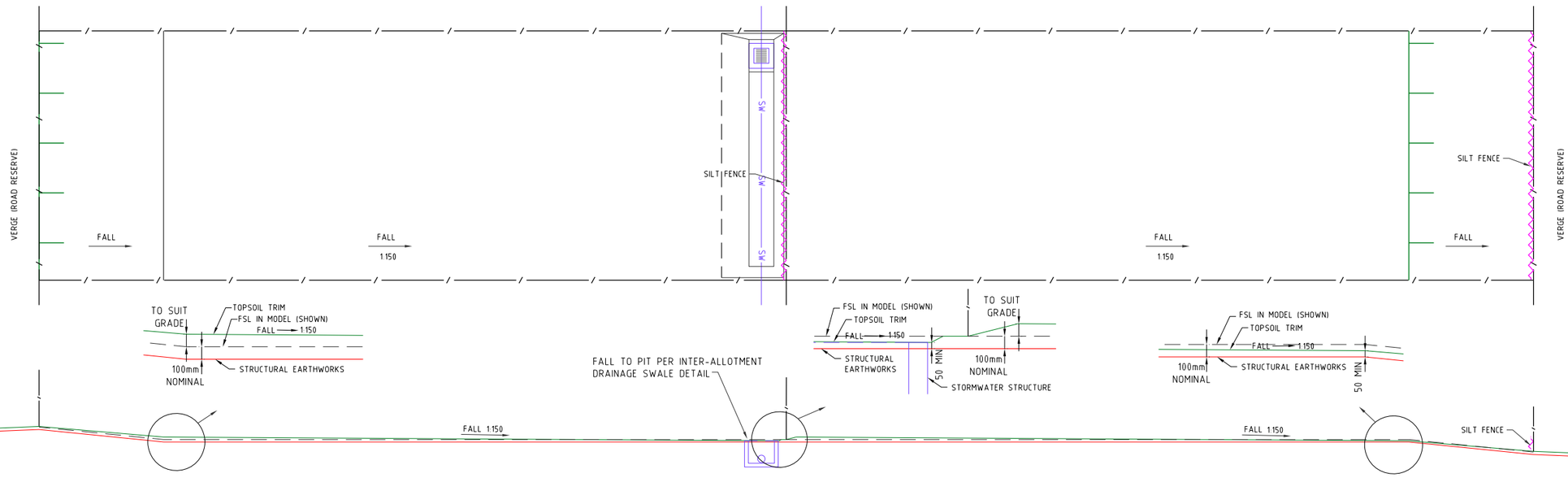
NOTE: GRADING OCCURS WITHIN MODEL, NO ADDITIONAL DEPRESSION OF PIT SURFACE LEVEL REQUIRED.





TYPICAL TOPSOIL TRIM (BENCHED LOTS)

NOT TO SCALE



TYPICAL TOPSOIL TRIM (NON BENCHED LOTS)

NOT TO SCALE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

FINAL TRIM DETAILS

MORTONS urbansolutions
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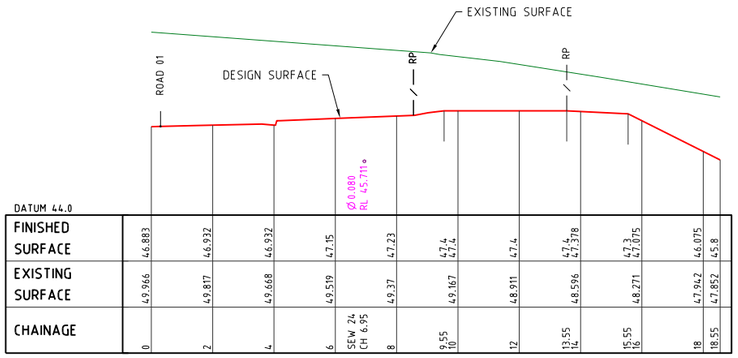
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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER	REV
41901-02-071	A

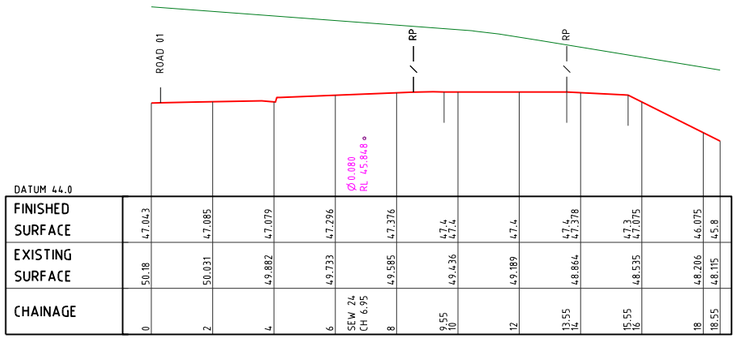
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DATUM 44.0												
FINISHED SURFACE	46.883	46.932	46.932	47.15		47.23	47.4 47.4	47.4	47.4 47.378	47.3 47.075	46.075	45.8
EXISTING SURFACE	49.966	49.817	49.668	49.519		49.37	49.167	48.911	48.596	48.271	47.942	47.852
CHAINAGE	0	2	4	6	SEW 24 CH 6.95	8	9.55 10	12	13.55 14	15.55 16	18	18.55

LONGITUDINAL SECTION 4A

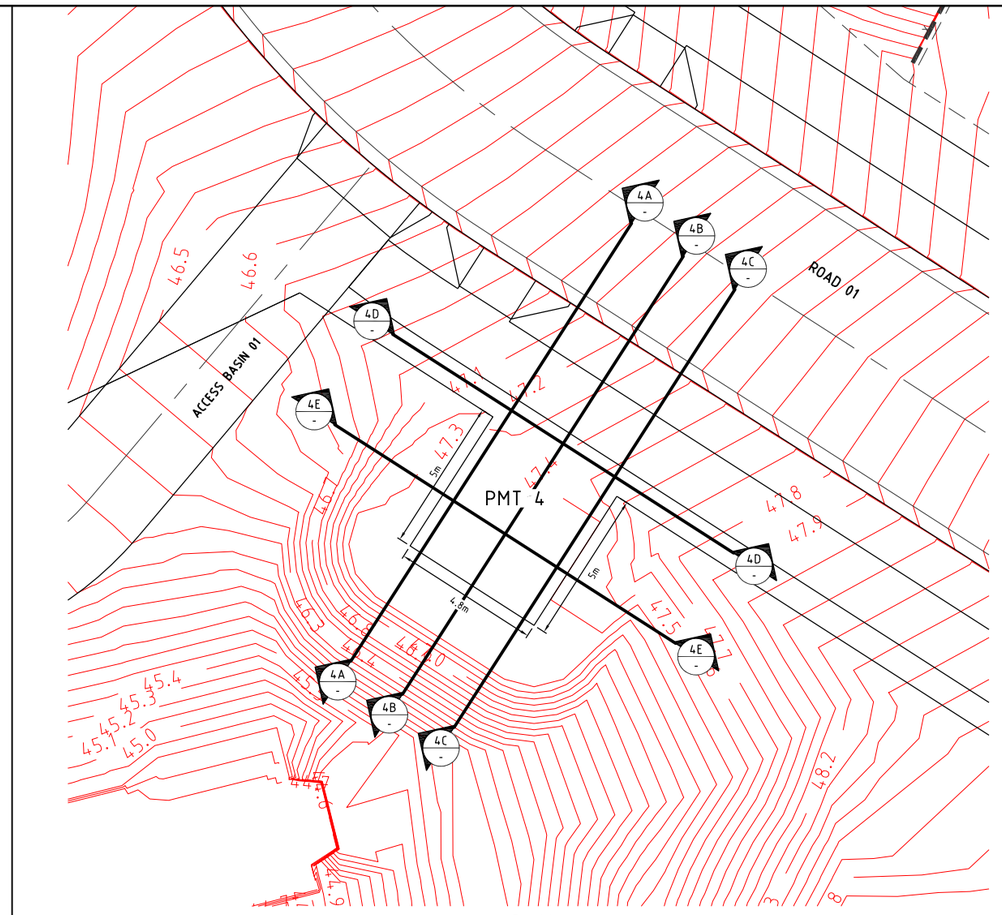
Horizontal scale 1:100
Vertical scale 1:100



DATUM 44.0												
FINISHED SURFACE	47.043	47.085	47.079	47.296		47.376	47.4 47.4	47.4	47.4 47.378	47.3 47.075	46.075	45.8
EXISTING SURFACE	50.18	50.031	49.882	49.733		49.585	49.436	49.189	48.864	48.535	48.206	48.115
CHAINAGE	0	2	4	6	SEW 24 CH 6.95	8	9.55 10	12	13.55 14	15.55 16	18	18.55

LONGITUDINAL SECTION 4B

Horizontal scale 1:100
Vertical scale 1:100

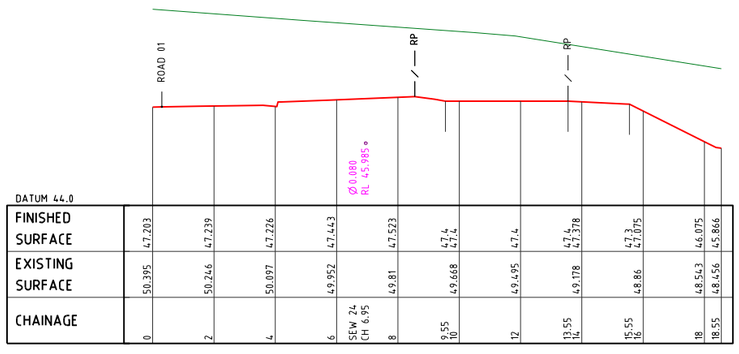


PLAN

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

LEGEND

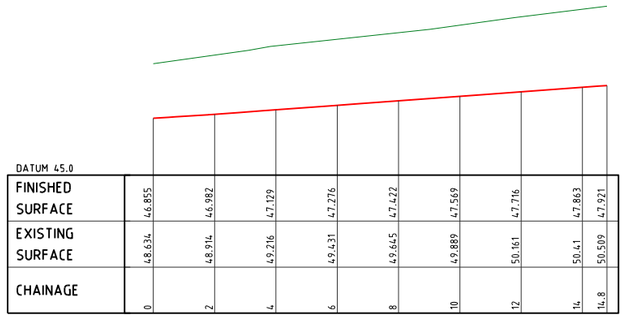
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- 1.0 DESIGN CONTOURS



DATUM 44.0												
FINISHED SURFACE	47.203	47.239	47.226	47.443		47.523	47.4 47.4	47.4	47.4 47.378	47.3 47.075	46.075	45.866
EXISTING SURFACE	50.395	50.246	50.097	49.952		49.81	49.668	49.495	49.178	48.86	48.543	48.456
CHAINAGE	0	2	4	6	SEW 24 CH 6.95	8	9.55 10	12	13.55 14	15.55 16	18	18.55

LONGITUDINAL SECTION 4C

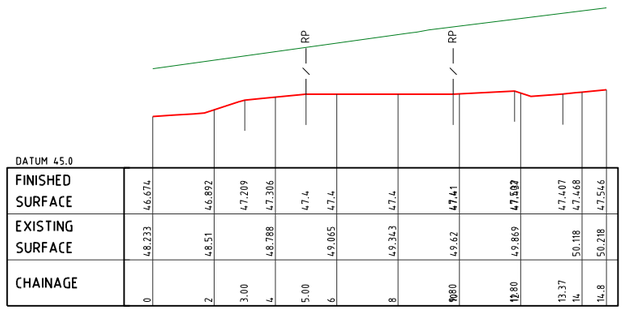
Horizontal scale 1:100
Vertical scale 1:100



DATUM 45.0												
FINISHED SURFACE	46.855	46.982	47.129	47.276	47.422	47.569	47.716	47.863	47.921			
EXISTING SURFACE	48.634	48.914	49.216	49.431	49.645	49.889	50.161	50.41	50.509			
CHAINAGE	0	2	4	6	8	10	12	14	14.8			

LONGITUDINAL SECTION 4D

Horizontal scale 1:100
Vertical scale 1:100



DATUM 45.0												
FINISHED SURFACE	46.674	46.892	47.209	47.306	47.4	47.4	47.4	47.461	47.592	47.407	47.546	
EXISTING SURFACE	48.233	48.51	48.788	49.065	49.343	49.62	49.869	50.118	50.218			
CHAINAGE	0	2	3.00	4	5.00	6	8	9.80	12.80	13.37	14	14.8

LONGITUDINAL SECTION 4E

Horizontal scale 1:100
Vertical scale 1:100

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

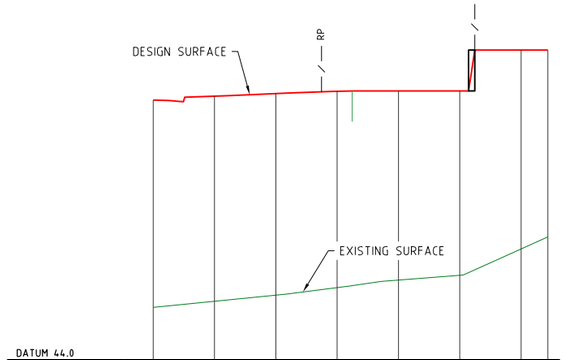
PADMOUNT SECTIONS
PADMOUNT 4
SHEET 01

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-075
REV A

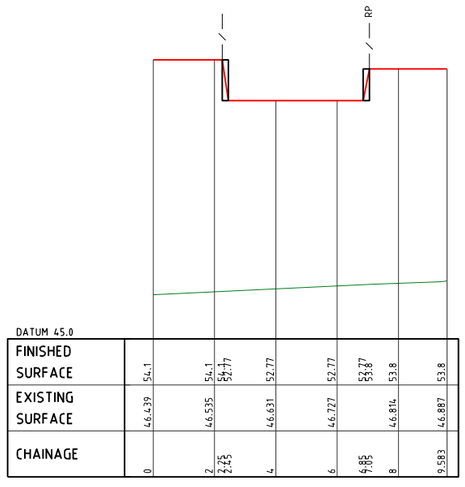
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DATUM 44.0											
FINISHED SURFACE	52.471	52.599	52.679	52.756	52.77	52.77	52.77	52.77 54.1	54.1	54.1	
EXISTING SURFACE	45.712	45.911	46.11	46.354		46.602	46.757		47.616	48.009	
CHAINAGE	0	2	4	6	6.49	8	10	10.29 10.42	12	12.873	

LONGITUDINAL SECTION C

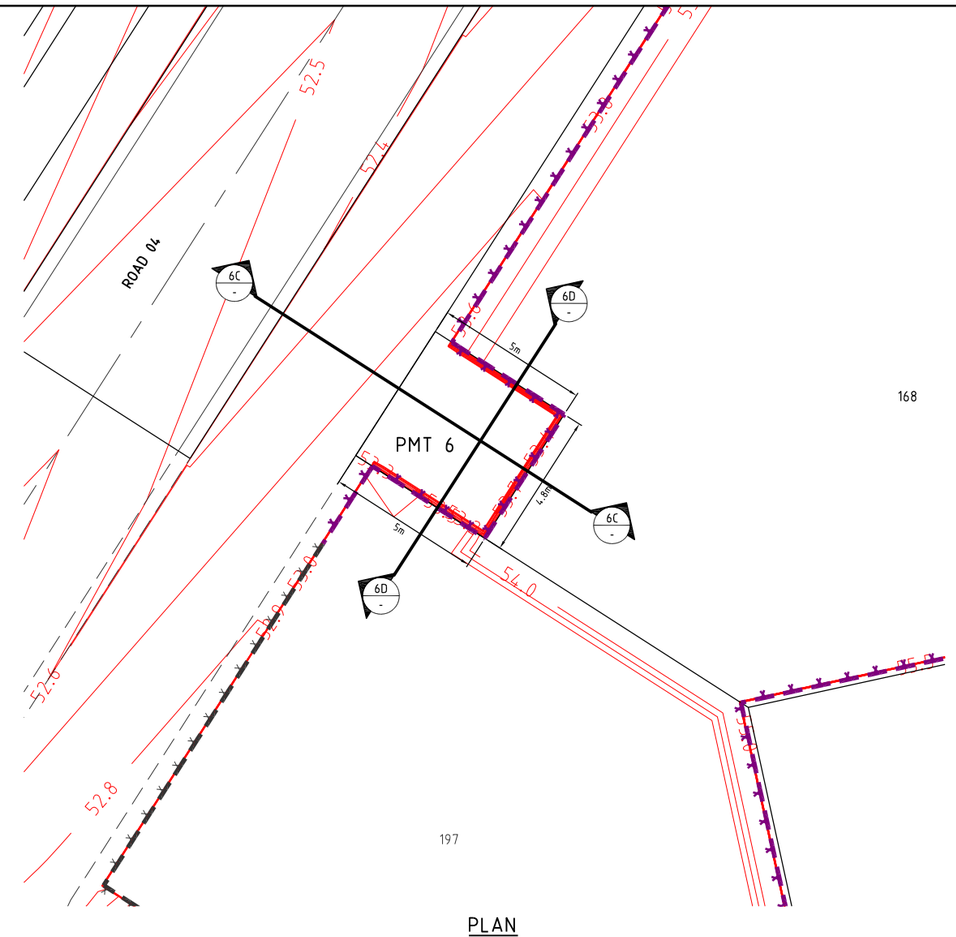
Horizontal scale 1:100
Vertical scale 1:100



DATUM 45.0								
FINISHED SURFACE	54.1	54.1 54.17	52.77	52.77	53.77 53.8	53.8	53.8	
EXISTING SURFACE	46.439	46.535	46.631	46.727		46.814	46.887	
CHAINAGE	0	2 2.25 2.45	4	6	6.85 7.05	8	9.583	

LONGITUDINAL SECTION D

Horizontal scale 1:100
Vertical scale 1:100



PLAN

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

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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BENNETT+BENNETT

DRAWING TITLE

PADMOUNT SECTIONS
PADMOUNT 6
SHEET 01

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-076
REV: A

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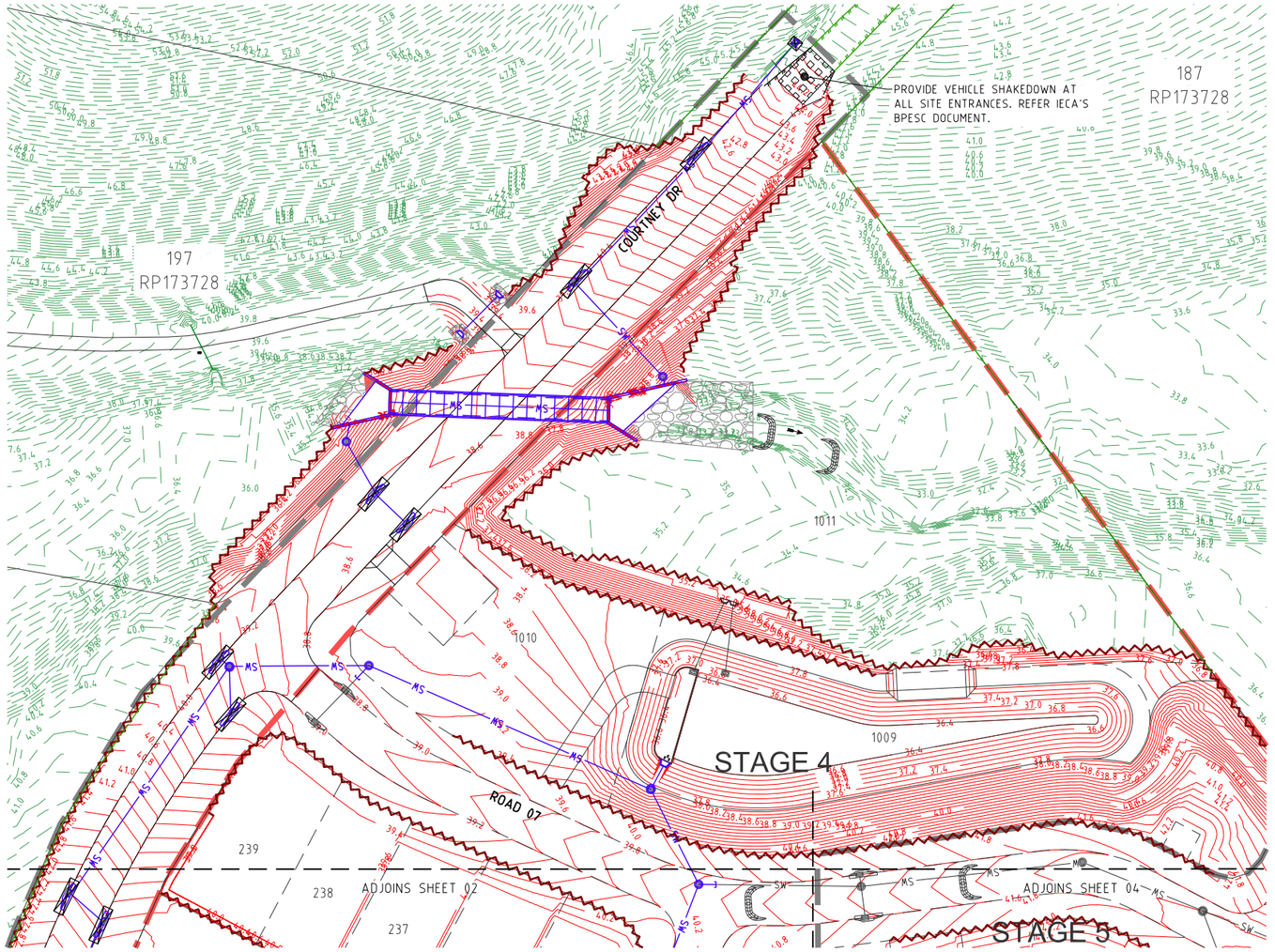
SEDIMENT AND EROSION

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.

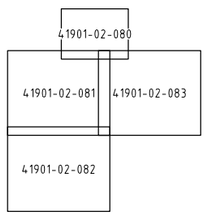


LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- EXISTING STORMWATER (SW)
- EXISTING CONTOURS (1.0)
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- FUTURE STORMWATER (SW)
- FUTURE CONTOURS (1.0)
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED STORMWATER (SW)
- DESIGN CONTOURS (1.0)
- MANHOLE
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- TREES
- SEDIMENT FENCE
- SCOUR PROTECTION
- TEMPORARY SEDIMENT BASIN
- STORMWATER INLET FILTER
- ROCK CHECK DAM
- VEHICLE SHAKEDOWN (AT ALL SITE ENTRANCES MIN.)

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 02

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	13-10-23	COUNCIL ISSUE	EP

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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 01

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Civil Engineering
Project Coordination

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-080
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196
RP173728

ADJOINS SHEET 01

ROAD 07

COURTNEY DR

STAGE 4

ROAD 10

ROAD 01

ROAD 04

ROAD 03

ROAD 06

ACCESS BASIN 01

STAGE 5

STAGE 2

ADJOINS SHEET 04

ADJOINS SHEET 03

PROVIDE VEHICLE SHAKEDOWN AT ALL SITE ENTRANCES. REFER IECA'S BPESC DOCUMENT.

239 238 237 236 235 234 233 232 231 230 229 228 227 226 225 224 263 264 252 251 250 249 248 247 246 245 244 243 242 241 240 258 259 260 261 262 128 127 126 118 117 186 187 188 189 190 191 192 193 194 195 196 197 223 1006 184 183 182 181 180 179 178 177 176 175 168 167 185 129 130 131 132 133

NS SW

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 02

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41901-02-081	A

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ADJOINS SHEET 02

STAGE 3

STAGE 2

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

LOCALISED EARTHWORKS IN THIS AREA TO MAINTAIN CHANNEL PROFILE THROUGH ROAD 02. STORMWATER CULVERT TO BE INSTALLED AS PART OF STAGE 3 WORKS.

PROVIDE VEHICLE SHAKEDOWN AT ALL SITE ENTRANCES. REFER IECA'S BPESC DOCUMENT.

NORTH

0 5 10 15 20 25m

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 03

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-082

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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BENNETT + BENNETT

DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 04

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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ	4706
		DATE	13-10-23

DRAWING NUMBER	REV
41901-02-083	A

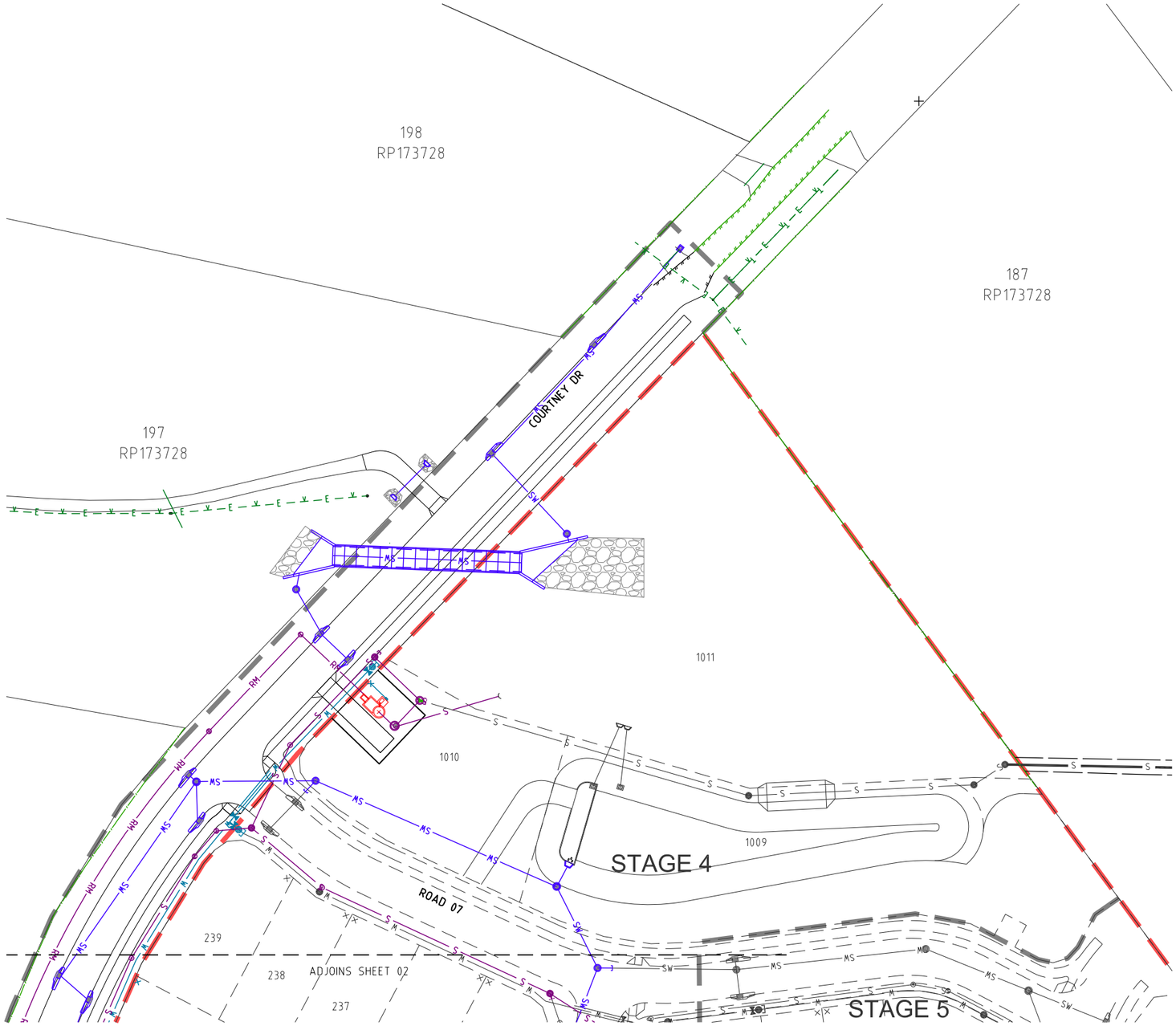
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CONSTRUCTION SERVICES

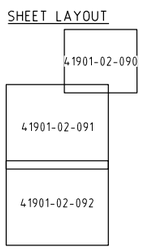
1. CONSTRUCTION OF SEWER/ROOFWATER/STORMWATER/SERVICES
   EXCAVATED MATERIAL TO BE PLACED ON HIGH SIDE OF TRENCH & TO PROTECT PIPE WORK & DIRECT SURFACE MATERIAL AWAY FROM EXCAVATIONS. TOPSOIL & GRASS SEED AREAS IN ALLOTMENTS IMMEDIATELY AFTER COMPLETING THE SEWER & ROOFWATER DRAINAGE CONSTRUCTION. DEPRESS 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
- EXISTING RISING MAIN
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING ROOFWATER
- EXISTING SUBSOIL
- EXISTING WATER
- EXISTING WATER
- EXISTING WATER
- EXISTING WATER
- EXISTING WATER
- EXISTING WATER
- EXISTING WATER CONDUIT
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED FOOTPATH
- PROPOSED RISING MAIN
- PROPOSED SEWER
- PROPOSED STORMWATER
- PROPOSED ROOFWATER
- PROPOSED SUBSOIL
- PROPOSED WATER
- PROPOSED WATER
- PROPOSED WATER
- PROPOSED WATER
- PROPOSED WATER
- PROPOSED WATER
- PROPOSED WATER CONDUIT
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- FUTURE FOOTPATH
- FUTURE RISING MAIN
- FUTURE SEWER
- FUTURE STORMWATER
- FUTURE ROOFWATER
- FUTURE SUBSOIL
- FUTURE WATER
- FUTURE WATER
- FUTURE WATER
- FUTURE WATER
- FUTURE WATER
- FUTURE WATER
- FUTURE WATER CONDUIT
- SITE BOUNDARY
- STAGE BOUNDARY



SHEET LAYOUT



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

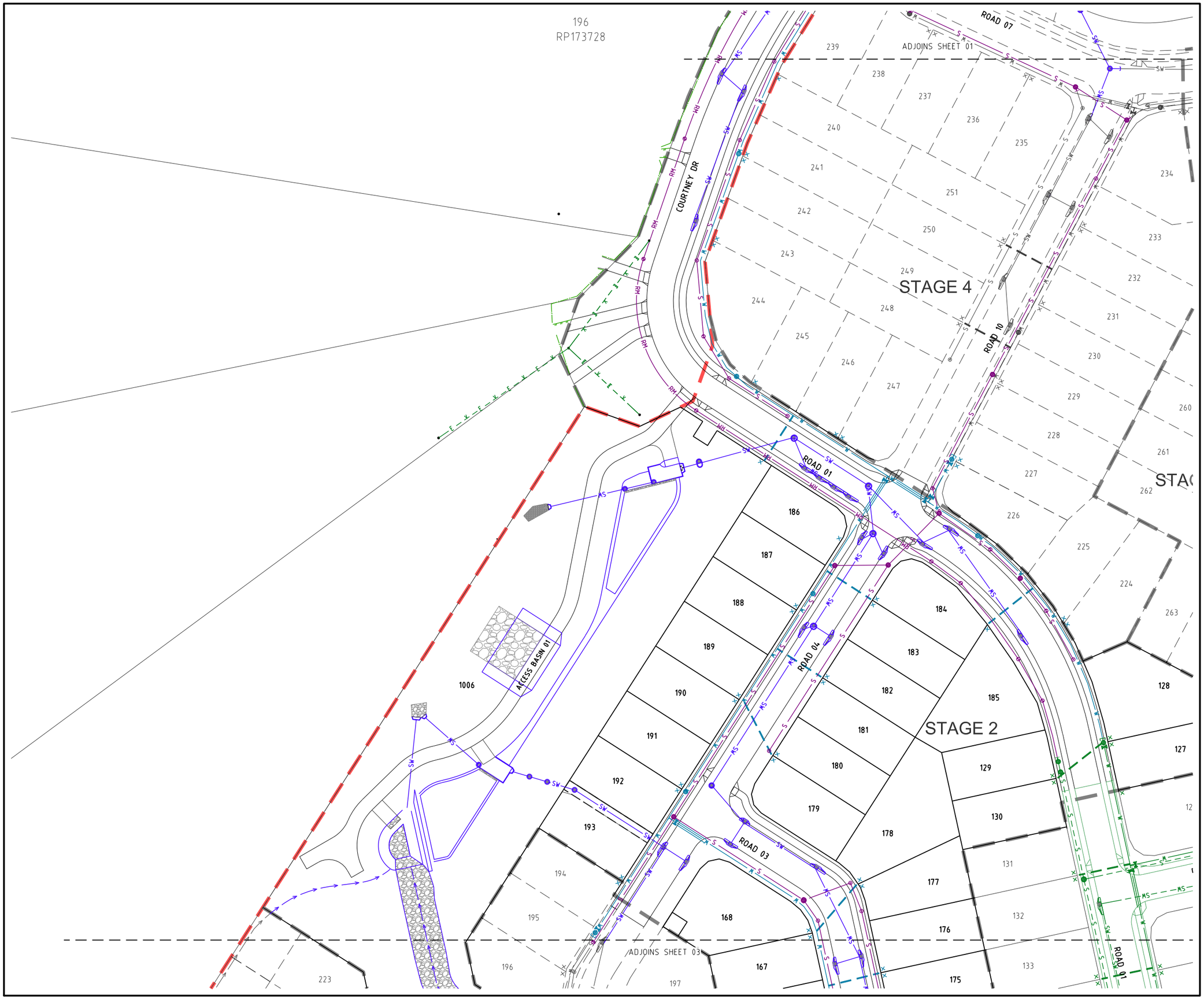
COMBINED SERVICES PLAN
SHEET 01

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41901-02-090	A

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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COMBINED SERVICES
PLAN
SHEET 02

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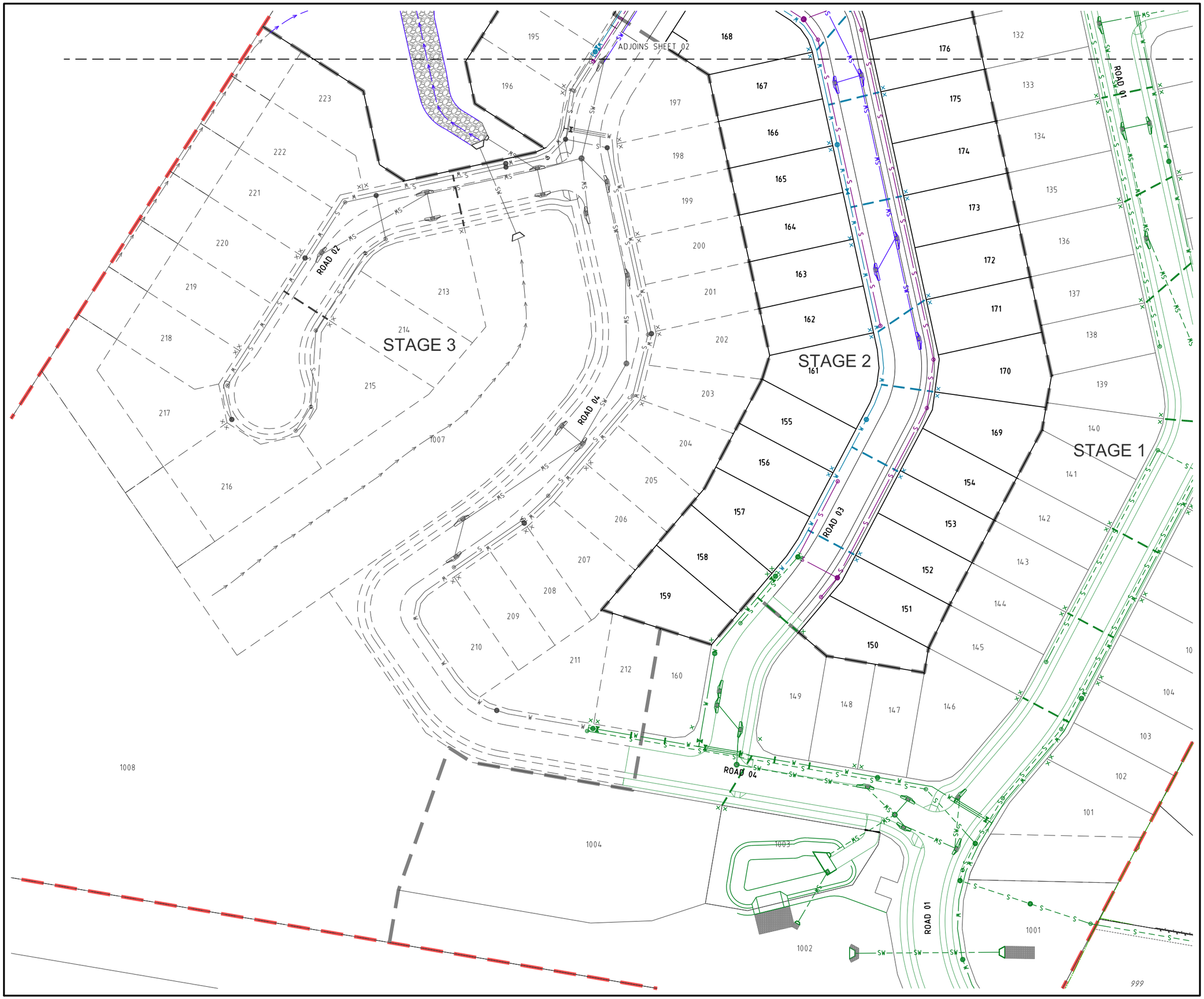
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Southport QLD 4215

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APPROVED	RPEQ 4706	DATE	13-10-23

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

COMBINED SERVICES
PLAN
SHEET 03

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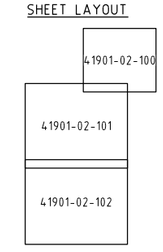
ROADWORKS

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

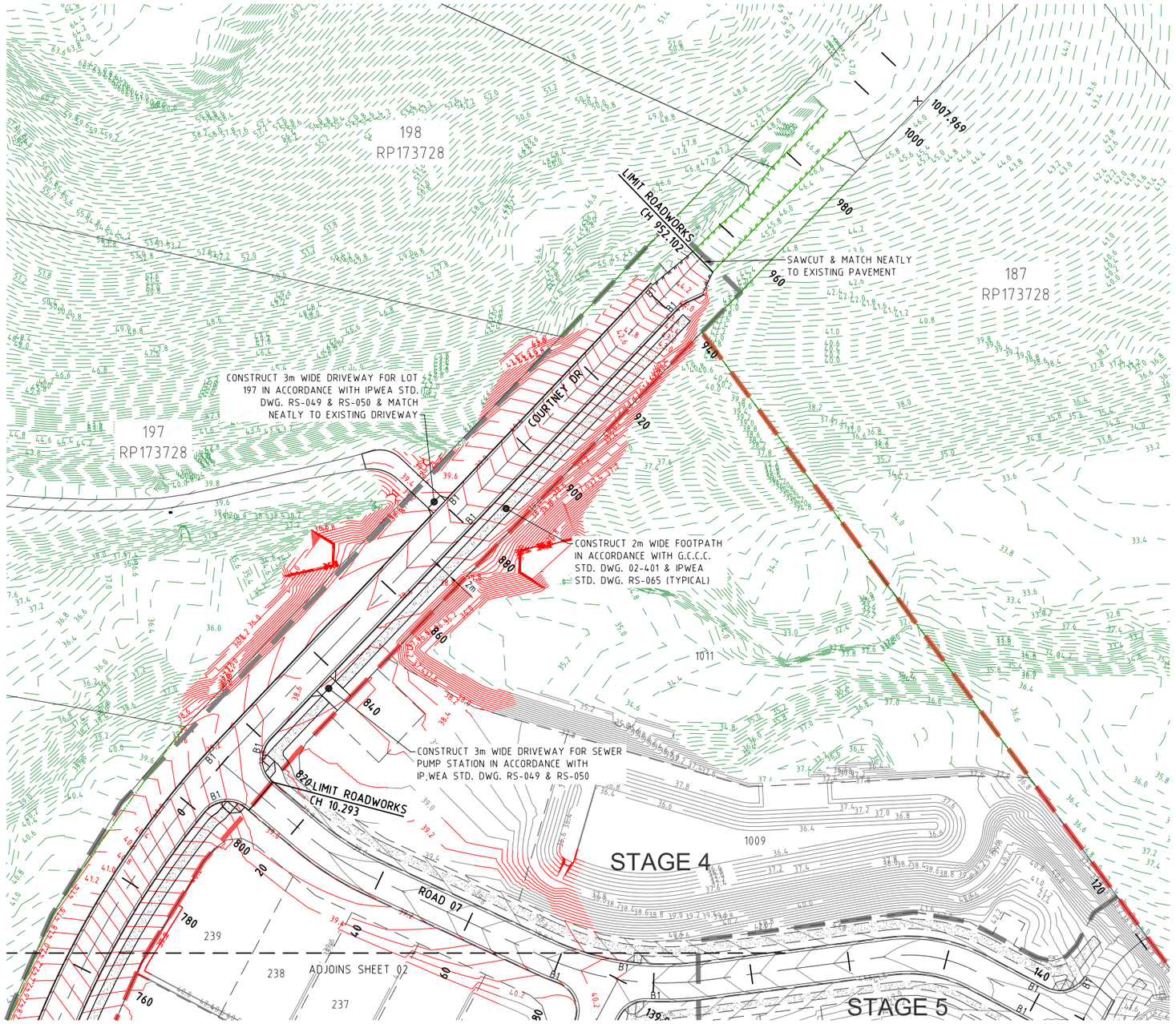
LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- 1.0 FUTURE CONTOURS
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- 1.0 DESIGN CONTOURS
- PROPOSED CONCRETE
- 41.065 CENTRELINE CHAINAGE
- REFER TO DRG. 120 FOR KERB TYPES — B1 BARRIER KERB & CHANNEL

SHEET LAYOUT



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

ROADWORKS
PLAN
SHEET 01

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-100	A

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196
RP173728

CONSTRUCT 3m WIDE DRIVEWAY FOR LOT 196 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050 & MATCH NEATLY TO EXISTING DRIVEWAY

CONSTRUCT 3m WIDE DRIVEWAY FOR LOT 195 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050 & MATCH NEATLY TO EXISTING DRIVEWAY

CONSTRUCT 3m WIDE DRIVEWAY FOR LOT 193 & 194 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050 & MATCH NEATLY TO EXISTING DRIVEWAY

ADJOINS SHEET 01

ADJOINS SHEET 03

COURTNEY DR

ROAD 07

ROAD 10

ROAD 08

ROAD 04

ROAD 03

ROAD 06

ROAD 01

ACCESS BASIN 01

STAGE 4

STAGE 5

STAGE 2

LIMIT ROADWORKS CH 12.339

LIMIT ROADWORKS CH 137.722

LIMIT ROADWORKS CH 499.518

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

JOIN NEATLY TO EXISTING FOOTPATH

SAWCUT & MATCH NEATLY TO EXISTING PAVEMENT

JOIN NEATLY TO EXISTING FOOTPATH

239 238 237 236 235 234 252 240 241 251 242 250 243 249 233 232 231 258 244 248 245 246 247 230 259 229 260 228 261 227 262 226 225 224 263 264 186 187 188 189 190 191 192 193 184 183 182 185 181 180 179 178 177 176 175 168 167 195 196 197 223 128 129 130 131 132 133 118 117

NORTH

0 5 10 15 20 25m

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

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

ROADWORKS
PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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DRAWING NUMBER	REV
41901-02-101	A

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ADJOINS SHEET 02

STAGE 3

STAGE 2

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

LOCALISED EARTHWORKS IN THIS AREA TO MAINTAIN CHANNEL PROFILE THROUGH ROAD 02. STORMWATER CULVERT TO BE INSTALLED AS PART OF STAGE 3 WORKS.

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

LIMIT ROADWORKS CH 222.133

JOIN NEATLY TO EXISTING FOOTPATH

SAWCUT & MATCH NEATLY TO EXISTING PAVEMENT

130.388

274.677

512.814

NORTH

0 5 10 15 20 25m

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

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Robin Russell & ASSOCIATES PTY. LTD.

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DRAWING TITLE

ROADWORKS
PLAN
SHEET 03

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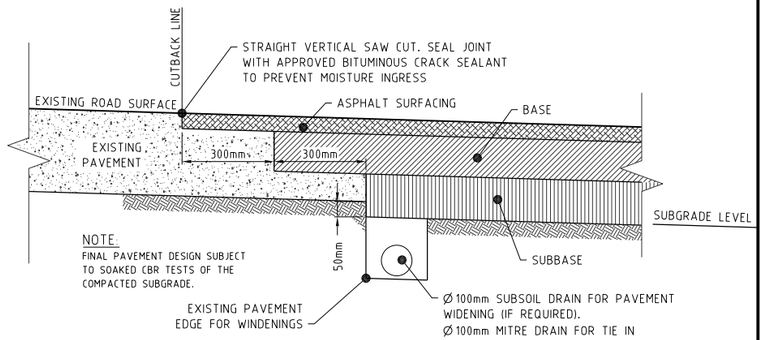
SCHEDULE OF PAVEMENT DEPTHS

ROAD NAME	SURFACING	BASE	SUB-BASE	LOWER SUB-BASE	CLASSIFICATION	DESA OR VPD	DESIGN GUIDE
ROAD 03, ROAD 04 & ROAD 10	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
COURTNEY DRIVE & ROAD 01 & ROAD 07	25mm ASPHALT	100mm TYPE 2.1 (CBR 60)	100mm TYPE 2.3 (CBR 45)	100mm TYPE 2.5 (CBR 15)	RESIDENTIAL COLLECTOR ST	751-3000	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.

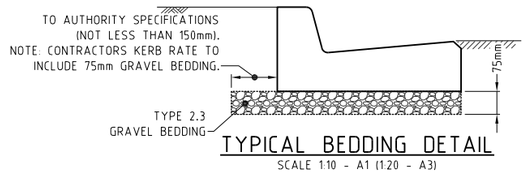
SCHEDULE OF KERB TYPES

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



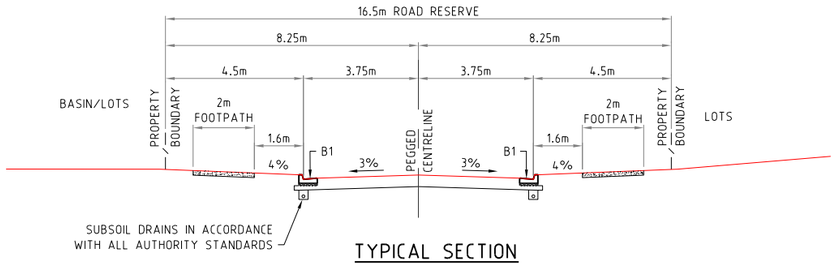
PAVEMENT WIDENING AND TIE-IN DETAIL

NOT TO SCALE



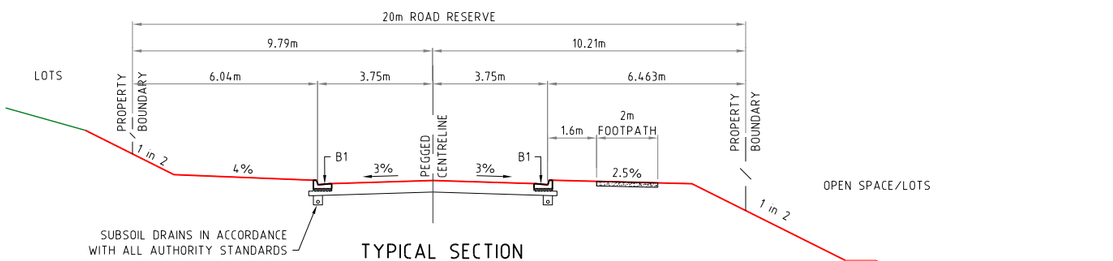
TYPICAL BEDDING DETAIL

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



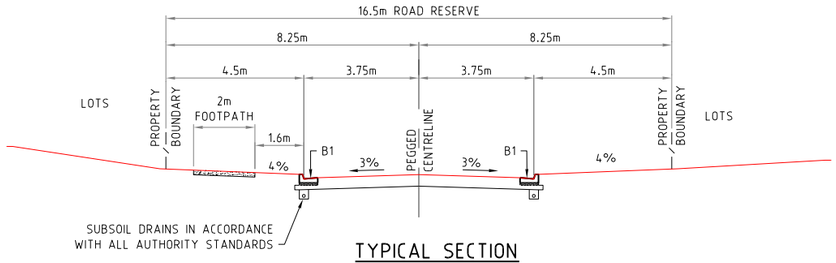
TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 01

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



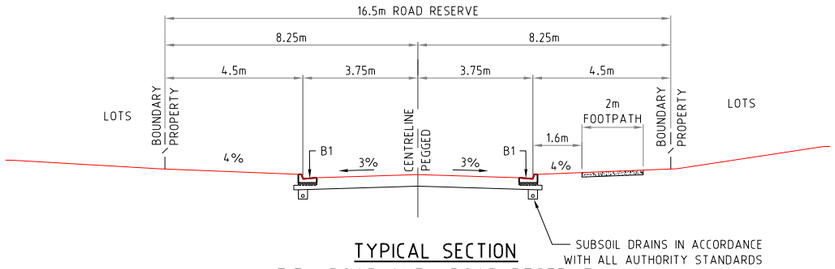
TYPICAL SECTION
7.5m ROAD-20m ROAD RESERVE
COURTNEY DRIVE

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



TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 03 & ROAD 07

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



TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 04 & ROAD 10

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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 0.1 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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DRAWING TITLE

ROADWORKS DETAILS

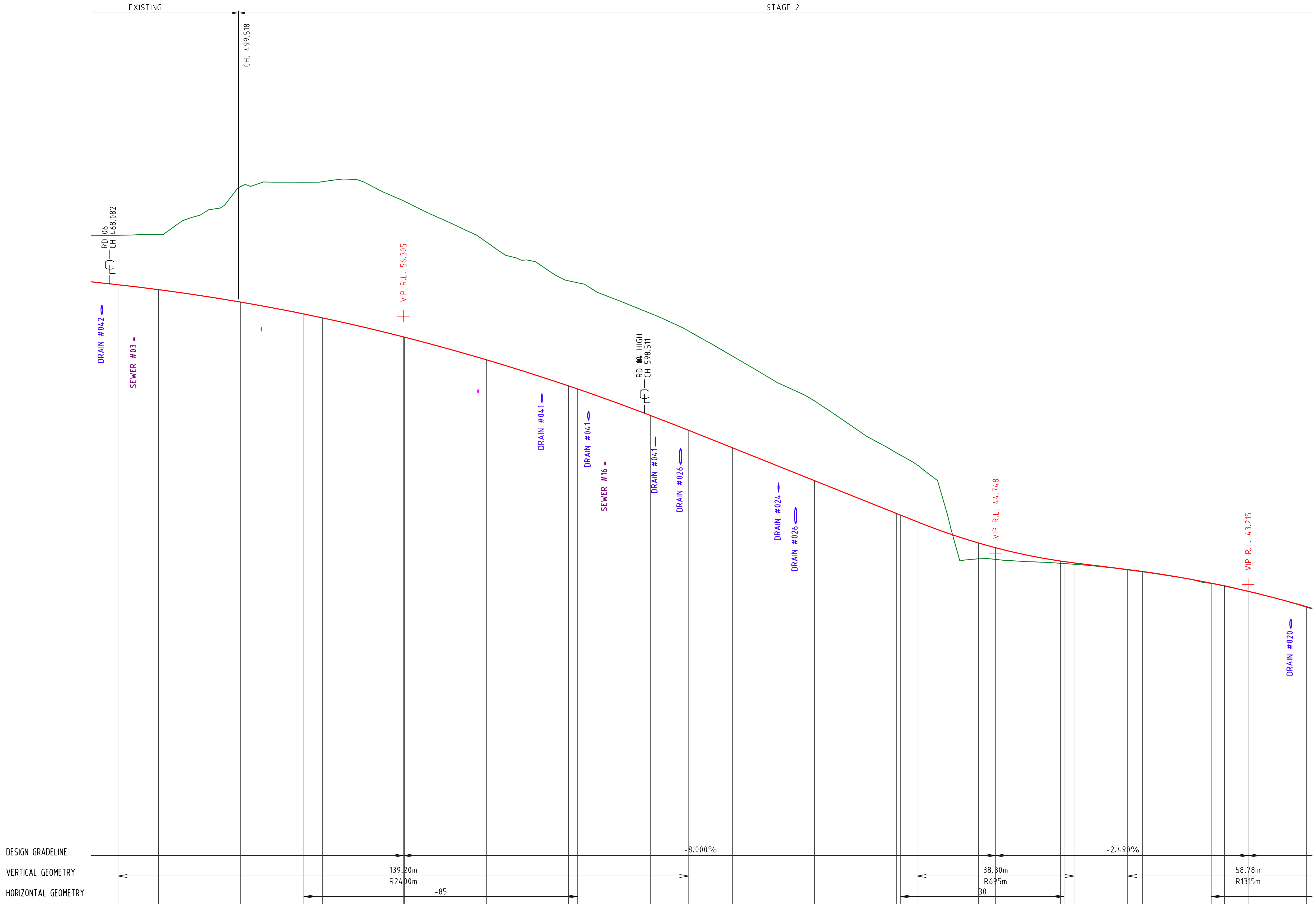
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DATUM 27.0

CHAINAGE	CONTROL LINE LEVELS	EXISTING SURFACE	DEPTH
470.107	57.836	60.25	2.414
480	57.598	60.279	2.682
500	56.992	62.621	5.628
515.44	56.41	62.838	6.427
520	56.22	62.864	6.644
539.707	55.295	61.933	6.637
540	55.28	61.904	6.623
560	54.175	59.915	5.74
580	52.902	58.028	5.125
582.199	52.752	57.933	5.181
600	51.463	56.439	4.976
609.307	50.737	55.577	4.84
620	49.881	54.353	4.472
640	48.281	52.176	3.895
660	46.681	49.643	2.962
660.985	46.602	49.527	2.925
665.014	46.28	49.05	2.77
680	45.243	44.474	-0.769
684.162	45.012	44.441	-0.571
700	44.362	44.252	-0.11
700.893	44.336	44.239	-0.097
703.31	44.272	44.203	-0.069
716.366	43.946	43.931	-0.016
720	43.851	43.835	-0.016
736.752	43.281	43.272	-0.009
740	43.146	43.159	0.013
745.757	42.886	42.891	0.005
760	42.136	42.113	-0.024

LONGITUDINAL SECTION COURTNEY DRIVE/ROAD 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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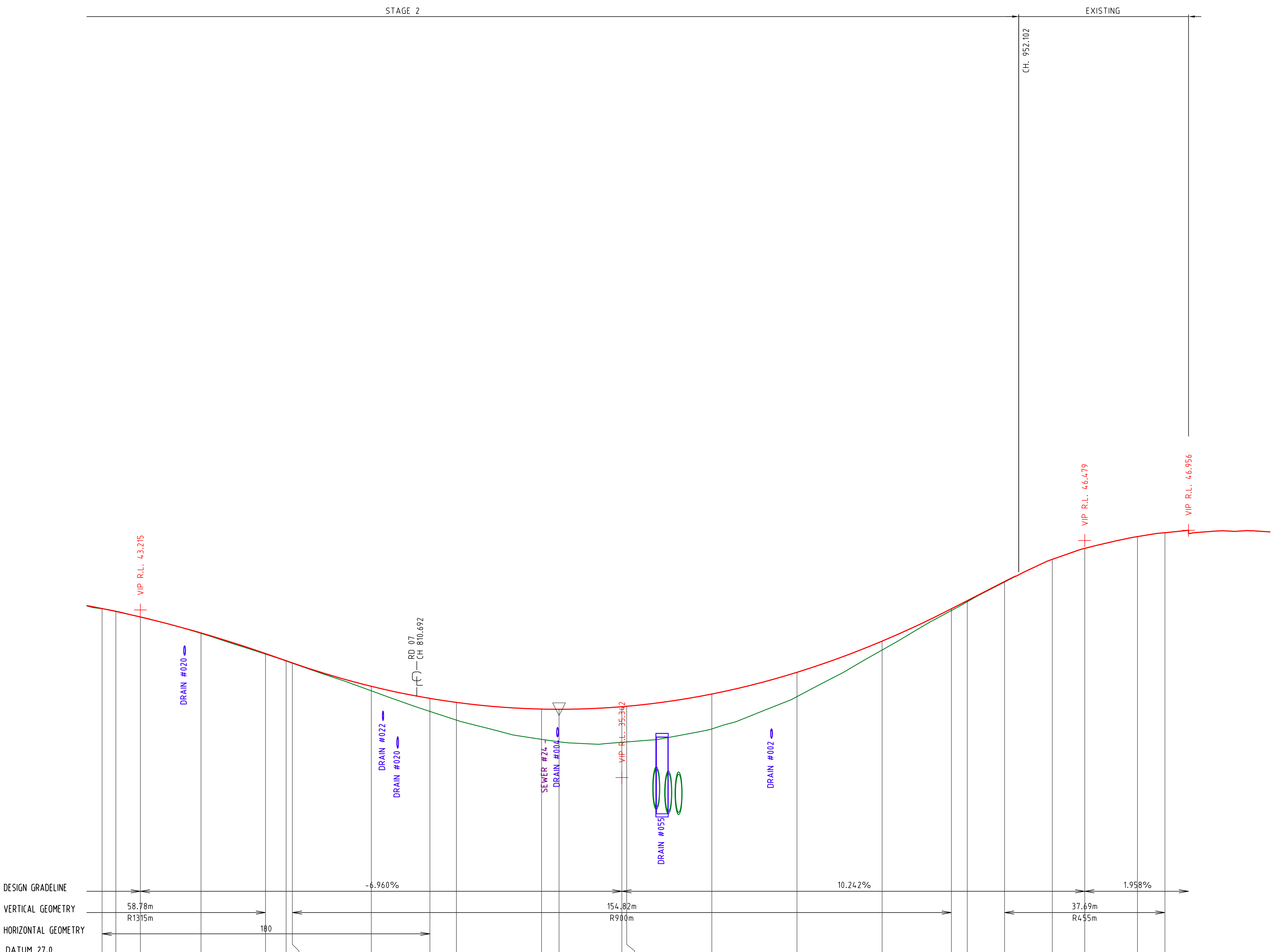
LONGITUDINAL SECTIONS
COURTNEY DRIVE/ROAD 01
SHEET 01

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APPROVED	RPEQ 4706
	DATE 13-10-23

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REV A



CONTROL LINE LEVELS	43.281	43.146	42.886	42.136	41.169	40.831	40.73	39.63	39.06	38.872	38.559	38.55	38.671	38.69
EXISTING SURFACE	43.272	43.159	42.891	42.113	41.141	40.817	40.714	39.418	38.449	38.04	37.135	37.018	36.997	37.014
DEPTH	-0.009	0.013	0.005	-0.024	-0.028	-0.015	-0.015	-0.212	-0.611	-0.832	-1.424	-1.531	-1.674	-1.676
CHAINAGE	736.752	740	745.757	760	775.148	780	781.464	800	813.788	820	840	844.103	858.872	860

CONTROL LINE LEVELS	39.266	40.286	41.75	43.27	43.651	44.549	45.561	46.089	46.676	46.848		
EXISTING SURFACE	37.626	39.143	41.334	43.189	43.599	44.524	45.595	46.107	46.66	46.845	46.937	46.922
DEPTH	-1.64	-1.142	-0.416	-0.081	-0.052	-0.025	0.034	0.018	-0.016	-0.003		
CHAINAGE	880	900	920	936.279	940	948.764	960	967.609	980	986.455	1000	1007.969

LONGITUDINAL SECTION COURTNEY DRIVE ROAD 01

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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
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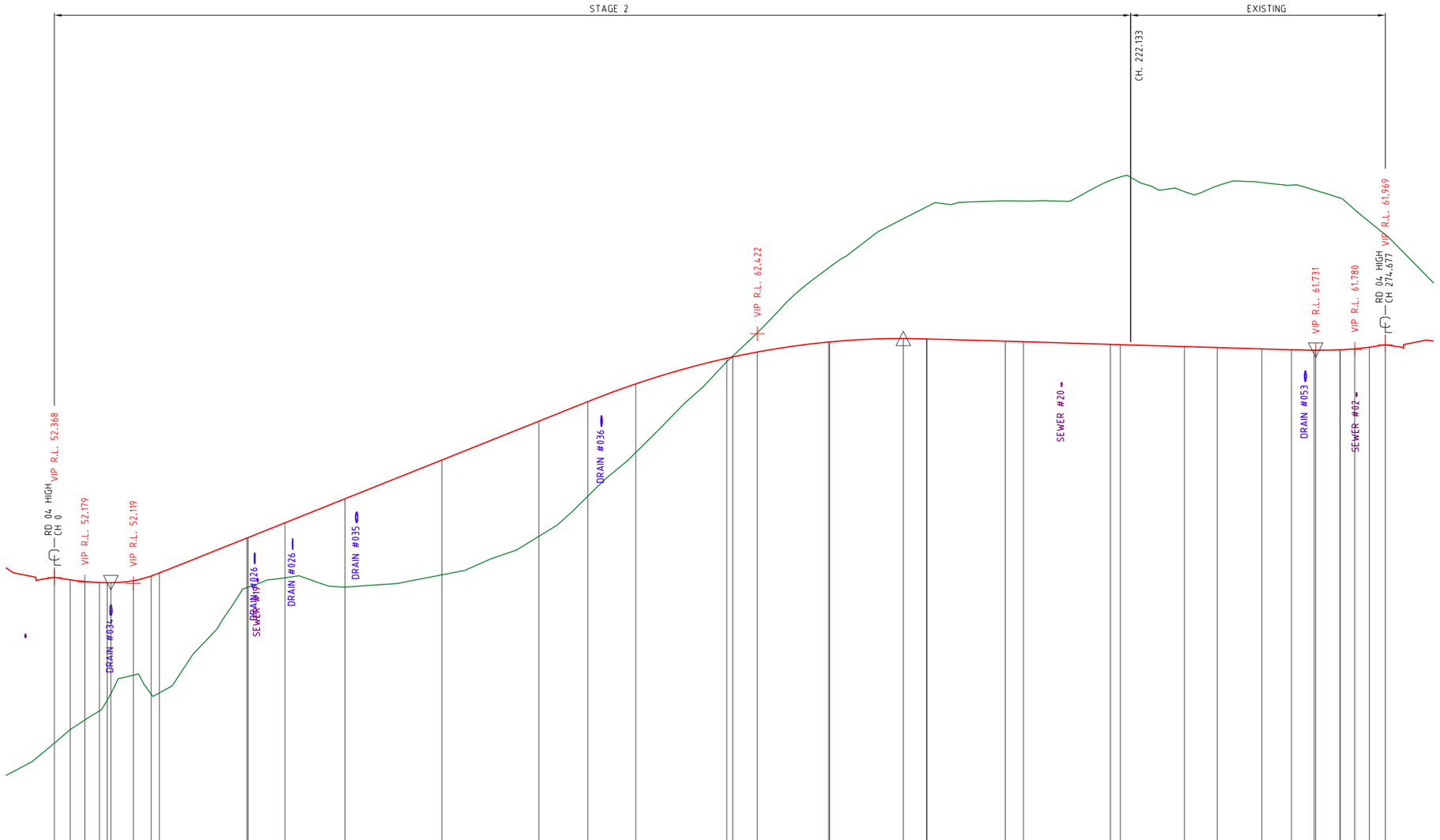
LONGITUDINAL SECTIONS
COURTNEY DRIVE/ROAD 01 (Cont.)
SHEET 02

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CHAINAGE	DEPTH	EXISTING SURFACE	CONTROL LINE LEVELS
0	-6.838	45.53	52.368
3.3	-6.175	46.094	52.269
6.3	-5.71	46.487	52.197
9.3	-5.3	46.861	52.161
10.926	-4.837	47.314	52.151
11.676	-4.573	47.576	52.149
16.3	-3.898	48.336	52.235
20	-4.877	47.549	52.426
21.674	-4.946	47.603	52.549
39.752	-2.048	51.947	53.995
4.0	-2.052	51.963	54.015
47.606	-2.271	52.353	54.623
60	-3.647	51.968	55.615
80	-4.739	52.476	57.215
100	-4.751	54.064	58.815
110.094	-3.904	55.718	59.622
120	-2.829	57.525	60.355
138.772	-0.145	61.267	61.412
14.0	0.034	61.5	61.466
145.094	0.785	62.455	61.67
159.797	3.061	65.142	62.081
160	3.087	65.172	62.085
175.21	4.941	67.168	62.227
180	5.442	67.655	62.213
180.094	5.452	67.665	62.212
196.259	5.792	67.907	62.115
200	5.805	67.898	62.093
217.931	6.762	68.748	61.985
220	6.902	68.875	61.973
233.222	6.393	68.287	61.894
24.0	6.67	68.523	61.853
249.206	6.863	68.661	61.798
255.315	6.794	68.555	61.761
260	6.61	68.356	61.746
260.315	6.591	68.337	61.746
265.315	6.265	68.026	61.761
265.377	6.261	68.022	61.762
268.377	5.746	67.543	61.798
271.377	5.176	67.046	61.87
274.677	4.541	66.51	61.969

LONGITUDINAL SECTION ROAD 03

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	INI
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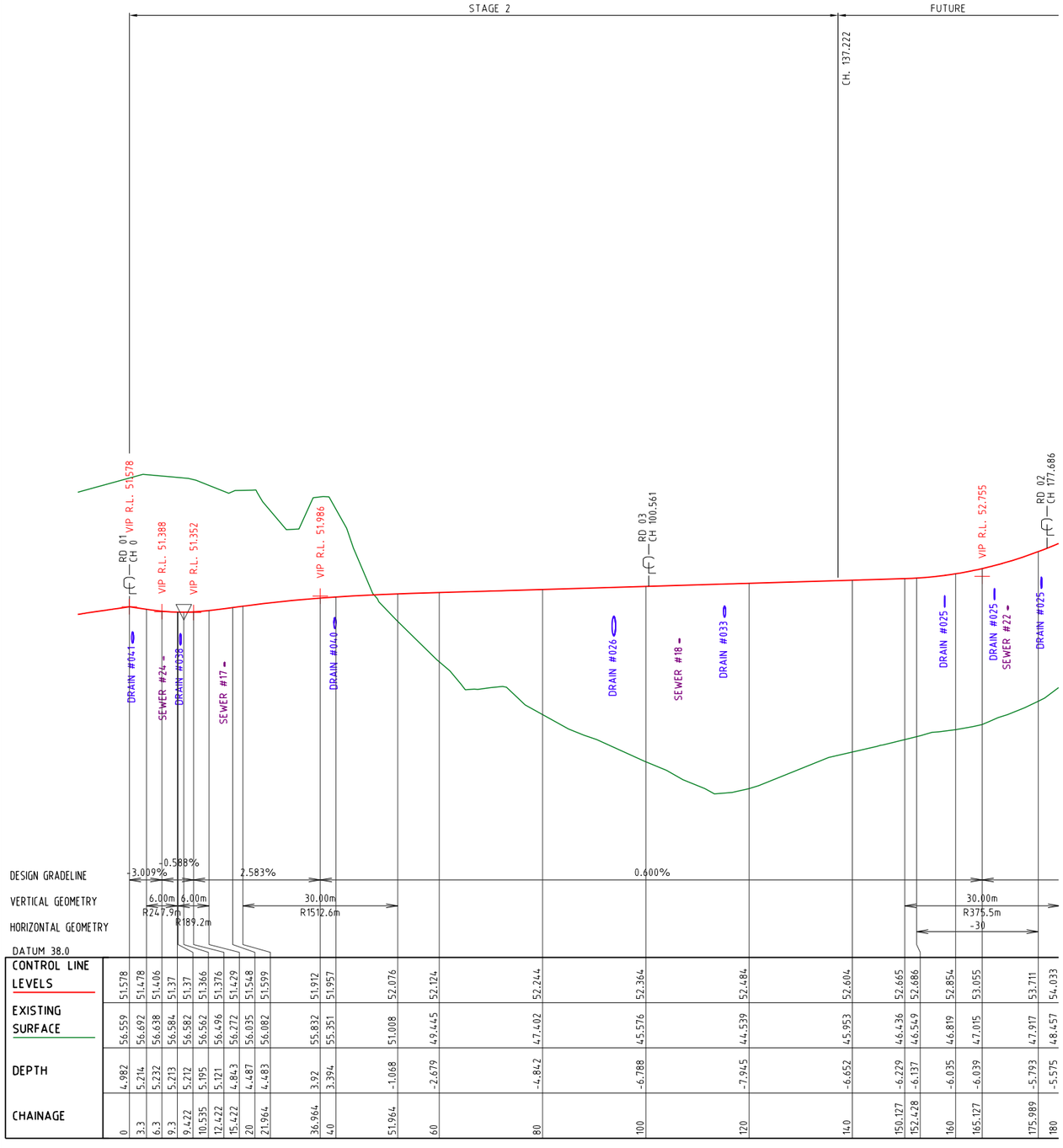
LONGITUDINAL SECTIONS
ROAD 03

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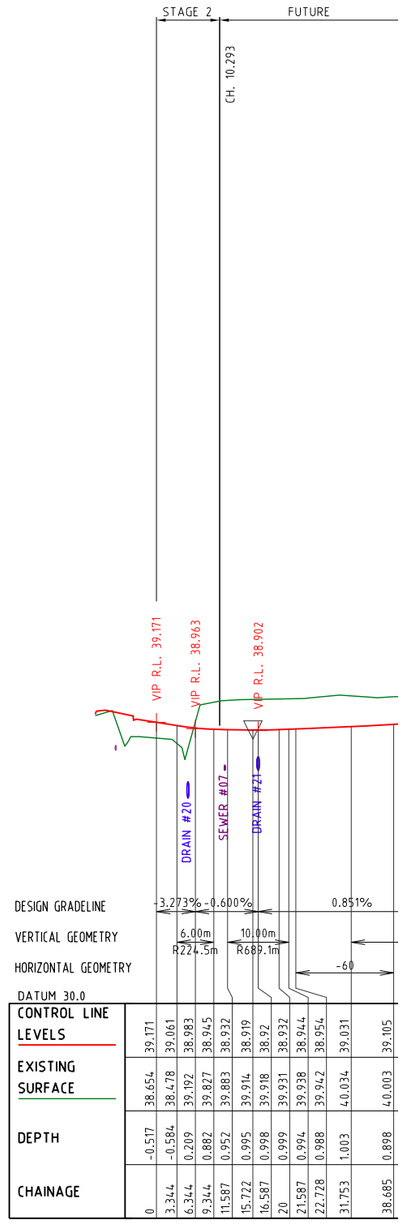
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LONGITUDINAL SECTION ROAD 04



LONGITUDINAL SECTION ROAD 07

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

RP DESCRIPTION

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LOCALITY OF UPPER COOMERA
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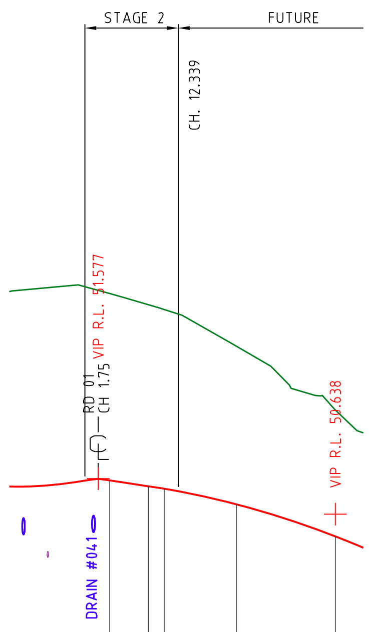
LONGITUDINAL SECTIONS
ROAD 04
&
ROAD 07

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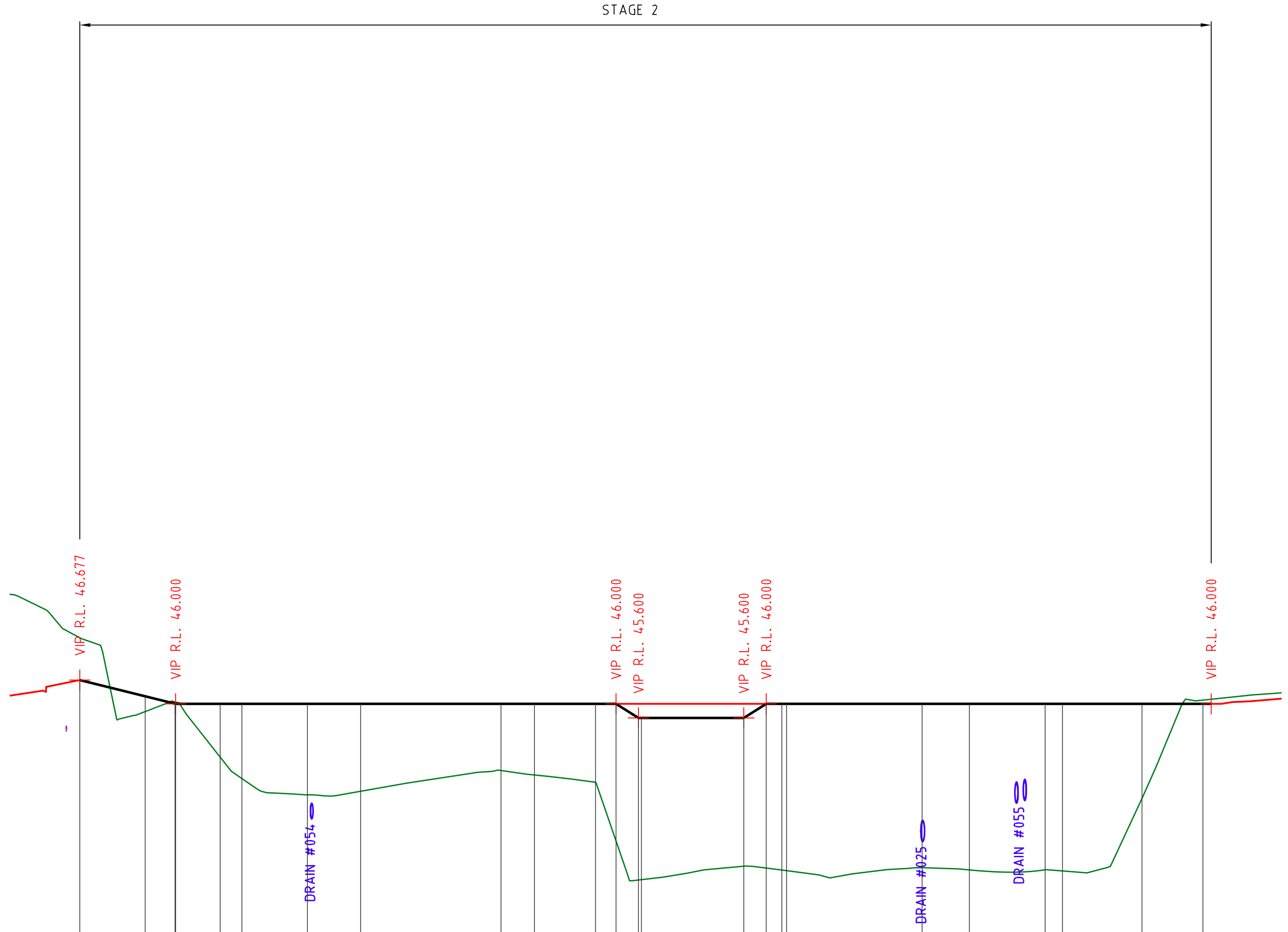
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DESIGN GRADELINE: -3.000%
VERTICAL GEOMETRY: 49.40m R520m
HORIZONTAL GEOMETRY: -85
DATUM 32.0

CHAINAGE	CONTROL LINE LEVELS	EXISTING SURFACE	DEPTH
0		56.655	
3.277	51.532	56.475	4.944
8.374	51.379	56.183	4.805
10.464	51.312	56.055	4.743
20	50.9	55.082	4.182
33.074	50.051	53.394	3.343

LONGITUDINAL SECTION ROAD 10



DESIGN GRADELINE: -4.966% | 0.000% | -12.500% | 0.000% | 12.500% | 0.000%
VERTICAL GEOMETRY
HORIZONTAL GEOMETRY: 10 | -10 | 23 | 33 | -19.2 | -16
DATUM 34.0

CHAINAGE	CONTROL LINE LEVELS	EXISTING SURFACE	DEPTH
0	46.677	47.886	1.209
9.318	46.215	45.78	-0.435
13.562	46.004	46.056	0.052
13.641	46	46.052	0.052
20	46	44.481	-1.519
23.09	46	43.87	-2.13
32.419	46	43.406	-2.594
40	46	43.509	-2.491
60	46	44.102	-1.898
64.769	46	43.972	-2.028
73.472	46	43.76	-2.24
76.383	46	42.094	-3.906
79.583	45.6	40.98	-4.62
80	45.6	40.99	-4.61
94.583	45.6	41.374	-4.226
97.783	46	41.322	-4.678
100	46	41.266	-4.734
100.695	46	41.248	-4.752
120	46	41.329	-4.671
126.728	46	41.267	-4.733
137.523	46	41.273	-4.727
140	46	41.236	-4.764
151.324	46	43.306	-2.694
160	46	46.107	0.107
161.209		46.132	

LONGITUDINAL SECTION ROAD BASIN 01

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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

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DRAWING TITLE

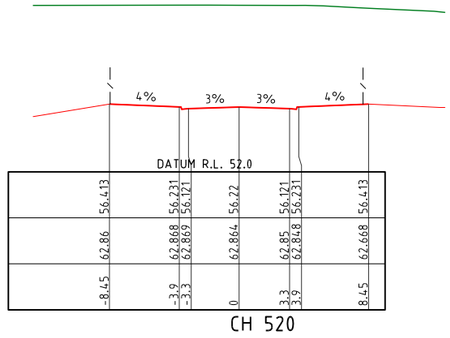
LONGITUDINAL SECTIONS
ROAD 10
&
ROAD BASIN 01

MORTONS urbansolutions
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Suite 9, 19 Short St
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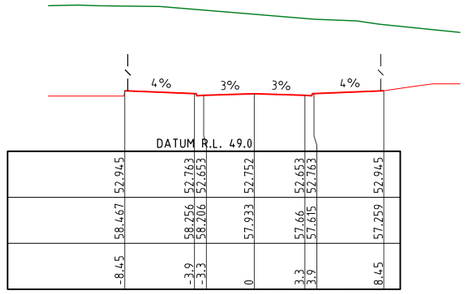
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APPROVED [signature] | RPEQ 4706 | DATE 13-10-23

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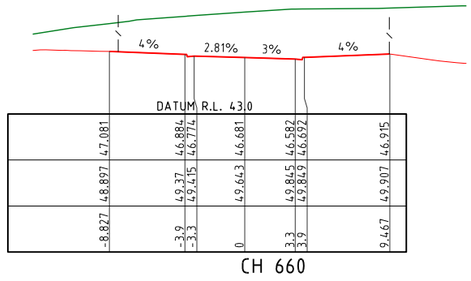
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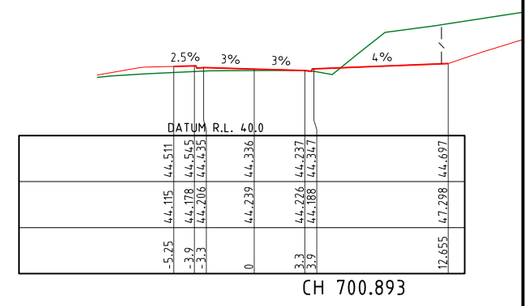
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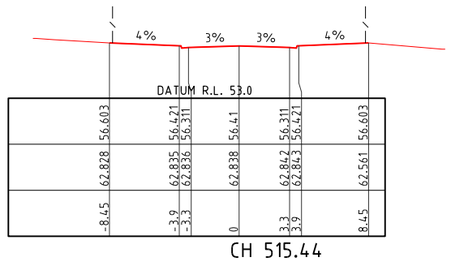
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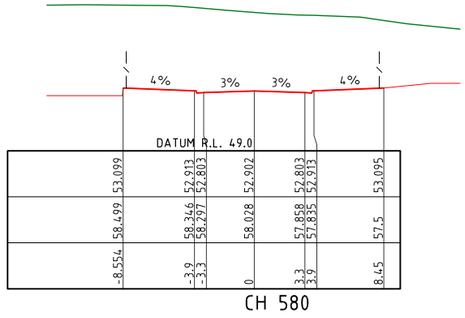
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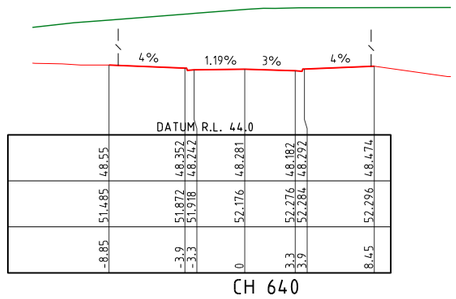
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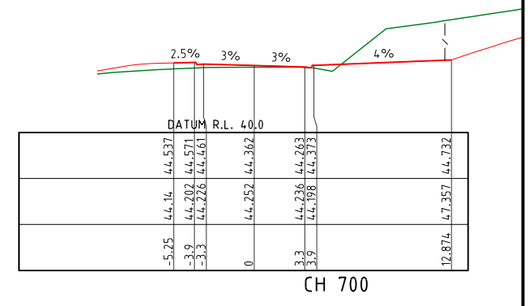
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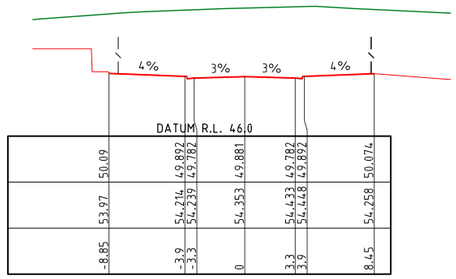


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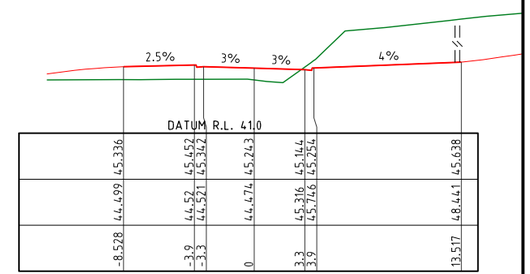


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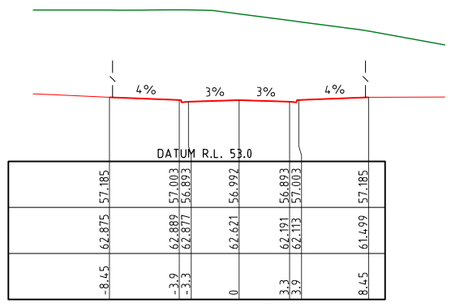
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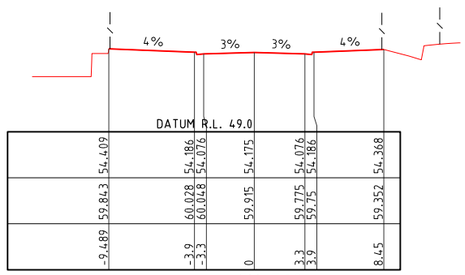
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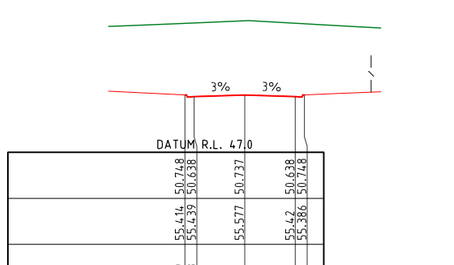
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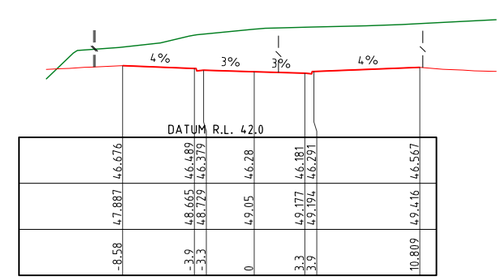
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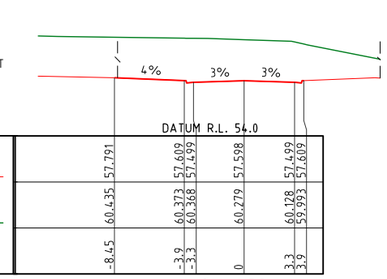
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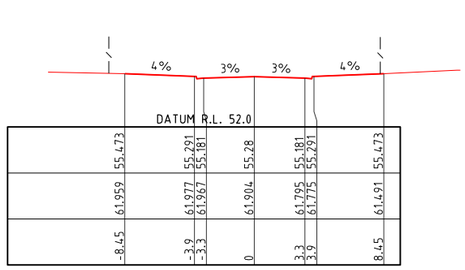
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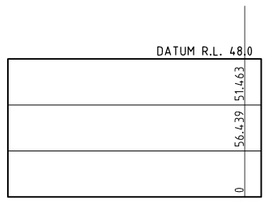
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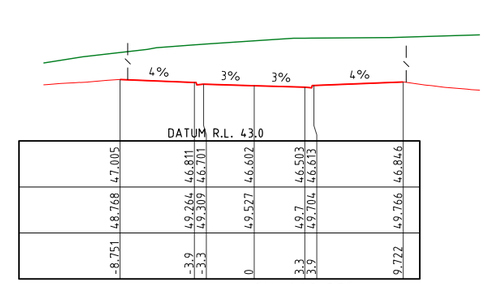
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CH 540



CH 600



CH 660.985

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	

COURTNEY DRIVE/ROAD 01

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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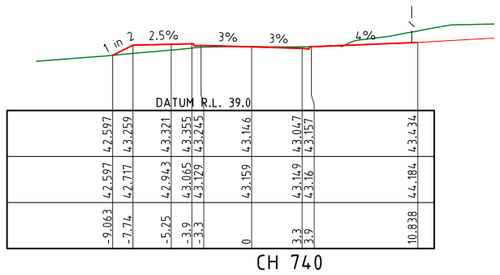
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CROSS SECTIONS
COURTNEY DRIVE/ROAD 01
SHEET 01

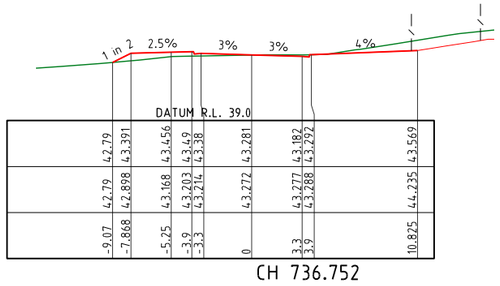
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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

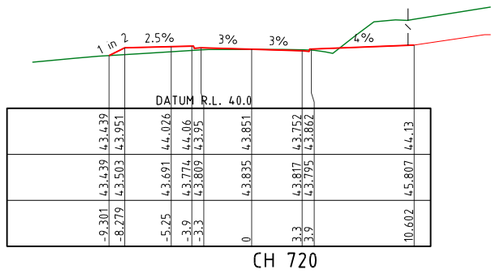
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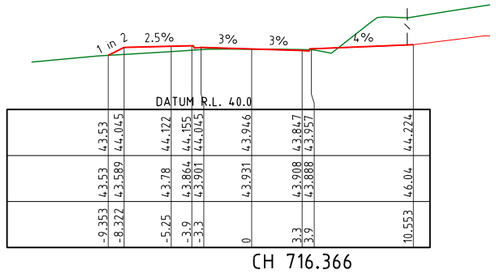
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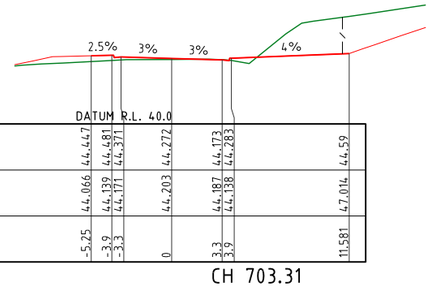
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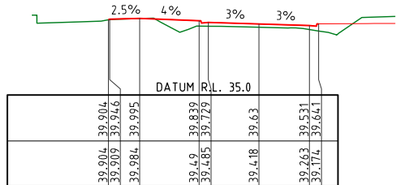
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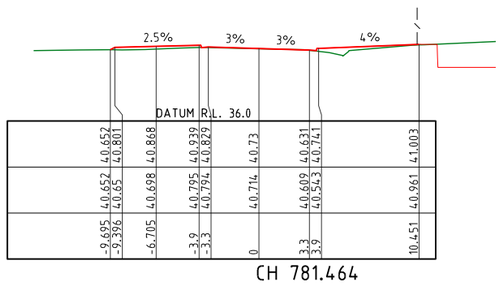
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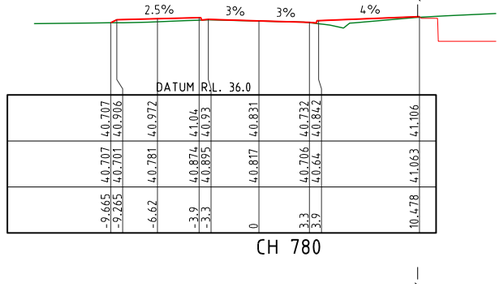
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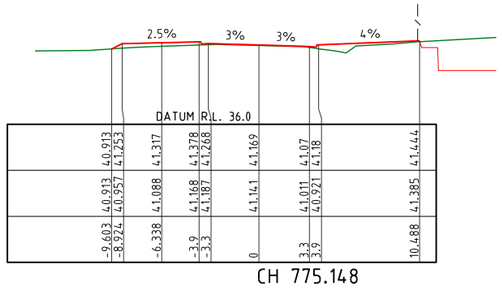
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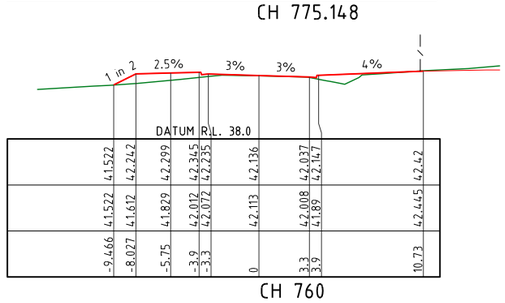
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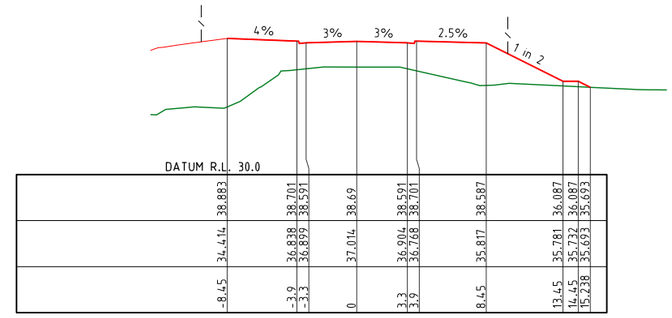
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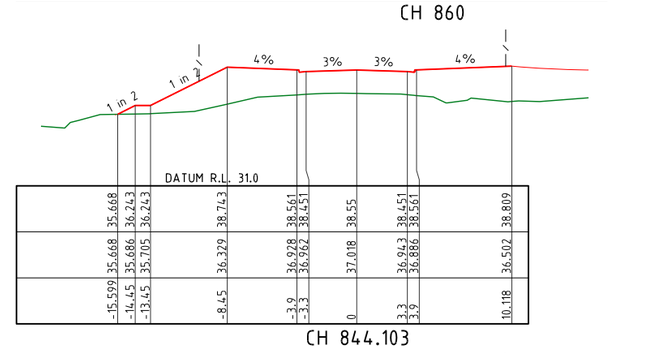
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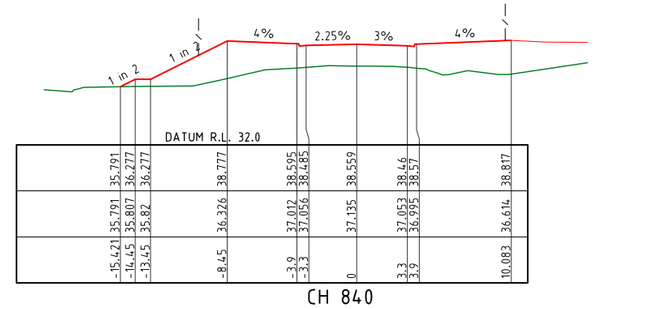
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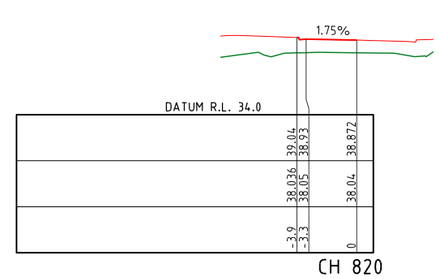
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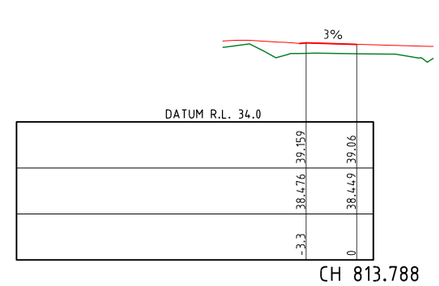
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CH 840



CH 820



CH 813.788

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.

COURTNEY DRIVE/ROAD 01 (Cont.)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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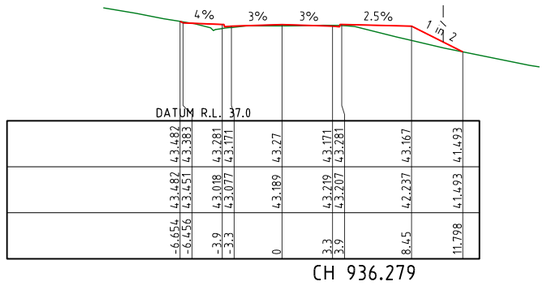
CROSS SECTIONS
COURTNEY DRIVE/ROAD 01 (Cont.)
SHEET 02

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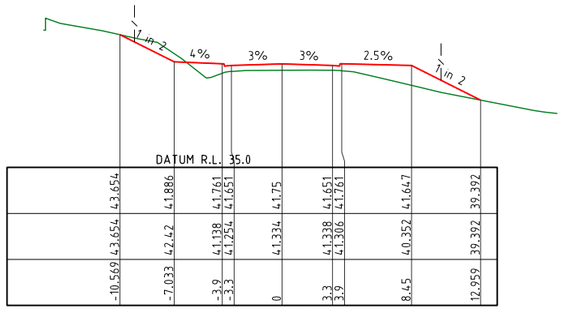
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APPROVED	RPEQ 4706	DATE	13-10-23

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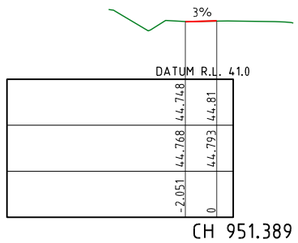
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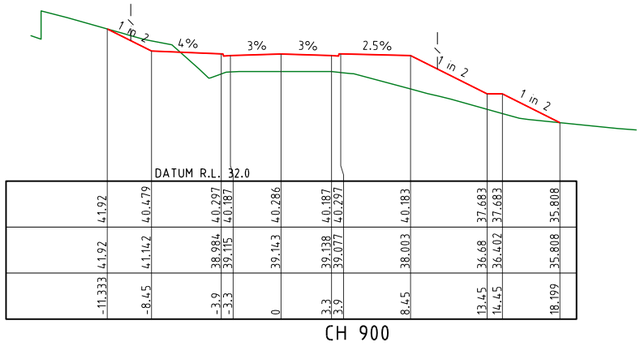
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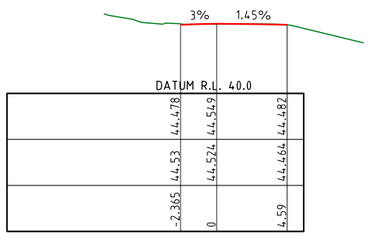
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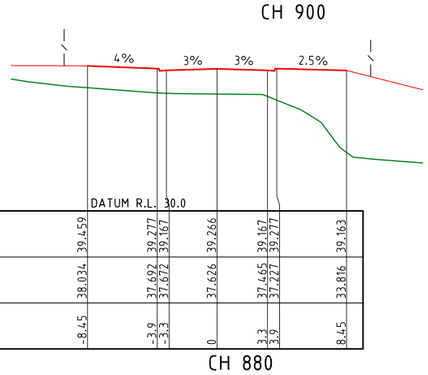


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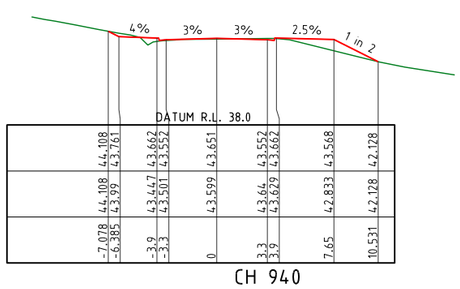
NOTES:

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.



CH 880



CH 940

COURTNEY DRIVE/ROAD 01 (Cont.)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

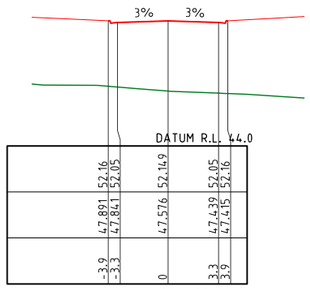
CROSS SECTIONS
COURTNEY DRIVE/ROAD 01 (Cont.)
SHEET 03

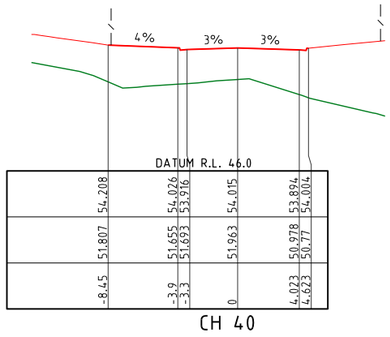
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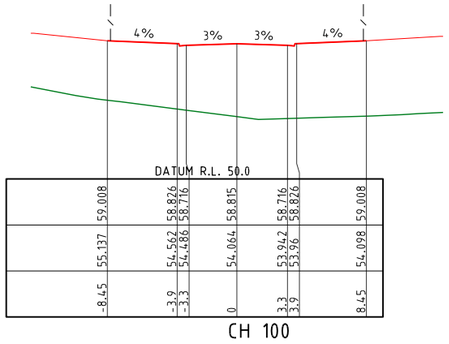
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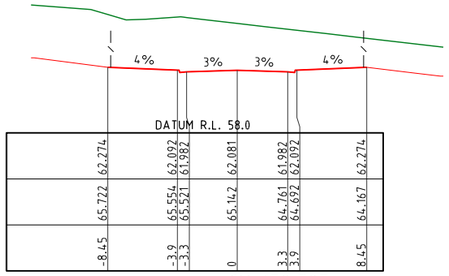
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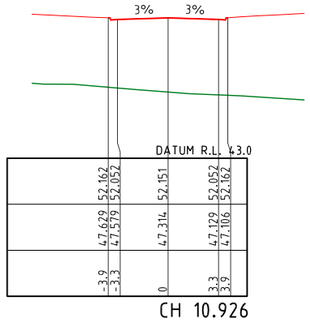
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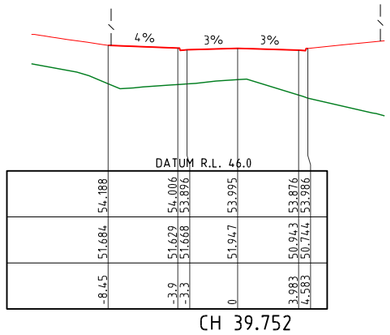


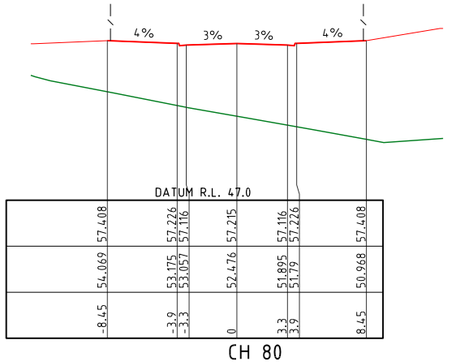


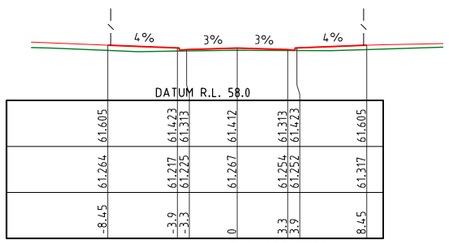


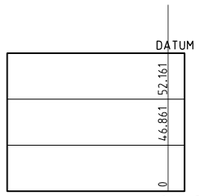


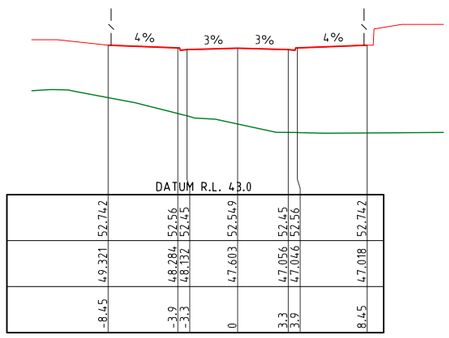


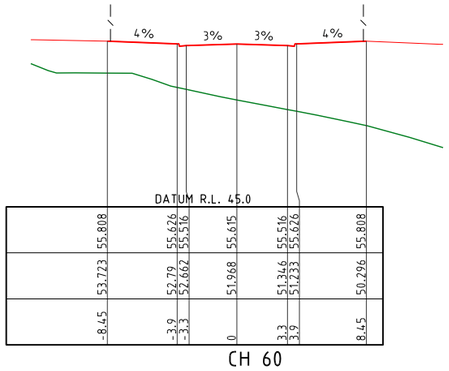


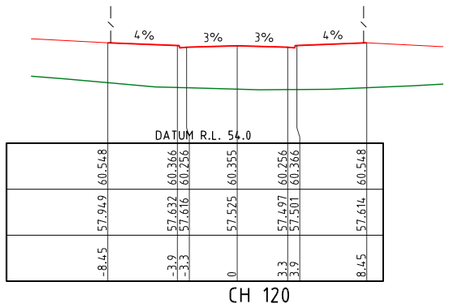


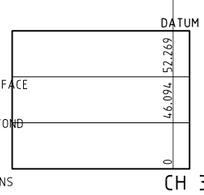








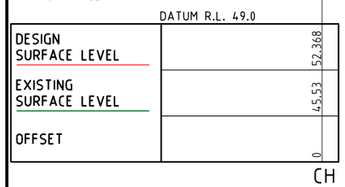


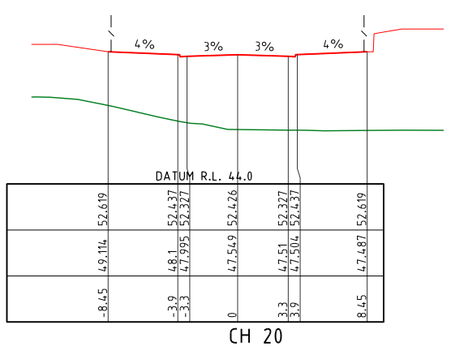


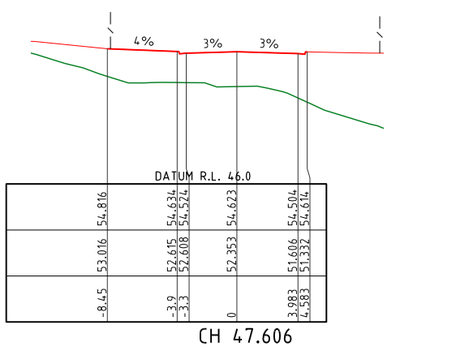
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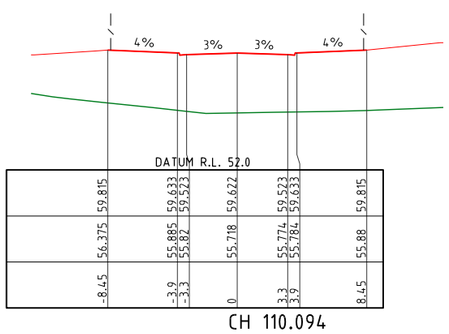
1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.

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









ROAD 03

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

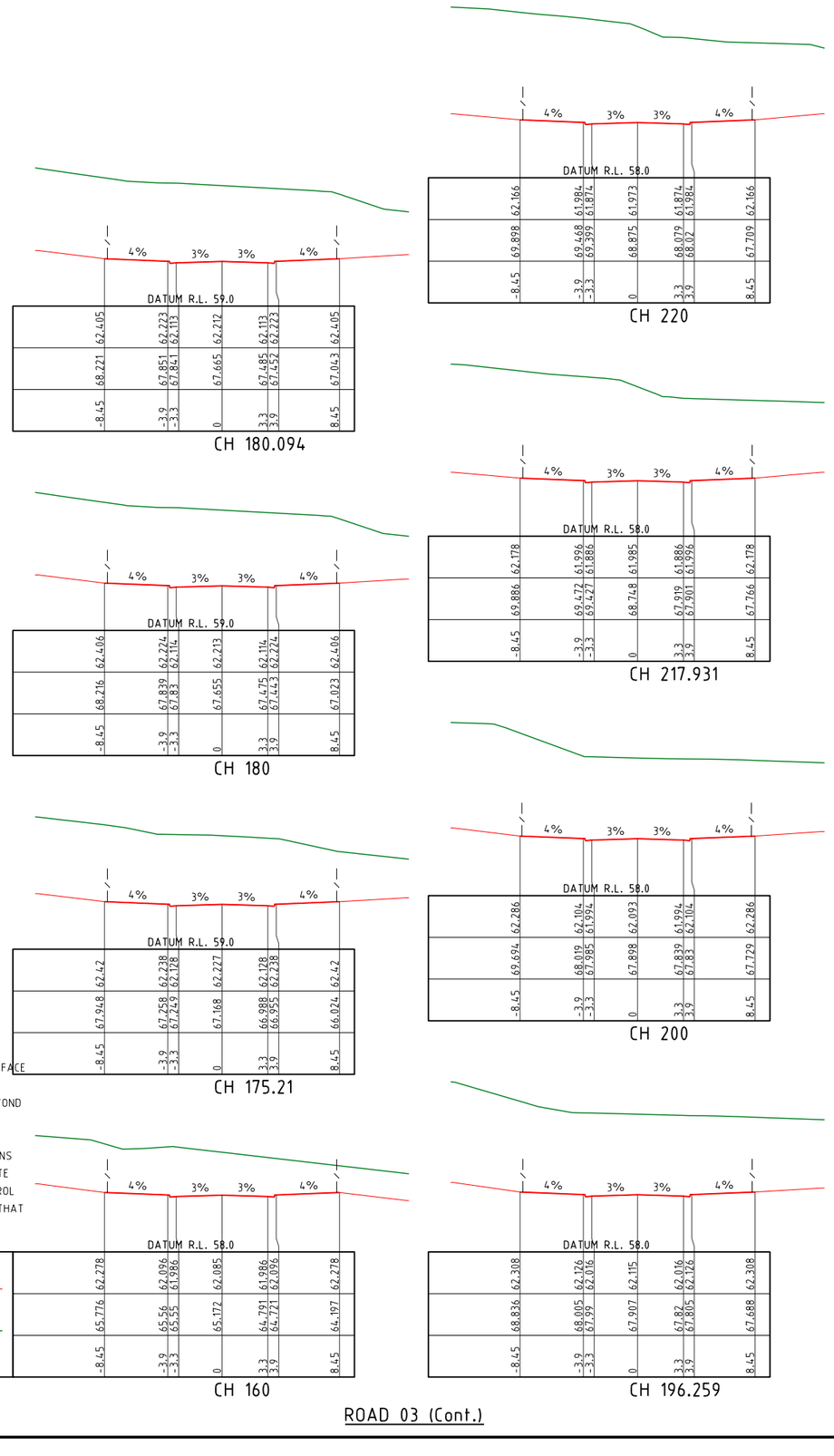
CROSS SECTIONS
ROAD 03
SHEET 01

MORTONS urbansolutions
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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	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-303
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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.

ROAD 03 (Cont.)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

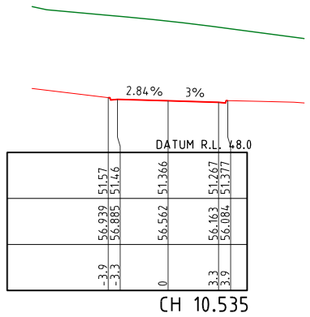
CROSS SECTIONS
ROAD 03 (Cont.)
SHEET 02

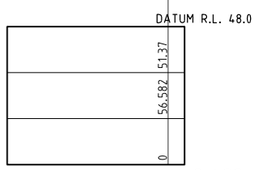
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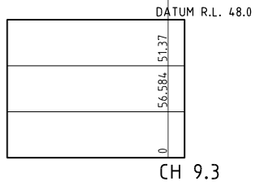
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APPROVED	RPEQ 4706	DATE	13-10-23

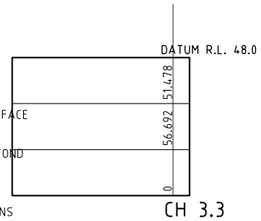
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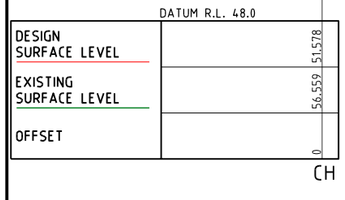


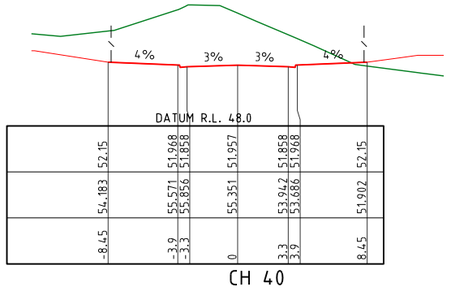


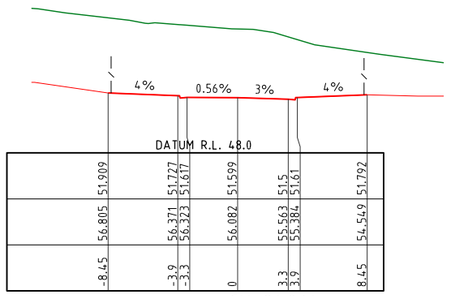
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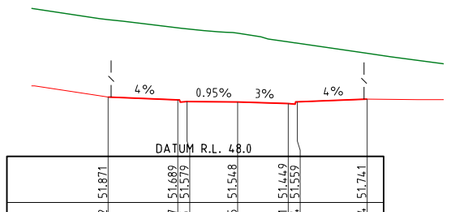
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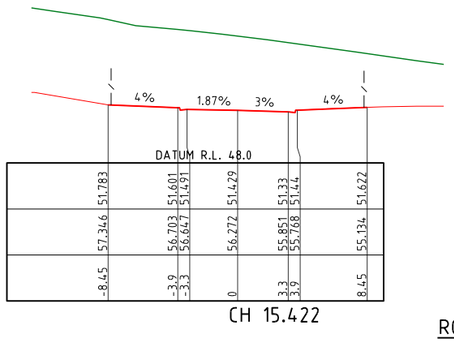
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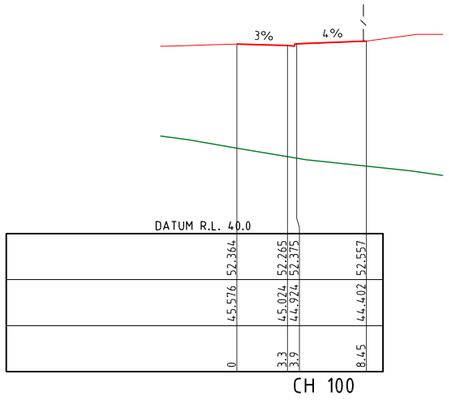


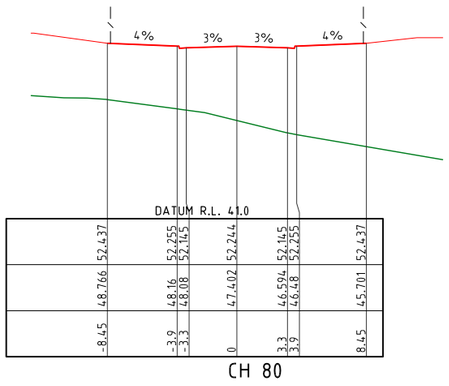


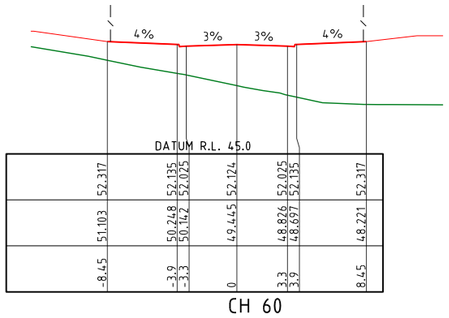


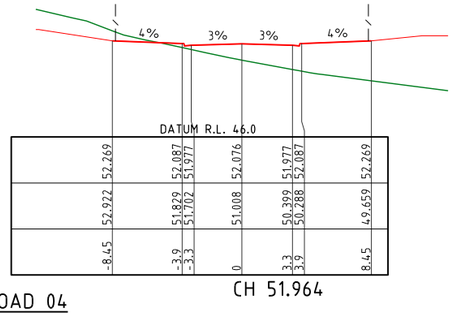




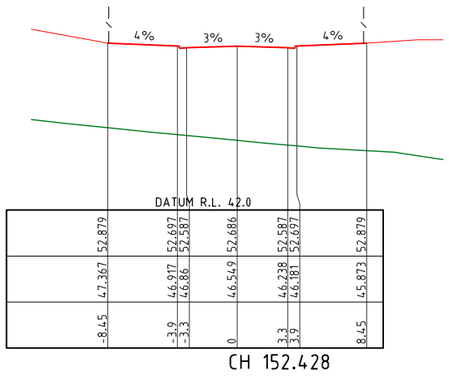


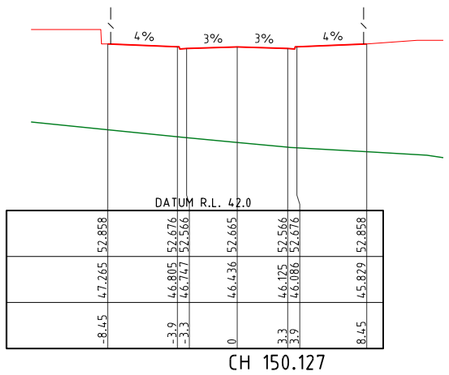


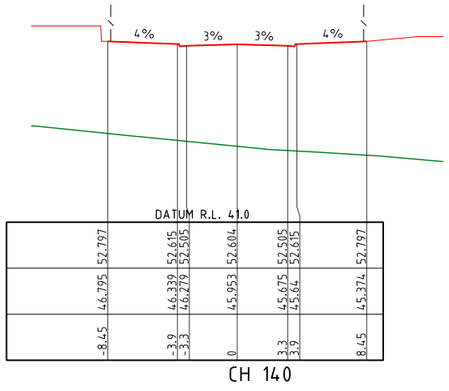


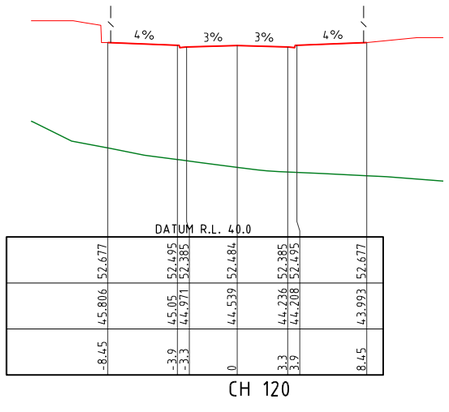


ROAD 04









PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

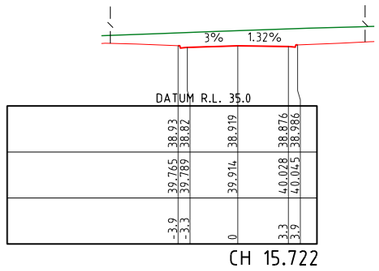
CROSS SECTIONS
ROAD 04

MORTONS urbansolutions
Urban & Regional Planning
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ABN: 39 116 375 065
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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

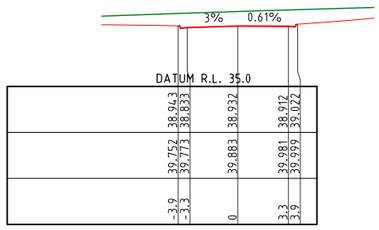
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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-305
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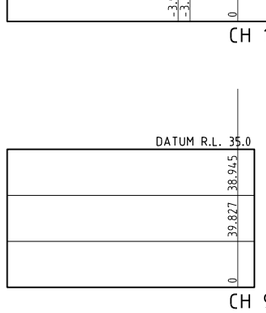
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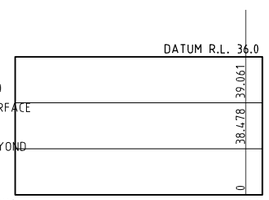
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CH 11.587



CH 9.344

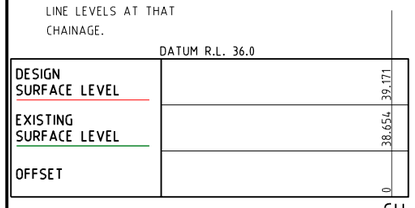


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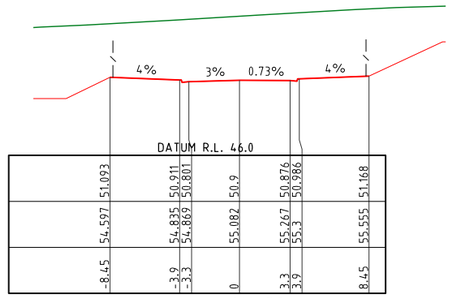
1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.

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

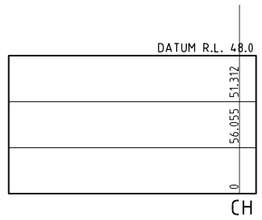


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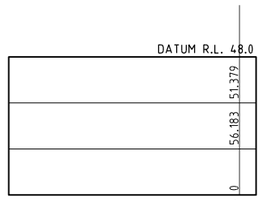
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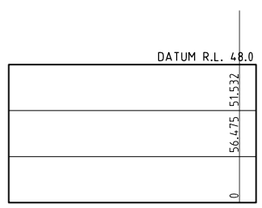
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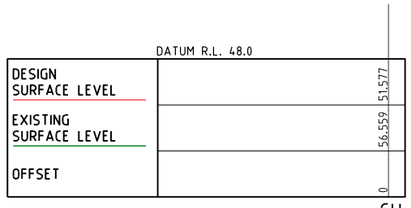
CH 10.464



CH 8.374



CH 3.277



CH 1.75

ROAD 10

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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BENNETT + BENNETT

DRAWING TITLE

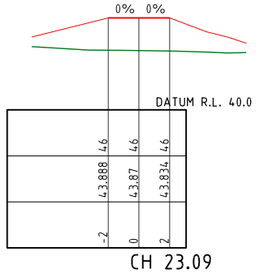
CROSS SECTIONS
ROAD 07
&
ROAD 10

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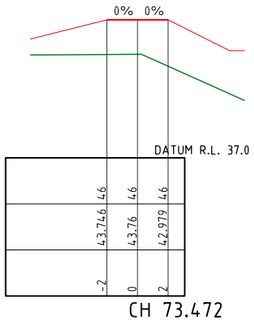
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APPROVED		RPEQ 4706	DATE 13-10-23

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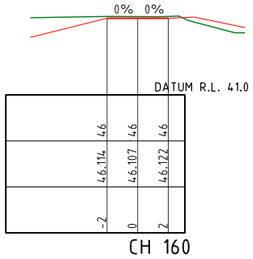
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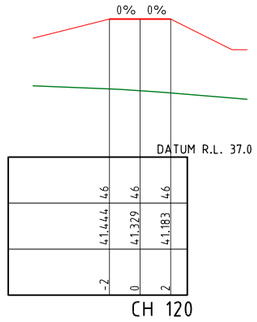
CH 23.09



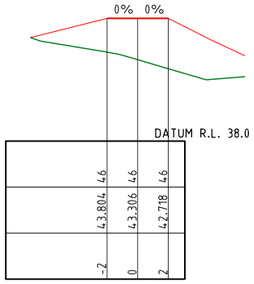
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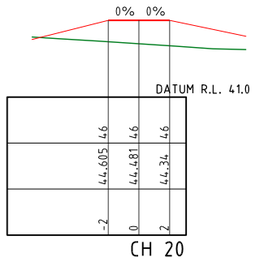
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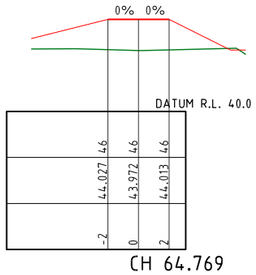
CH 120



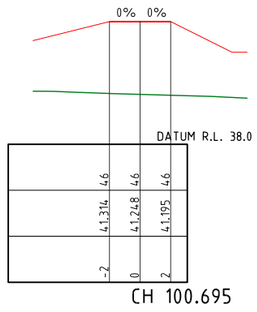
CH 151.324



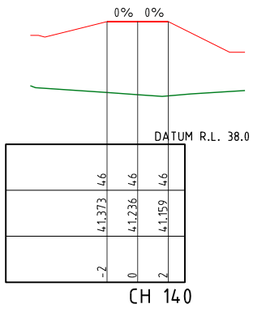
CH 20



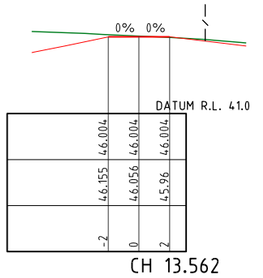
CH 64.769



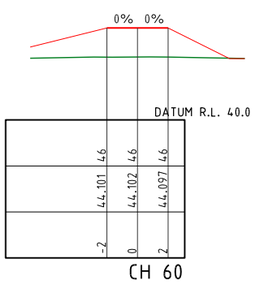
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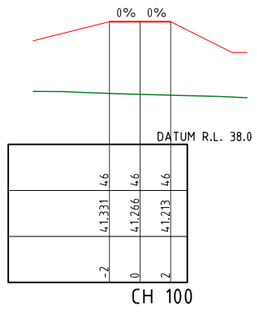
CH 140



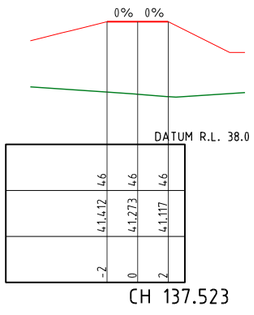
CH 13.562



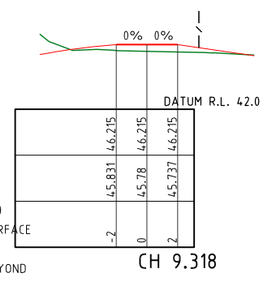
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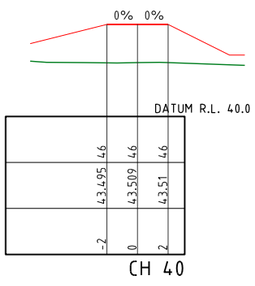
CH 100



CH 137.523



CH 9.318

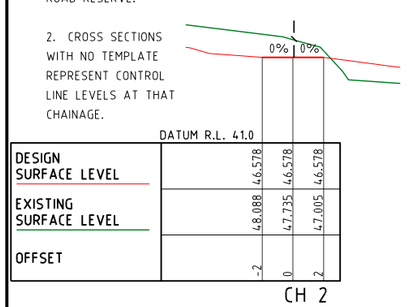


CH 40

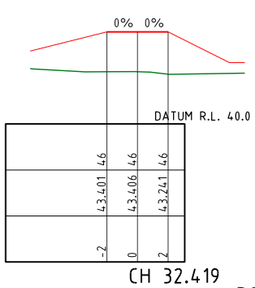
NOTES:

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

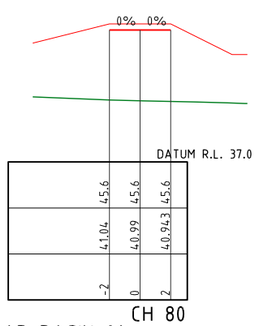
2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.



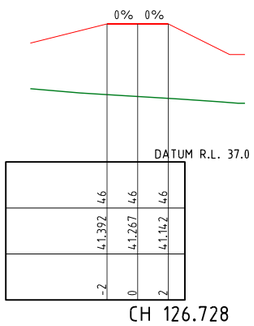
CH 2



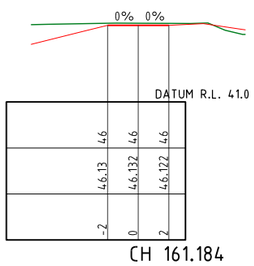
CH 32.419



CH 80



CH 126.728



CH 161.184

ROAD BASIN 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

CROSS SECTIONS
ROAD BASIN 01

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Civil Engineering
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Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-307
REV A

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LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS (1.0)
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- FUTURE CONTOURS (1.0)
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- DESIGN CONTOURS (1.0)
- PROPOSED CONCRETE

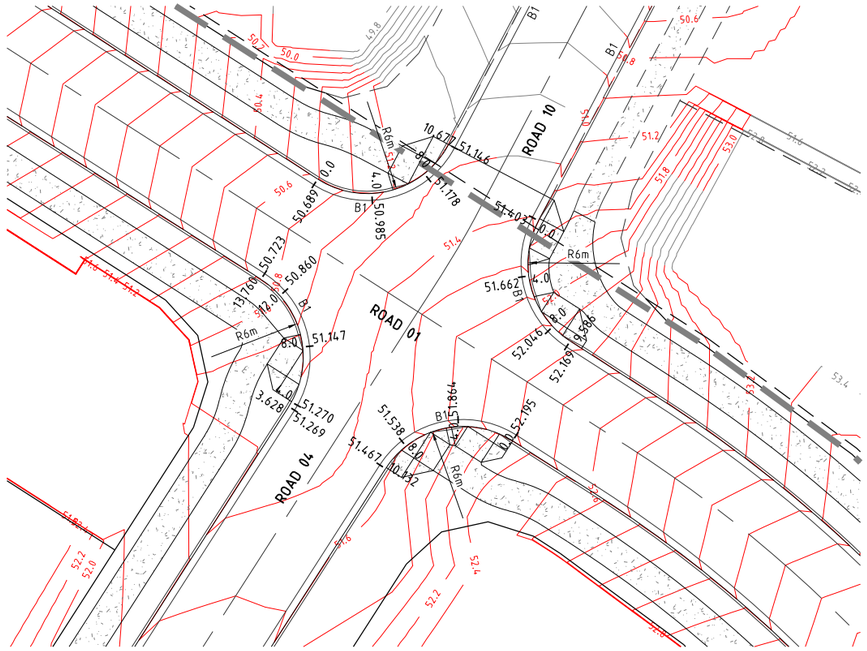
24.0 _41.065 INTERSECTION CHAINAGE & LEVEL

B1 BARRIER KERB & CHANNEL

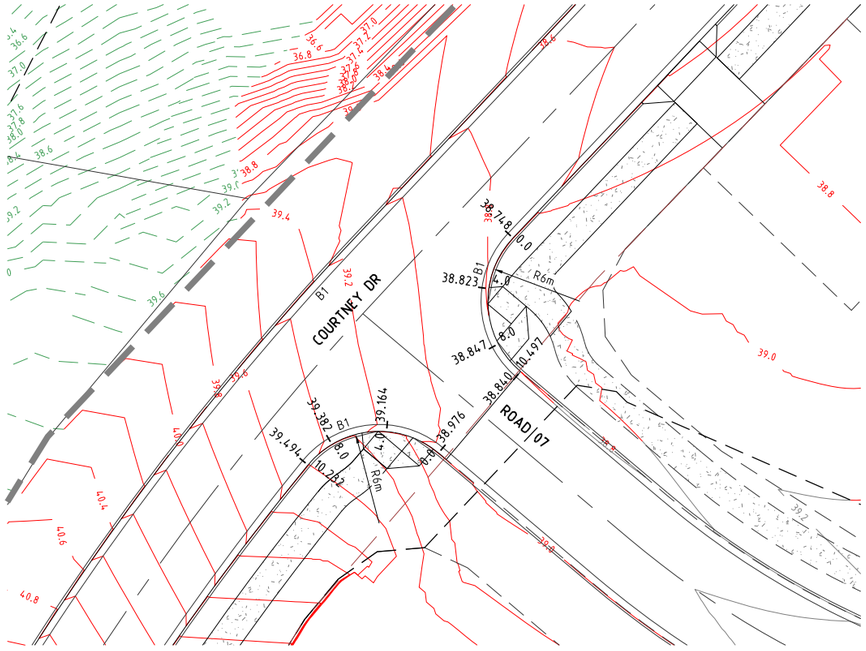
REFER TO DRG. 120 FOR KERB TYPES

NOTES:

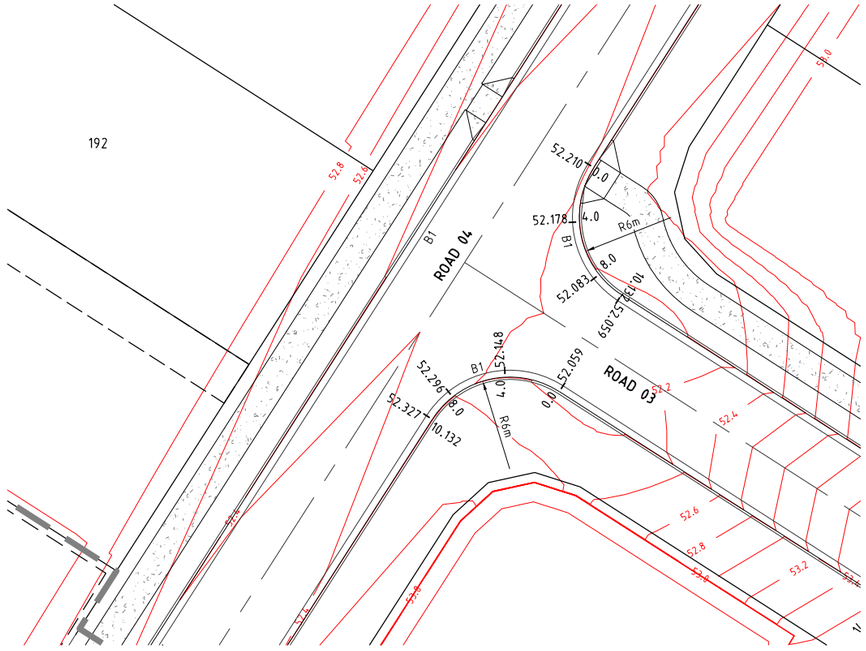
1. SETOUT POINT DENOTES LIP OF KERB WHERE LIP OF KERB, OR FACE OF KERB WHERE NO LIP.
2. FOR KERB TYPES REFER TO SCHEDULE OF KERB TYPES ON DWG. 120



INTERSECTION
ROAD 01, 04 & 10



INTERSECTION
COURTNEY DRIVE & ROAD 07



INTERSECTION
ROAD 03 & ROAD 04

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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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:
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Tel 07 5571 1099

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Southport QLD 4215

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Suite 9, 19 Short St
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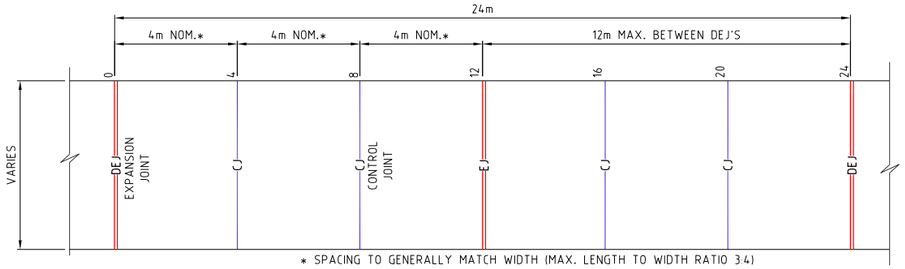
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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-400 REV A

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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 STANDARDS
   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

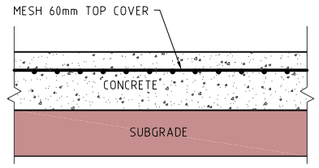
SCALE 1:50 - A1 (1:100 - A3)

0 0.5 1.0 1.5 2.0 2.5m

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

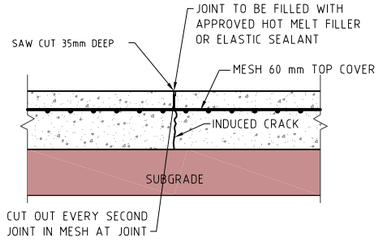
SCHEDULE OF CONCRETE PAVEMENTS					
FUNCTION	SURFACING	SUBGRADE PREPARATION	THICKNESS 'T'	STRENGTH	REINCORCING
FOOTPATH 2m WIDE	HEAVY BROOM FINISH	50mm SAND BLINDING LAYER	100mm	32 mPa	SL 72 MESH
DRIVEWAY STORMWATER BASIN	HEAVY BROOM FINISH	100mm (CBR 15)	175mm	32 mPa	SL 72 MESH

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



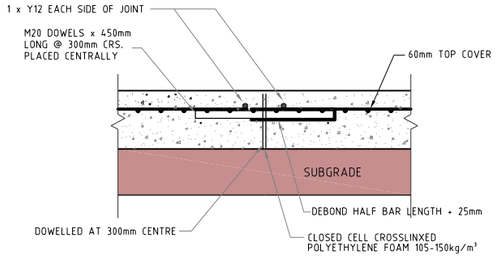
TYPICAL BROOM FINISHED CONCRETE PAVEMENT DETAIL

NOT TO SCALE



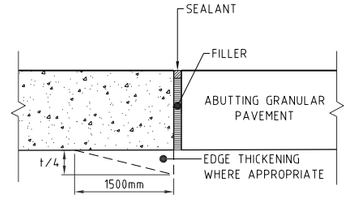
CONTROL JOINT (4m SPACING) (CJ)

NOT TO SCALE



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

NOT TO SCALE



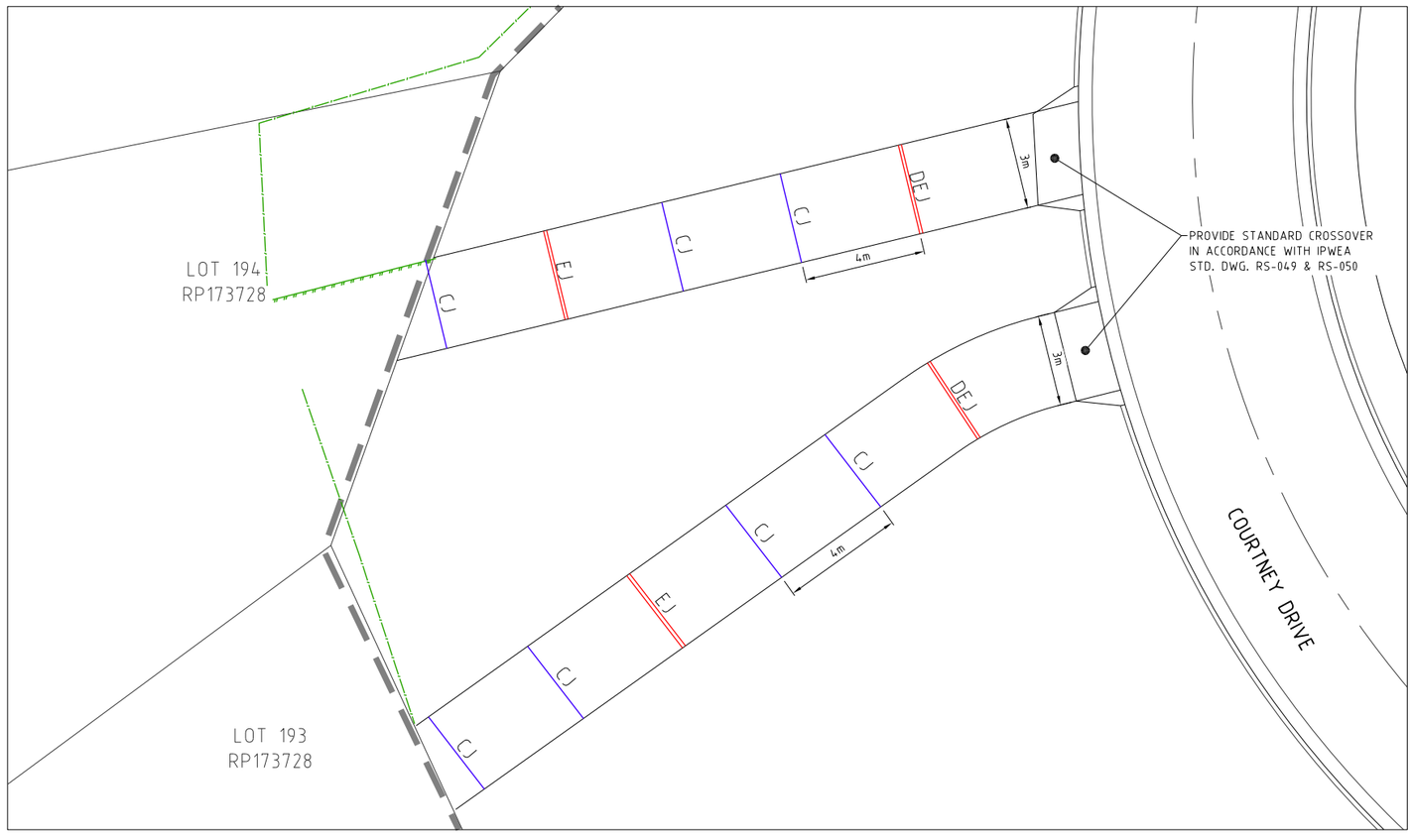
ISOLATION JOINT (IJ)

NOT TO SCALE

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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.



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

CONCRETE JOINTING DETAILS SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
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mortons@urbansolutions.net.au
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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-410

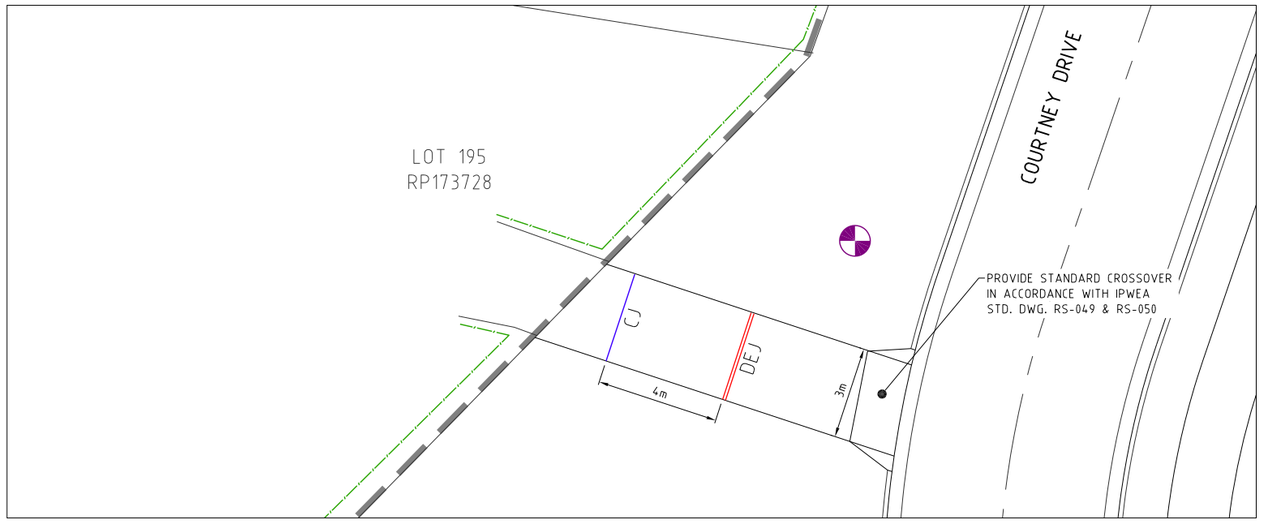
REV A

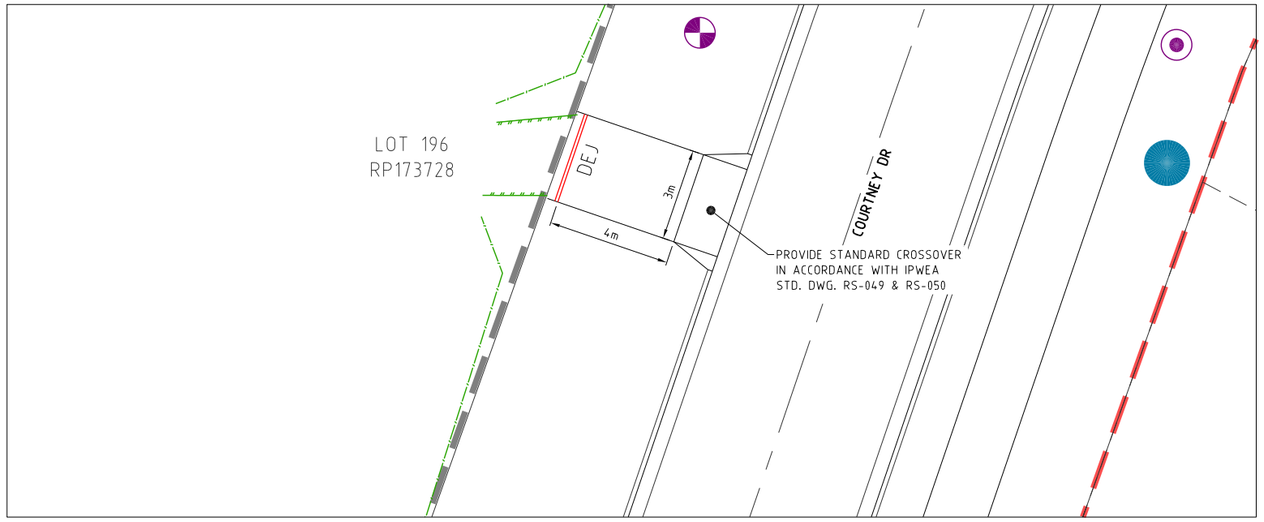
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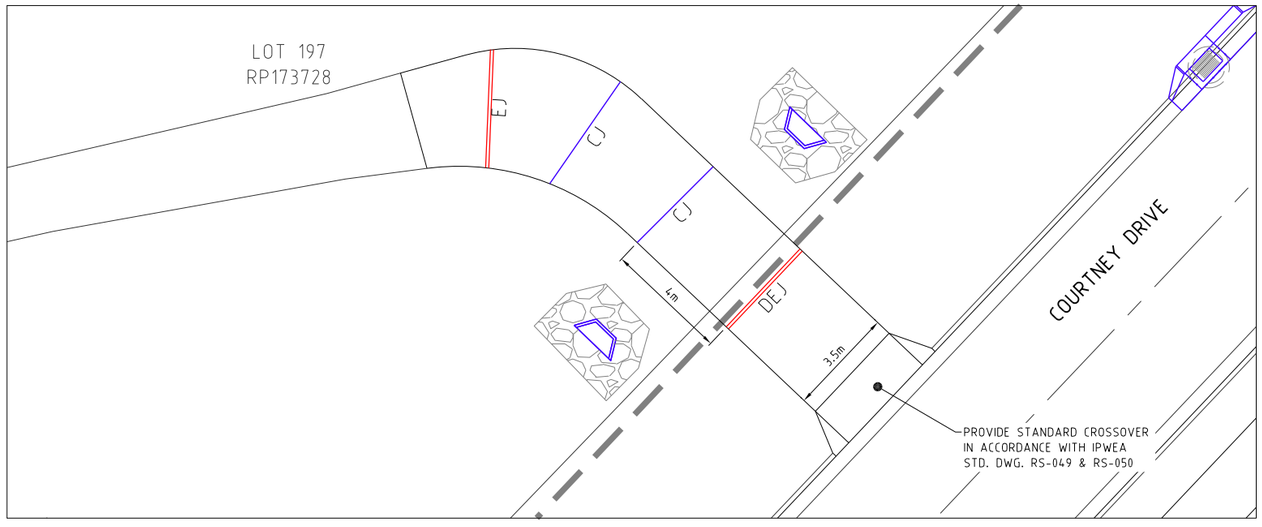
LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB
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- SJ — SAW JOINT
- CJ — CONTROL JOINT
- KJ — KEY JOINT
- 2xN12 BARS AROUND PENETRATIONS TYP.

DIAL BEFORE YOU DIG www.1100.com.au







PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

CONCRETE
JOINTING DETAILS
SHEET 02

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Civil Engineering
Project Coordination
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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-411
REV: A

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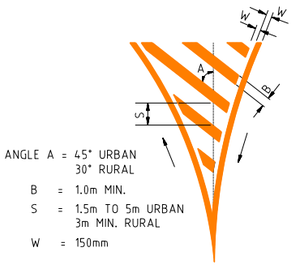
NOTES

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



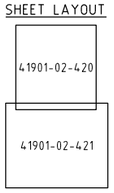
ANGLE A = 45° URBAN
30° RURAL
B = 1.0m MIN.
S = 1.5m TO 5m URBAN
3m MIN. RURAL
W = 150mm

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 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

LINEMARKING & SIGNAGE PLAN SHEET 01

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-420	A

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ADJOINS SHEET 01

ACCESS BASIN 01

STAGE 2

STAGE 3

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

ROAD 06

GIVE WAY R1-2

D4-5 TEMPORARY HAZARD MARKER

G5-1

GML

LL

1006 1005 1007

189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 221 222 223

160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 185

264 265 266 267 268 269 125 126 127 128 122 123 124 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118

NORTH

0 5 10 15 20 25m

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
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BENNETT + BENNETT

DRAWING TITLE

LINEMARKING & SIGNAGE PLAN
SHEET 02

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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

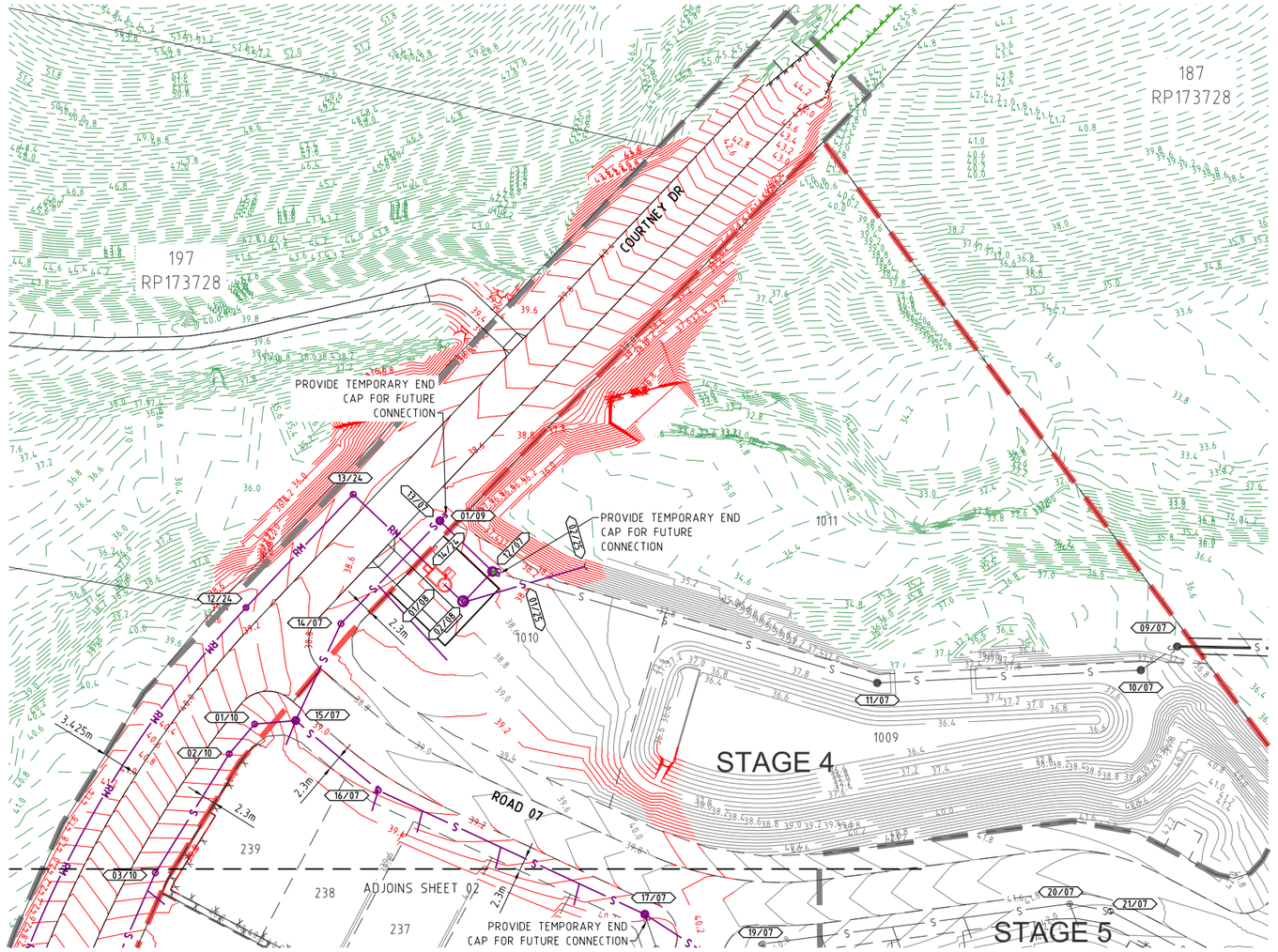
A. THE DESIGN & CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

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 DN160 PE (OR 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.



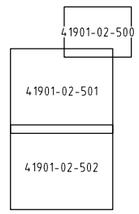
ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

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SEWER PIPE SPECIFICATIONS

SEWER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
GRAVITY VERGE	PVC-U SN8
GRAVITY ROAD CROSSING	PVC-U SN8
HOUSE CONNECTIONS	PVC-U SN10
RISING MAIN TRENCHED	PVC-m SN16
RISING MAIN BORED	PVC-m SN16

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

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	Alteration to existing MH benching required (y/n)
1(A)	PLUG EXISTING STUB FROM MH 10/03 CIVIL CONTRACTOR TO LAY NEW LINE 24 AFTER TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE AND PROVIDE ALL NECESSARY DOCUMENTATION.	150	10/03	Stub from receiving MH	B	-	56.824	56.824	55.383	1.440	N
1(B)	CONTRACTOR TO MAKE LIVE CONNECTIONS UNDER SUPERVISION OF GOLD COAST WATER AND WASTE. AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.										
2(A)	PLUG EXISTING STUB FROM MH 01/20 CIVIL CONTRACTOR TO LAY NEW LINE 20 AFTER TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE AND PROVIDE ALL NECESSARY DOCUMENTATION.	150	01/20	Stub from MH	B	-	62.106	62.106	60.304	1.803	N
2(B)	CONTRACTOR TO MAKE LIVE CONNECTIONS UNDER SUPERVISION OF GOLD COAST WATER AND WASTE. AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.										
3(A)	PLUG EXISTING STUB FROM MH 01/20 CIVIL CONTRACTOR TO LAY NEW LINE 21 AFTER TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE AND PROVIDE ALL NECESSARY DOCUMENTATION.	150	01/20	Stub from MH	B	-	62.106	62.106	60.3843	1.723	N
3(B)	CONTRACTOR TO MAKE LIVE CONNECTIONS UNDER SUPERVISION OF GOLD COAST WATER AND WASTE. AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.										

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

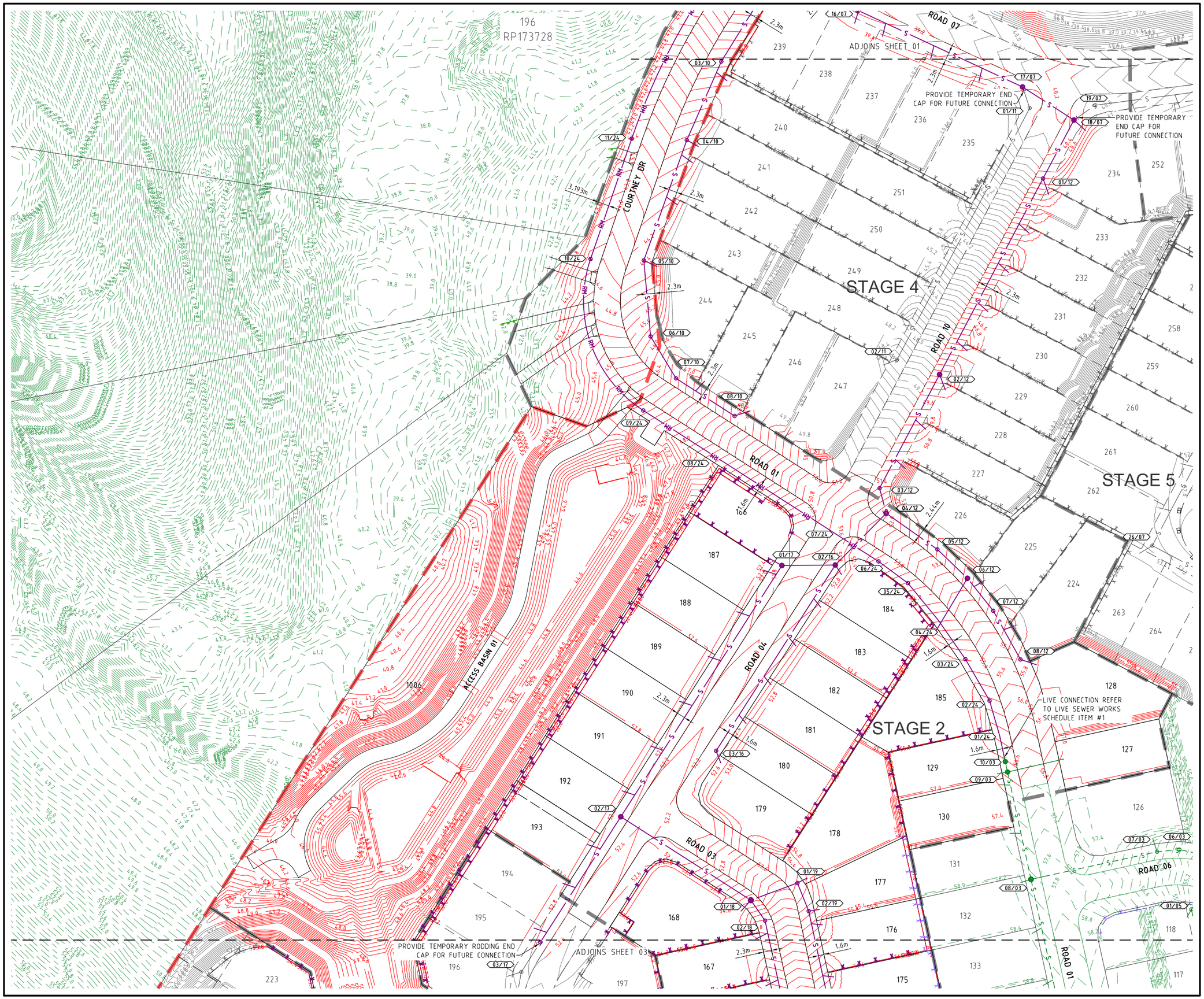
SEWER RETICULATION PLAN
SHEET 01

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		DATE	13-10-23

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

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SEWER RETICULATION PLAN
SHEET 02

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ADJOINS SHEET 02

PROVIDE TEMPORARY RODDING END CAP FOR FUTURE CONNECTION

STAGE 3

STAGE 2

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

LIVE CONNECTION REFER TO LIVE SEWER WORKS SCHEDULE ITEM #3

LIVE CONNECTION REFER TO LIVE SEWER WORKS SCHEDULE ITEM #2

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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DRAWING TITLE

SEWER RETICULATION PLAN
SHEET 03

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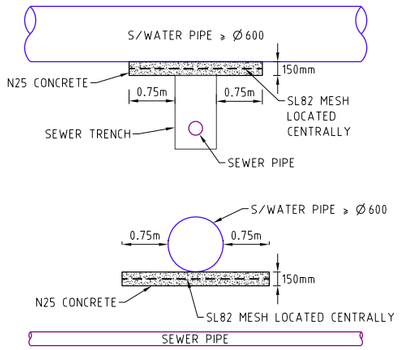
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APPROVED	RPEQ 4706	DATE	13-10-23

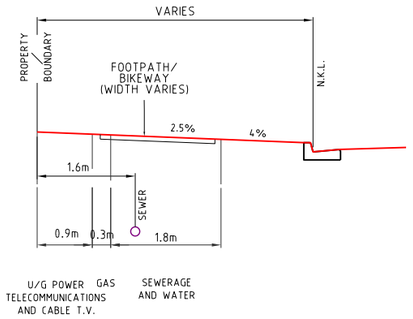
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BRIDGING DETAILS FOR STORMWATER PIPES ≥ Ø600

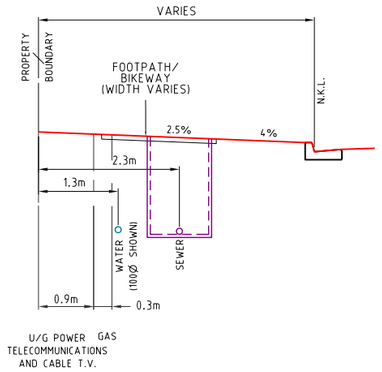
NOT TO SCALE



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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

RP DESCRIPTION

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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)

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SEWER RETICULATION DETAILS

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DRAWING NUMBER: 41901-02-510
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PUMP STATION NOTES

GENERAL

1. THE DETAILS SHOWN ON THIS DRAWING ARE TYPICAL ONLY.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SEQ-SP STANDARD DRAWINGS.
3. DRIVEWAY ACCESS TO ALL PUMP AND LIFT STATIONS SHALL BE PROVIDED AS FOLLOWS:
   (a) LONGITUDINAL GRADE SHALL BE MAXIMUM 10%.
   (b) LOCATED SO VEHICULAR TRAFFIC WILL NOT TRAVERSE THE COVERS.
   (c) HEAVY VEHICLE ACCESS DRIVEWAYS AS PER COUNCIL SPECIFICATIONS SHALL BE REQUIRED.
   (d) IN ACCORDANCE WITH ROAD SAFETY AUDIT PER RELEVANT ROAD AUTHORITY.
4. THE PUMP AND LIFT STATION SITE AREA SHALL BE A MINIMUM OF 250m² OR AS DIRECTED BY THE SEQ-SP. THE SURROUNDS SHALL BE LANDSCAPED WITH SHRUBS AND MULCH. INTERNAL LANDSCAPING - WEED MAT AND MULCH.
5. PUMP STATION PLATFORM SHALL BE PROFILED TO SLOPE 1 IN 100 AWAY FROM OPENINGS AND SWITCHBOARD PLINTH & THEN BATTER AT 1 IN 6 (MAX.) TO NATURAL SURFACE.
6. IN RURAL OR ISOLATED AREAS, OR WHERE REQUIRED BY SEQ-SP, PROVIDE A 1.8m HIGH SECURITY FENCE FITTED DOUBLE LEAF LOCKABLE GATE PROVIDING A 4.0m WIDE CLEAR OPENING. IN URBAN AREAS PROVIDE A GATE AND BOLLARDS TO COUNCIL'S STANDARD FORMAT.
7. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. ACCESS ROAD SHALL THE SAME FLOOD IMMUNITY CRITERIA AS REQUIRED FOR CONNECTING ROADS.
9. A KNIFE GATE VALVE ARE NOT REQUIRED ON THE DOWNSTREAM OUTLET. FOR INLET MH WITH LARGER SEWER, SEE SEQ-SPS FOR REQUIRED DISTANCE FOR BATTERS TO THE SPS OR ACCESS DRIVEWAY.

NOTE

1. REFER TO LANDSCAPE DRAWINGS FOR PUMP STATION SITE LANDSCAPE WORKS
2. ELECTRICAL PROPERTY SERVICE TO BE INSTALLED FROM ELECTRICAL PILLAR

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
- 01-10 SEWER PIT NO/LINE

SEQ CODE SEWER NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SEQ-SP-1300-7 AND 1300-8.
2. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
3. PUMP BASEPLATES AND GUIDE RAILS SHALL BE FIXED TO THE FLOOR AND TOP OF SLAB WITH GRADE 316 STAINLESS STEEL DROP FLUSH ANCHOR MASONRY FASTENERS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
4. PROVIDE STAINLESS STEEL RISER PIPE SUPPORT BRACKETS AT 2500 MAX. CENTRES FIXED TO WALL WITH GRADE 316 S/S MASONRY FASTENERS. REFER NOTE 6.
5. ALL INTERNAL VERTICAL, SOFFIT & COVER OPENING WET WELL SURFACES SHALL HAVE AN APPROVED POLYETHYLENE LINER (MIN 2.5mm THICK) MECHANICALLY BONDED TO WALL VIA ANCHORS CAST INTO CONCRETE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. POLYETHYLENE LINING SHALL BE AS PER SEQ-SP ACCEPTED PRODUCTS AND MATERIALS LIST. BENCHING SHALL NOT BE PE LINED.
6. ALL ENTRIES THROUGH THE CONCRETE STRUCTURE AND ALL FITMENT HOLES THROUGH THE POLYETHYLENE LINER SHALL BE SEALED WITH AN APPROVED SEALANT IN ACCORDANCE WITH DWGS SEQ-SPS-1407-1 AND SEQ-SPS-1407-2.
7. FALL ARREST FLUSH MOUNT ANCHORAGE POINT. REFER SEQ-SP ACCEPTED PRODUCTS AND MATERIALS LIST.
8. CoGC - PE100 PIPE BETWEEN INLET MAINTENANCE HOLE AND WET WELL, NO ROCKER PIPE ARRANGEMENT.

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER PUMP STATION NOTES

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-520
REV A

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COURTNEY DR

RM

S

00.0M

32mm PE100 POTABLE WATER SERVICE WITH 25mm METER

SEWER RISING MAIN, REFER TO DWG. 41901-02-537 FOR SEWER PROFILE OF LINE 24

DN80 PVC RISING MAIN

2.2m

1.283m

12m

4m

ELECTRICAL SUPPLY MAINS BY OTHERS. ALIGNMENT INDICATIVE ONLY

VALVE CHAMBER

RPZ DEVICE IN ACCORDANCE WITH SEQ-SPS-1308-01

SWITCHBOARD PLINTH

SWITCHBOARD

VENT POLE OR ODOUR CONTROL AS PER ODOUR IMPACT ASSESSMENT

2.1m PUMP WELL

FUTURE BENCHING FOR EXTERNAL TRUNK SEWER MAIN

Ø225 EMERGENCY OVERFLOW PIPE

1500 DIA CONCRETE MANHOLE WITH 600 DIA CLASS B LID

4m WIDE CONCRETE DRIVEWAY IN ACCORDANCE WITH SEQ-SPS-1102-1

A 522

01/09 · 37.07 · 01/08 · 02/08 · 02/07 · 01/25 · 02/25

38.2 38.0 38.4 38.6 38.8 36.8 37.0 37.2 37.4

REFER INSET

REFER BELOW RIGHT

NON-RETURN FLAP WITH CONCRETE SURROUND

INSET
EMERGENCY OVERFLOW OUTLET

1010

NOTE

1. REFER TO DWG. SEQ-SPS-1300-1 TO SEQ-SPS-1300-5.
2. REFER TO DWG. SEQ-SPS-1300-7 TO SEQ-SPS-1300-8 FOR ALL NOTES RELATING TO THE CONSTRUCTION REQUIREMENTS.
3. SEQW-SP SHALL INSTALL A DN25 WATER METER AFTER AN APPLICATION STATING THE NUMBER & NAME OF THE PUMP STATION & THE PRESCRIBED FEES HAVE BEEN PAID. THE APPLICATION SHALL BE IN THE NAME OF SEQ-SP
4. REFER TO LANDSCAPE DRAWINGS FOR PUMP STATION SITE LANDSCAPE WORKS.
5. ELECTRICAL PROPERTY SERVICE TO BE INSTALLED FROM ELECTRICAL PILLAR.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER PUMP STATION LAYOUT

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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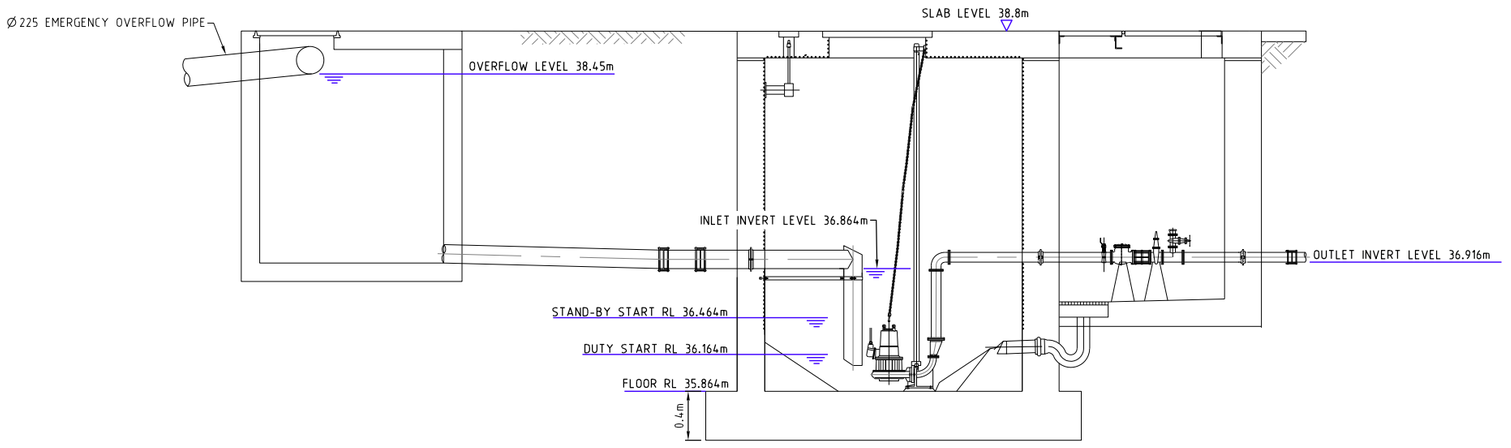
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

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DRAWING NUMBER	REV
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SECTION A-A

N.T.S.

NOTES.

1. ALL CRITICAL LEVELS AND DIMENSIONS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING CONSTRUCTION.
2. PUMP STATION LID THICKNESS SHALL ALLOW FOR RECESSED DAVIT BASE - MIN 250.
3. PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP ON INSIDE & OUTSIDE FACE OF ALL PUDDLE FLANGES.
4. ALL WALL PENETRATIONS SHALL BE VIA CONCRETE BLOCKOUT WITH WATER PROOFING AS PER NOTE 3.
5. WHERE CONSTRUCTION JOINTS ARE REQUIRED, PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP.
6. SPACING BETWEEN PUMPS AND CLEARANCE BETWEEN PUMP & FINISHED FLOOR SHALL BE IN ACCORDANCE WITH PUMP MANUFACTURER'S RECOMMENDATIONS.
7. BENCHING SHALL BE CLEAR OF PIPEWORK & BOLTS AS PER PUMP MANUFACTURER RECOMMENDATIONS.
8. FOR DETAILS OF LEVEL SENSORS AND OTHER ELECTRICAL EQUIPMENT, REFER TO APPROPRIATE SEQ-SP ELECTRICAL SPECIFICATIONS.
9. CoGC - PE100 PIPE BETWEEN INLET MAINTENANCE HOLE AND WET WELL, NO ROCKER PIPE ARRANGEMENT.
10. PUMP PEDESTAL SHALL COMPLY WITH WSA 101 SPECIFICATION. UNITYWATER REQUIRES "FORRERS" TYPE PEDESTAL AND "FORRERS" LOCKING PLATE FITTED TO PUMP. WHERE THE PUMP OPERATING HEAD IS MORE THAT 45 m AND/OR THE PUMP DISCHARGE SIZE IS LESS THAN THE LOCKING PLATE SIZE, THEN THE PUMP VENDOR'S STANDARD PEDESTAL/ LOCKING PLATE MAY BE USED.
11. DI (DUCTILE IRON) COATING SHALL BE TBP (THERMAL BONDED POLYMERIC) IN ACCORDANCE WITH AS 4158. TPB COATINGS INCLUDE FBE (FUSION BONDED EPOXY) (THERMOSETTING COATING) AND POLYAMIDE (THERMOPLASTIC) COATINGS.

	ITEM	LEVEL (AHD)	HEIGHT FROM BASE (m)
A	TOP OF SLAB	38.800	
B	INLET	36.864	
C	DUTY START	36.164	
D	PUMP STOP		
E	FLOOR SLAB	35.864	
F	PUMP STATION DEPTH		2.963
G	PLUG DEPTH	35.464	0.400
H	EXISITNG GROUND LEVEL		
I	STANDBY START	36.464	
J	HIGH LEVEL ALARM	36.764	
K	OVERFLOW LEVEL	38.450	
L	PER-OVERFLOW ALARM		
M	Q100/STORM SURGE LEVEL	35.200	

LEVELS PROVIDED DIAGRAMMATICALLY ONLY AND ARE SUBJECT TO DETAILED DESIGN BY OTHERS.
REFER SEQ STD DAWNING SEQ-SPS-1300-2 FOR DETAIL OF 2.4m WET WELL AND CORRESPONDING ITEM LOCATIONS.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER PUMP STATION SECTION

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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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

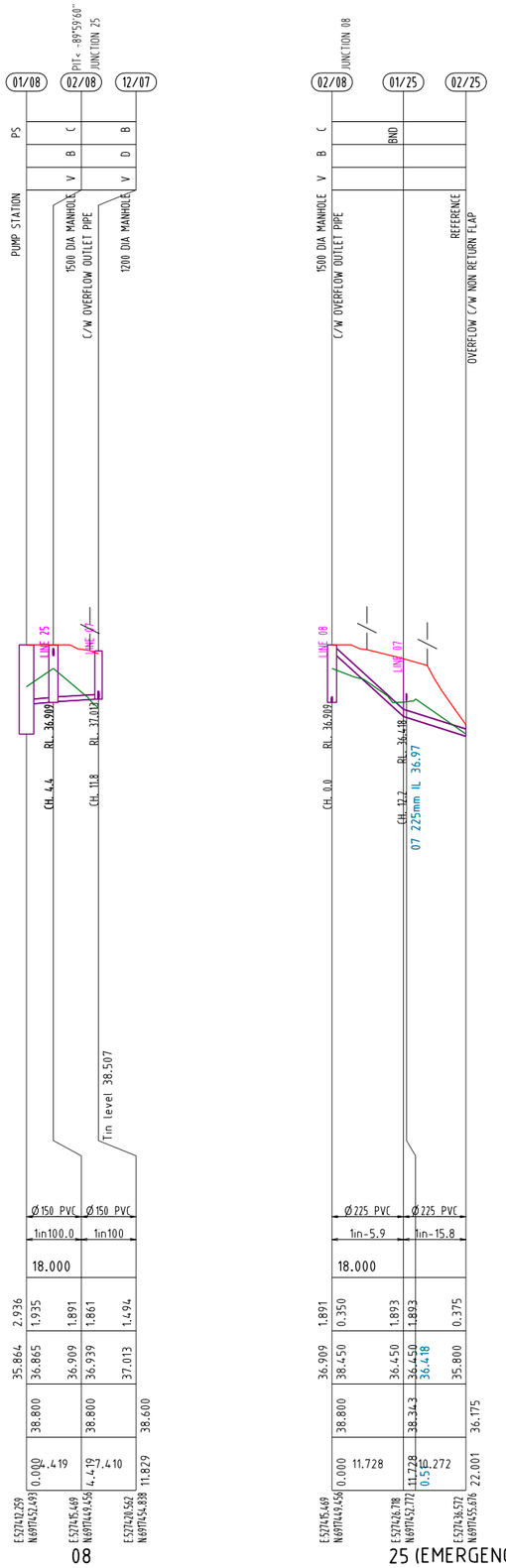
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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.



PIPE DIAMETER (mm)
PIPE GRADE
DATUM R.L.

LINE NO.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

REV	DATE	DESCRIPTION	INT
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ASSOCIATED CONSULTANTS

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BENNETT+BENNETT

DRAWING TITLE

SEWER PUMP STATION PROFILES

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Urban & Regional Planning
Civil Engineering
Project Coordination

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APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER: 41901-02-525
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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

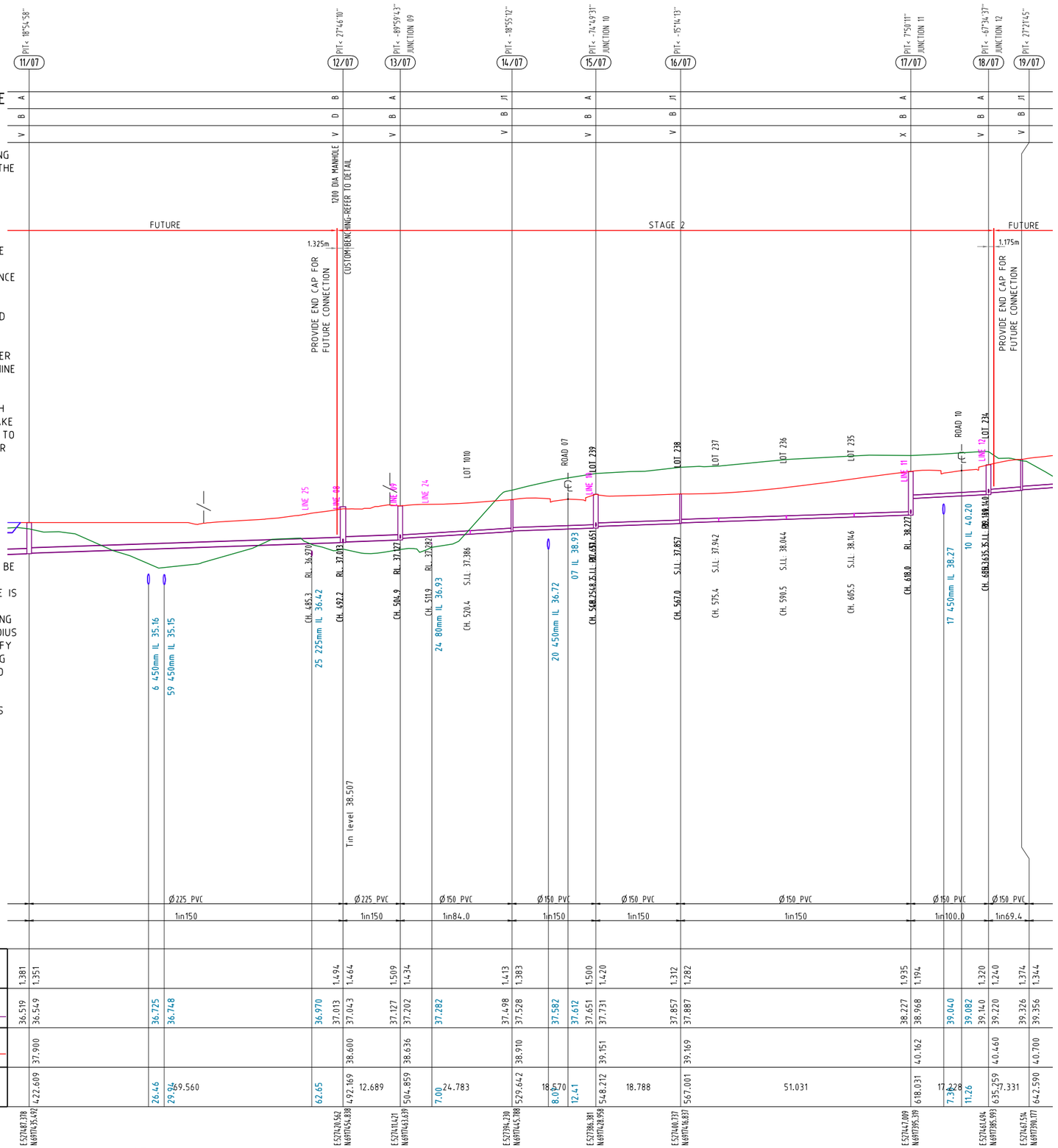
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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

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4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
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LINE NO. 07

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 01

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

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-530
REV A

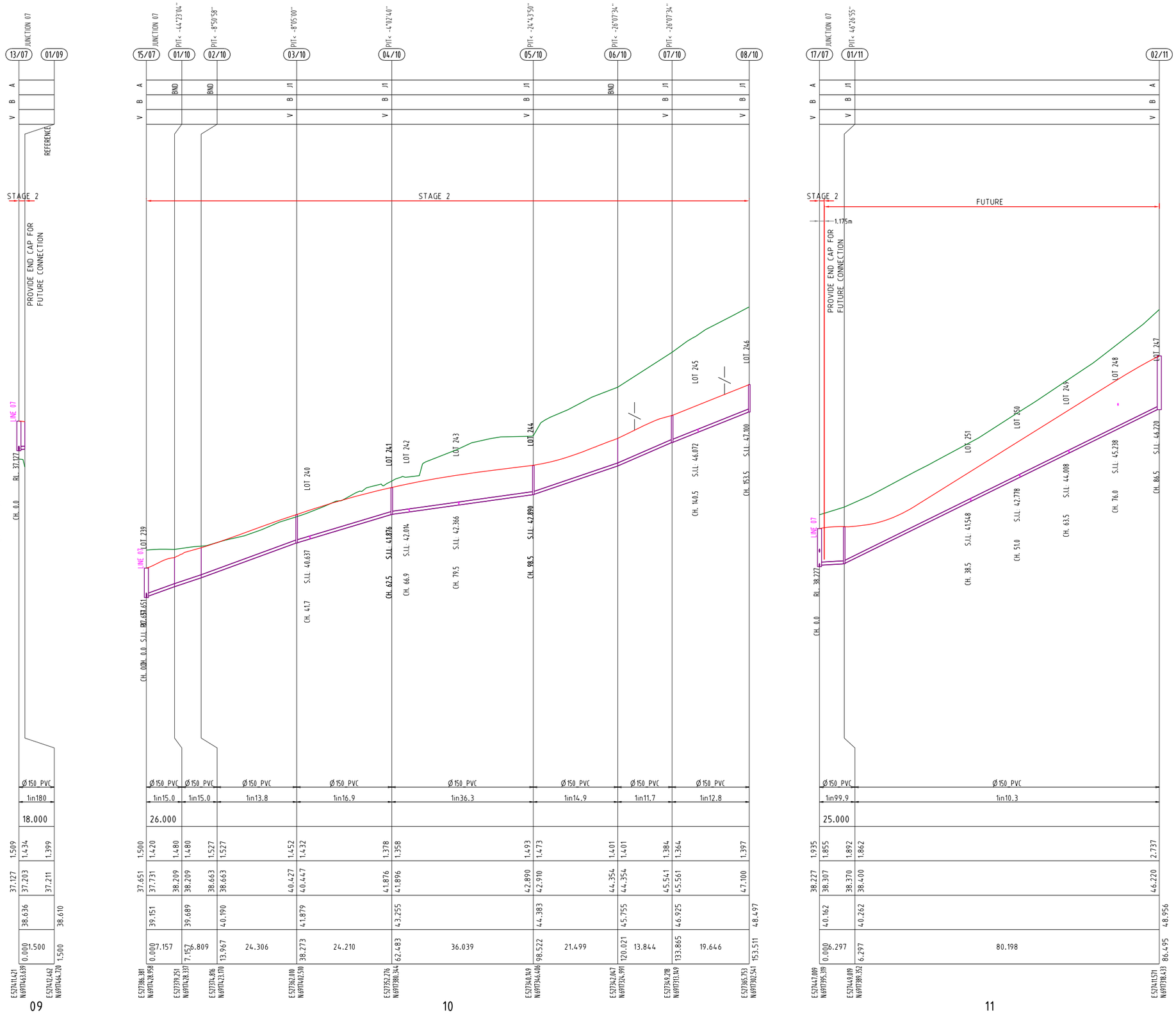
STRUCTURE TYPE
LID CLASS
DROP TYPE

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

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3. ALL PRESSURE MAIN uPVC SEWER PIPE TO BE CLASS SN16 U.N.O.
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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.



LINE NO.

09 10 11

PIPE DIAMETER (mm)
PIPE GRADE
DATUM R.L.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 02

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-531	A

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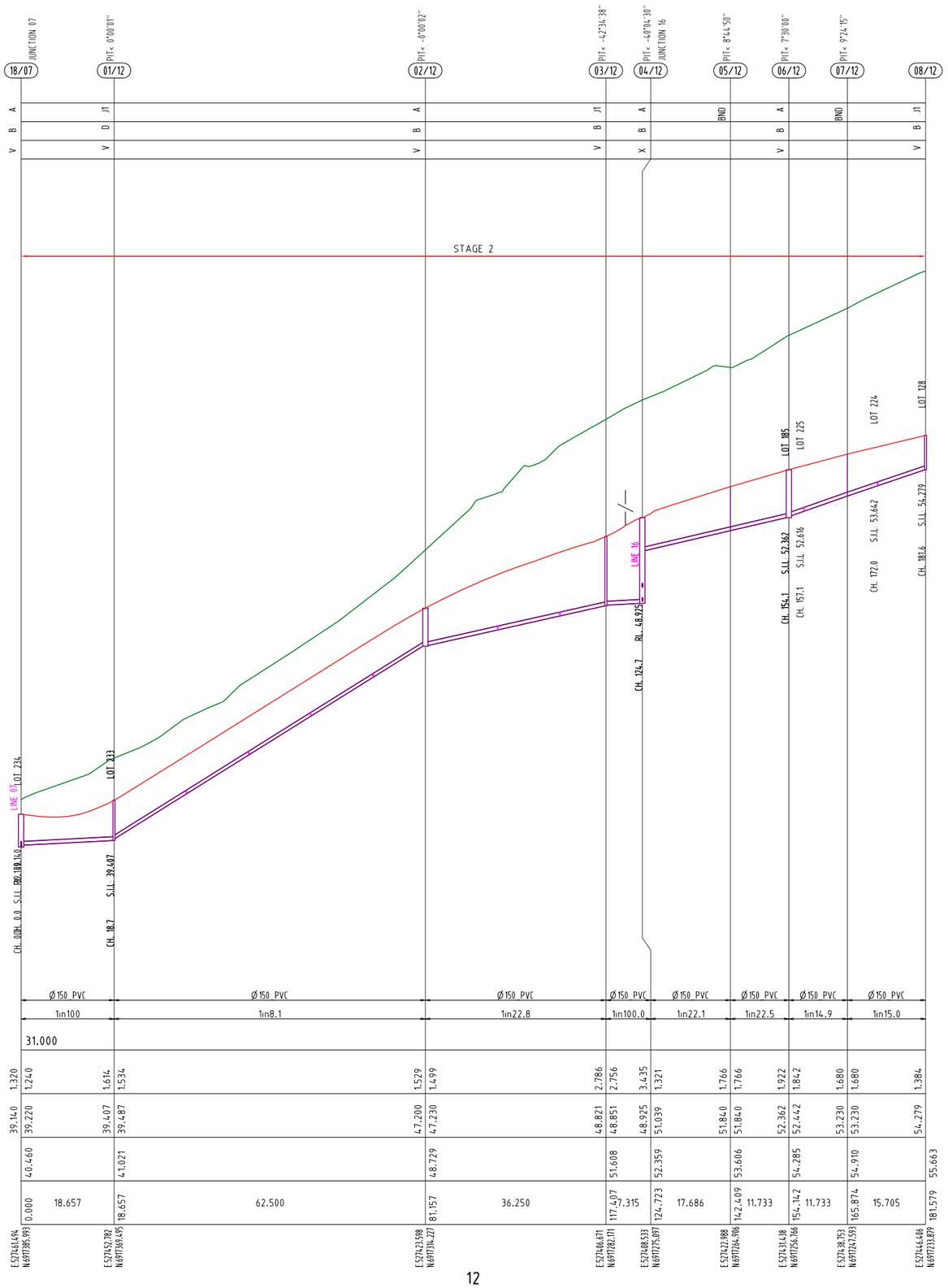
STRUCTURE TYPE
LID CLASS
DROP TYPE

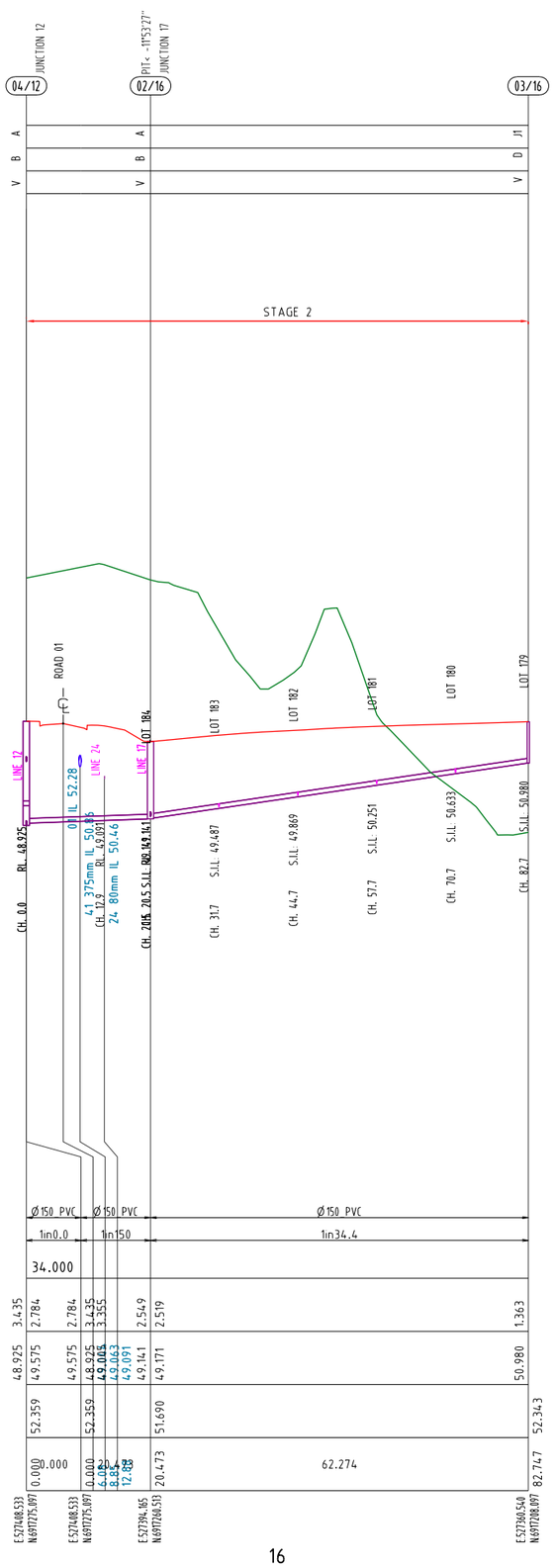
* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

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

NOTES

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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.





LINE NO.

12

16

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 03

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-532
REV: A

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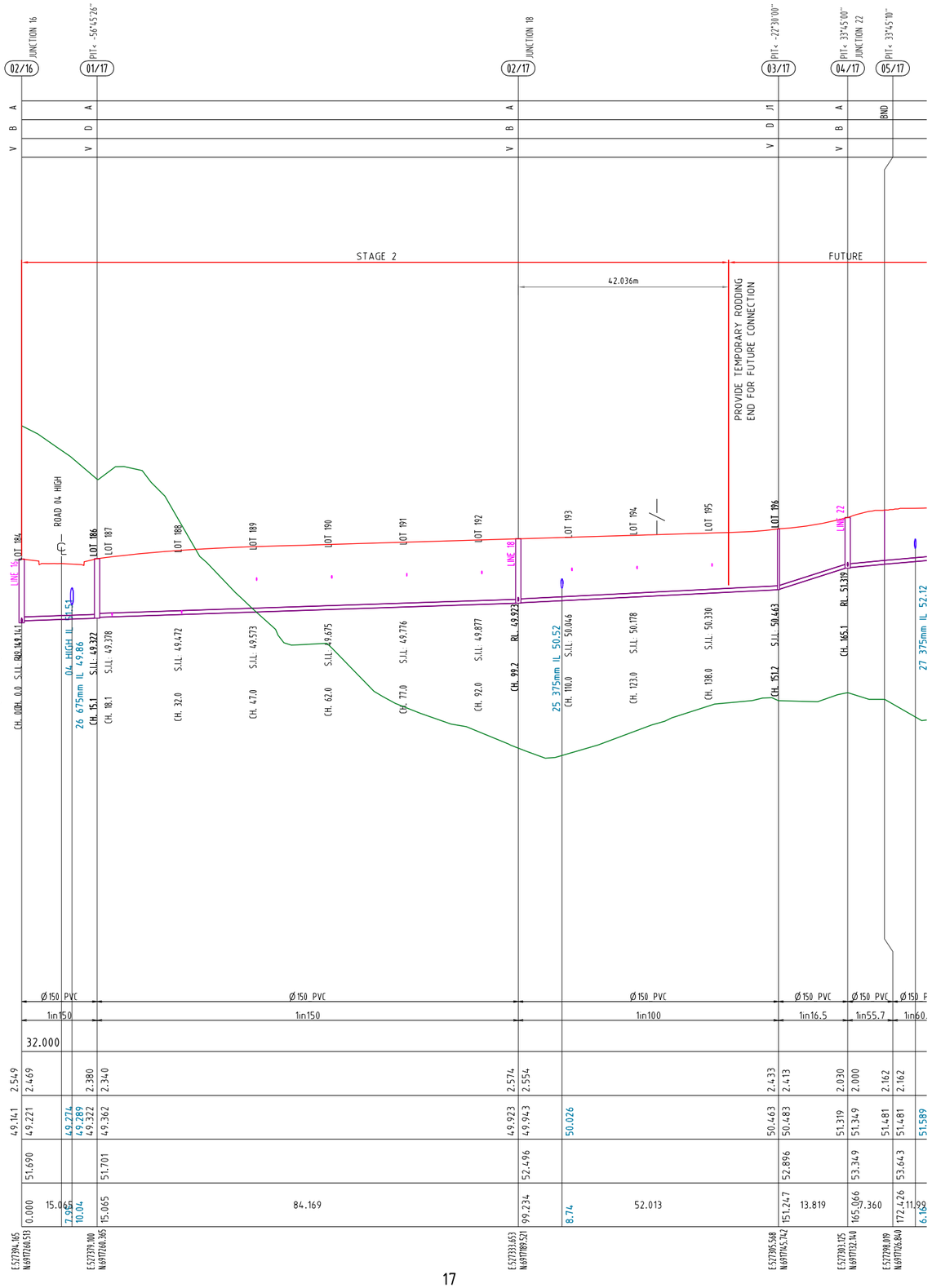
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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

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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.



PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 04

MORTONS urbansolutions
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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ	4706
		DATE	13-10-23

DRAWING NUMBER	REV
41901-02-533	A

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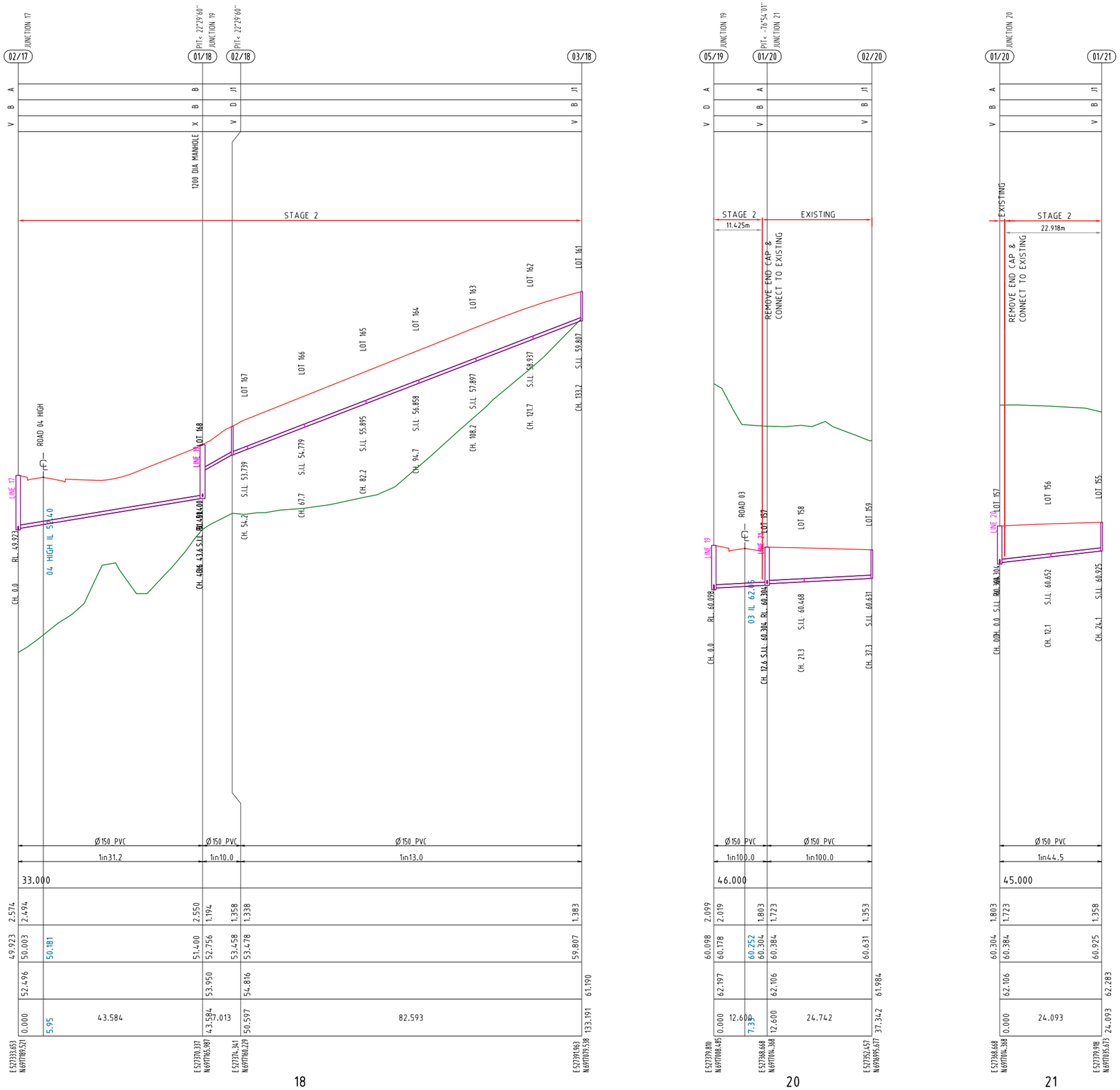
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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

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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.



PIPE DIAMETER (mm)	Ø150 PVC	Ø150 PVC	Ø150 PVC
PIPE GRADE	1in31.2	1in10.0	1in13.0
DATUM R.L.	33.000		
DEPTH TO INVERT	2.574 / 2.494	2.550 / 1.194	1.358 / 1.338 — 1.383
PIPE INVERT LEVELS	49.923 / 50.003	50.181	51.400 / 52.756	53.458 / 53.478 — 59.807
DESIGN SURFACE LEVELS	52.496	53.950	54.816 — 61.190
CHAINAGE	0.000 / 5.95	43.584	43.584 / 57.013	50.597	82.593 — 133.191
	E527333.653 N6917089.521	E527370.337 N6917065.981	E527374.341 N6917068.229	E527391.963 N6917079.538

LINE NO. 18

PIPE DIAMETER (mm)	Ø150 PVC	Ø150 PVC	Ø150 PVC
PIPE GRADE	1in100.0	1in100.0	
DATUM R.L.	46.000		
DEPTH TO INVERT	2.099 / 2.019	1.803 / 1.723 — 1.353
PIPE INVERT LEVELS	60.098 / 60.178	60.252 / 60.304	60.384 — 60.631
DESIGN SURFACE LEVELS	62.197	62.106 — 61.984
CHAINAGE	0.000	12.600 / 7.337	12.600	24.742 — 37.342
	E527379.819 N6917088.485	E527368.668 N6917074.368	E527352.457 N6916995.677

LINE NO. 20

PIPE DIAMETER (mm)	Ø150 PVC	Ø150 PVC	
PIPE GRADE	1in44.5		
DATUM R.L.	45.000		
DEPTH TO INVERT	1.803 / 1.723	1.358
PIPE INVERT LEVELS	60.304 / 60.384	60.925
DESIGN SURFACE LEVELS	62.106 — 62.283
CHAINAGE	0.000	24.093	24.093
	E527368.668 N6917074.368	E527379.998 N6917035.673

LINE NO. 21

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
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BENNETT + BENNETT

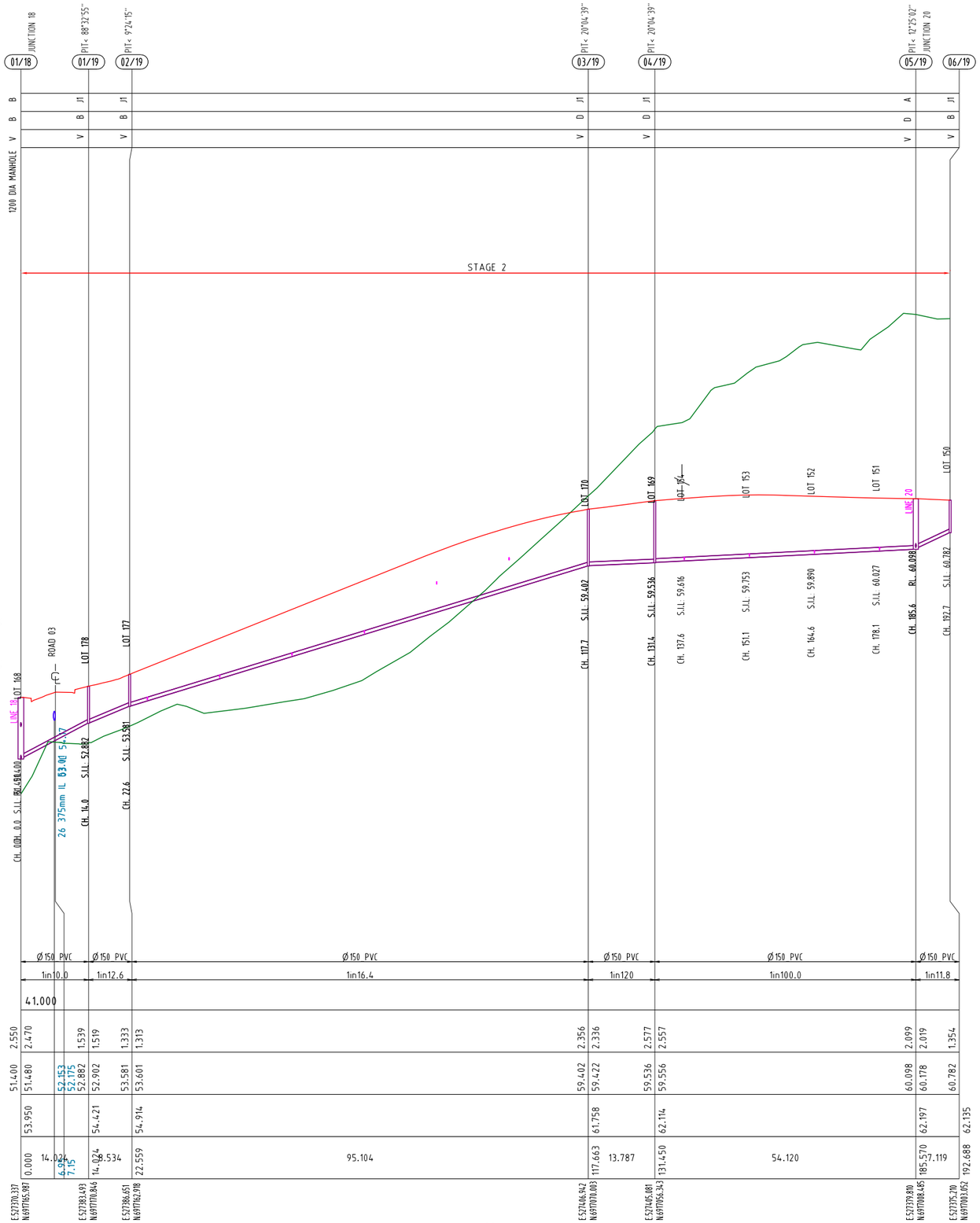
DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 05

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Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-534 REV A



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

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PIPE DIAMETER (mm)

PIPE GRADE

DATUM R.L.

DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
CHAINAGE

LINE NO.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	INIT
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 06

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Gold Coast Office
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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ	4706
		DATE	13-10-23

DRAWING NUMBER 41901-02-535

REV A

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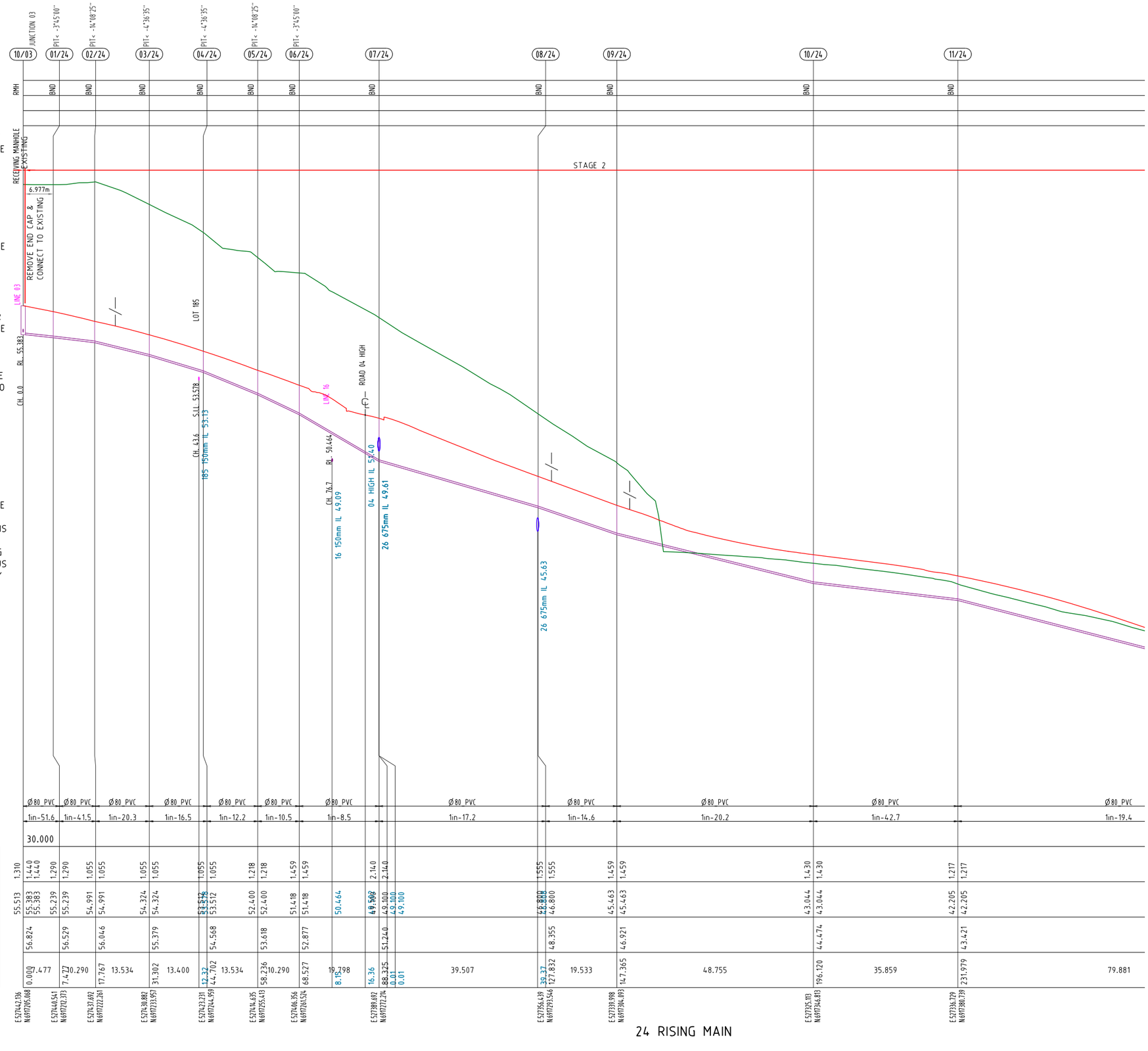
STRUCTURE TYPE
LID CLASS
DROP TYPE

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

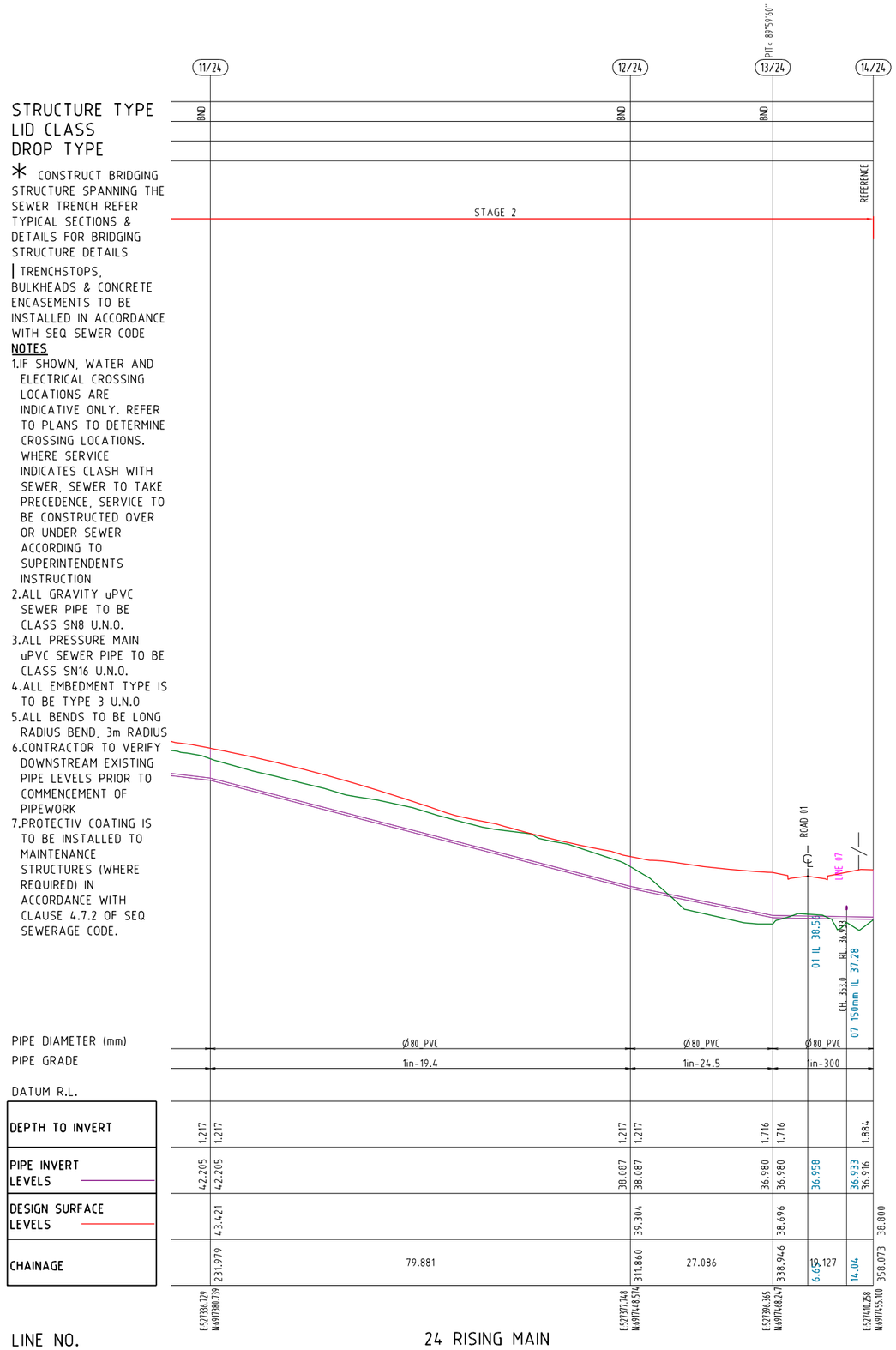
SEWER RETICULATION
PROFILES
SHEET 07

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

DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-536 REV A

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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

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LINE NO. 24 RISING MAIN

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 08

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DESIGNED RB	DRAWN EP
APPROVED RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-537
REV A

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RIGS STRUCTURE DROPS

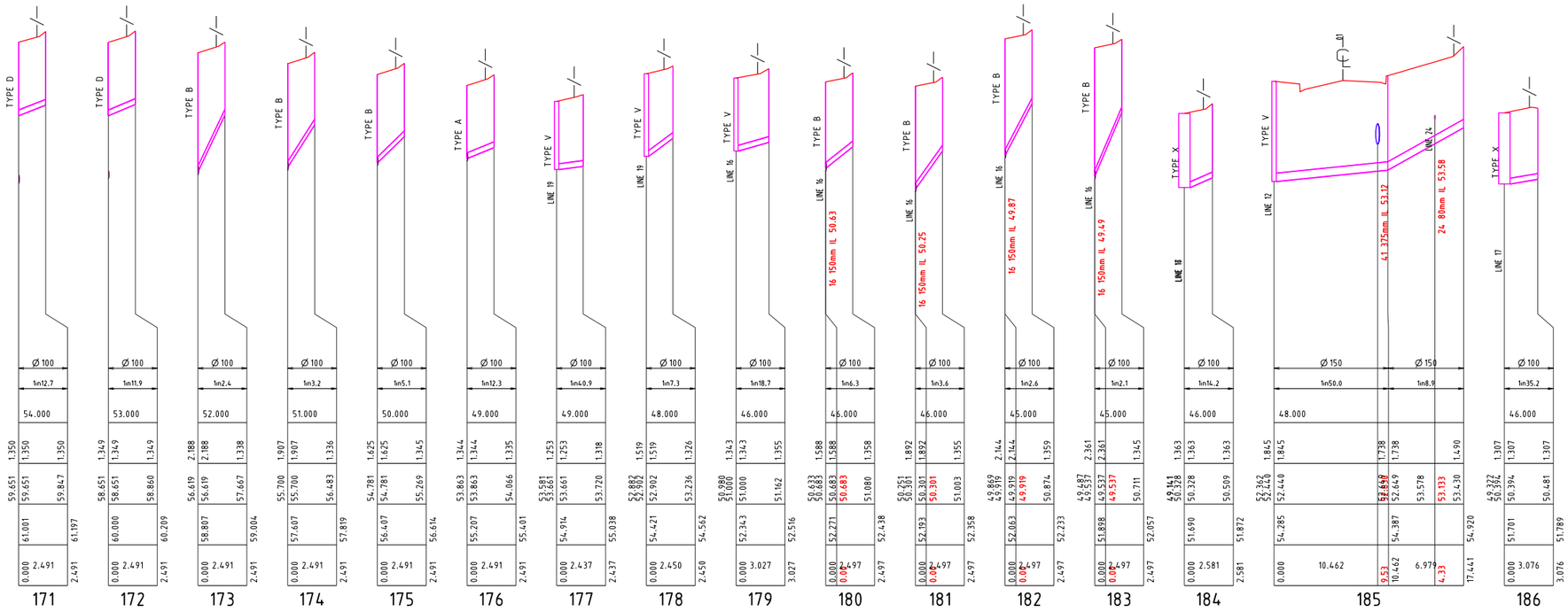
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B	SEWER PROPERTY CONNECTION (SLOPED CONNECTION) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
D	SEWER PROPERTY CONNECTION (VERTICAL RISER) REFER TO SEQ STD DWG SEQ-SEW-1105-1
V	SEWER PROPERTY CONNECTION (STRAIGHT THROUGH SEWER) REFER TO SEQ STD DWG SEQ-SEW-1303-1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

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NOTES

1. WATER AND 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 SUPERINTENDANTS INSTRUCTION.

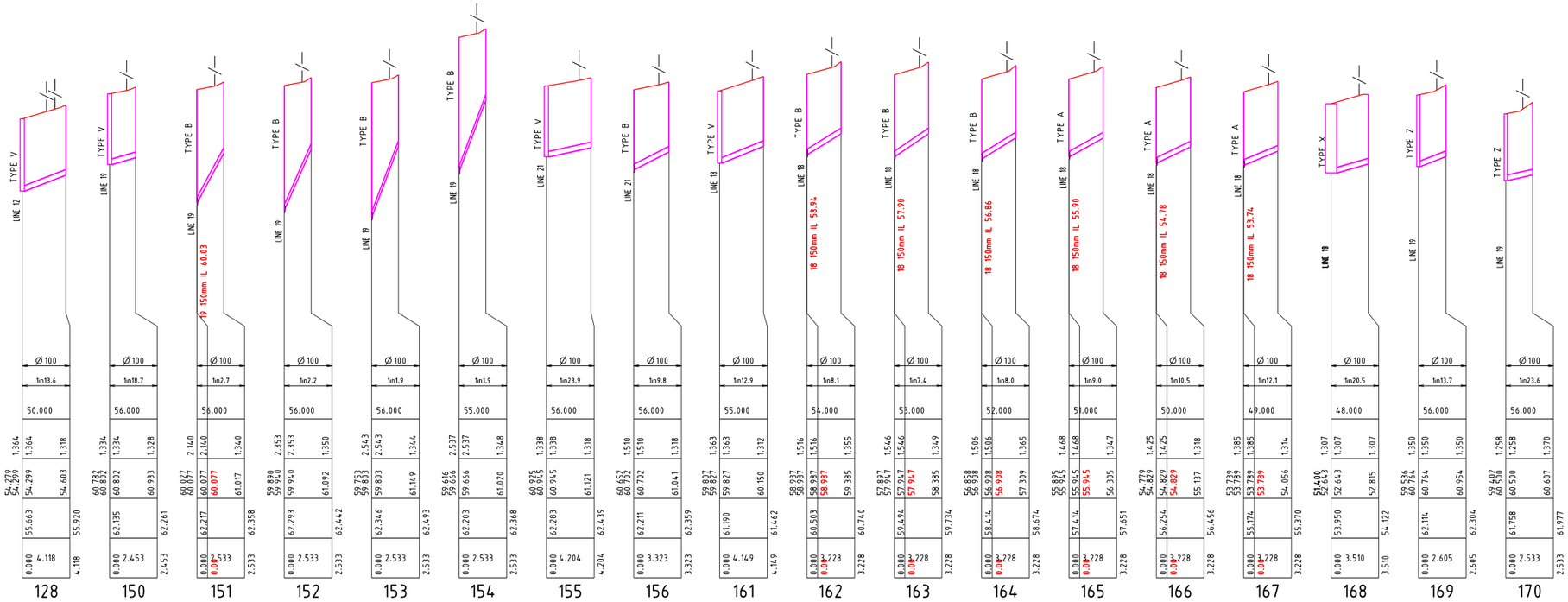
2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE



NOTES

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

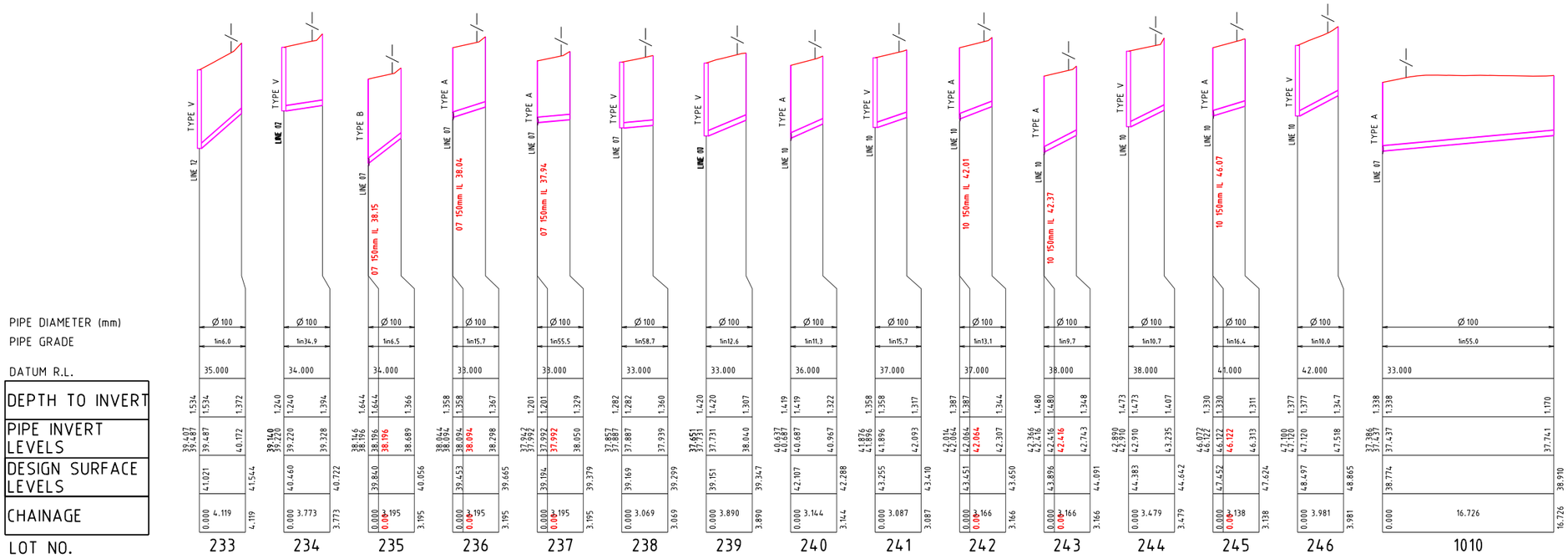
SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 01

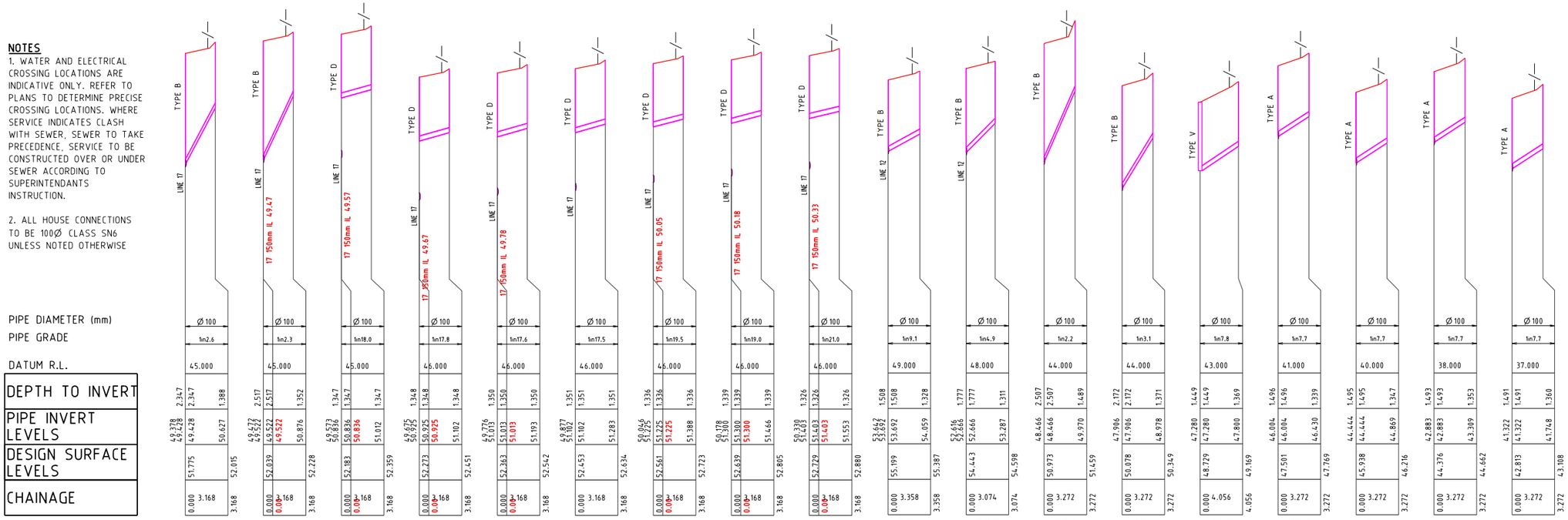
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		DATE	13-10-23

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NOTES

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	
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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 02

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STORMWATER

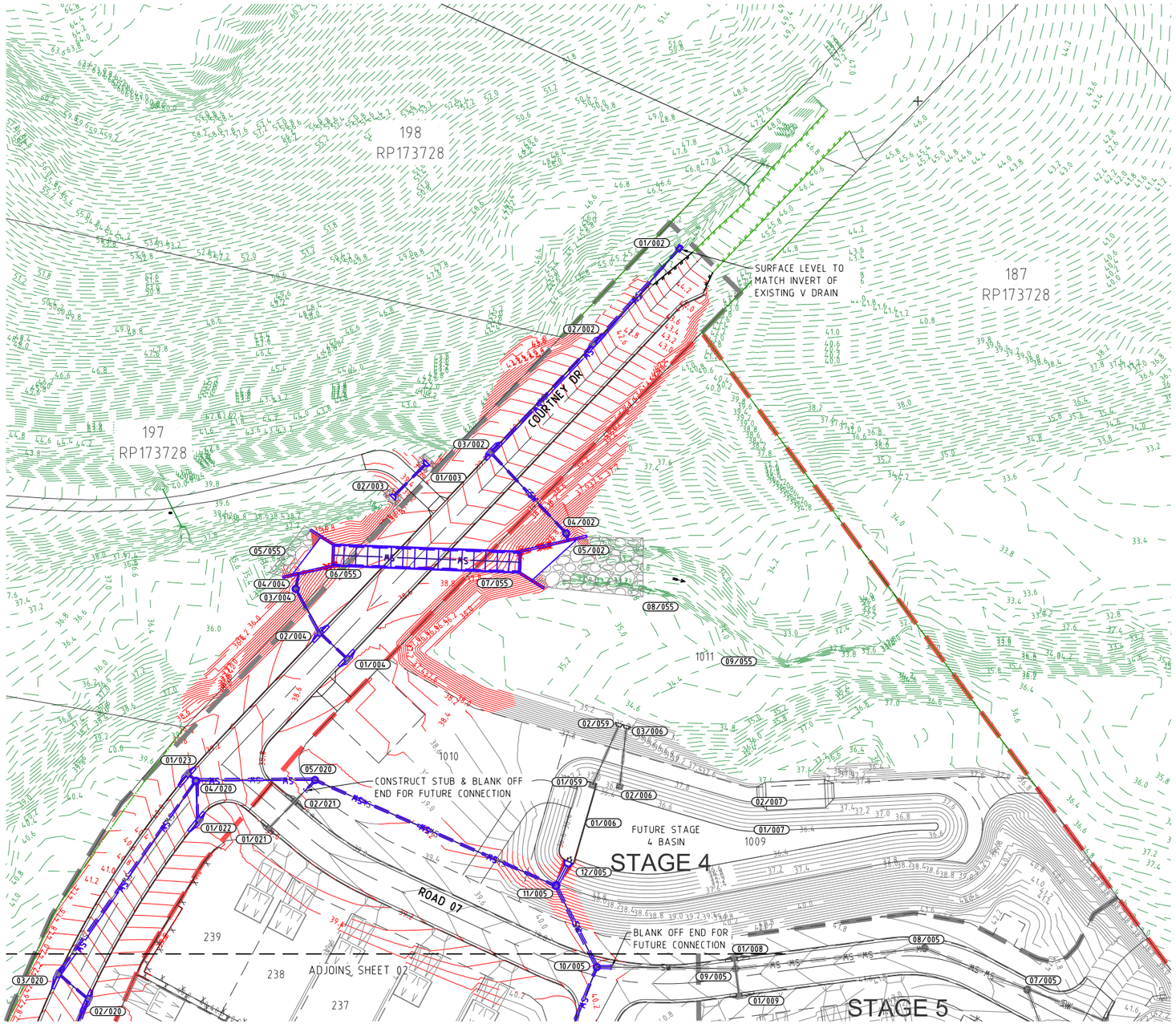
1. ALL FIELD GULLIES SHALL CONTAIN A 150mm DIA STUB 600mm BELOW GRADE LEVEL FOR FUTURE ROOFWATER DRAINAGE.
2. MANHOLES TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING No DS-010, DS-015, DS-018, DS-019, DS-020, DS-021 OR STRUCTURAL DRAWINGS (STRUCTURAL DRAWINGS TAKE PRECEDENCE).
3. OUTLET HEADWALLS TO 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
- EXISTING ROOFWATER
- EXISTING SUBSOIL
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- FUTURE STORMWATER
- FUTURE ROOFWATER
- FUTURE SUBSOIL
- SITE BOUNDARY
- STAGE BOUNDARY
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS
- PROPOSED STORMWATER
- PROPOSED ROOFWATER
- PROPOSED SUBSOIL
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION

SHEET LAYOUT

- 41901-02-600
- 41901-02-601
- 41901-02-602



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.

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

STORMWATER DRAINAGE PLAN SHEET 01

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196
RP173728

ADJOINS SHEET 01

ADJOINS SHEET 03

COURTNEY DR

ROAD 07

ROAD 10

ROAD 01

ROAD 04

ROAD 03

ROAD 06

ACCESS BASIN 01

STAGE 4

STAGE 2

STAGE 5

BLANK OFF END FOR FUTURE CONNECTION

BLANK OFF END FOR FUTURE CONNECTION. PIT & LINTEL TO BE CONSTRUCTED AS PART OF FUTURE WORKS.

BLANK OFF END. LINTEL TO BE CONSTRUCTED AS PART OF FUTURE WORKS.

BIORETENTION BASIN A2b
REFER TO DETAILS ON
DWG 41901-02-660

BIORETENTION BASIN A2b
FILTER MEDIA= 290m²

4m WIDE GRAVEL
MAINTENANCE
ACCESS

15m WIDE
HIGHFLOW WEIR

BIORETENTION BASIN
A2a REFER TO DETAILS
ON DWG 41901-02-661

BIORETENTION BASIN A
DETENTION VOLUME= 1966m³

BIORETENTION BASIN A2a
FILTER AREA = 290m²

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 02

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41901-02-601	A

BLANK OFF END. LINTEL TO BE CONSTRUCTED AS PART OF FUTURE WORKS.

ADJOINS SHEET 02

LOCALISED EARTHWORKS IN THIS AREA TO MAINTAIN CHANNEL PROFILE THROUGH ROAD 02. STORMWATER CULVERT TO BE INSTALLED AS PART OF STAGE 3 WORKS.

STAGE 3

STAGE 2

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 03

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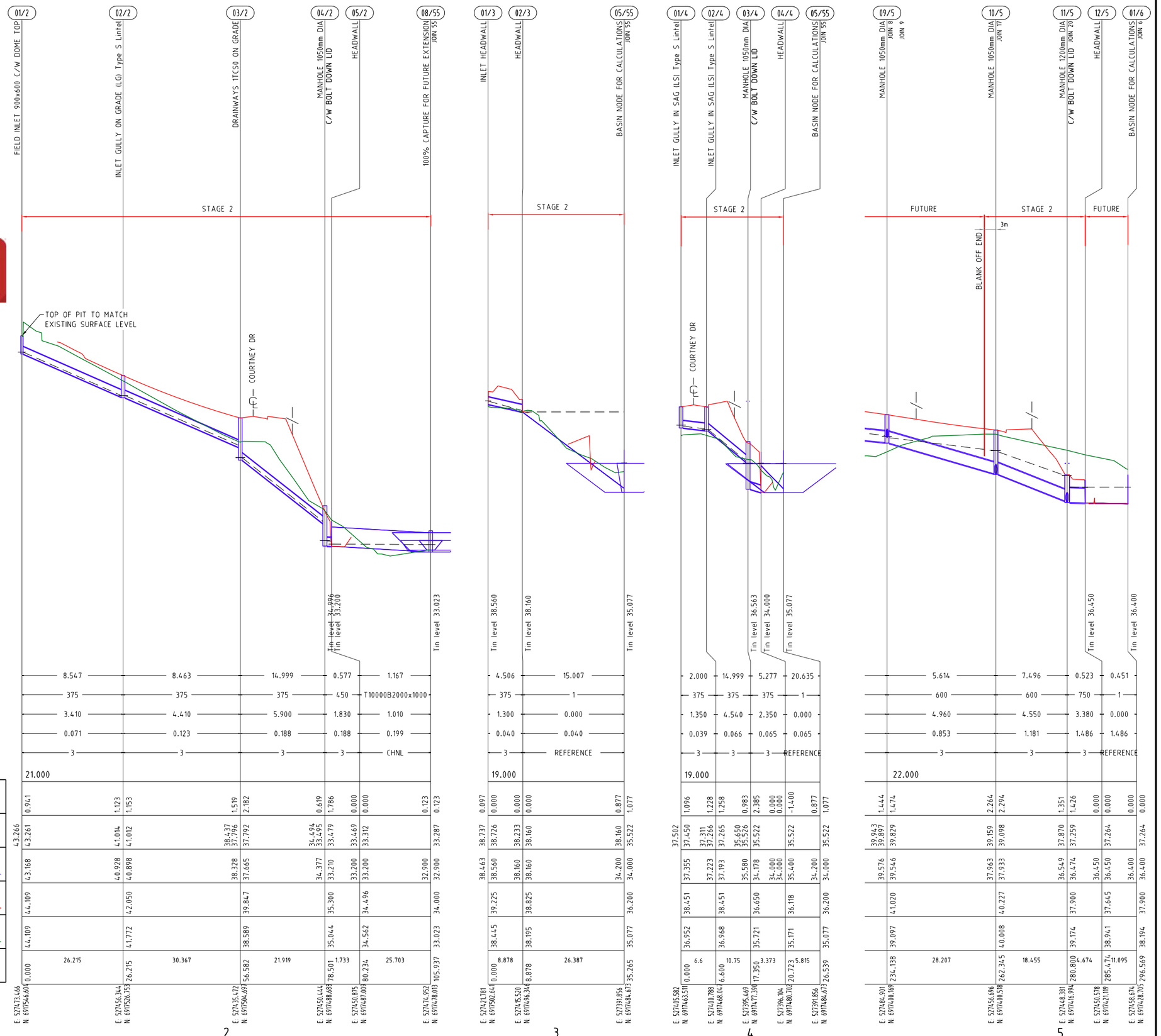
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STRUCTURE NAME

STRUCTURE DESCRIPTION



DRAINAGE LINE

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.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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STORMWATER PROFILES SHEET 01

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41901-02-620	A

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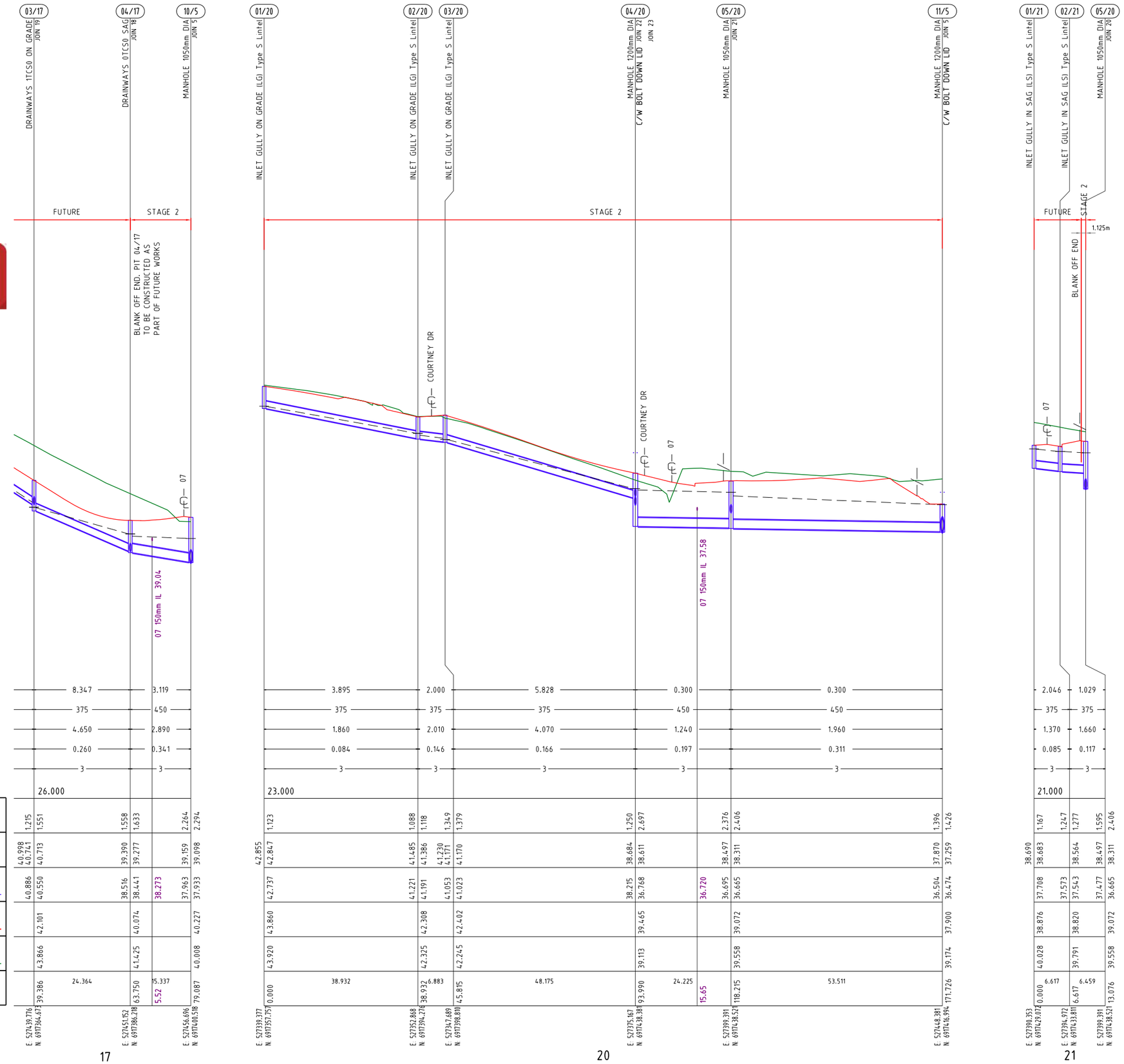
STRUCTURE NAME

STRUCTURE DESCRIPTION



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DRAINAGE LINE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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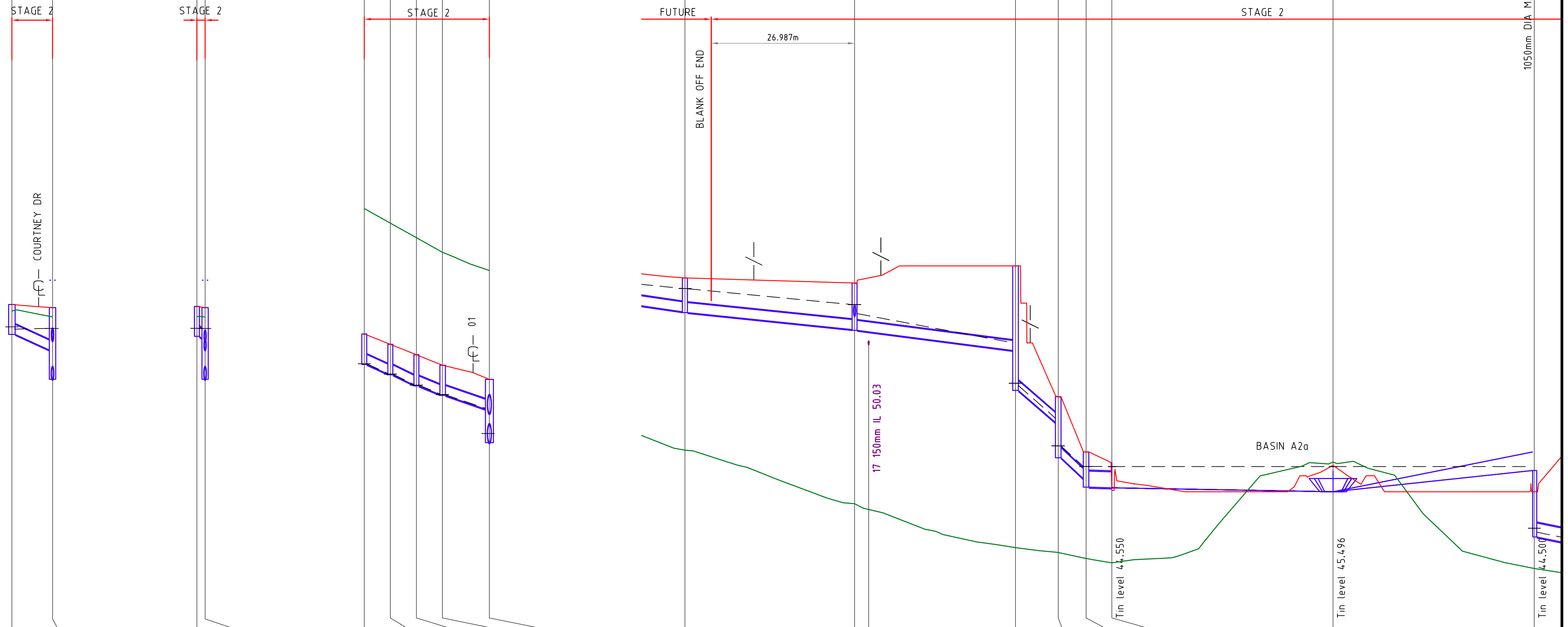
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STRUCTURE NAME

STRUCTURE DESCRIPTION



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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.
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DRAINAGE LINE 22

STRUCTURE NAME	01/22		04/20
STRUCTURE DESCRIPTION	INLET GULLY ON GRADE (LG) Type S Lintel		MANHOLE 1200mm DIA C/W BOLT DOWN LID JOIN 20
PIPE GRADE (%)		7.703	
PIPE DIAMETER (mm)		375	
VELOCITY (m/s)		2.560	
PIPE FLOW (m3/s)		0.041	
PIPE CLASS		3	
DATUM R.L.	21.000		
DEPTH TO INVERT	1.125		1.595 / 2.697
HYDRAULIC GRADE LINE	38.740 / 38.656		38.684 / 38.611
PIPE INVERT LEVELS	38.460		37.870 / 36.768
DESIGN SURFACE LEVELS	39.585		39.465
EXISTING SURFACE LEVELS	39.338		39.113
CHAINAGE	0.000	7.654	7.654
COORDINATES	E: 527375.390 N: 6917430.730		E: 527375.167 N: 6917438.381

DRAINAGE LINE 23

STRUCTURE NAME	01/23		04/20
STRUCTURE DESCRIPTION	INLET GULLY ON GRADE (LG) Type S Lintel		MANHOLE 1200mm DIA C/W BOLT DOWN LID JOIN 20
PIPE GRADE (%)		5.843	
PIPE DIAMETER (mm)		375	
VELOCITY (m/s)		1.460	
PIPE FLOW (m3/s)		0.011	
PIPE CLASS		3	
DATUM R.L.	21.000		
DEPTH TO INVERT	1.124		1.168 / 2.697
HYDRAULIC GRADE LINE	38.686 / 38.684		38.684 / 38.611
PIPE INVERT LEVELS	38.388		38.297 / 36.768
DESIGN SURFACE LEVELS	39.512		39.465
EXISTING SURFACE LEVELS	39.135		39.113
CHAINAGE	0.000	1.55	1.550
COORDINATES	E: 527373.988 N: 6917439.388		E: 527375.167 N: 6917438.381

DRAINAGE LINE 24

STRUCTURE NAME	01/24		02/24		03/24		04/24		10/26
STRUCTURE DESCRIPTION	INLET GULLY ON GRADE (LG) Type S Lintel		INLET GULLY ON GRADE (LG) Type S Lintel		INLET GULLY ON GRADE (LG) Type S Lintel		INLET GULLY ON GRADE (LG) Type S Lintel		MANHOLE 1500mm DIA JOIN 26
PIPE GRADE (%)		7.388		7.922		6.655		5.882	
PIPE DIAMETER (mm)		375		375		375		375	
VELOCITY (m/s)		1.620		1.820		1.830		1.840	
PIPE FLOW (m3/s)		0.004		0.006		0.007		0.009	
PIPE CLASS		3		3		3		3	
DATUM R.L.	33.000								
DEPTH TO INVERT	1.147		1.117 / 1.147		1.143 / 1.173		1.107 / 1.137		1.123 / 2.380
HYDRAULIC GRADE LINE	49.316		48.954 / 48.927		48.538 / 48.512		48.186 / 48.160		47.640 / 46.693 / 46.630
PIPE INVERT LEVELS	49.293		48.931 / 48.901		48.513 / 48.483		48.157 / 48.127		47.606 / 46.350
DESIGN SURFACE LEVELS	50.440		50.048		49.656		49.264		48.730
EXISTING SURFACE LEVELS	55.159		54.611		54.063		53.515		52.828
CHAINAGE	0.000	4.9	4.900	4.9	9.800	4.9	14.700	8.845	23.545
COORDINATES	E: 527383.227 N: 6917280.341		E: 527379.103 N: 6917282.987		E: 527374.978 N: 6917285.633		E: 527370.854 N: 6917288.279		E: 527367.468 N: 6917296.450

DRAINAGE LINE 25

STRUCTURE NAME	08/25		09/25		10/25		11/25		12/25		13/25		14/25		15/25
STRUCTURE DESCRIPTION	INLET GULLY ON GRADE (LG) Type S Lintel		DRAINWAYS 1TCS0 ON GRADE JOIN 33		MANHOLE 1050mm DIA		MANHOLE 1050mm DIA		MANHOLE 1050mm DIA		HEADWALL		BASIN NODE FOR CALCULATIONS JOIN 1 JOIN 26		1050mm DIA MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP
PIPE GRADE (%)		2.000		2.500		14.999		14.999		0.500		0.360		-3.958	
PIPE DIAMETER (mm)		375		375		375		375		600		1		1	
VELOCITY (m/s)		2.680		3.280		5.360		4.610		2.580		0.000		0.000	
PIPE FLOW (m3/s)		0.270		0.340		0.340		0.342		0.358		0.358		0.285	
PIPE CLASS		3		3		3		3		3		REFERENCE		REFERENCE	
DATUM R.L.	33.000														33.0
DEPTH TO INVERT	1.274 / 1.304		1.752 / 1.782		3.182 / 4.687		0.971 / 2.298		1.006 / 1.326		-0.100 / -0.100		0.996 / 0.996		-1.500 / 1.700
HYDRAULIC GRADE LINE	52.151 / 52.141		51.546 / 51.205		50.108 / 48.584 / 48.500		47.267 / 46.226 / 46.224		45.455		45.449		45.449		45.449 / 43.130 / 42.981
PIPE INVERT LEVELS	51.274 / 51.244		50.605 / 50.575 / 50.519		49.818 / 48.313		47.106 / 45.780		44.994 / 44.674		44.650 / 44.650		44.500 / 44.500		46.000 / 42.800
DESIGN SURFACE LEVELS	52.548		52.357		53.000		48.077		46.000		45.600		45.300		45.300
EXISTING SURFACE LEVELS	46.065		44.051		42.396		42.215		41.992		41.827		45.620		41.613
CHAINAGE	164.479	31.937	196.416 / 2.65	30.296	226.712	8.049	234.760	5.238	239.998	4.855	244.853	41.648	286.501	37.898	324.399
COORDINATES	E: 527313.920 N: 6917153.853		E: 527331.164 N: 6917180.734		E: 527305.664 N: 6917197.092		E: 527297.943 N: 6917199.362		E: 527292.917 N: 6917200.839		E: 527288.260 N: 6917202.208		E: 527261.241 N: 6917170.514		E: 527278.645 N: 6917204.180

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

STORMWATER PROFILES SHEET 03

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DESIGNED RB | DRAWN EP
APPROVED [signature] RPEQ 4706 | DATE 13-10-23

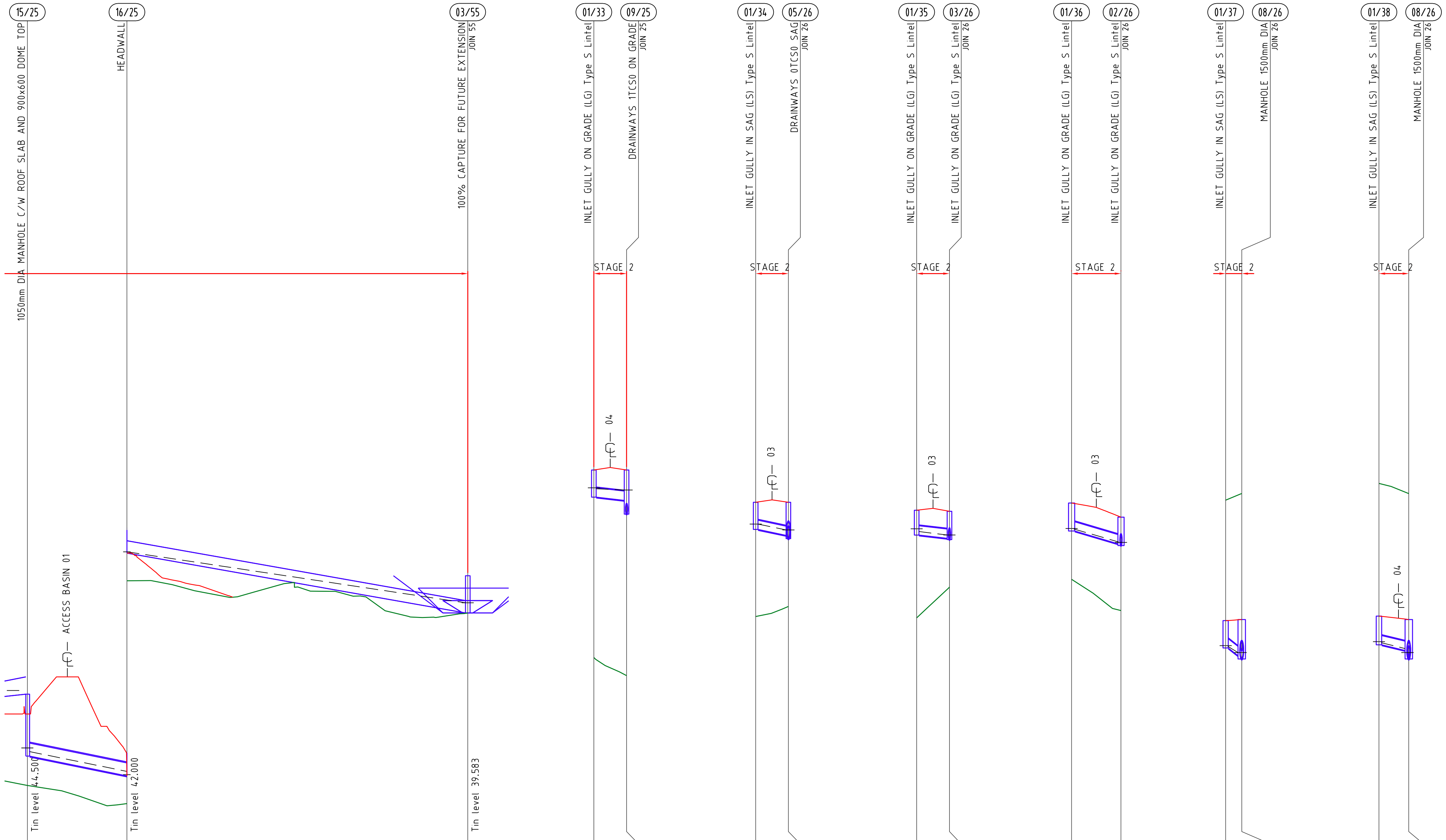
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STRUCTURE NAME

STRUCTURE DESCRIPTION



NOTES

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DRAINAGE LINE 25

	15/25		16/25		03/55
PIPE GRADE (%)		3.982		3.514	
PIPE DIAMETER (mm)		525		T10000B2000x500	
VELOCITY (m/s)		2.730		0.400	
PIPE FLOW (m3/s)		0.285		0.285	
PIPE CLASS		3		CHNL	
DATUM R.L.	33.000		24.000		
DEPTH TO INVERT	-1.500 / 1.700		0.000 / 0.000		-0.000 / 0.000
HYDRAULIC GRADE LINE	45.449 / 43.130 / 42.981		42.181 / 42.051		39.991
PIPE INVERT LEVELS	46.000 / 42.800		42.000 / 42.000		39.583 / 39.583
DESIGN SURFACE LEVELS	45.300		42.935		41.083
EXISTING SURFACE LEVELS	41.613		40.882		39.583
CHAINAGE	324.399	20.09	344.489	68.775	413.263
COORDINATES	E: 527278.645 N: 6917204.180		E: 527263.574 N: 6917217.464		E: 527270.528 N: 6917285.887

DRAINAGE LINES 33–38

DRAINAGE LINE	33	34	35	36	37	38
Structures	01/33 – 09/25	01/34 – 05/26	01/35 – 03/26	01/36 – 02/26	01/37 – 08/26	01/38 – 08/26
PIPE GRADE (%)	2.000	3.648	2.000	5.191	9.601	3.778
PIPE DIAMETER (mm)	375	375	375	375	375	375
VELOCITY (m/s)	1.310	1.730	1.360	2.270	2.320	1.760
PIPE FLOW (m3/s)	0.047	0.059	0.060	0.044	0.034	0.041
PIPE CLASS	3	3	3	3	3	3
DATUM R.L.	31.000	32.000	36.000	40.000	36.000	36.000
DEPTH TO INVERT	1.096 / 1.228 / 1.782	1.096 / 1.337 / 1.467	1.002 / 1.093 / 1.144	1.131 / 1.078 / 1.147	1.105 / 1.461 / 1.591	1.162 / 1.249 / 1.591
HYDRAULIC GRADE LINE	51.637 / 51.597 / 51.546 / 51.205	51.171 / 50.933 / 50.929	54.979 / 54.869 / 54.731 / 54.725	58.993 / 58.974 / 58.448 / 58.429 / 58.428	50.259 / 50.233 / 49.982 / 49.976	50.420 / 50.379 / 50.144 / 49.982 / 49.976
PIPE INVERT LEVELS	51.261 / 51.129 / 50.575	50.954 / 50.713 / 50.583	54.727 / 54.595 / 54.545	58.891 / 58.374 / 58.305	50.166 / 49.855 / 49.725	50.294 / 50.067 / 49.725
DESIGN SURFACE LEVELS	52.357 / 52.357	52.050 / 52.050	55.729 / 55.688	60.022 / 59.453	51.271 / 51.316	51.456 / 51.316
EXISTING SURFACE LEVELS	44.781 / 44.051	47.439 / 47.842	51.384 / 52.626	56.940 / 55.677	56.138 / 56.405	56.814 / 56.405
CHAINAGE	0.000 / 6.6 / 6.600	0.000 / 6.6 / 6.600	0.000 / 6.616 / 6.616	0.000 / 9.955 / 9.955	0.000 / 3.241 / 3.241	0.000 / 6.011 / 6.011
COORDINATES (start)	E: 527336.719 N: 6917177.170	E: 527349.918 N: 6917182.234	E: 527379.695 N: 6917148.155	E: 527391.214 N: 6917095.399	E: 527387.138 N: 6917267.987	E: 527392.470 N: 6917264.075
COORDINATES (end)	E: 527331.164 N: 6917180.734	E: 527353.486 N: 6917187.787	E: 527386.030 N: 6917150.060	E: 527396.070 N: 6917104.089	E: 527389.980 N: 6917269.546	E: 527389.980 N: 6917269.546

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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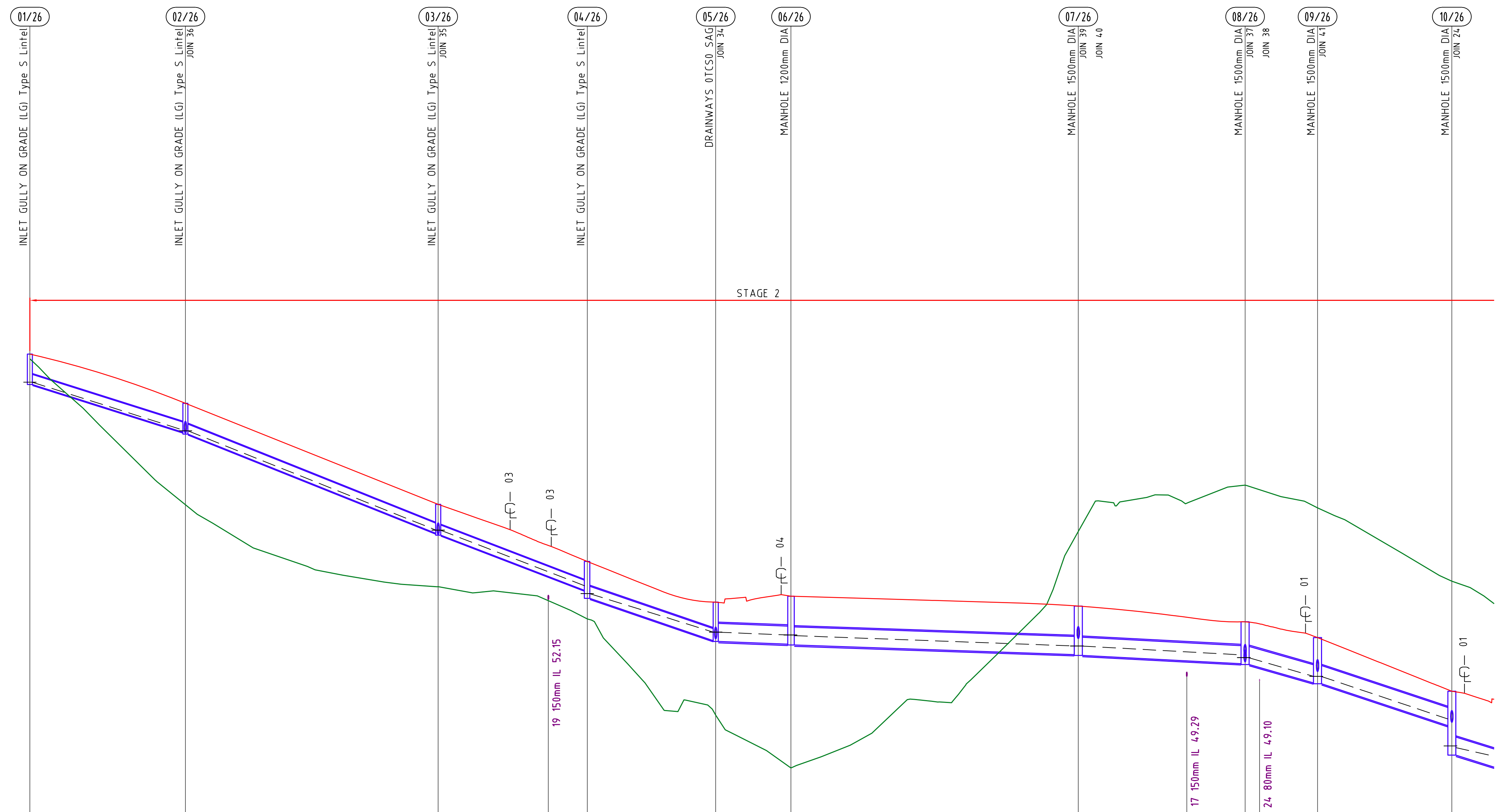
STORMWATER PROFILES SHEET 04

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DESIGNED RB | DRAWN EP
APPROVED | RPEQ 4706 | DATE 13-10-23

DRAWING NUMBER 41901-02-623 | REV A

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NOTES

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DATUM R.L. 34.000

STRUCTURE NAME	STRUCTURE DESCRIPTION	DEPTH TO INVERT	HYDRAULIC GRADE LINE	PIPE INVERT LEVELS	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CHAINAGE	COORDINATES
01/26	INLET GULLY ON GRADE (LG) Type S Lintel	1.131	60.239 / 60.237	60.153	61.285	61.110	0.000	E: 527402.246 N: 6917075.806
02/26	INLET GULLY ON GRADE (LG) Type S Lintel, JOIN 36	1.073 / 1.147	58.458 58.429 / 58.428	58.380 / 58.305	59.453	55.677	28.949	E: 527396.070 N: 6917104.089
03/26	INLET GULLY ON GRADE (LG) Type S Lintel, JOIN 35	1.073 / 1.144	54.734 54.731 / 54.725	54.615 / 54.545	55.688	52.626	76.003	E: 527386.030 N: 6917150.060
19 150mm IL 52.15				53.011			20.50	
04/26	INLET GULLY ON GRADE (LG) Type S Lintel	1.072 / 1.375	52.656 52.365 / 52.363	52.491 / 52.188	53.563	51.421	103.757	E: 527373.608 N: 6917174.878
05/26	DRAINWAYS 0TCS0 SAG, JOIN 34	1.437 / 1.467	50.933 / 50.929	50.613 / 50.583	52.050	47.842	127.664	E: 527353.486 N: 6917187.787
06/26	MANHOLE 1200mm DIA	1.789 / 1.819	50.824 / 50.801	50.482 / 50.452	52.271	45.875	141.672	E: 527344.333 N: 6917198.390
07/26	MANHOLE 1500mm DIA, JOIN 39, JOIN 40	1.806 / 1.836	50.416 / 50.412	50.096 / 50.066	51.902	54.677	195.156	E: 527373.212 N: 6917243.408
17 150mm IL 49.29				49.861			20.20	
08/26	MANHOLE 1500mm DIA, JOIN 37, JOIN 38	1.561 / 1.591	50.085 49.982 / 49.976	49.755 / 49.725	51.316	56.405	226.210	E: 527389.980 N: 6917269.546
24 80mm IL 49.10				49.615			2.69	
09/26	MANHOLE 1500mm DIA, JOIN 41	1.688 / 1.718	49.285 / 49.278	49.041 / 49.011	50.729	55.560	239.699	E: 527388.508 N: 6917282.954
10/26	MANHOLE 1500mm DIA, JOIN 24	1.281 / 2.380	47.696 46.693 / 46.630	47.449 / 46.350	48.730	52.828	264.695	E: 527367.468 N: 6917296.450

DATUM R.L. 34.000

SEGMENT	PIPE GRADE (%)	PIPE DIAMETER (mm)	VELOCITY (m/s)	PIPE FLOW (m3/s)	PIPE CLASS	LENGTH
01/26 – 02/26	6.126	375	3.010	0.054	3	28.949
02/26 – 03/26	7.842	375	4.500	0.139	3	47.054
03/26 – 04/26	7.400	375	4.890	0.248	3	27.754
04/26 – 05/26	6.586	450	3.470	0.306	3	23.906
05/26 – 06/26	0.721	675	2.190	0.394	3	14.008
06/26 – 07/26	0.667	675	2.170	0.395	3	53.485
07/26 – 08/26	1.000	675	2.930	0.526	3	31.054
08/26 – 09/26	5.071	675	5.040	0.598	3	13.489
09/26 – 10/26	6.250	675	6.160	0.784	3	24.996

DRAINAGE LINE

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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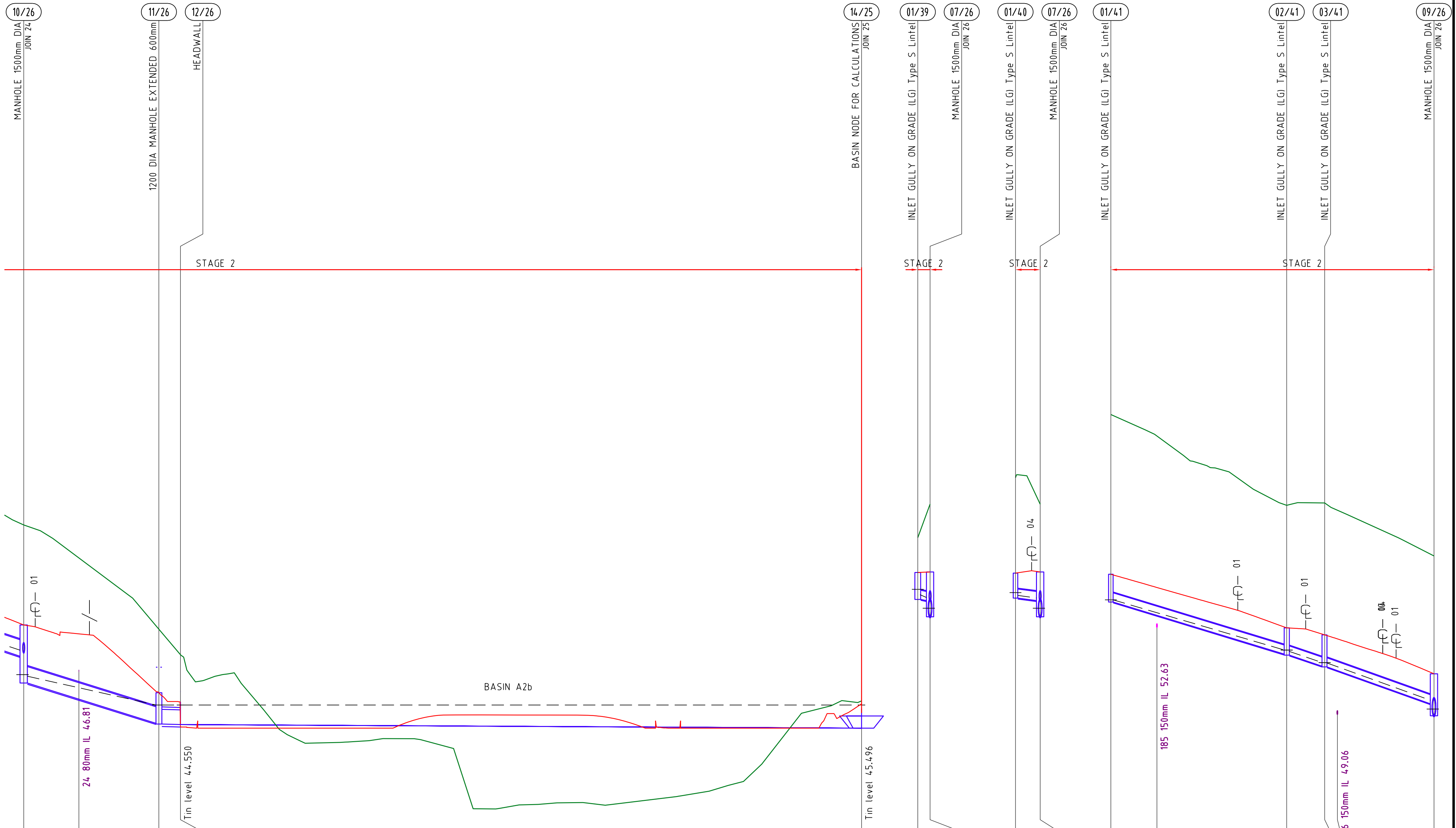
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DESIGNED	RB	DRAWN	EP
APPROVED	[signature] RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-624 REV A

STRUCTURE NAME

STRUCTURE DESCRIPTION



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DRAINAGE LINE 26

	10/26		11/26	12/26	14/25
PIPE GRADE (%)	5.949		0.500	0.108	
PIPE DIAMETER (mm)	675		1500x600	1	
VELOCITY (m/s)	5.300		2.410	0.000	
PIPE FLOW (m3/s)	0.793		0.793	0.793	
PIPE CLASS	3		RCBC	REFERENCE	
DATUM R.L.	34.000				
DEPTH TO INVERT	1.281 / 2.380		1.251 / 1.281	-0.100 / -0.100	0.996 / 0.996
HYDRAULIC GRADE LINE	47.696 / 46.693 / 46.630		45.451	45.449	45.449
PIPE INVERT LEVELS	47.449 / 46.350	45.689	44.702 / 44.672	44.650 / 44.650	44.500 / 44.500
DESIGN SURFACE LEVELS	48.730		45.953	45.580	45.300
EXISTING SURFACE LEVELS	52.828		48.556	47.509	45.620
CHAINAGE	264.695 (27.698)	11.31	292.393 (4.42)	296.814 (139.526)	436.340
COORDINATES	E: 527367.468 N: 6917296.450		E: 527340.749 N: 6917289.153	E: 527336.477 N: 6917288.018	E: 527261.241 N: 6917170.514

DRAINAGE LINE 39

	01/39	07/26
PIPE GRADE (%)	1.915	
PIPE DIAMETER (mm)	375	
VELOCITY (m/s)	1.150	
PIPE FLOW (m3/s)	0.079	
PIPE CLASS	3	
DATUM R.L.	35.000	
DEPTH TO INVERT	1.105	1.173 / 1.836
HYDRAULIC GRADE LINE	51.193 / 50.970	50.856 / 50.416 / 50.412
PIPE INVERT LEVELS	50.776	50.728 / 50.066
DESIGN SURFACE LEVELS	51.882	51.902
EXISTING SURFACE LEVELS	53.308	54.677
CHAINAGE	0.000 (2.518)	2.518
COORDINATES	E: 527370.836 N: 6917242.574	E: 527373.212 N: 6917243.408

DRAINAGE LINE 40

	01/40	07/26
PIPE GRADE (%)	2.000	
PIPE DIAMETER (mm)	375	
VELOCITY (m/s)	1.290	
PIPE FLOW (m3/s)	0.057	
PIPE CLASS	3	
DATUM R.L.	35.000	
DEPTH TO INVERT	1.026	1.173 / 1.836
HYDRAULIC GRADE LINE	51.055 / 50.942	50.835 / 50.416 / 50.412
PIPE INVERT LEVELS	50.829	50.728 / 50.066
DESIGN SURFACE LEVELS	51.855	51.902
EXISTING SURFACE LEVELS	55.765	54.677
CHAINAGE	0.000 (5.05)	5.050
COORDINATES	E: 527377.463 N: 6917240.681	E: 527373.212 N: 6917243.408

DRAINAGE LINE 41

	01/41		02/41	03/41		09/26
PIPE GRADE (%)	5.928		5.837	6.748		
PIPE DIAMETER (mm)	375		375	375		
VELOCITY (m/s)	2.470		3.230	4.300		
PIPE FLOW (m3/s)	0.067		0.150	0.193		
PIPE CLASS	3		3	3		
DATUM R.L.	38.000					
DEPTH TO INVERT	1.137		1.075 / 1.116	1.283 / 1.313		1.229 / 1.718
HYDRAULIC GRADE LINE	53.759		51.703 / 51.649	51.185 / 51.174		49.647 / 49.285 / 49.278
PIPE INVERT LEVELS	53.671	53.125	51.536 / 51.495	51.041 / 51.011	50.858	49.500 / 49.011
DESIGN SURFACE LEVELS	54.809		52.611	52.324		50.729
EXISTING SURFACE LEVELS	61.352		57.634	57.732		55.560
CHAINAGE	0.000 (36.022)	9.45	36.022 (7.776)	43.798 (22.393)	2.61	66.190
COORDINATES	E: 527432.013 N: 6917240.881		E: 527411.167 N: 6917270.259	E: 527404.143 N: 6917266.923		E: 527388.508 N: 6917282.954

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
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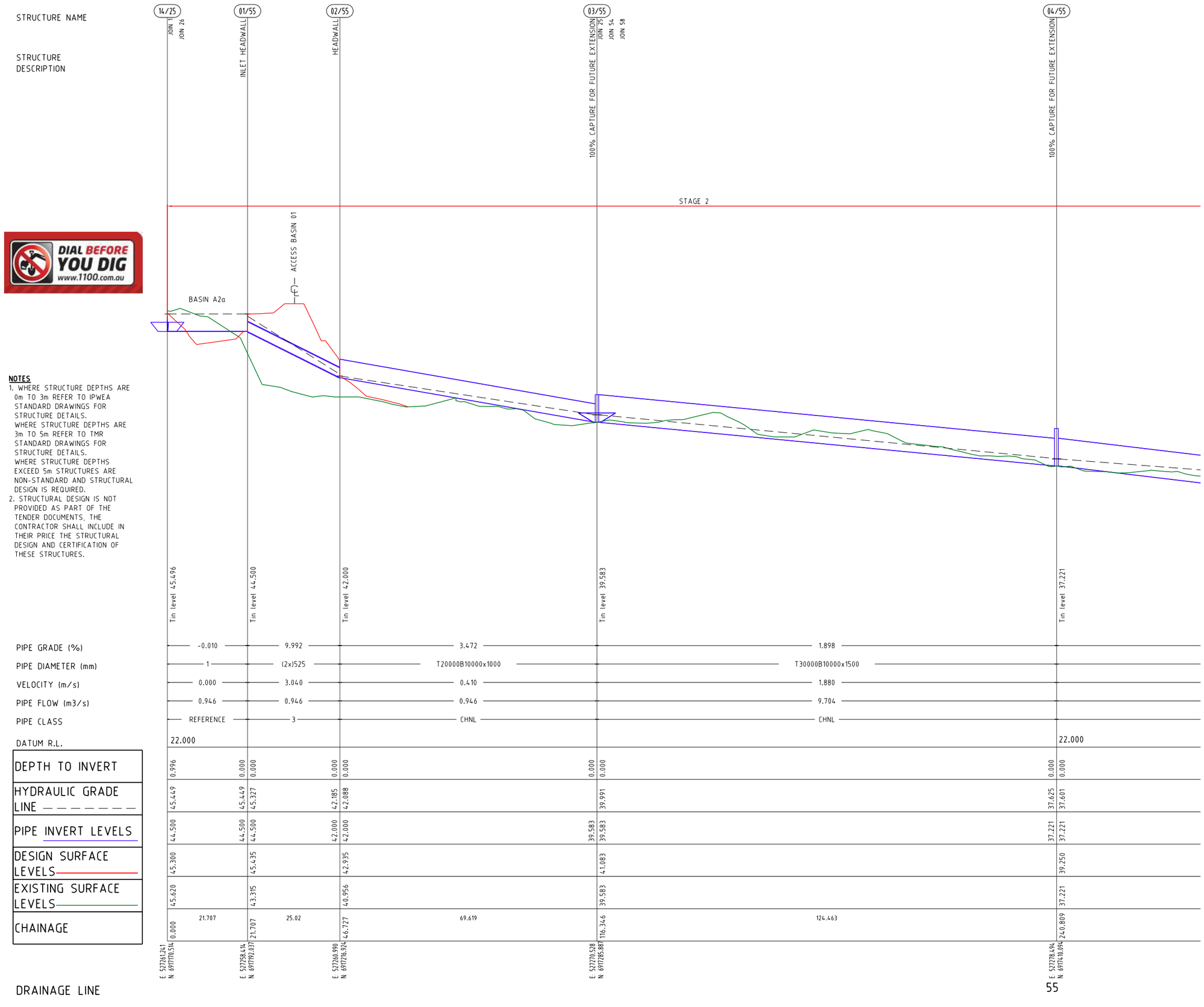
STORMWATER PROFILES SHEET 06

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DESIGNED RB | DRAWN EP
APPROVED W.K. Morton RPEQ 4706 | DATE 13-10-23

DRAWING NUMBER 41901-02-625 | REV A

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

STORMWATER PROFILES SHEET 06

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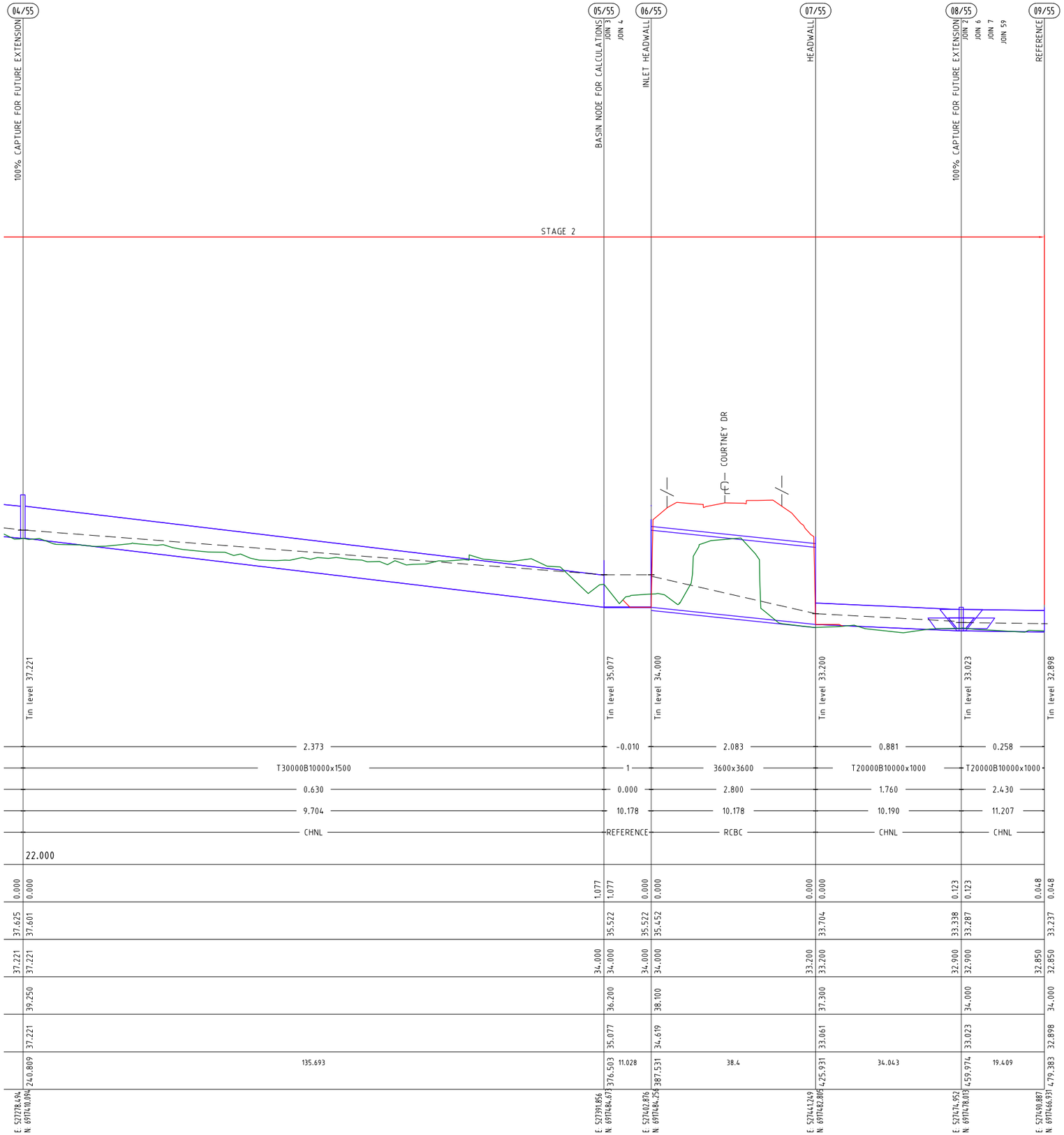
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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-626
REV A

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STRUCTURE NAME

STRUCTURE DESCRIPTION



DRAINAGE LINE 55 55

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.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

STORMWATER PROFILES SHEET 06

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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

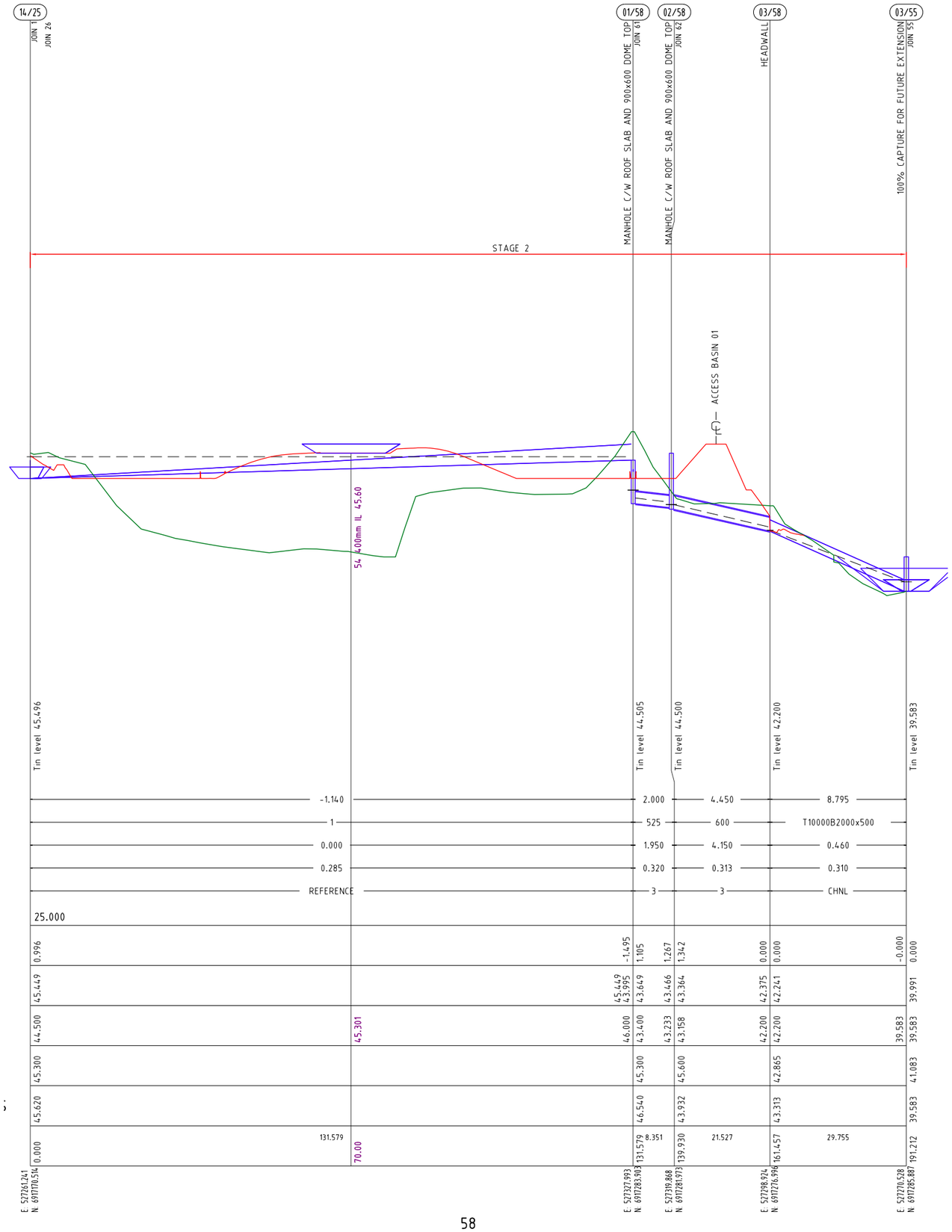
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STRUCTURE NAME

STRUCTURE DESCRIPTION



DRAINAGE LINE

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.

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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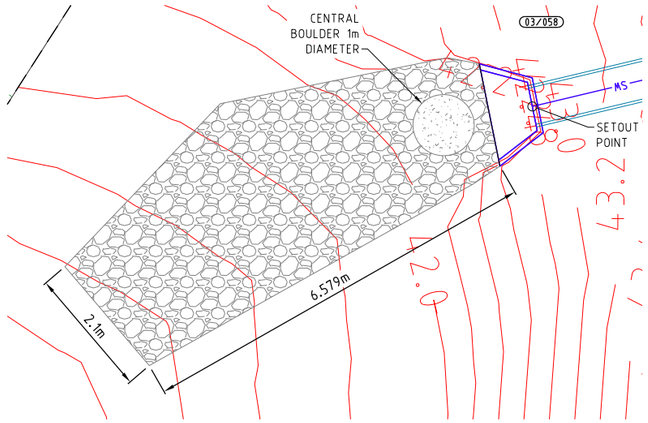
STORMWATER PROFILES SHEET 06

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APPROVED	RPEQ 4706	DATE	13-10-23

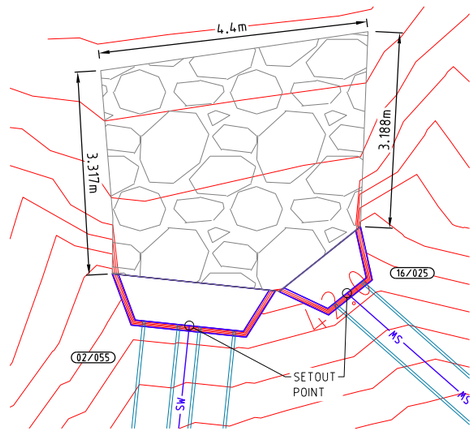
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SCOUR PROTECTION DESIGN	
HW 03/058	SIZE 600mm
VELOCITY = 5.2m/s	
LENGTH = 6.579m	d50 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 300mm THICK	

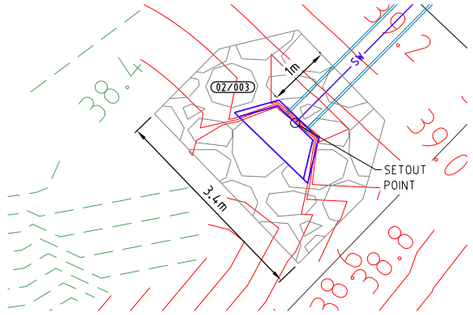
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



SCOUR PROTECTION DESIGN	
HW 02/055	SIZE 525mm
VELOCITY = 3.48m/s	
LENGTH = 3.317m	d50 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK	

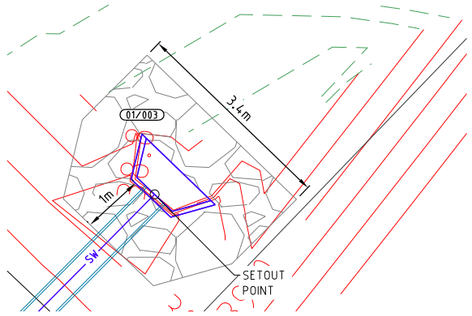
SCOUR PROTECTION DESIGN	
HW 16/025	SIZE 600mm
VELOCITY = 3.54m/s	
LENGTH = 3.188m	d50 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



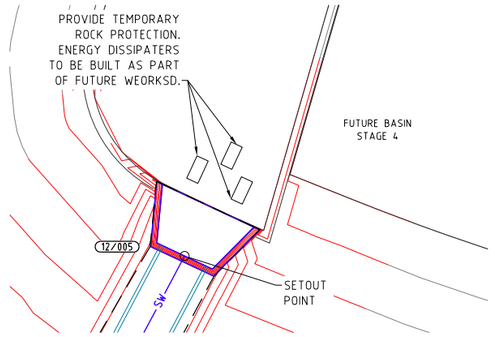
SCOUR PROTECTION DESIGN	
HW 02/003	SIZE 375mm
VELOCITY = 1.38m/s	
LENGTH = 1m	d50 100mm
SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK	

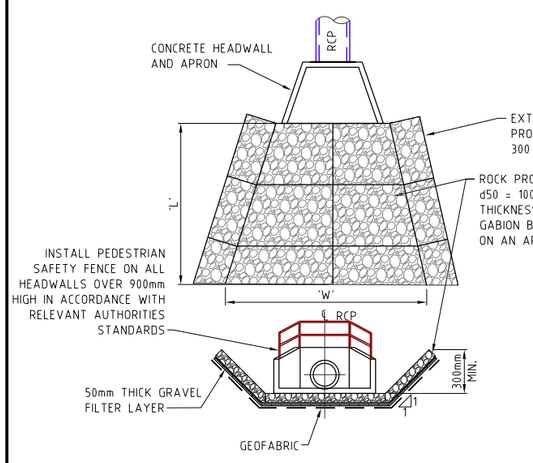
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



SCOUR PROTECTION DESIGN	
HW 01/003	SIZE 375mm
VELOCITY = 1.38m/s	
LENGTH = 1m	d50 100mm
SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK	

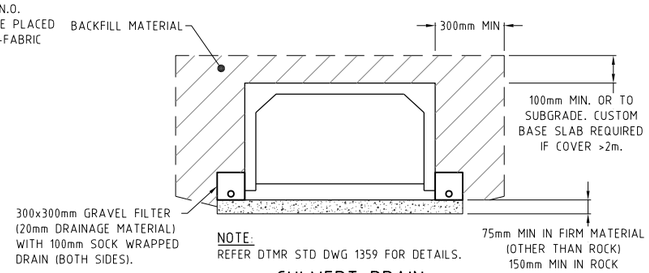
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA





TYPICAL GABION SCOUR PROTECTION DETAIL

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



NOTE:
REFER DTMR STD DWG 1359 FOR DETAILS.

CULVERT DRAIN

NOT TO SCALE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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DRAWING TITLE

STORMWATER
OUTLETS AND
TYPICAL DETAILS
SHEET 01

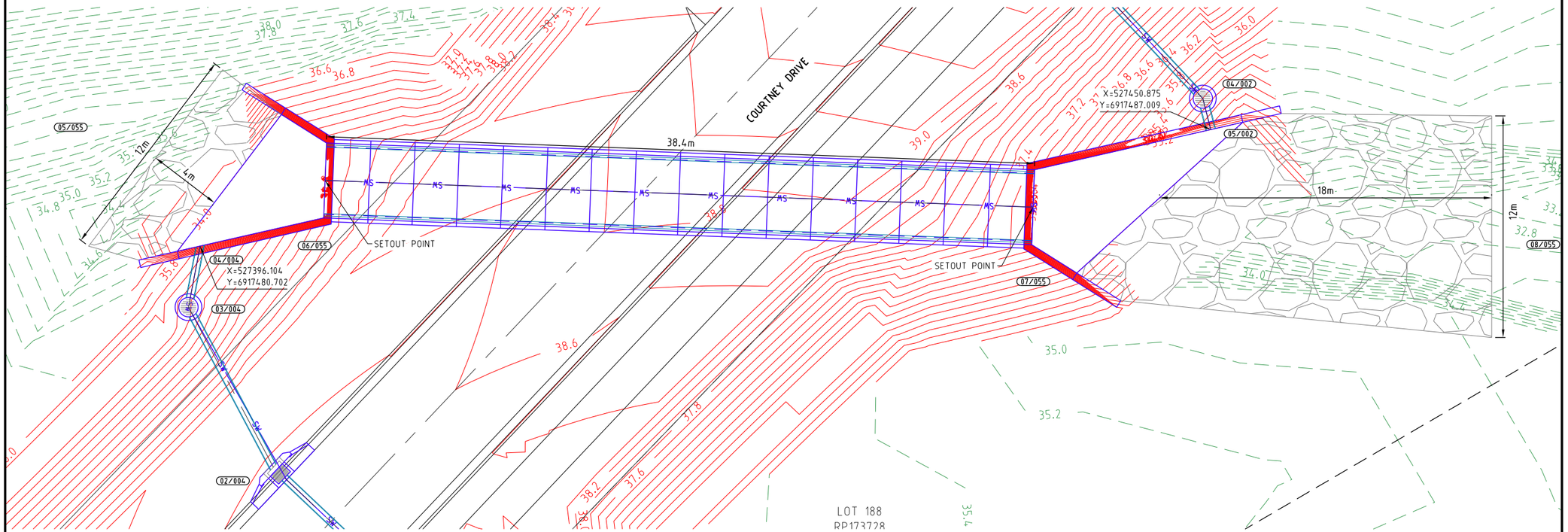
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DRAWING NUMBER	REV
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NOTE
RCBC TO BE INSTALLED IN ACCORDANCE WITH DTMR REQUIREMENTS. HEADWALLS ARE NON STANDARD, CONTRACTOR TO ARRANGE STRUCTURAL DESIGN, CERTIFICATION & FINAL CONSTRUCTION.



SCOUR PROTECTION DESIGN	
HW 06/055	SIZE 3.6m x 3.6m RCBC
VELOCITY = 2.91m/s	
LENGTH = 12m x 4m	d50 = 500mm
SCOUR PROTECTION TYPE = LOOSE ROCK 500mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

SCOUR PROTECTION DESIGN	
HW 07/055	SIZE 3.6m x 3.6m RCBC
VELOCITY = 2.91m/s	
LENGTH = 18m x 12m	d50 = 500mm
SCOUR PROTECTION TYPE = LOOSE ROCK 900mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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 1.25 1.5 3.75 5 6.25m

Scale 1:125 - A1 (1:250 - A3)

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DRAWING TITLE

STORMWATER
RCBC
OUTLET
SHEET 01

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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER	REV
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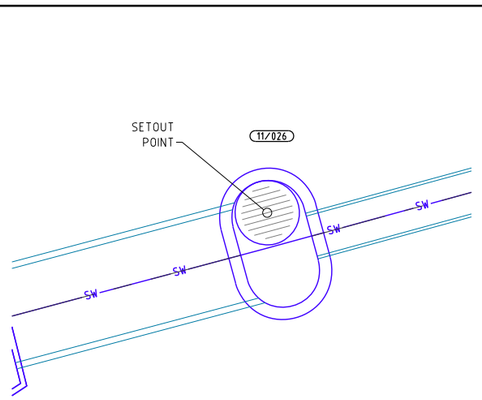
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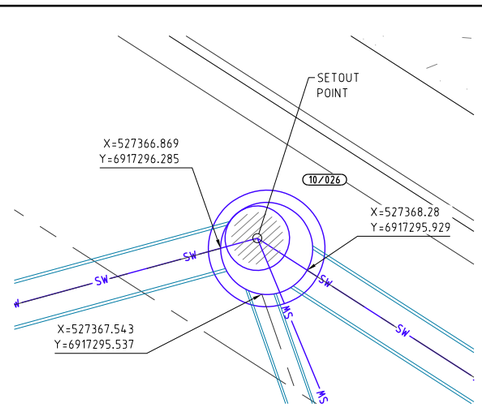
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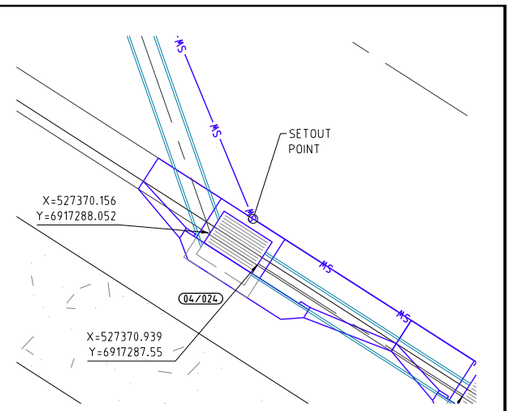
- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- SW — EXISTING STORMWATER
- RW — EXISTING ROOFWATER
- EXISTING STORMWATER PIPES
- EXISTING ROOFWATER PIPES
- FUTURE KERB (INVERT)
- FUTURE KERB (LIP & BACK)
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- SW — FUTURE STORMWATER
- RW — 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
- SW — PROPOSED STORMWATER
- RW — 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

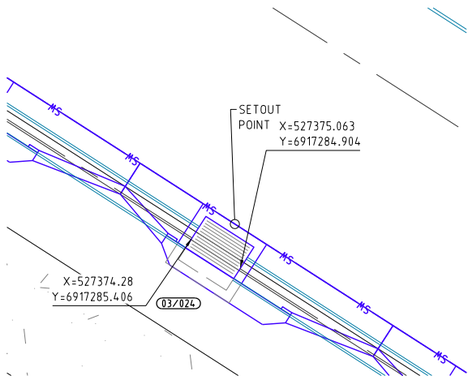
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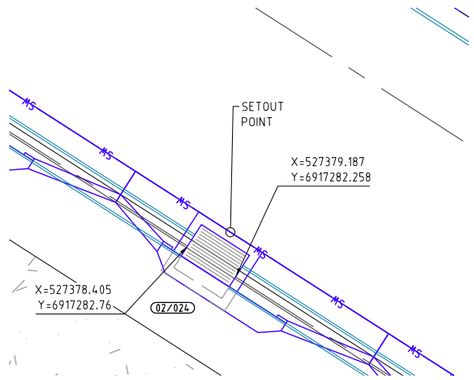
THE STORMWATER PIT IMAGE ARE DIAGRAMATIC ONLY & THE CONTRACTOR MUST ENSURE THEY MATCH NEATLY INTO THE WORKS

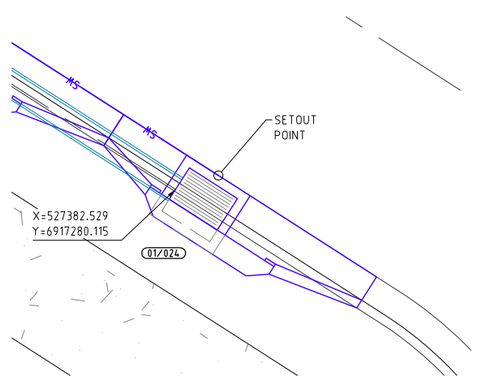


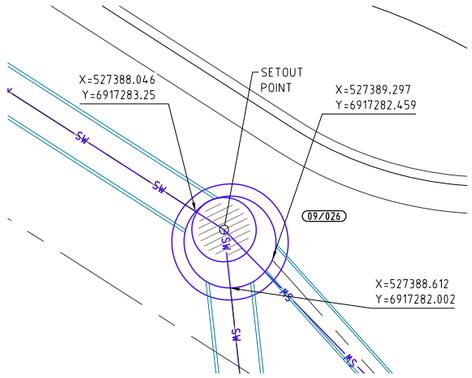


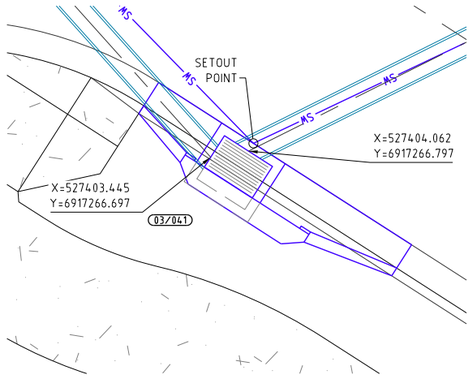


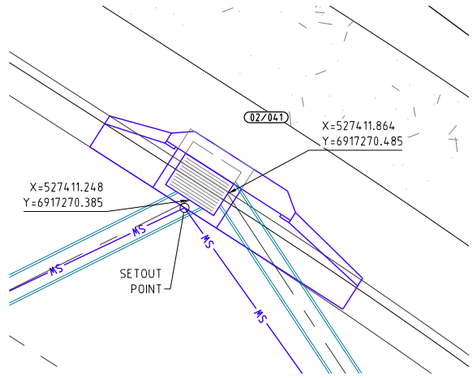


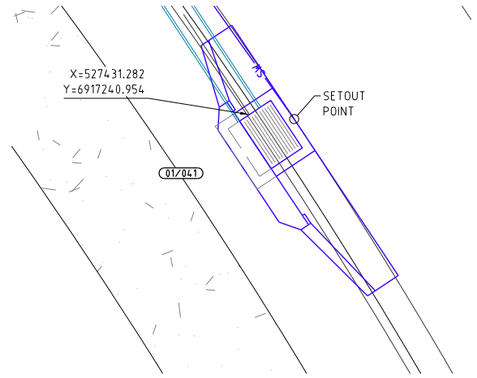


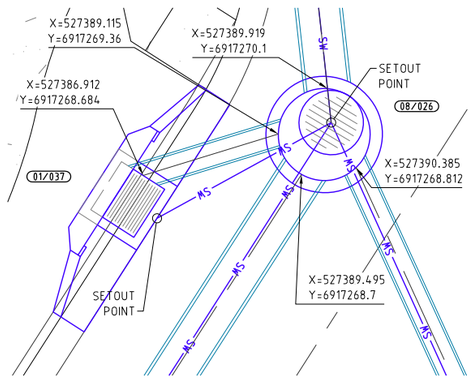


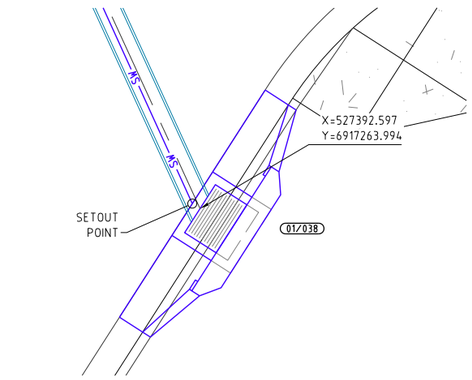


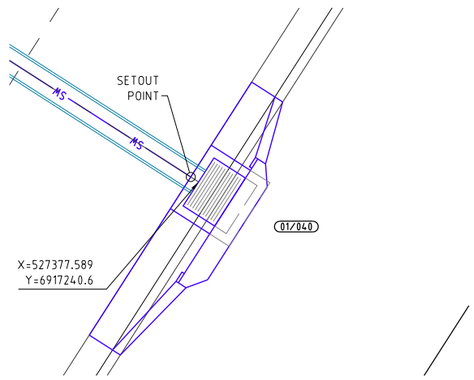


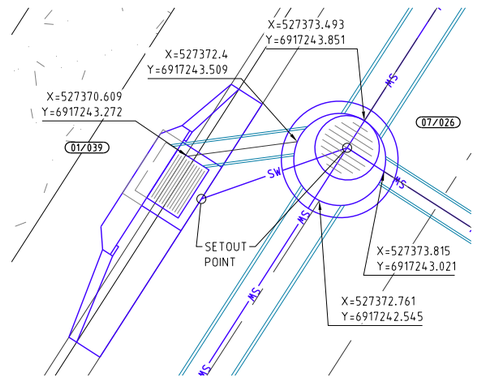












PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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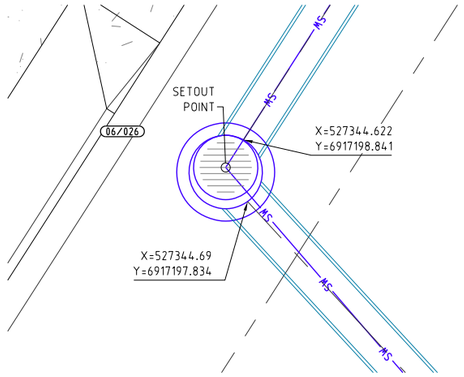
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Southport QLD 4215

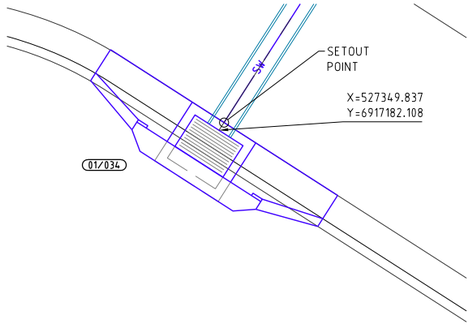
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Suite 9, 19 Short St
Southport QLD 4215

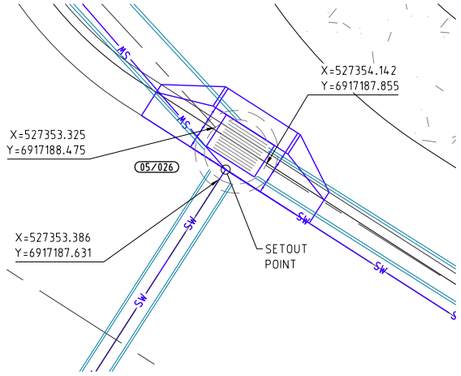
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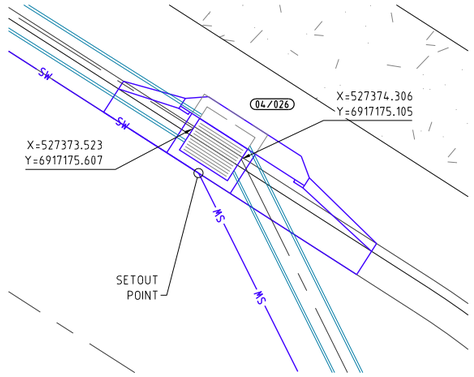
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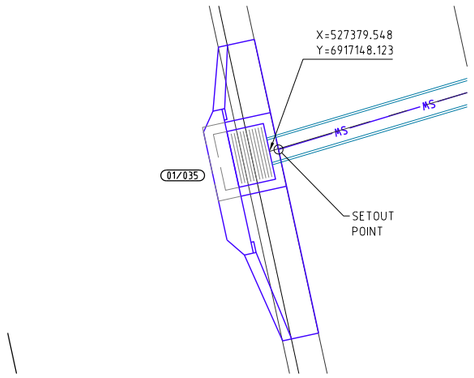
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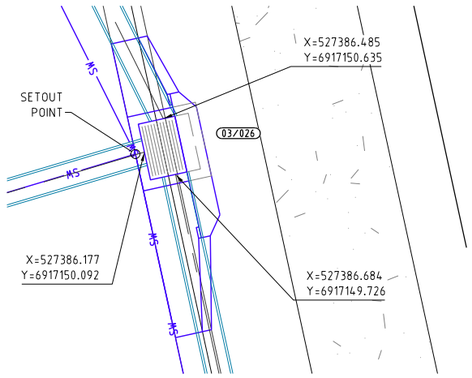


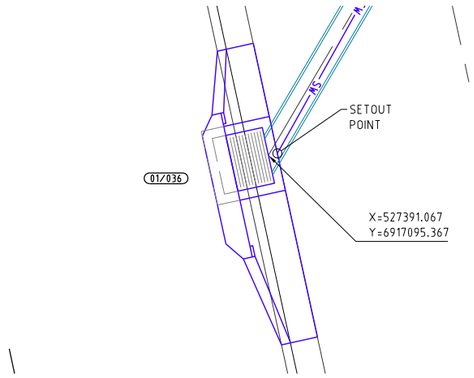


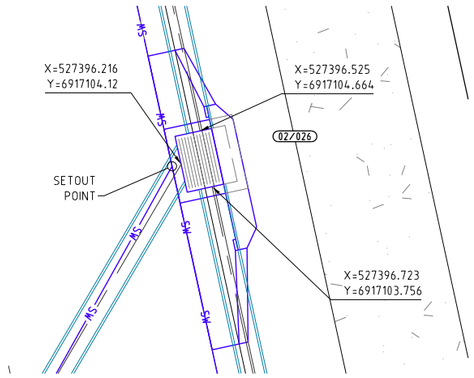


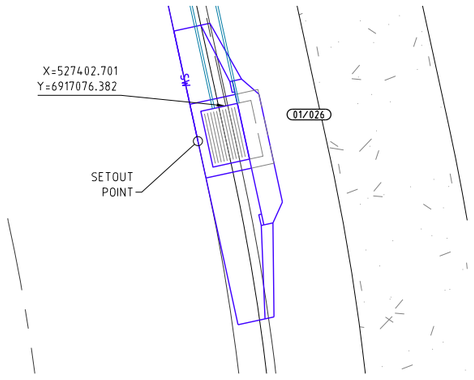


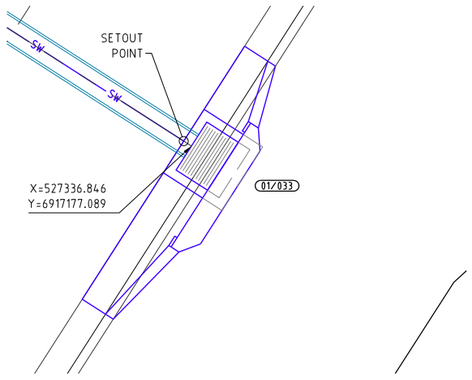


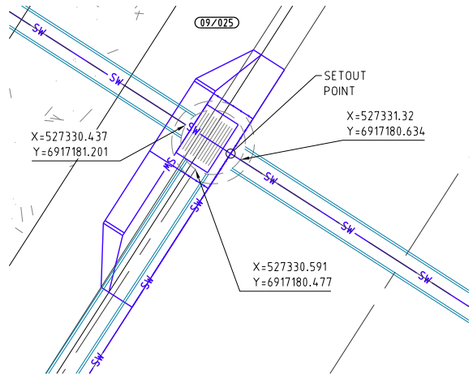


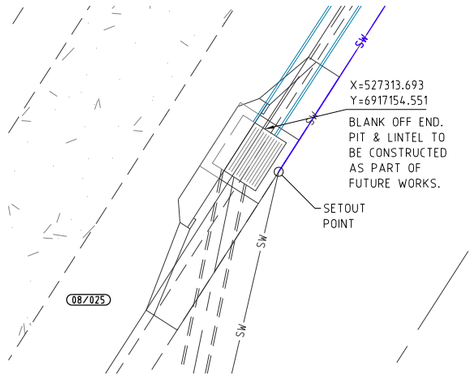


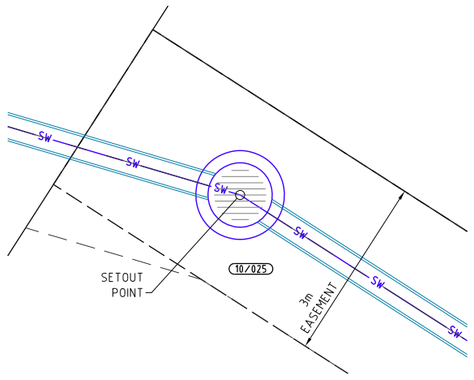


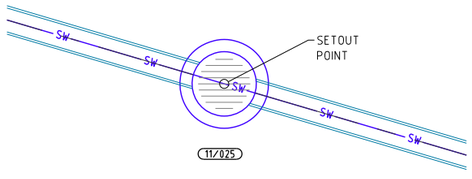


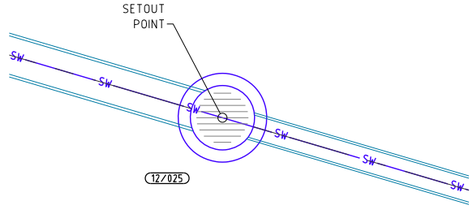


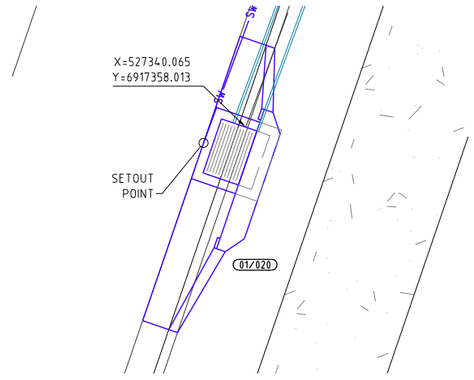












PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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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
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Project Coordination

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ABN: 39 116 375 065
mortons@urbansolutions.net.au
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Tel 07 5571 1099

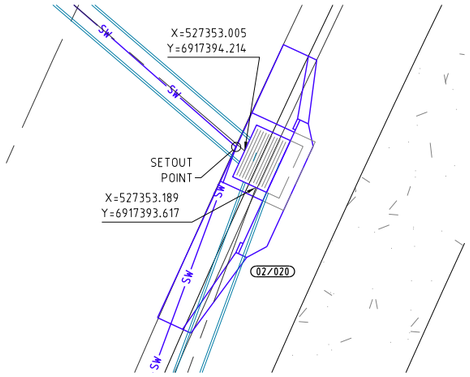
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PO Box 2484
Southport QLD 4215

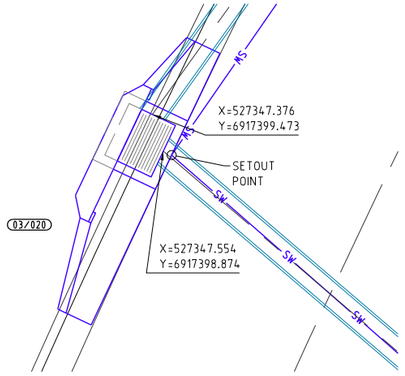
Gold Coast Office
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Southport QLD 4215

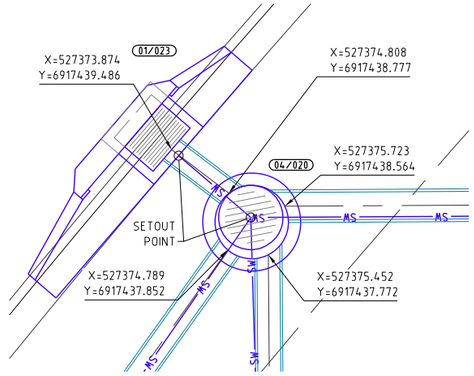
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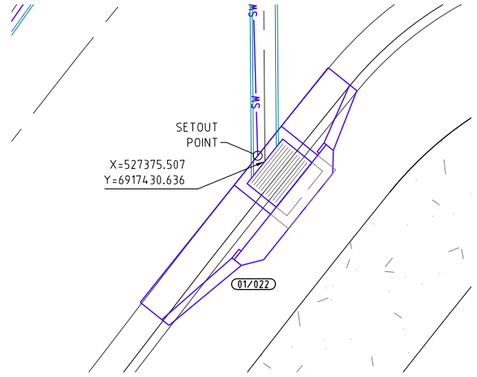
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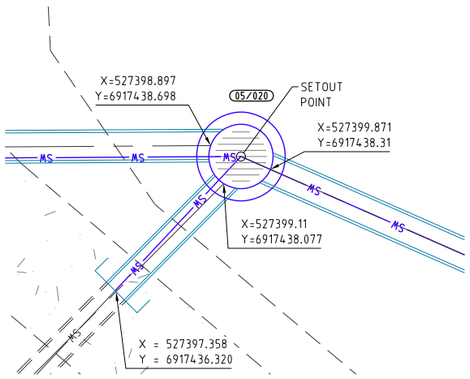
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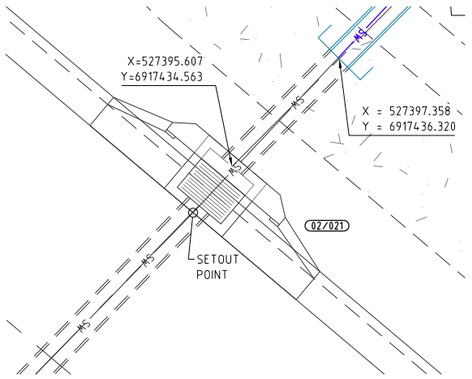


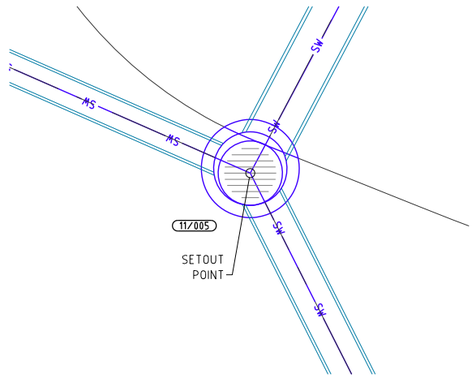


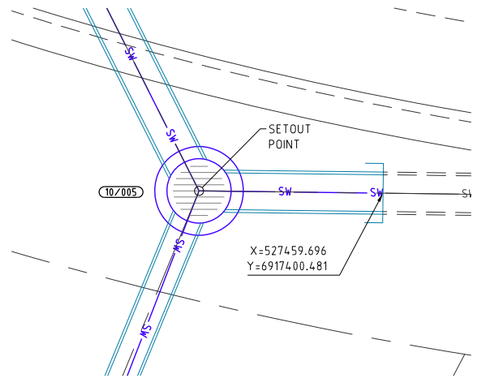


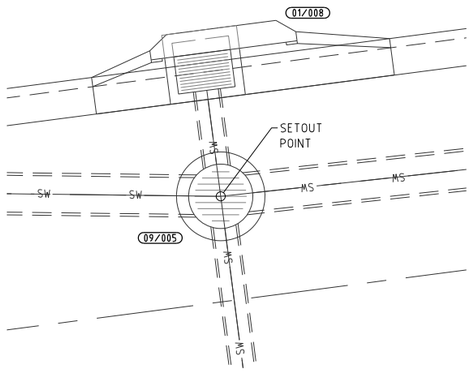


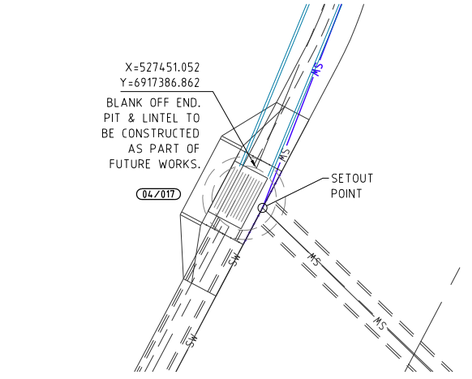


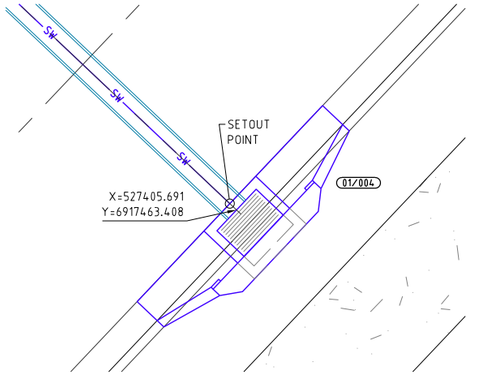


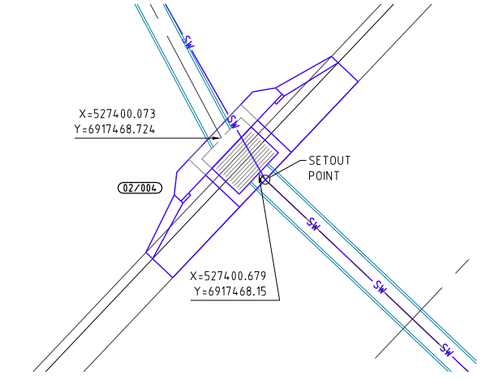


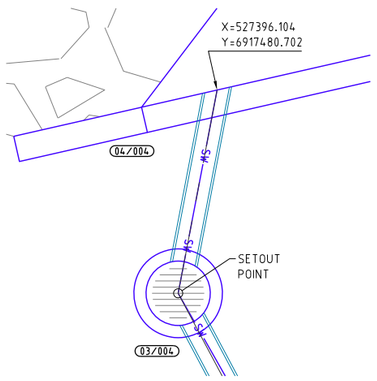


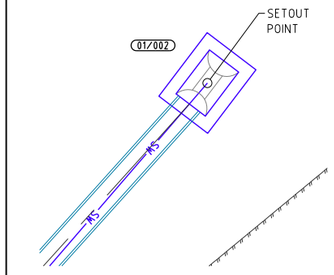


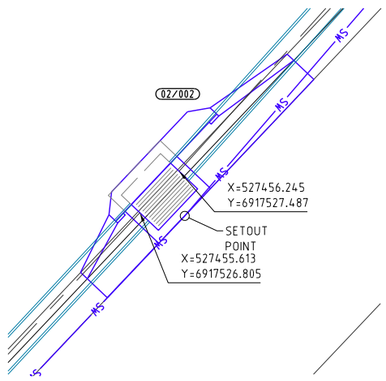


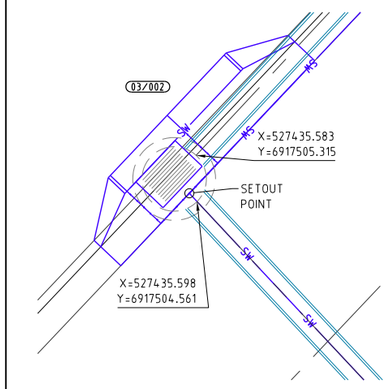


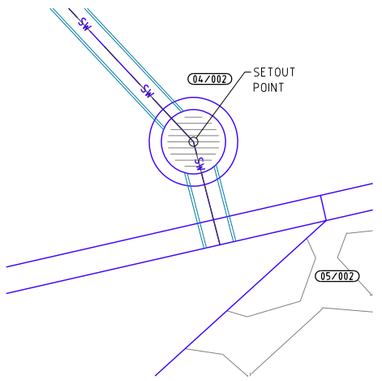












PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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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
MUS Pty Ltd T/As
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Southport QLD 4215
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Suite 9, 19 Short St
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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER: 41901-02-652
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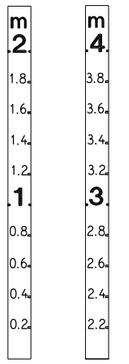
BASIN CONSTRUCTION

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.



FLOOD DEPTH INDICATORS
NOT TO SCALE

BIO FILTRATION BASIN NOTES

- BIO FILTRATION BASIN TO BE EXCAVTED TO LEVEL BELOW FILTRATION MEDIA
- UNSUITABLE MATERIAL TO BE REMOVED OFF SITE AND BASIN TRIMMED TO FINAL PROFILE PRIOR TO PLACEMENT OF FILTER MEDIA AT 80% COMPLETION OF HOUSING

BASIN PLAN A2a

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

DIAL BEFORE YOU DIG www.1100.com.au

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
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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:
Mortons-Urban Solutions
ABN: 39 116 375 065
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	EP
APPROVED	RPEQ 4706	DATE	13-10-23

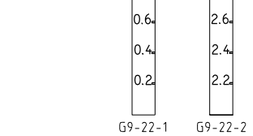
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LEGEND

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

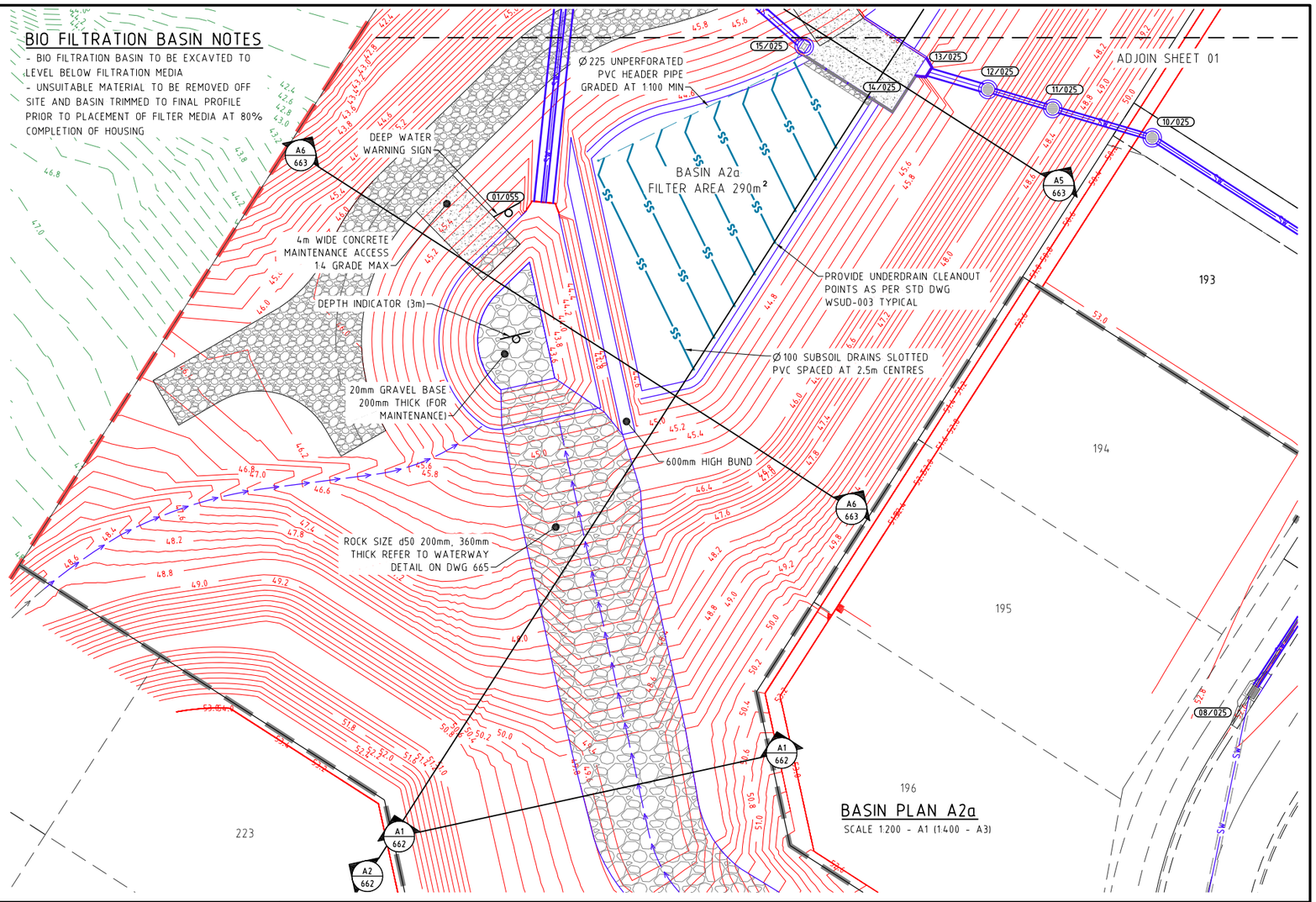
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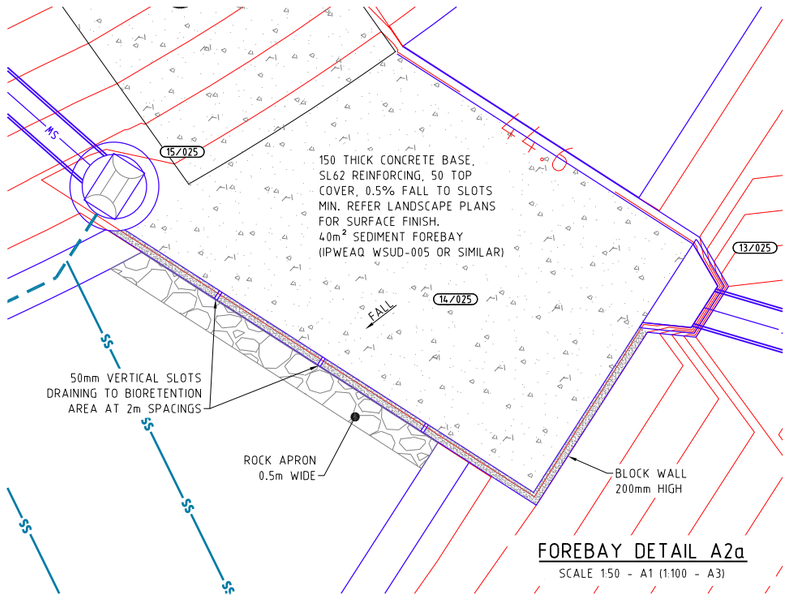
FLOOD DEPTH INDICATORS
NOT TO SCALE

BIO FILTRATION BASIN NOTES

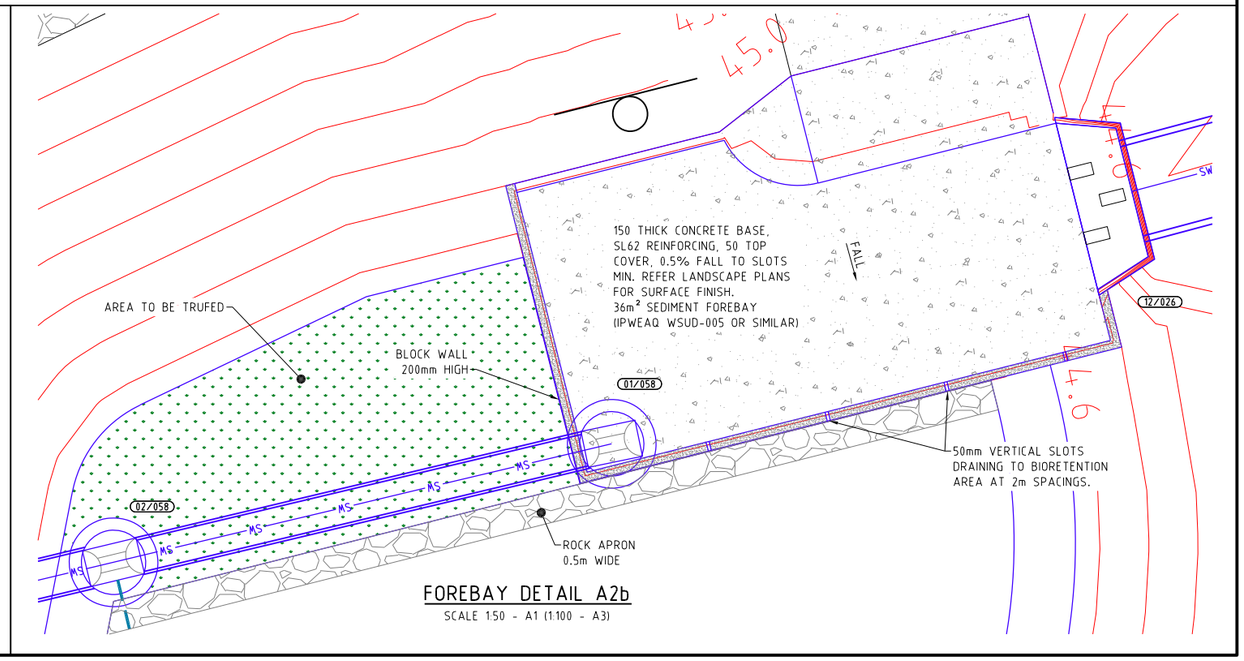
- BIO FILTRATION BASIN TO BE EXCAVTED TO LEVEL BELOW FILTRATION MEDIA
- UNSUITABLE MATERIAL TO BE REMOVED OFF SITE AND BASIN TRIMMED TO FINAL PROFILE PRIOR TO PLACEMENT OF FILTER MEDIA AT 80% COMPLETION OF HOUSING



BASIN PLAN A2a
SCALE 1:200 - A1 (1:400 - A3)



FOREBAY DETAIL A2a
SCALE 1:50 - A1 (1:100 - A3)



FOREBAY DETAIL A2b
SCALE 1:50 - A1 (1:100 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

STORMWATER
BASIN
PLAN AND DETAILS
SHEET 02

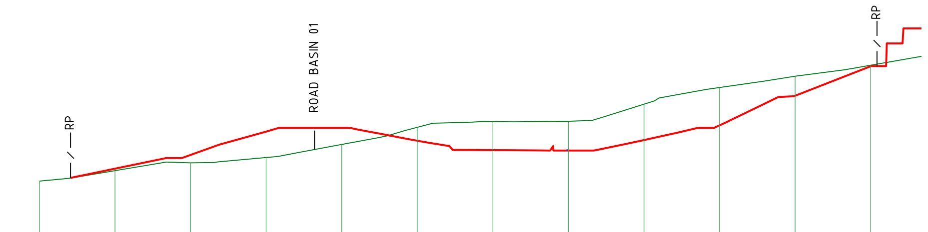
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mortons@urbansolutions.net.au
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Southport QLD 4215
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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

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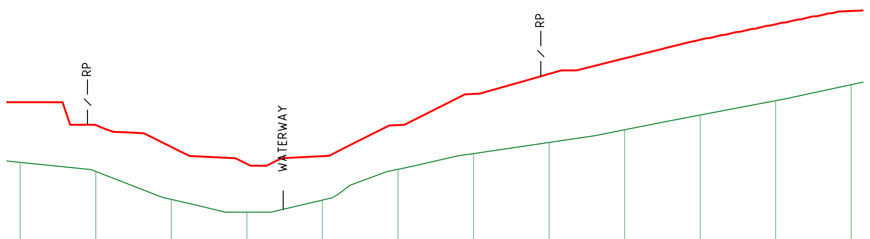
LONGITUDINAL SECTION A3



DATUM 39.0

FINISHED SURFACE		43.303	44.21	45.762	46	45.151	44.534	44.5	45.2	46.166	48.129	50.091
EXISTING SURFACE	42.484	43.171	43.687	44.042	44.91	46.047	46.417	46.446	47.578	48.675	49.429	50.158
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55

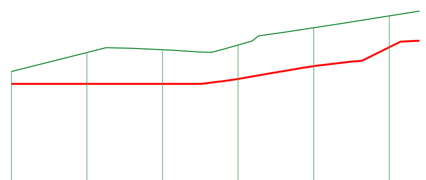
LONGITUDINAL SECTION A3
Horizontal scale 1:250
Vertical scale 1:250



DATUM 49.0

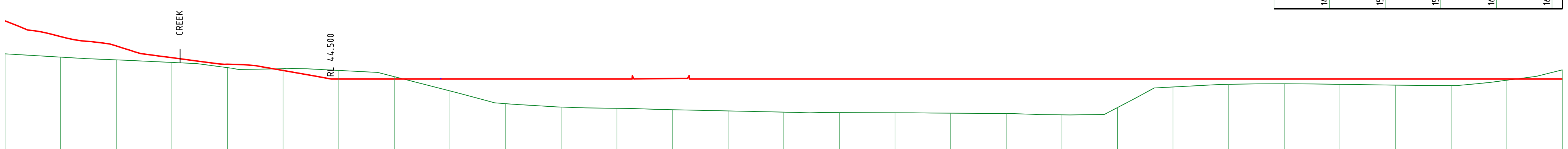
FINISHED SURFACE	59.2	57.68	56.24	55.117	55.634	57.688	59.742	61.072	62.099	63.328	64.353	65.23
EXISTING SURFACE	55.221	54.616	52.769	51.927	52.722	54.755	55.8	56.535	57.374	58.349	59.3	60.356
CHAINAGE	-20	-15	-10	-5	0	5	10	15	20	25	30	35

LONGITUDINAL SECTION A1
Horizontal scale 1:250
Vertical scale 1:250



CONTINUE BELOW

FINISHED SURFACE	44.5	44.5	44.832	45.672	46.927
EXISTING SURFACE	46.581	46.763	47.075	48.216	49
CHAINAGE	145	150	155	160	165



DATUM 38.0

FINISHED SURFACE	49.727	48.303	47.467	46.413	45.832	45.263	44.5 (CH 29.318)	44.5	44.5	44.5	44.5	44.5	44.539	44.5
EXISTING SURFACE	46.763	46.467	46.221	45.992	45.514	45.433	45.267	44.707	43.426	42.28	41.977	41.861	41.737	41.628
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60	65

FINISHED SURFACE	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
EXISTING SURFACE	41.519	41.477	41.464	41.423	41.398	41.274	41.931	43.777	44.025	44.058	44.01	43.961	43.905	44.387	45.323
CHAINAGE	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140

CONTINUE ABOVE

LONGITUDINAL SECTION A2
Horizontal scale 1:250
Vertical scale 1:250

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PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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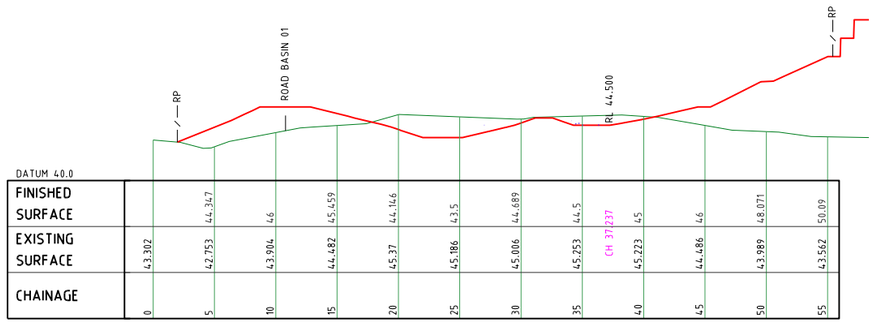
DRAWING TITLE

STORMWATER
BASIN
SECTIONS
SHEET 01

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Southport QLD 4215

DESIGNED RB | DRAWN EP
APPROVED [signature] RPEQ 4706 | DATE 13-10-23

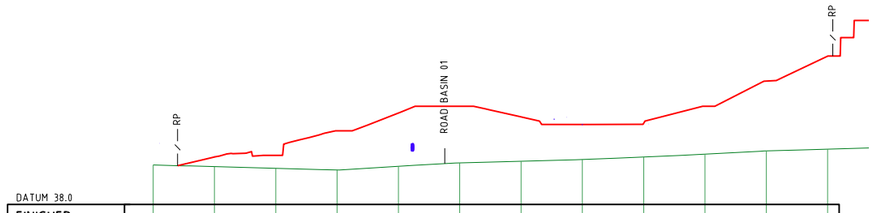
DRAWING NUMBER 41901-02-662 | REV A



DATUM 40.0													
FINISHED SURFACE		44.347	46	45.459	44.146	43.5	44.689	44.5	CH 37.237	45	46	48.071	50.09
EXISTING SURFACE	43.302	42.753	43.904	44.482	45.37	45.186	45.006	45.253		45.223	44.486	43.989	43.562
CHAINAGE	0	5	10	15	20	25	30	35		40	45	50	55

LONGITUDINAL SECTION A6

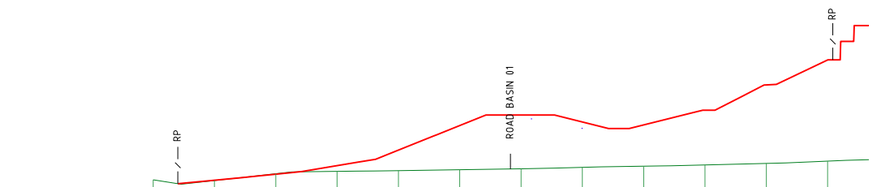
Horizontal scale 1:250
Vertical scale 1:250



DATUM 38.0													
FINISHED SURFACE		41.872	42	44	45.454	46	45.141	44.522	44.616	46	48.06	50.09	
EXISTING SURFACE	41.223	41.085	40.945	40.815	41.11	41.387	41.518	41.665	41.864	42.101	42.362	42.507	
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	

LONGITUDINAL SECTION A5

Horizontal scale 1:250
Vertical scale 1:250



DATUM 37.0													
FINISHED SURFACE		40.293	40.783	41.477	42.745	44.745	45.6	45.034	44.796	46	48.059	50.09	
EXISTING SURFACE	40.324	40.267	40.826	41.019	41.07	41.145	41.22	41.338	41.434	41.538	41.662	41.846	
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	

LONGITUDINAL SECTION A4

Horizontal scale 1:250
Vertical scale 1:250

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

REV	DATE	DESCRIPTION	INT
A	13-10-23	COUNCIL ISSUE	EP

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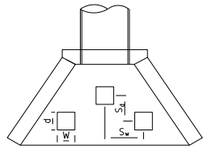
STORMWATER
BASIN
SECTIONS
SHEET 02

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

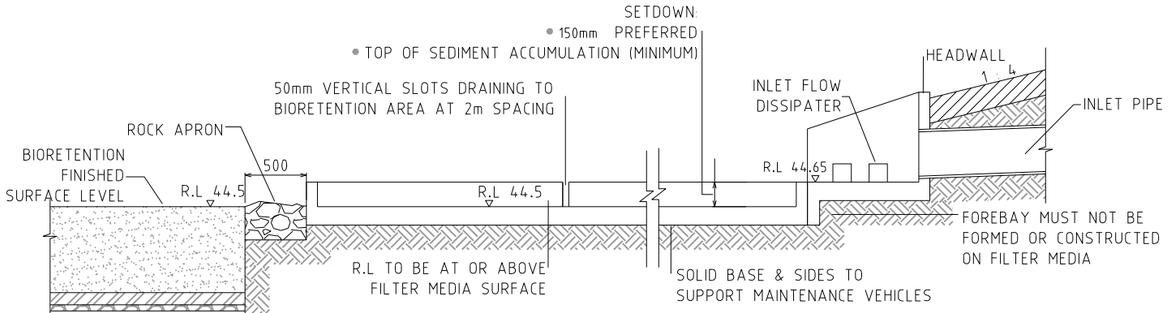
DRAWING NUMBER	REV
41901-02-663	A

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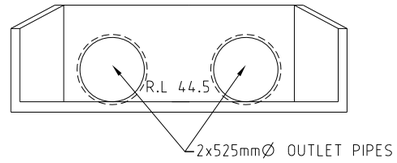


NOTE: ENERGY DISSIPATER LAYOUT TO BE DESIGNED AS PER BRISBANE CITY COUNCIL'S STORMWATER OUTLETS IN PARKS AND WATERWAYS

INLET SCOUR PROTECTION DETAILS

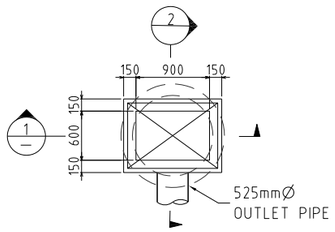


SEDIMENT FOREBAY A2b CROSS SECTION

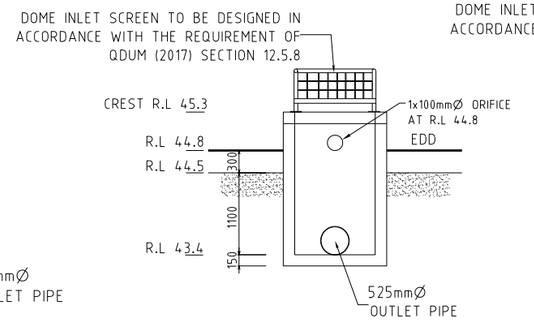


HEADWALL 01/055

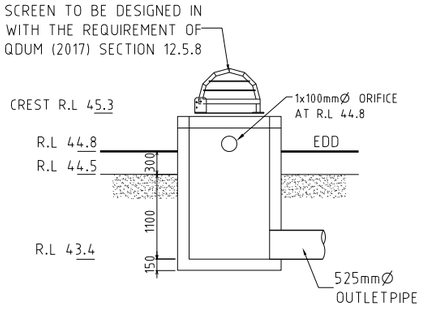
(2x525mm OUTLET PIPES)



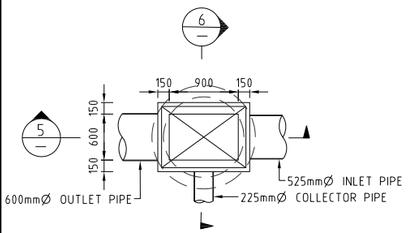
OVERFLOW STRUCTURE 01/058



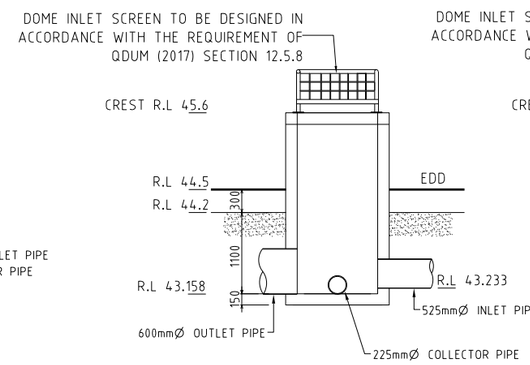
SECTION 1-1



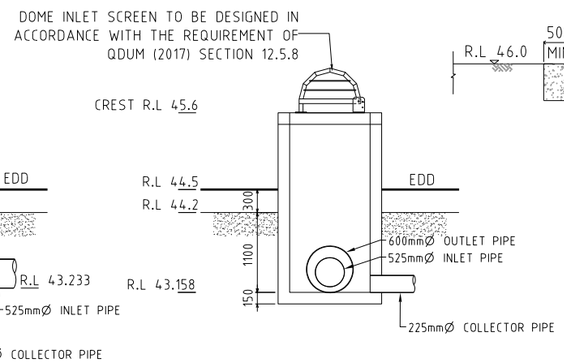
SECTION 2-2



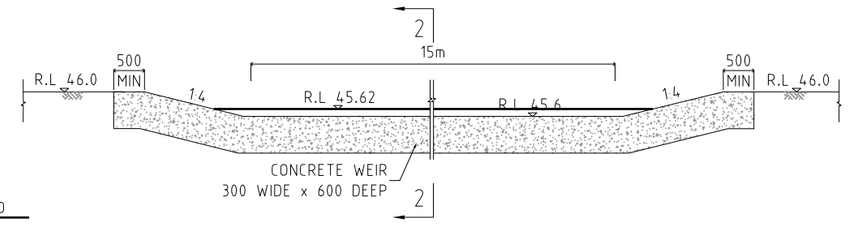
OVERFLOW STRUCTURE 02/058



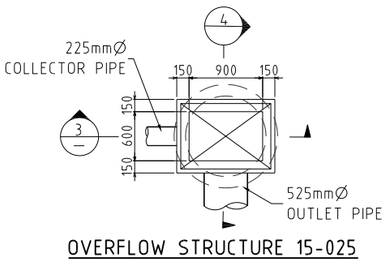
SECTION 5-5



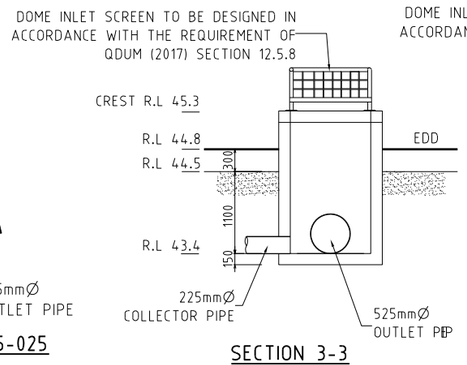
SECTION 6-6



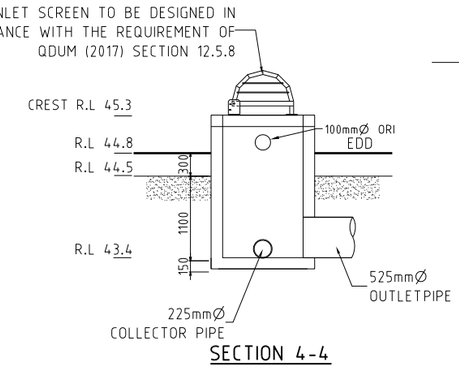
WEIR DETAIL SECTION 1-1



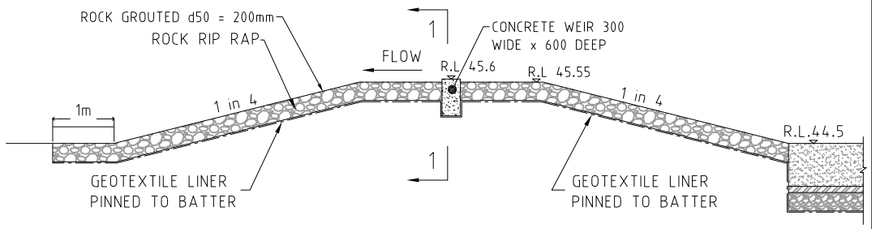
OVERFLOW STRUCTURE 15-025



SECTION 3-3



SECTION 4-4



WEIR CROSS SECTION 2-2

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

NTS

REV	DATE	DESCRIPTION	INT
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Robin Russell & ASSOCIATES PTY. LTD.

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DRAWING TITLE

STORMWATER BASIN DETAILS & SECTIONS SHEET 01

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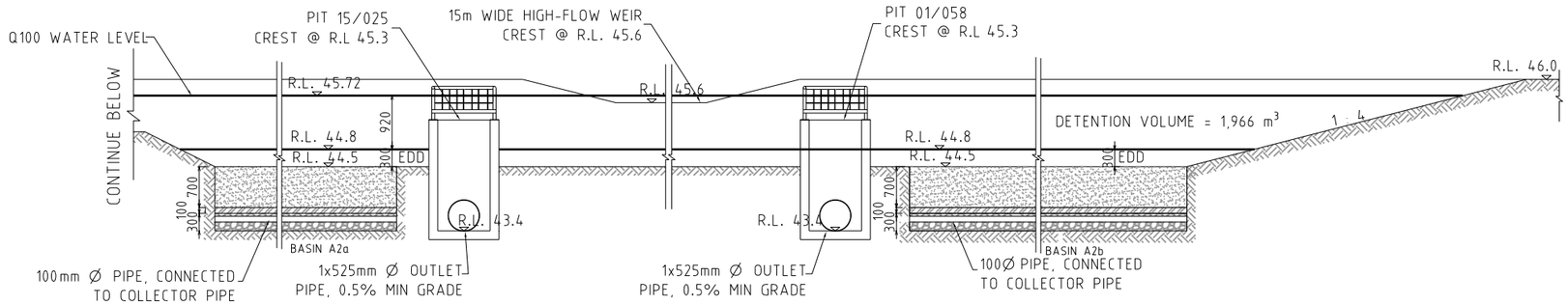
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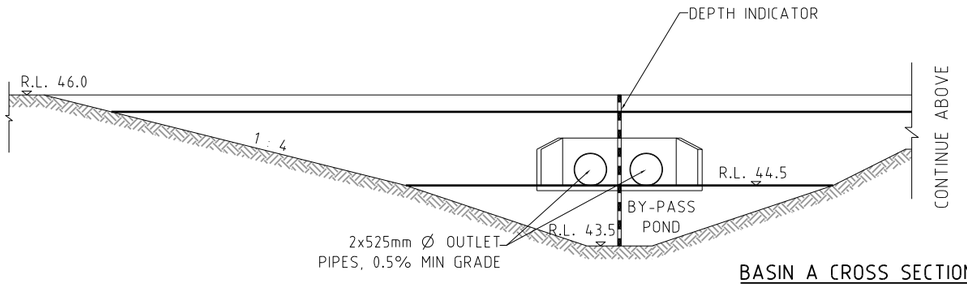
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APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER: 41901-02-664

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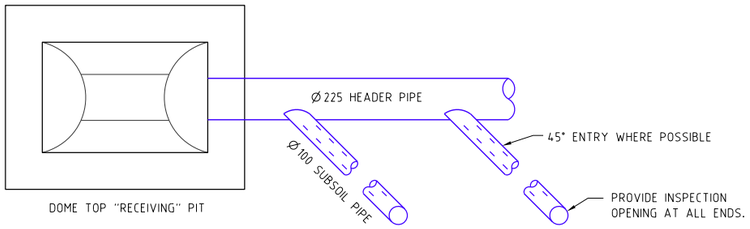




BASIN A CROSS SECTION A-A

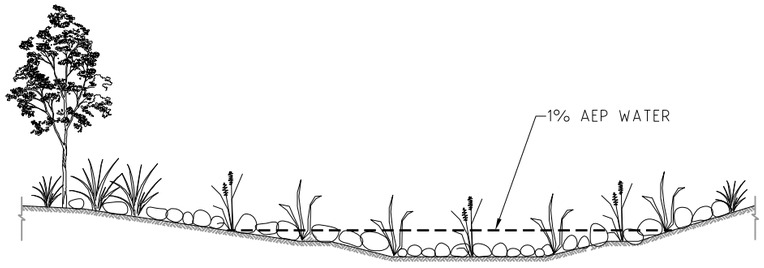
SCALE 1:50

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



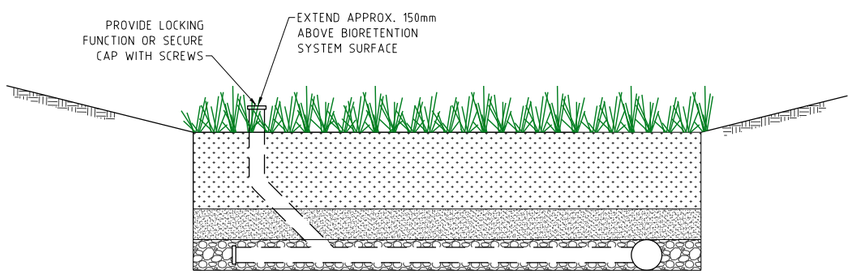
TYPICAL HEADER & SUBSOIL DETAILS

N.T.S.



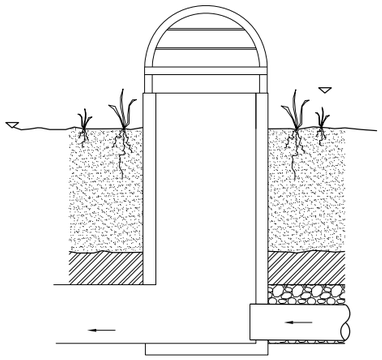
WATERWAY SECTION A1-661

N.T.S.



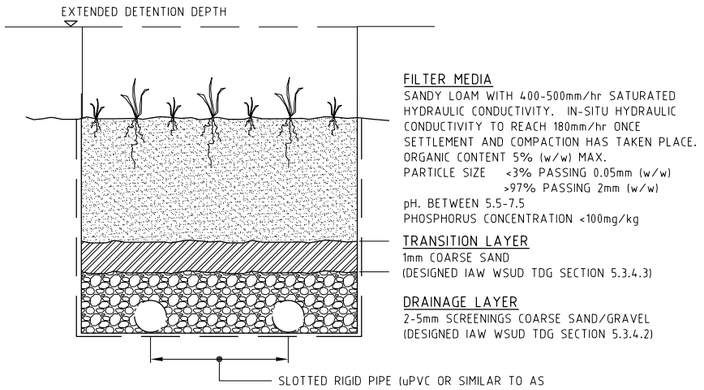
BIORETENTION FILTER TYPICAL SECTION

N.T.S.



TYPPICAL HEADER PIPE CONNECTION DETAIL

N.T.S.



FILTER MEDIA
SANDY LOAM WITH 400-500mm/hr SATURATED HYDRAULIC CONDUCTIVITY. IN-SITU HYDRAULIC CONDUCTIVITY TO REACH 180mm/hr ONCE SETTLEMENT AND COMPACTION HAS TAKEN PLACE.
ORGANIC CONTENT 5% (w/w) MAX.
PARTICLE SIZE <3% PASSING 0.05mm (w/w)
>97% PASSING 2mm (w/w)
pH. BETWEEN 5.5-7.5
PHOSPHORUS CONCENTRATION <100mg/kg

TRANSITION LAYER
1mm COARSE SAND
(DESIGNED IAW WSUD TDG SECTION 5.3.4.3)

DRAINAGE LAYER
2-5mm SCREENINGS COARSE SAND/GRAVEL
(DESIGNED IAW WSUD TDG SECTION 5.3.4.2)

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 02

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

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DRAWING TITLE

STORMWATER
BASIN
DETAILS & SECTIONS
SHEET 02

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-665

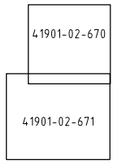
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LEGEND

- 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



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	
A	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

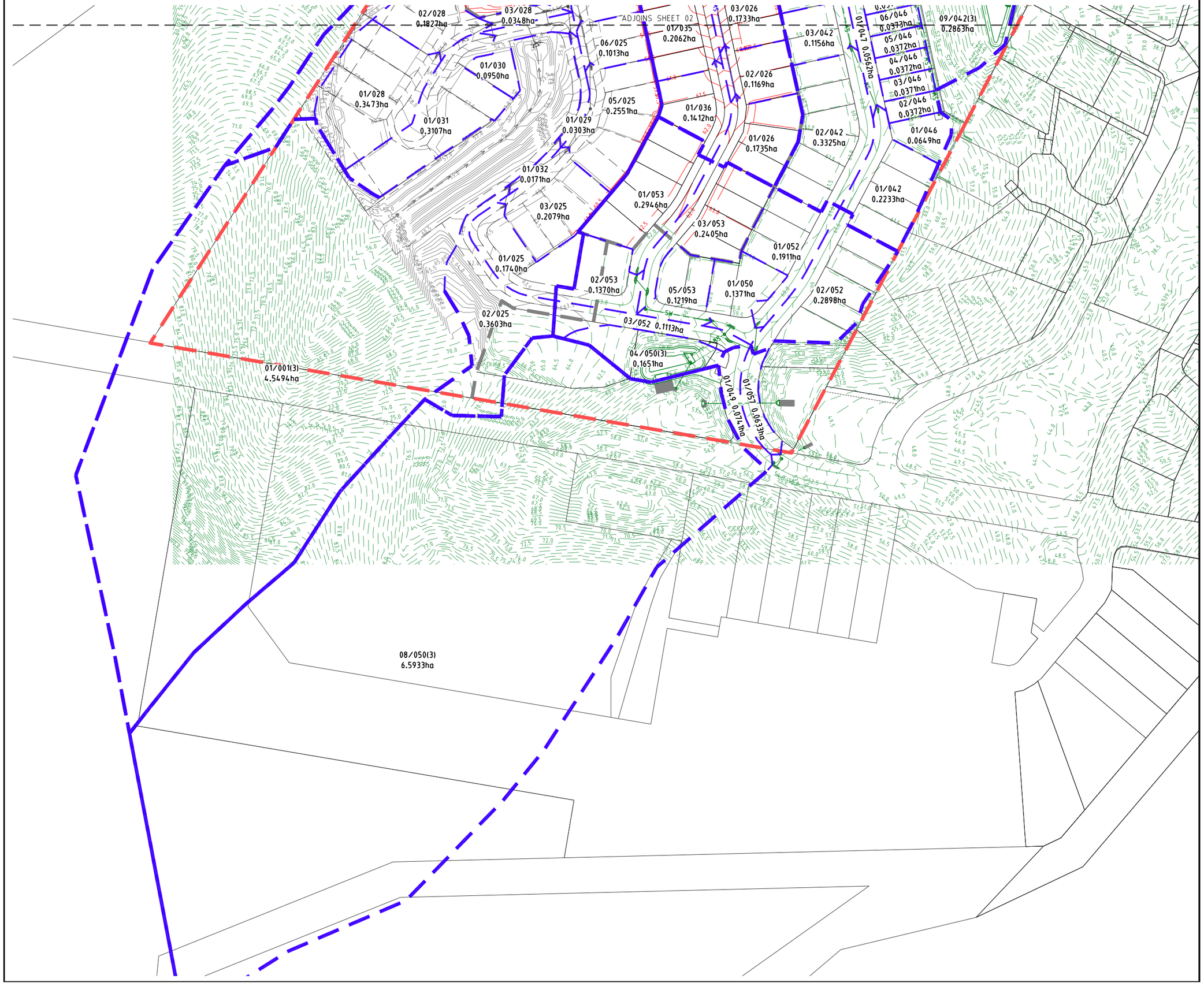
STORMWATER
CATCHMENT PLAN
SHEET 01

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-670 REV A

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
A	13-10-23	COUNCIL ISSUE	EP

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BENNETT + BENNETT

DRAWING TITLE

STORMWATER
CATCHMENT PLAN
SHEET 02

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER	REV
41901-02-671	A

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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			CATCHMENT AREA			RAINFALL VOLUME*		RAINFALL Coef.		CATCHMENT FLOW				APPROACH FLOW				FLOW AT PIT				PIT		HGL				PIPE	HEADLOSSES						
NODE			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	NODE
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	
01/002	02/002	FIELD INLET 900x600 C/W DOME TOP	0.013		0.325	90	61.3	0.877	0.830	0.004		0.068	60	1.0	71	0.00	0.00	71	0	0.00	02/002	1.000	44.109	43.27	43.26	41.01	8.57	0.07	9.7	0.0	0.0	0.0	0.11	3.41	01/002
02/002	03/002	INLET GULLY ON GRADE (LG) Type S Lintel	0.023		0.245	90	61.3	0.877	0.830	0.008		0.051	60	9.0	58	1.20	0.00	52	5	0.00	03/002	9.044	42.050	41.01	41.01	38.44	8.48	0.12	1.9	0.0	0.0	0.0	0.19	4.41	02/002
03/002	04/002	DRAINWAYS 1TCS0 ON GRADE			0.334							0.070	60	5.7	75	1.36	0.01	65	9	0.01	02/004	5.711	39.847	37.80	37.79	34.49	15.05	0.19	2.1	0.0	0.0	0.0	0.21	5.9	03/002
04/002	05/002	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	35.300	33.50	33.47	33.47	-0.12	0.19	2.1	0.0	0.0	0.0	0.67	1.83	04/002
05/002	08/055	HEADWALL											25	1.0	0			0				1.000	34.496	33.33	33.33	33.31	0.04	0.28	0.0	0.0	0.0	0.0	0.01	1.01	05/002
08/055	09/055	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	34.000	33.31											08/055
01/003	02/003	INLET HEADWALL			0.185							0.038	60	1.0	38			38				1.000	39.225	38.74	38.73	38.23	5.55	0.04	0.5	0.0	0.0	0.0	0.08	1.3	01/003
02/003	05/055	HEADWALL											25	1.0	0			0				1.000	38.825	38.16	38.16	38.16	0.00	0.04	0.0	0.0	0.0	0.0			02/003
05/055	06/055	BASIN NODE FOR CALCULATIONS			20.020							4.638	90	1.0	4638			4638				1.000	36.200	35.65											05/055
01/004	02/004	INLET GULLY IN SAG (LS) Type S Lintel	0.118			90	61.3	0.877	0.830	0.039			60	0.2	39	1.07	0.00	39	0	0.00	O 01/004	0.178	38.451	37.50	37.45	37.31	2.11	0.04	9.7	0.0	0.1	0.0	0.12	1.35	01/004
02/004	03/004	INLET GULLY IN SAG (LS) Type S Lintel	0.070			90	61.3	0.877	0.830	0.023			60	0.8	28	1.07	0.00	28	0	0.00	O 02/004	0.838	38.451	37.27	37.27	35.66	14.95	0.07	1.9	0.0	0.0	0.0	0.07	4.54	02/004
03/004	04/004	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	36.650	35.66	35.65	35.65	0.18	0.07	2.1	0.0	0.1	0.0	0.12	2.35	03/004
04/004	05/055	HEADWALL											25	1.0	0			0				1.000	36.118	35.65	35.65	35.65	0.00	0.07	0.0	0.0	0.0	0.0			04/004
05/055	06/055	BASIN NODE FOR CALCULATIONS			20.020							4.638	90	1.0	4638			4638				1.000	36.200	35.65											05/055
10/005	11/005	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	40.227	39.14	39.08	37.85	6.65	1.18	1.1	0.0	0.4	0.0	0.54	4.55	10/005
11/005	12/005	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	37.900	37.85	37.24	37.24	-0.09	1.48	1.2	0.0	0.6	0.0	1.42	3.39	11/005
12/005	01/006	HEADWALL											25	1.0	0			0				1.000	37.645	37.24	37.24	37.24	0.00	1.48	0.0	0.0	0.0	0.0			12/005
01/020	02/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.281			90	61.3	0.877	0.830	0.093			60	2.5	93	1.29	0.01	84	8	0.01	02/020	2.490	43.860	42.86	42.85	41.49	3.50	0.08	7.0	0.0	0.0	0.0	0.19	1.86	01/020
02/020	03/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.200			90	61.3	0.877	0.830	0.066			60	5.5	73	1.24	0.01	64	7	0.01	01/022	5.500	42.308	41.49	41.39	41.23	2.27	0.15	2.0	0.0	0.1	0.0	0.45	2.01	02/020
03/020	04/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.061			90	61.3	0.877	0.830	0.020			60	5.4	20	0.00	0.00	20	0	0.00	01/023	5.434	42.402	41.17	41.17	38.66	5.21	0.17	2.0	0.0	0.0	0.0	0.3	4.08	03/020
04/020	05/020	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	39.465	38.66	38.59	38.47	0.46	0.20	1.8	0.0	0.1	0.0	0.97	1.24	04/020
05/020	11/005	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	39.086	38.47	38.29	37.85	0.82	0.31	1.3	0.0	0.2	0.0	1.52	1.95	05/020
11/005	12/005	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	37.900	37.85											11/005
01/022	04/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.109			90	61.3	0.877	0.830	0.036			60	5.3	42	0.00	0.00	42	0	0.00	01/021	5.276	39.585	38.71	38.61	38.66	-0.61	0.04	9.7	0.0	0.1	0.0	0.07	2.56	01/022
04/020	05/020	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	39.465	38.66											04/020
01/023	04/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.017			90	61.3	0.877	0.830	0.006			60	4.4	6	0.00	0.00	6	0	0.00	02/004	4.430	39.512	38.66	38.66	38.66	0.06	0.01	9.7	0.0	0.0	0.0	0.02	1.46	01/023
04/020	05/020	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	39.465	38.66											04/020
01/024	02/024	INLET GULLY ON GRADE (LG) Type S Lintel	0.014			90	61.3	0.877	0.830	0.004			60	8.0	5	1.07	0.00	5	0	0.00	02/024	8.000	50.440	49.32	49.32	48.95	7.39	0.00	7.0	0.0	0.0	0.0	0.01	1.62	01/024
02/024	03/024	INLET GULLY ON GRADE (LG) Type S Lintel	0.005			90	61.3	0.877	0.830	0.001			25	8.0	1	0.00	0.00	1	0	0.00	03/024	8.000	50.048	48.93	48.93	48.54	7.94	0.01	1.3	0.0	0.0	0.0	0.01	1.82	02/024
03/024	04/024	INLET GULLY ON GRADE (LG) Type S Lintel	0.004			90	61.3	0.877	0.830	0.001			25	8.0	1	0.00	0.00	1	0	0.00	04/024	8.000	49.656	48.51	48.51	48.19	6.65	0.01	1.1	0.0	0.0	0.0	0.01	1.83	03/024
04/024	10/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.005			90	61.3	0.877	0.830	0.002			60	8.0	2	0.00	0.00	2	0	0.00	03/020	8.000	49.264	48.16	48.16	47.64	5.88	0.01	1.3	0.0	0.0	0.0	0.02	1.84	04/024
10/026	11/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	48.730	46.68											10/026
08/025	09/025	INLET GULLY ON GRADE (LG) Type S Lintel	0.112			90	61.3	0.877	0.830	0.037			60	0.6	37	0.00	0.00	37	0	0.00	09/025	0.600	52.548	52.15	52.14	51.55	1.86	0.27	0.7	0.0	0.1	0.0	0.84	2.68	08/025
09/025	10/025	DRAINWAYS 1TCS0 ON GRADE	0.107			90	61.3	0.877	0.830	0.035			60	0.6	35	0.00	0.00	35	0	0.00	01/039	0.600	52.357	51.55	51.21	50.11	3.62	0.34	1.5	0.0	0.3	0.0	0.94	3.28	09/025
10/025	11/025	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	53.000	48.58	48.50	47.27	15.32	0.34	1.6	0.0	0.1	0.0	0.38	5.36	10/025
11/025	12/025	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	48.077	46.12	45.98	45.23	14.41	0.34	1.6	0.0	0.2	0.0	0.38	4.86	11/025
12/025	13/025	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	46.000	45.23	45.23	45.22	0.16	0.34	0.0	0.0	0.0	0.0	0.6	2.53	12/025
13/025	14/025	HEADWALL											25	1.0	0			0				1.000	45.600	45.22	45.22	45.22	0.00	0.34	0.0	0.0	0.0	0.0			13/025
14/025	15/025	BASIN NODE FOR CALCULATIONS			1.016							0.211	60	1.0	211			211				1.000	44.500	45.22	45.22	45.22	0.00	0.00	0.0	0.0	0.0	0.0			14/025
15/025	16/025	MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP											25	1.0	0	0.00	0.00	0	0	0.00	03/055	1.000	45.300	42.80	42.80	42.00	3.98	0.00	0.0	0.0	0.0	0.0	0	0	15/025
16/025	03/055	HEADWALL											25	1.0	0			0				1.000	42.935	42.00	42.00	39.99	2.93	0.00	0.0	0.0	0.0	0.0	0	0	16/025
03/055	04/055	100% CAPTURE FOR FUTURE EXTENSION			110.076							9.110	90	1.0	9110			9110				1.000	41.083	39.99											03/055
01/026	02/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.174			90	61.3	0.877	0.830	0.057			60	4.0	57	1.15	0.00	54	3	0.00	02/026	3.953	61.285	60.24	60.24	58.46	6.15	0.05	7.0	0.0	0.0	0.0	0.1	3.01	01/026
02/026	03/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.117			90	61.3	0.877	0.830	0.039			60	7.9	41	1.07	0.00	41	0	0.00	03/026	7.944	59.453	58.43	58.43	54.73	7.85	0.14	1.6	0.0	0.0	0.0	0.22	4.5	02/026
03/026	04/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.173			90	61.3	0.877	0.830	0.057			60	8.0	57	1.19	0.00	51	5	0.00	04/026	8.000	55.688	54.73	54.73	52.66	7.45	0.25	1.3	0.0	0.0	0.0	0.4	4.89	03/026
04/026	05/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.188			90	61.3	0.877	0.830	0.062			60	8.0	67	1.27	0.01	58	9	0.01	05/026	8.000	53.563	52.37	52.36	50.93	5.98	0.31	0.9	0.0	0.0	0.0	0.32	3.47	04/026
05/026	06/026	DRAINWAYS 0TCS0 SAG	0.069			90	61.3	0.877	0.830	0.023			60	0.7	31	0.00	0.00	31	0	0.00	01/040	0.659	52.050	50.93	50.93	50.82	0.75	0.39	0.4	0.0	0.0	0.0	0.42	2.19	05/026
06/026	07/026	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	52.271	50.82	50.80	50.42	0.72	0.40	1.7	0.0	0.0	0.0	0.44	2.17	06/026
07/026	08/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.902	50.42	50.41	50.09	1.05	0.53	0.4	0.0	0.0	0.0	0.48	2.93	07/026
08/026	09/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.316	49.98	49.98	49.29	5.12	0.60	0.6	0.0	0.0	0.0	0.24	5.04	08/026
09/026	10/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	50.729	49.29	49.28	47.70	6.33	0.78	0.7	0.0	0.0	0.0	0.29	6.16	09/026
10/026	11/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	48.730	46.68	46.62	45.22	5.05	0.79	2.1	0.0	0.1	0.0	0.29	5.5	10/026
11/026	12/026	1200 DIA MANHOLE EXTENDED 600mm											25	1.0	0			0				1.000	45.953	45.22	45.22	45.22	0.05	0.79	0.2	0.0	0.0	0.0	0.37	2.11	11/026
12/026	14/025	HEADWALL											25	1.0	0			0				1.000	45.580	45.22	45.22	45.22	0.00	0.79	0.0	0.0	0.0	0.0			12/026
14/025	15/025	BASIN NODE FOR CALCULATIONS			1.016							0.211	60	1.0	211			211				1.000	44.500	45.22											14/025
01/033	09/025	INLET GULLY ON GRADE (LG) Type S Lintel	0.143			90	61.3	0.877	0.830	0.047			60	0.6	48	1.07	0.00	48	0	0.00	01/034	0.600	52.357	51.64	51.60	51.55	0.77	0.05	9.7	0.0	0.1	0.0	0.14	1.31	01/033
09/025	10/025	DRAINWAYS 1TCS0 ON GRADE	0.107			90	61.3	0.877	0.830	0.035			60	0.6	35	0.00	0.00	35	0	0.00	01/039	0.600	52.357	51.55											09/025
01/034	05/026	INLET GULLY IN SAG (LS) Type S Lintel	0.165			90	61.3	0.877	0.830	0.054			60	0.7	61	1.15	0.00	59	0	0.00	05/026	0.659	52.050	51.17	51.17	50.93	3.61	0.06	9.7	0.0	0.0	0.0	0.13	1.73	01/034
05/026	06/026	DRAINWAYS 0TCS0 SAG	0.069			90	61.3	0.877	0.830	0.023			60	0.7	31	0.00	0.00	31	0	0.00	01/040	0.659	52.050	50.93											05/026
01/035	03/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.206			90	61.3	0.877	0.830	0.068			60	8.0	69	1.24	0.01	59	7	0.01	01/034	8.000	55.729	54.98	54.87	54.73	2.09	0.06	9.7	0.0	0.1	0.0	0.19	1.36	01/035
03/026	04/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.173			90	61.3	0.877	0.830	0.057			60	8.0	57	1.19	0.00	51	5	0.00	04/026	8.000	55.688	54.73											03/026
01/036	02/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.141			90	61.3	0.877	0.830	0.047			60	7.1	47	1.09	0.00	44	2	0.00	01/035	7.090	60.022	58.99	58.97	58.45	5.28	0.04	9.7	0.0	0.0	0.0	0.09	2.27	01/036
02/026	03/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.117			90	61.3	0.877	0.830	0.039			60	7.9	41	1.07	0.00	41	0	0.00	03/026	7.944	59.453	58.43											02/026
01/037	08/026	INLET GULLY IN SAG (LS) Type S Lintel	0.099			90	61.3	0.877	0.830	0.033			60	1.0	34	1.07	0.00	34	0	0.00	01/024	1.039	51.271	50.26	50.23	49.98	7.74	0.03	9.7	0.0	0.0	0.0	0.05	2.32	01/037
08/026	09/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.316	49.98											08/026
01/038	08/026	INLET GULLY IN SAG (LS) Type S Lintel	0.124			90	61.3	0.877	0.830	0.041			60	0.9	41	1.07	0.00	41	0	0.00	01/037	0.907	51.456	50.42	50.38	50.14	3.91	0.04	9.7	0.0	0.0	0.0	0.09	1.76	01/038
08/026	09/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.316	49.98											08/026
01/039	07/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.256			90	61.3	0.877	0.830	0.084			60	1.2	84	1.22	0.00	79	2	0.00	01/037	1.226	51.882	51.19	50.97	50.86	4.53	0.08	9.2	0.0	0.2	0.0	0.25	1.15	01/039
07/026	08/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.902	50.42											07/026
01/040	07/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.174			90	61.3	0.877	0.830	0.057			60	1.4	57	0.00	0.00	57	0	0.00	01/038	1.358	51.855	51.06	50.94	50.84	2.12	0.06	9.7	0.0	0.1	0.0	0.18	1.29	01/040
07/026	08/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.902	50.42											07/026
01/041	02/041	INLET GULLY ON GRADE (LG) Type S Lintel	0.239			90	61.3	0.877	0.830	0.079			60	5.6	79	1.31	0.01	67	11	0.01	03/041	5.609	54.809	53.76	53.76	51.70	5.71	0.07	7.0	0.0	0.0	0.0	0.12	2.47	01/041
02/041	03/041	INLET GULLY ON GRADE (LG) Type S Lintel	0.314			90	61.3	0.877	0.830	0.103			60	6.6	103	1.45	0.02	78	24	0.02	01/017	6.586	52.611	51.70	51.65	51.19	5.97	0.15	2.9	0.0	0.1	0.0	0.27	3.23	02/041
03/041	09/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.103			90	61.3	0.877	0.830	0.034			60	7.0	44	1.07	0.00	43	0	0.00	01/038	7.008	52.324	51.19	51.17	49.65	6.82	0.19	1.8	0.0	0.0	0.0	0.33	4.3	03/041
09/026	10/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	50.729	49.29											09/026
01/055	02/055	INLET HEADWALL											25	1.0	0			0				1.000	45.435	45.22	45.15	42.17	11.90	0.92	0.5	0.0	0.1	0.0	0.18	2.38	01/055
02/055	03/055	HEADWALL											25	1.0	0			0				1.000	42.935	42.09	42.09	39.99	3.02	0.91	0.0	0.0	0.0	0.0	0.01	0.38	02/055
03/055	04/055	100% CAPTURE FOR FUTURE EXTENSION			110.076							9.110	90	1.0	9110			9110				1.000	41.083	39.99	39.99	37.62	1.90	9.50	0.0	0.0	0.0	0.0	0.08	1.87	03/055
04/055	05/055	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	39.250	37.60	37.60	35.65	1.44	9.49	0.0	0.0	0.0	0.0	0.07	0.63	04/055
05/055	06/055	BASIN NODE FOR CALCULATIONS			20.020							4.638	90	1.0	4638			4638				1.000	36.200	35.65	35.65	35.65	0.00	11.39	0.0	0.0	0.0	0.0			05/055
06/055	07/055	INLET HEADWALL											25	1.0	0			0				1.000	38.100	35.65	35.57	33.73	4.78	11.39	0.4	0.0	0.1	0.0	0.07	2.91	06/055
07/055	08/055	HEADWALL											25	1.0	0			0				1.000	37.300	33.73	33.73	33.37	1.07	11.42	0.0	0.0	0.0	0.0	0.35	1.82	07/055
08/055	09/055	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	34.000	33.31	33.31	33.26	0.26	12.57	0.0	0.0	0.0	0.0	0.2	2.52	08/055
09/055		REFERENCE											25	1.0	0			0				1.000	34.000	33.26											09/055
06/042	07/042	DRAINWAYS 1TCS0 ON GRADE	0.177			90	61.3	0.877	0.830	0.059			60	14.1	69	1.31	0.01	53	15	0.01	04/043	14.059	45.891	44.88	44.88	42.31	10.53	0.33	1.6	0.0	0.0	0.0	0.41	4.6	06/042
04/043	11/042	INLET GULLY ON GRADE (LG) Type S Lintel	0.024			90	61.3	0.877	0.830	0.008			60	9.7	22	0.00	0.00	22	0	0.00	O 04/043	9.670	43.038	42.31											04/043
01/058	02/058	TYPE 2 FIELD INLET 900x600 C/W DOME TOP											60	1.0	1209	0.00	0.00	1209	0	0.00	03/055	1.000	44.800	45.22	44.17	42.59	5.29	1.21	2.3	0.0	1.0	0.0	0.76	4.85	01/058
02/058	03/055	HEADWALL											25	1.0	0			0				1.000	43.700	42.29	42.29	39.99	8.25	1.21	0.0	0.0	0.0	0.0	0.03	1.54	02/058
03/055	04/055	100% CAPTURE FOR FUTURE EXTENSION			110.076							9.110	90	1.0	9110			9110				1.000	41.083	39.99											03/055
01/006	02/006	BASIN NODE FOR CALCULATIONS											25	1.0	0			0				1.000	37.900	37.24	37.45	37.45	0.00	0.64	0.0	0.0	0.0	0.0			01/006

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

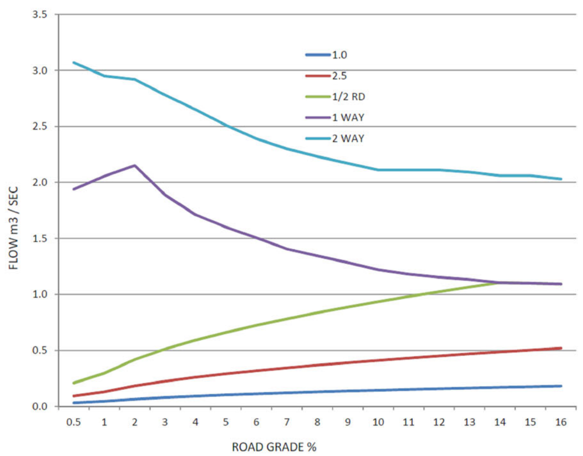
NOTES:

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 02

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

A	Date	COUNCIL ISSUE	EP
REV	DATE	DESCRIPTION	INT

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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

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DESIGNED RB	DRAWN EP	
APPROVED	RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-680 | REV A

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 02\Engineering Drawings\Current\41901-02-680.dwg, MINOR TABLE, 12/10/2023 3:24:41 PM, 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				CAPACITY	VELOCITY	NODE
			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		RATIO	M/S	
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			
01/002	02/002	FIELD INLET 900x600 C/W DOME TOP	0.013		0.325	120	133.6	0.877	0.916	0.007		0.145	25	1.0	151	1.46	0.02	126	24	0.02	02/002	1.000	44.109	43.31	43.31	41.06	8.56	0.13	8.9	0.0	0.0	0.0	0.19	3.61	01/002
02/002	03/002	INLET GULLY ON GRADE (LG) Type S Lintel	0.023		0.245	120	133.6	0.877	0.916	0.013		0.110	25	9.0	143	1.73	0.04	90	53	0.03	03/002	9.044	42.050	41.06	41.06	38.48	8.50	0.22	1.7	0.0	0.0	0.0	0.33	4.97	02/002
03/002	04/002	DRAINWAYS 1TCS0 ON GRADE			0.334							0.150	25	5.7	202	2.51	0.05	118	82	0.05	02/004	5.711	39.847	37.86	37.84	34.54	15.09	0.33	1.6	0.0	0.0	0.0	0.38	6.57	03/002
04/002	05/002	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	35.300	34.01	33.64	33.62	0.87	0.35	2.0	0.0	0.4	0.0	1.24	2.24	04/002
05/002	08/055	HEADWALL											25	1.0	0			0				1.000	34.496	33.62	33.62	33.56	0.25	1.11	0.0	0.0	0.0	0.0	0.02	1.11	05/002
08/055	09/055	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	34.000	33.56											08/055
01/003	02/003	INLET HEADWALL			0.185							0.083	25	1.0	83			83				1.000	39.225	38.87	38.85	38.27	6.57	0.08	0.5	0.0	0.0	0.0	0.17	1.38	01/003
02/003	05/055	HEADWALL											25	1.0	0			0				1.000	38.825	38.16	38.16	38.16	0.00	0.08	0.0	0.0	0.0	0.0			02/003
05/055	06/055	BASIN NODE FOR CALCULATIONS			20.020							9.478	25	1.0	9478			9478				1.000	36.200	37.06											05/055
01/004	02/004	INLET GULLY IN SAG (LS) Type S Lintel	0.118			120	133.6	0.877	0.916	0.065			25	0.2	452	3.78	0.11	167	284	0.13	O 01/004	0.178	38.451	38.03	37.69	37.54	2.27	0.17	5.0	0.0	0.4	0.0	0.52	1.86	01/004
02/004	03/004	INLET GULLY IN SAG (LS) Type S Lintel	0.070			120	133.6	0.877	0.916	0.039			25	0.8	111	2.28	0.02	75	35	0.03	O 02/004	0.838	38.451	37.54	37.33	37.18	1.34	0.24	1.4	0.0	0.2	0.0	0.27	5.73	02/004
03/004	04/004	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	36.650	37.18	37.05	37.06	-0.21	0.24	1.5	0.0	0.2	0.0	0.45	2.38	03/004
04/004	05/055	HEADWALL											25	1.0	0			0				1.000	36.118	37.06	37.06	37.06	0.00	0.24	0.0	0.0	0.0	0.0			04/004
05/055	06/055	BASIN NODE FOR CALCULATIONS			20.020							9.478	25	1.0	9478			9478				1.000	36.200	37.06											05/055
10/005	11/005	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	40.227	39.94	39.79	38.34	7.86	1.43	1.1	0.0	0.5	0.0	0.65	5.06	10/005
11/005	12/005	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	37.900	38.34	37.60	37.53	1.45	1.81	1.1	0.0	0.9	0.0	1.77	4.1	11/005
12/005	01/006	HEADWALL											25	1.0	0			0				1.000	37.645	37.53	37.53	37.53	0.00	1.81	0.0	0.0	0.0	0.0			12/005
01/020	02/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.281			120	133.6	0.877	0.916	0.156			25	2.5	156	1.80	0.03	110	46	0.03	02/020	2.490	43.860	42.87	42.86	41.69	3.02	0.11	7.0	0.0	0.0	0.0	0.24	1.86	01/020
02/020	03/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.200			120	133.6	0.877	0.916	0.111			25	5.5	156	1.77	0.04	101	54	0.04	01/022	5.500	42.308	41.69	41.46	41.27	2.66	0.21	2.0	0.0	0.2	0.0	0.65	2.23	02/020
03/020	04/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.061			120	133.6	0.877	0.916	0.034			25	5.4	34	0.00	0.00	34	0	0.00	01/023	5.434	42.402	41.23	41.20	39.49	3.55	0.24	1.9	0.0	0.0	0.0	0.44	4.27	03/020
04/020	05/020	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	39.465	39.49	39.22	39.01	0.89	0.33	1.5	0.0	0.3	0.0	1.63	2.08	04/020
05/020	11/005	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	39.086	39.01	38.87	38.34	0.99	0.39	1.3	0.0	0.3	0.0	1.94	2.47	05/020
11/005	12/005	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	37.900	38.34											11/005
01/022	04/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.109			120	133.6	0.877	0.916	0.061			25	5.3	113	1.66	0.02	82	31	0.01	01/021	5.276	39.585	39.62	39.50	39.49	0.14	0.08	9.7	0.0	0.2	0.0	0.13	2.56	01/022
04/020	05/020	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	39.465	39.49											04/020
01/023	04/020	INLET GULLY ON GRADE (LG) Type S Lintel	0.017			120	133.6	0.877	0.916	0.010			25	4.4	10	0.00	0.00	10	0	0.00	02/004	4.430	39.512	39.49	39.49	39.49	0.06	-0.03	6.4	0.0	0.0	0.0	-0.06	1.52	01/023
04/020	05/020	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	39.465	39.49											04/020
01/024	02/024	INLET GULLY ON GRADE (LG) Type S Lintel	0.014			120	133.6	0.877	0.916	0.008			25	8.0	86	1.43	0.02	64	22	0.02	02/024	8.000	50.440	49.43	49.38	49.01	7.57	0.06	7.0	0.0	0.0	0.0	0.1	2.52	01/024
02/024	03/024	INLET GULLY ON GRADE (LG) Type S Lintel	0.005			120	133.6	0.877	0.916	0.003			25	8.0	24	0.00	0.00	24	0	0.00	03/024	8.000	50.048	49.01	49.00	48.61	8.12	0.09	1.4	0.0	0.0	0.0	0.14	3.61	02/024
03/024	04/024	INLET GULLY ON GRADE (LG) Type S Lintel	0.004			120	133.6	0.877	0.916	0.002			25	8.0	2	0.00	0.00	2	0	0.00	04/024	8.000	49.656	48.59	48.59	48.26	6.73	0.09	0.4	0.0	0.0	0.0	0.15	3.74	03/024
04/024	10/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.005			120	133.6	0.877	0.916	0.003			25	8.0	3	0.00	0.00	3	0	0.00	03/020	8.000	49.264	48.24	48.24	47.71	5.95	0.09	0.7	0.0	0.0	0.0	0.17	3.56	04/024
10/026	11/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	48.730	47.31											10/026
08/025	09/025	INLET GULLY ON GRADE (LG) Type S Lintel	0.112			120	133.6	0.877	0.916	0.062			25	0.6	141	4.51	0.09	54	237	0.11	09/025	0.600	52.548	52.75	52.61	52.40	0.65	0.27	1.7	0.0	0.2	0.0	0.84	2.68	08/025
09/025	10/025	DRAINWAYS 1TCS0 ON GRADE	0.107			120	133.6	0.877	0.916	0.060			25	0.6	288	3.31	0.04	191	84	0.05	01/039	0.600	52.357	52.50	51.67	50.19	4.86	0.43	1.4	0.0	0.7	0.0	1.2	3.92	09/025
10/025	11/025	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	53.000	48.84	48.58	47.29	15.99	0.43	1.5	0.0	0.3	0.0	0.49	5.39	10/025
11/025	12/025	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	48.077	47.06	46.58	45.72	16.36	0.43	1.5	0.0	0.5	0.0	0.49	4.77	11/025
12/025	13/025	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	46.000	45.72	45.72	45.71	0.27	0.43	0.0	0.0	0.0	0.0	0.76	2.4	12/025
13/025	14/025	HEADWALL											25	1.0	0			0				1.000	45.600	45.71	45.71	45.71	0.00	0.43	0.0	0.0	0.0	0.0			13/025
14/025	15/025	BASIN NODE FOR CALCULATIONS			1.016							0.455	25	1.0	455			455				1.000	44.500	45.71	45.71	45.71	0.00	0.63	0.0	0.0	0.0	0.0			14/025
15/025	16/025	MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP											60	1.0	632	0.00	0.00	632	0	0.00	03/055	1.000	45.300	43.70	43.10	42.28	4.05	0.63	5.3	0.0	0.6	0.0	0.57	3.54	15/025
16/025	03/055	HEADWALL											25	1.0	0			0				1.000	42.935	42.08	42.08	40.28	2.61	0.63	0.0	0.0	0.0	0.0	0.03	0.5	16/025
03/055	04/055	100% CAPTURE FOR FUTURE EXTENSION			110.076							24.596	90	1.0	24596			24596				1.000	41.083	40.28											03/055
01/026	02/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.174			120	133.6	0.877	0.916	0.097			25	4.0	97	1.48	0.02	73	23	0.02	02/026	3.953	61.285	60.26	60.25	58.47	6.16	0.07	7.0	0.0	0.0	0.0	0.13	3.17	01/026
02/026	03/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.117			120	133.6	0.877	0.916	0.065			25	7.9	88	1.44	0.02	65	22	0.02	03/026	7.944	59.453	58.45	58.45	54.80	7.77	0.20	1.6	0.0	0.0	0.0	0.31	4.52	02/026
03/026	04/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.173			120	133.6	0.877	0.916	0.096			25	8.0	117	1.61	0.03	79	38	0.03	04/026	8.000	55.688	54.80	54.78	52.70	7.49	0.36	1.1	0.0	0.0	0.0	0.58	5.15	03/026
04/026	05/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.188			120	133.6	0.877	0.916	0.105			25	8.0	141	1.75	0.04	89	51	0.03	05/026	8.000	53.563	52.48	52.40	51.52	3.68	0.45	0.9	0.0	0.1	0.0	0.47	3.47	04/026
05/026	06/026	DRAINWAYS 0TCS0 SAG	0.069			120	133.6	0.877	0.916	0.038			25	0.7	196	3.24	0.02	135	23	0.04	01/040	0.659	52.050	51.52	51.40	51.25	1.01	0.75	1.2	0.0	0.1	0.0	0.8	2.15	05/026
06/026	07/026	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	52.271	51.25	51.08	50.61	0.88	0.75	1.7	0.0	0.2	0.0	0.84	2.27	06/026
07/026	08/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.902	50.61	50.59	50.24	1.13	0.95	0.3	0.0	0.0	0.0	0.87	3.24	07/026
08/026	09/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.316	50.15	50.13	49.43	5.16	1.08	0.6	0.0	0.0	0.0	0.44	5.18	08/026
09/026	10/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	50.729	49.43	49.39	47.78	6.43	1.34	0.7	0.0	0.0	0.0	0.49	6.54	09/026
10/026	11/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	48.730	47.31	47.21	45.71	5.40	1.43	1.8	0.0	0.4	0.0	0.51	5.49	10/026
11/026	12/026	1200 DIA MANHOLE EXTENDED 600mm											25	1.0	0			0				1.000	45.953	45.71	45.71	45.71	0.14	1.43	0.2	0.0	0.0	0.0	0.66	2.22	11/026
12/026	14/025	HEADWALL											25	1.0	0			0				1.000	45.580	45.71	45.71	45.71	0.00	1.43	0.0	0.0	0.0	0.0			12/026
14/025	15/025	BASIN NODE FOR CALCULATIONS			1.016							0.455	25	1.0	455			455				1.000	44.500	45.71											14/025
03/028	07/025	INLET GULLY IN SAG (LS) Type S Lintel	0.035			120	133.6	0.877	0.916	0.019			25	0.1	168	2.57	0.05	83	83	0.03	08/025	0.130	53.519	53.45	53.09	51.37	10.39	0.55	0.7	0.0	0.4	0.0	0.87	5.46	03/028
01/033	09/025	INLET GULLY ON GRADE (LG) Type S Lintel	0.143			120	133.6	0.877	0.916	0.080			25	0.6	314	3.28	0.10	143	226	0.08	01/034	0.600	52.357	52.49	52.46	52.40	0.97	0.12	9.7	0.0	0.1	0.0	0.36	1.32	01/033
09/025	10/025	DRAINWAYS 1TCS0 ON GRADE	0.107			120	133.6	0.877	0.916	0.060			25	0.6	288	3.31	0.04	191	84	0.05	01/039	0.600	52.357	52.50											09/025
01/034	05/026	INLET GULLY IN SAG (LS) Type S Lintel	0.165			120	133.6	0.877	0.916	0.092			25	0.7	355	6.41	0.04	183	115	0.04	05/026	0.659	52.050	51.96	51.78	51.52	3.85	0.18	5.6	0.0	0.2	0.0	0.42	1.73	01/034
05/026	06/026	DRAINWAYS 0TCS0 SAG	0.069			120	133.6	0.877	0.916	0.038			25	0.7	196	3.24	0.02	135	23	0.04	01/040	0.659	52.050	51.52											05/026
01/035	03/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.206			120	133.6	0.877	0.916	0.115			25	8.0	133	1.66	0.03	85	45	0.02	01/034	8.000	55.729	55.14	54.94	54.80	2.12	0.09	9.4	0.0	0.2	0.0	0.26	1.36	01/035
03/026	04/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.173			120	133.6	0.877	0.916	0.096			25	8.0	117	1.61	0.03	79	38	0.03	04/026	8.000	55.688	54.80											03/026
01/036	02/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.141			120	133.6	0.877	0.916	0.079			25	7.1	79	1.39	0.02	60	18	0.01	01/035	7.090	60.022	59.03	58.99	58.46	5.29	0.06	9.7	0.0	0.0	0.0	0.12	2.27	01/036
02/026	03/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.117			120	133.6	0.877	0.916	0.065			25	7.9	88	1.44	0.02	65	22	0.02	03/026	7.944	59.453	58.45											02/026
01/037	08/026	INLET GULLY IN SAG (LS) Type S Lintel	0.099			120	133.6	0.877	0.916	0.055			25	1.0	144	2.00	0.05	66	79	0.05	01/024	1.039	51.271	50.38	50.30	50.15	4.75	0.07	9.7	0.0	0.1	0.0	0.09	2.33	01/037
08/026	09/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.316	50.15											08/026
01/038	08/026	INLET GULLY IN SAG (LS) Type S Lintel	0.124			120	133.6	0.877	0.916	0.069			25	0.9	110	1.91	0.03	61	49	0.03	01/037	0.907	51.456	50.48	50.40	50.16	3.89	0.06	9.7	0.0	0.1	0.0	0.14	1.77	01/038
08/026	09/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.316	50.15											08/026
01/039	07/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.256			120	133.6	0.877	0.916	0.142			25	1.2	200	2.37	0.04	136	60	0.04	01/037	1.226	51.882	51.31	50.96	50.90	2.34	0.14	7.1	0.0	0.4	0.0	0.43	1.58	01/039
07/026	08/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.902	50.61											07/026
01/040	07/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.174			120	133.6	0.877	0.916	0.097			25	1.4	102	1.61	0.01	85	17	0.01	01/038	1.358	51.855	51.23	50.97	50.86	2.26	0.09	9.6	0.0	0.3	0.0	0.26	1.3	01/040
07/026	08/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	51.902	50.61											07/026
01/041	02/041	INLET GULLY ON GRADE (LG) Type S Lintel	0.239			120	133.6	0.877	0.916	0.133			25	5.6	143	1.71	0.03	95	47	0.03	03/041	5.609	54.809	53.78	53.78	51.77	5.58	0.10	7.0	0.0	0.0	0.0	0.17	2.49	01/041
02/041	03/041	INLET GULLY ON GRADE (LG) Type S Lintel	0.314			120	133.6	0.877	0.916	0.175			25	6.6	175	1.84	0.05	101	72	0.05	01/017	6.586	52.611	51.77	51.70	51.24	5.95	0.20	2.5	0.0	0.1	0.0	0.36	3.22	02/041
03/041	09/026	INLET GULLY ON GRADE (LG) Type S Lintel	0.103			120	133.6	0.877	0.916	0.057			25	7.0	102	1.56	0.02	72	29	0.02	01/038	7.008	52.324	51.24	51.21	49.68	6.85	0.27	1.8	0.0	0.0	0.0	0.45	4.44	03/041
09/026	10/026	MANHOLE 1500mm DIA											25	1.0	0			0				1.000	50.729	49.43											09/026
01/055	02/055	INLET HEADWALL											25	1.0	0			0				1.000	45.435	45.71	45.54	42.22	13.29	1.43	0.5	0.0	0.2	0.0	0.28	3.48	01/055
02/055	03/055	HEADWALL											25	1.0	0			0				1.000	42.935	42.11	42.11	40.28	2.63	1.43	0.0	0.0	0.0	0.0	0.02	0.41	02/055
03/055	04/055	100% CAPTURE FOR FUTURE EXTENSION			110.076							24.596	90	1.0	24596			24596				1.000	41.083	40.28	40.28	37.92	1.90	26.01	0.0	0.0	0.0	0.0	0.22	2.55	03/055
04/055	05/055	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	39.250	37.87	37.87	37.06	0.60	25.99	0.0	0.0	0.0	0.0	0.2	1.41	04/055
05/055	06/055	BASIN NODE FOR CALCULATIONS			20.020							9.478	25	1.0	9478			9478				1.000	36.200	37.06	37.06	37.06	0.00	27.91	0.0	0.0	0.0	0.0			05/055
06/055	07/055	INLET HEADWALL											25	1.0	0			0				1.000	38.100	37.06	36.93	34.04	7.52	27.91	0.4	0.0	0.1	0.0	0.16	3.98	06/055
07/055	08/055	HEADWALL											25	1.0	0			0				1.000	37.300	34.04	34.04	33.70	0.98	27.91	0.0	0.0	0.0	0.0	0.85	2.41	07/055
08/055	09/055	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	34.000	33.56	33.56	33.51	0.26	28.70	0.0	0.0	0.0	0.0	0.46	3.29	08/055
09/055		REFERENCE											25	1.0	0			0				1.000	34.000	33.51											09/055
06/042	07/042	DRAINWAYS 1TCS0 ON GRADE	0.177			120	133.6	0.877	0.916	0.099			25	14.1	160	1.80	0.06	80	79	0.05	04/043	14.059	45.891	45.09	44.95	43.12	7.48	0.57	0.4	0.0	0.1	0.0	0.72	5.41	06/042
04/043	11/042	INLET GULLY ON GRADE (LG) Type S Lintel	0.024			120	133.6	0.877	0.916	0.013			25	9.7	92	2.72	0.03	62	49	0.03	O 04/043	9.670	43.038	43.12											04/043
01/058	02/058	TYPE 2 FIELD INLET 900x600 C/W DOME TOP											60	1.0	1329	0.00	0.00	1329	0	0.00	03/055	1.000	44.800	45.71	44.39	42.62	5.94	1.33	1.8	0.0	1.3	0.0	0.83	5.2	01/058
02/058	03/055	HEADWALL											25	1.0	0			0				1.000	43.700	42.29	42.29	40.28	7.21	1.33	0.0	0.0	0.0	0.0	0.03	1.26	02/058
03/055	04/055	100% CAPTURE FOR FUTURE EXTENSION			110.076							24.596	90	1.0	24596			24596				1.000	41.083	40.28											03/055
01/006	02/006	BASIN NODE FOR CALCULATIONS											25	1.0	0			0				1.000	37.900	37.53	37.53	37.53	0.00	0.68	0.0	0.0	0.0	0.0			01/006

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	Date	COUNCIL ISSUE	EP

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Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER CALCULATION TABLES MAJOR STORM EVENT

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DESIGNED RB	DRAWN EP
APPROVED	RPEQ 4706 DATE 13-10-23
DRAWING NUMBER 41901-02-681	REV A

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.

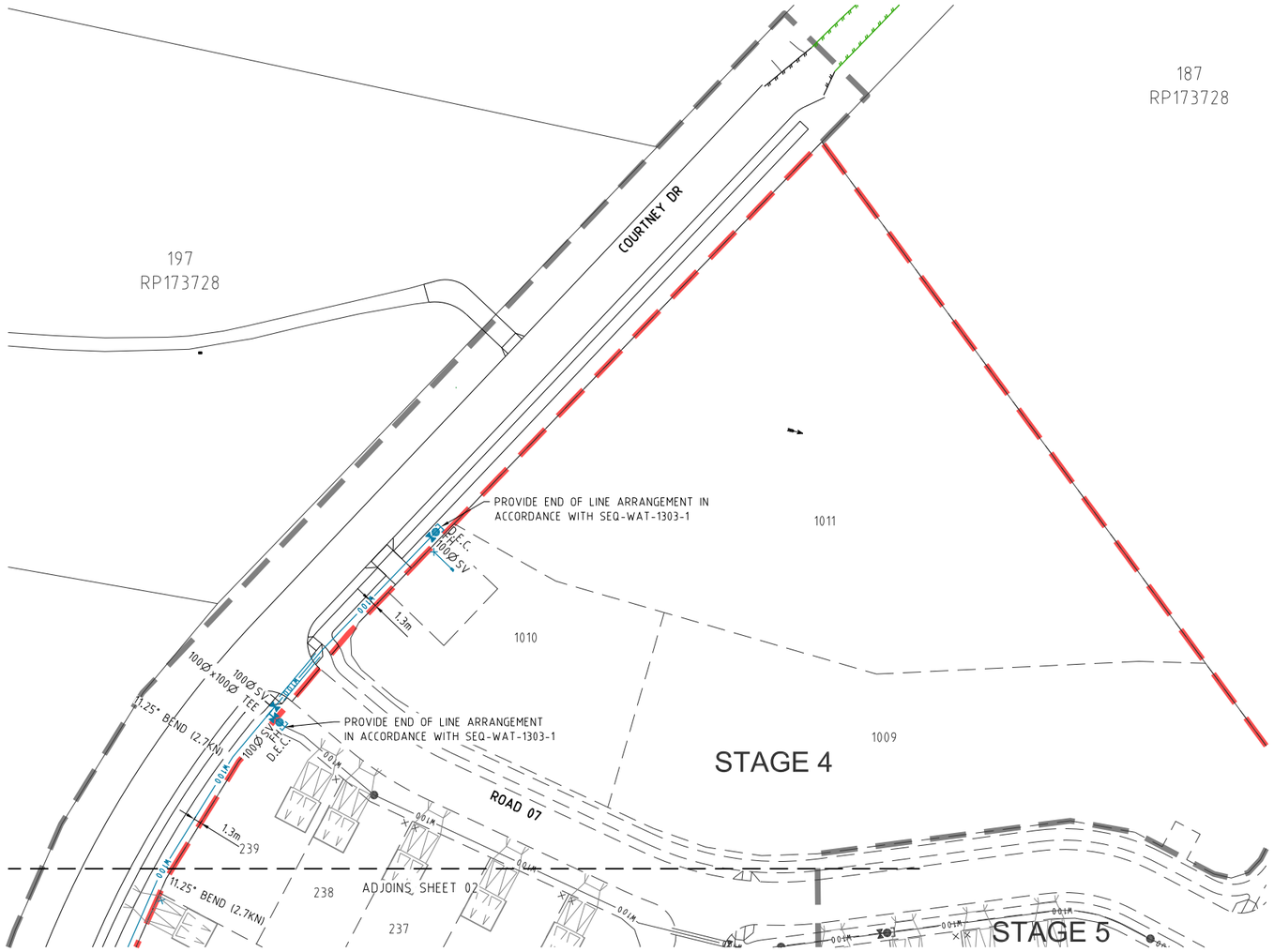
ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

PROJECT SPECIFIC WATER NOTES

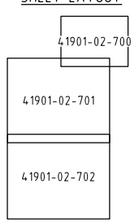
a. ALL PROPERTY CONNECTION ROAD CROSSINGS TO BE SLEEVED WITH DN100 uPVC CONDUIT.
b. ALL MATERIALS ARE TO BE SUPPLIED & CONSTRUCTED IN ACCORDANCE WITH SEQ CODE.
c. WATER METERS ARE TO BE SUPPLIED & INSTALLED AT ALL WATER SERVICE / CONNECTION POINTS IN ACCORDANCE WITH SEQ-WAT-1106-1
d. THRUST BLOCKS TO 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 225Ø WATER MAIN
- FUTURE 250Ø WATER MAIN
- FUTURE 300Ø 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
- PROPOSED 225Ø WATER MAIN
- PROPOSED 250Ø WATER MAIN
- PROPOSED 300Ø WATER MAIN
- HYDRANT
- TEE
- REDUCER
- SLUICE VALVE
- ENDCAP
- SCOUR VALVE
- AIR VALVE
- METER LOCATION
- TRENCH STOP
- 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

DIAL BEFORE YOU DIG www.1100.com.au

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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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

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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-700 | REV A

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196
RP173728

ADJOINS SHEET 01

ROAD 07

COURTNEY DR

STAGE 4

STAGE 5

STAGE 2

ROAD 10

ROAD 01

ROAD 04

ROAD 03

ROAD 06

ACCESS BASIN 01

1006

11.25° BEND (2.7KN)

45° BEND (10.7KN)

22.5° BEND (5.5KN)

1.3m

100Ø SV

100Ø×100Ø TEE

PROVIDE END OF LINE ARRANGEMENT IN ACCORDANCE WITH SEQ-WAT-1303-1

REMOVE END CAP & CONNECT TO EXISTING

ADJOINS SHEET 03

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

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DRAWING TITLE

WATER RETICULATION PLAN SHEET 02

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APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-701 REV A

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ADJOINS SHEET 02

PROVIDE END OF LINE ARRANGEMENT IN ACCORDANCE WITH SEQ-WAT-1303-1

STAGE 1

STAGE 2

STAGE 3

ROAD 01

ROAD 02

ROAD 03

ROAD 04

11.25° BENDS (2.7KN)

11.25° BEND (2.7KN)

REMOVE END CAP & CONNECT TO EXISTING

EXISTING HOUSE CONNECTION FOR LOT 159

EXISTING HOUSE CONNECTION FOR LOT 150

100Ø SV

FH

1.3m

W100

W150

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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	13-10-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

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DRAWING TITLE

WATER RETICULATION PLAN SHEET 03

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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ 4706	DATE 13-10-23

DRAWING NUMBER 41901-02-702

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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

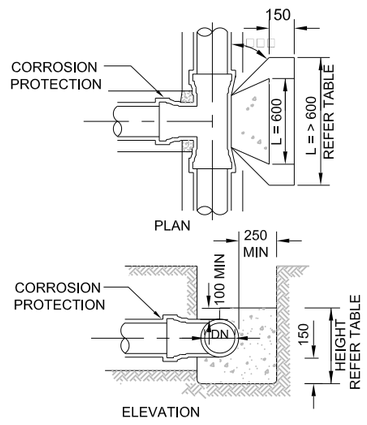
THRUST BLOCK LENGTH

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

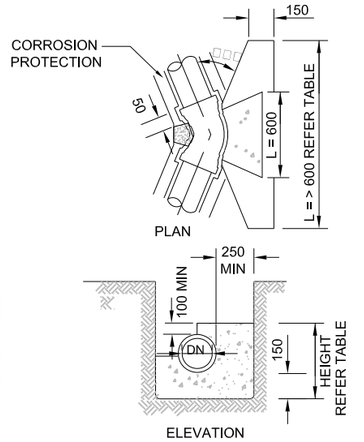
THRUST BLOCK DIMENSIONS - 1200kPa

● INDICATES BLOCK LENGTH OF 600

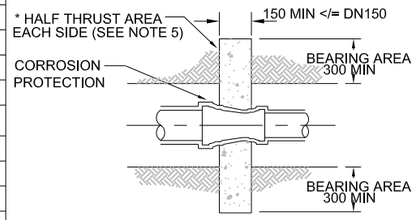
* = SPECIAL DESIGN



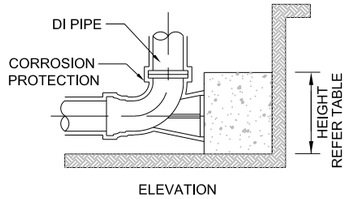
THRUST BLOCK FOR TEES
(FOR HORIZONTAL THRUST)



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 < 5OkPa 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 JOINTS TO BE CLEAR OF CONCRETE.
   CONCRETE THRUST BLOCK ANCHORS FOR VALVES TO BE AS DETAILED ON SEQ-WAT-1206-1.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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
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ASSOCIATED CONSULTANTS

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DRAWING TITLE

WATER RETICULATION DETAILS

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	13-10-23

DRAWING NUMBER 41901-02-710 REV A

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