

COURTNEY DRIVE UPPER COOMERA

OPERATIONAL WORKS SEWER PUMP STATION No. 41901-SPS

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1499

Dated: 12 March 2024

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

SCHEDULE OF DRAWINGS

NUMBER	REV. NO.	TITLE
41901-SPS-000	A	COVER SHEET
SEWER RETICULATION		
41901-SPS-500	A	PLAN SHEET 01
41901-SPS-501	A	PLAN SHEET 02
41901-SPS-510	A	DETAILS
SEWER PUMP STATION		
41901-SPS-520	A	NOTES
41901-SPS-521	A	LAYOUT
41901-SPS-522	B	SECTION
41901-SPS-523	A	CALCULATION TABLE
41901-SPS-525	A	PROFILES
SEWER PROFILES		
41901-SPS-530	B	SHEET 01
41901-SPS-531	A	SHEET 02

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination



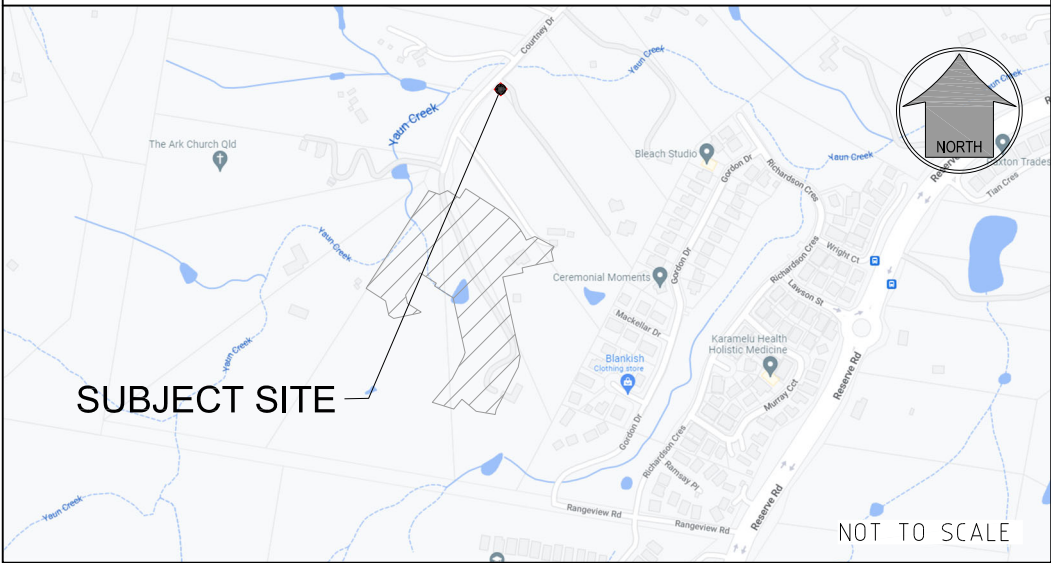
CLIENT



SUB-CONSULTANTS



LOCALITY PLAN



SUBJECT SITE

NOT TO SCALE

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

**NOTE: THE APPLICANT MUST ENSURE THAT THE
DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER
PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN
FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-
MAINTENANCE INSPECTION.**

DRAWING NUMBER
41901-SPS-000

AMEND.
A

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.

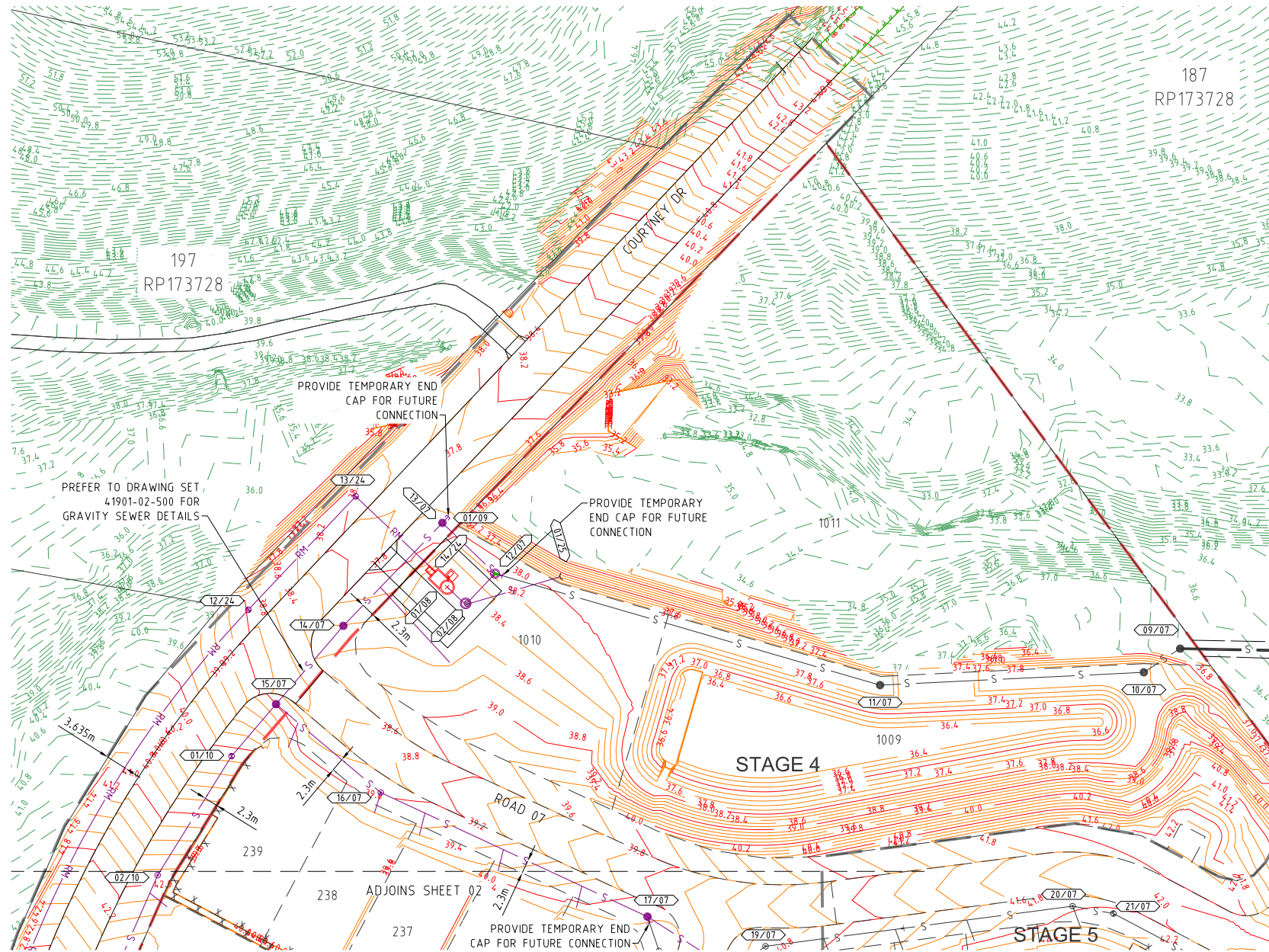
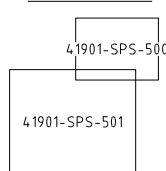
PROJECT SPECIFIC SEWER NOTES

- 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 160 & A MAXIMUM DEPTH OF PROPERTY CONNECTION AT 1.5m. UNLESS OTHERWISE STATED.
- i. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.

LEGEND

- +6— — — — — EXISTING SEWER
—RM— — — — — EXISTING RISING MAIN
— — — — — EXISTING KERB (INVERT)
— — — — — EXISTING PROPERTY LINE
— — — — — EXISTING RETAINING WALL
— — — — — EXISTING CONTOURS
— — — — — FUTURE SEWER
—RM— — — — — 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
—S— — — — — PROPOSED SEWER
—RM— — — — — PROPOSED RISING MAIN
- SEWER MANHOLE
● SEWER RODDING END
● SEWER BEND
● SEWER MAINTENANCE SHAFT
● SEWER END CAP
● SEWER PUMP STATION

SHEET LAYOUT



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



SEWER PIPE SPECIFICATIONS

SEWER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
GRAVITY VERGE	PVC-U SN8
GRAVITY ROAD CROSSING	PVC-U SN8
HOUSE CONNECTIONS	PVC-U SN10
RIISING MAIN TRENCHED	PE100 PN16 SDR11

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1499

Dated: 12 March 2024

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

NOTE: THE APPLICANT MUST ENSURE THAT THE DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-MAINTENANCE INSPECTION.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

SEWER PUMP STATION

RP DESCRIPTION

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

CLIENT



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

A	18-12-23	COUNCIL ISSUE	BL
REV	DATE	DESCRIPTION	INT

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION. DO NOT SCALE FROM THIS DRAWING.

ASSOCIATED CONSULTANTS



DRAWING TITLE

SEWER RETICULATION
PLAN
SHEET 01



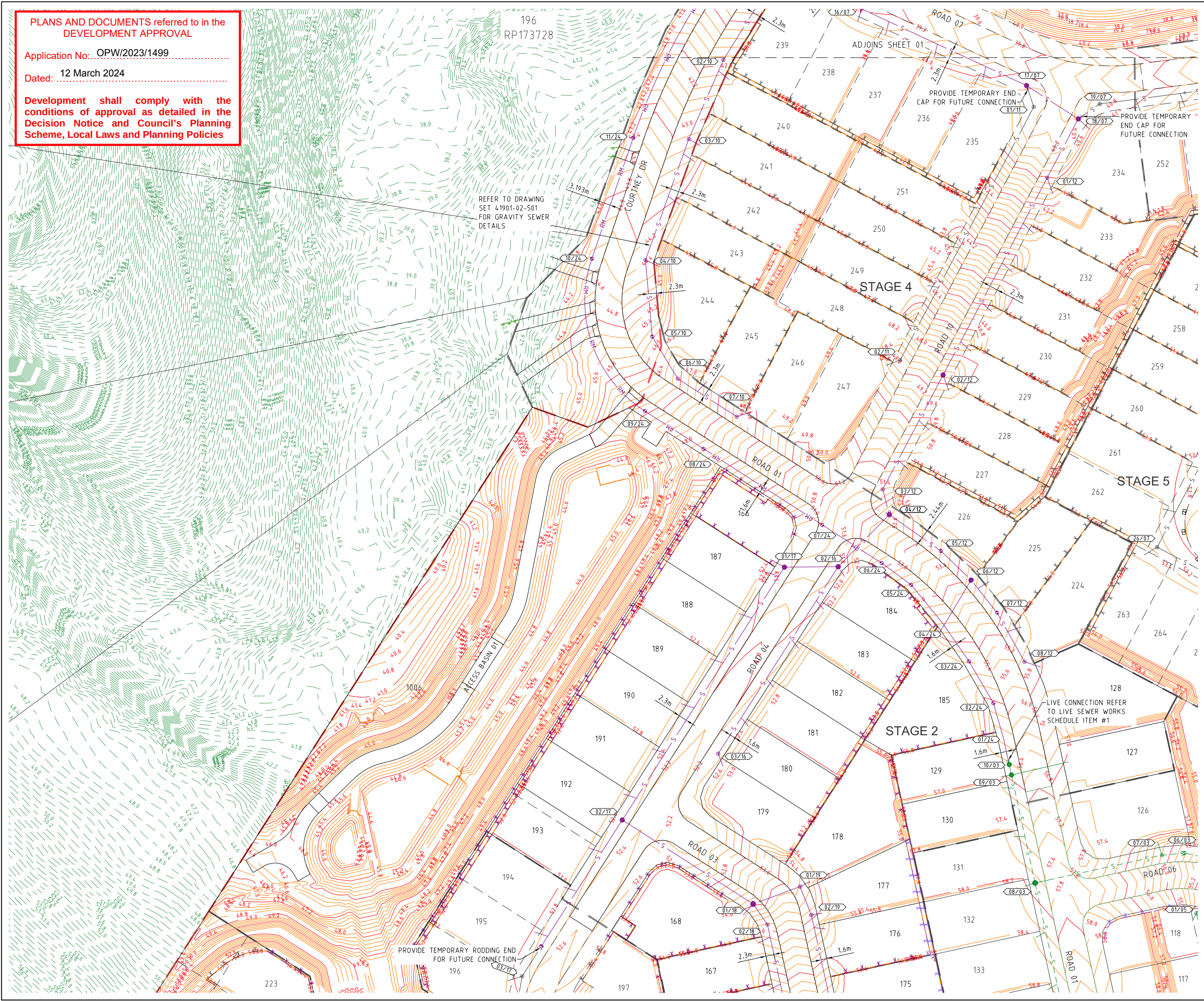
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

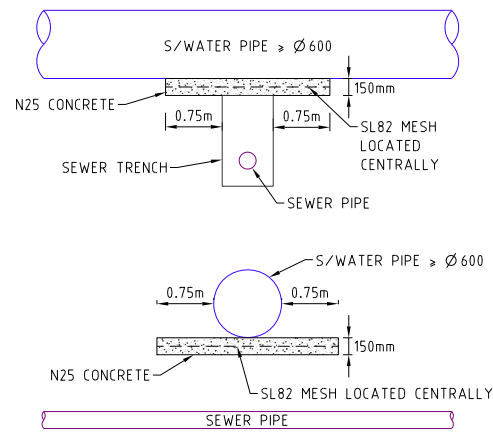
Postal Address
PO Box 2484
Southport QLD 4215

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

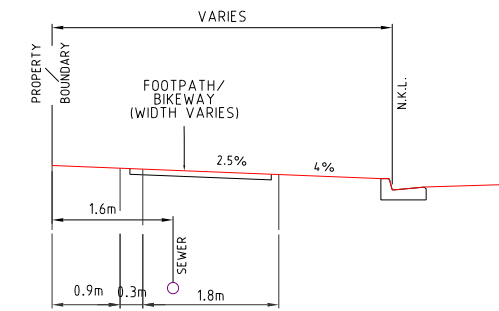
DESIGNED	RB	DRAWN	EP
APPROVED	AK	RPEQ4706	DATE 18-12-23

DRAWING NUMBER	REV
41901-SPS-500	A

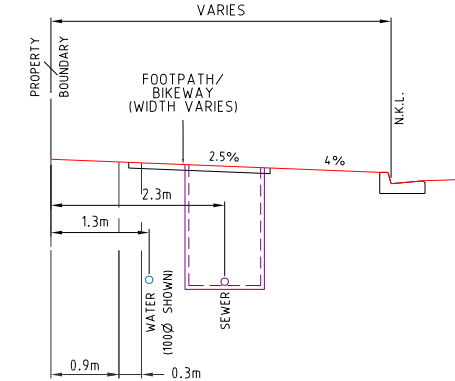




BRIDGING DETAILS FOR
STORMWATER PIPES $\geq \varnothing 600$
NOT TO SCALE



G.C.C.C. TYPICAL SERVICES
SEWER RETICULATION ONLY
SCALE 1:50 - A1 (1:100 - A3)
1. PUBLIC UTILITIES ALLOCATIONS ARE MEASURED FROM THE REAL PROPERTY BOUNDARY.
2. LIGHT POLE, TREE ALLOCATIONS AND FOOTPATHS ARE MEASURED FROM THE NOMINAL KERB LINE.



G.C.C.C. TYPICAL POTABLE WATER AND
SEWER RETICULATION (SAME SIDE)
SCALE 1:50

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1499

Dated: 12 March 2024

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

**NOTE: THE APPLICANT MUST ENSURE THAT THE
DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER
PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN
FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-
MAINTENANCE INSPECTION.**

PROJECT NAME

COURTNEY DR
UPPER COOMERA

SEWER PUMP STATION

RP DESCRIPTION

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

CLIENT

0 0.5 1.0 1.5 2.0 2.5m

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

A	18-12-23	COUNCIL ISSUE	BL
REV	DATE	DESCRIPTION	INT

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND
WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION.
DO NOT SCALE FROM THIS DRAWING.

ASSOCIATED CONSULTANTS

DRAWING TITLE

SEWER RETICULATION
DETAILS

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

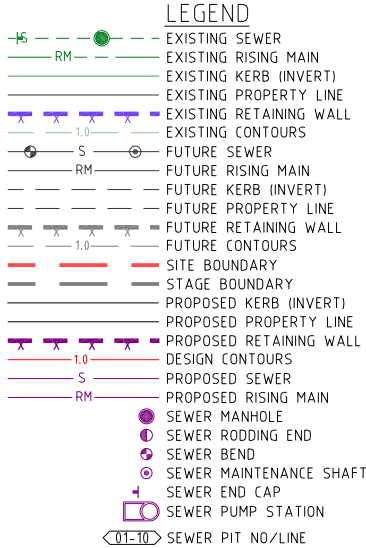
DESIGNED	RB	DRAWN	EP
APPROVED		REQ 4706	DATE 18-12-23
DRAWING NUMBER			REV
41901-SPS-510			A

PUMP STATION NOTES

- GENERAL
- THE DETAILS SHOWN ON THIS DRAWING ARE TYPICAL ONLY.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SEQ-SP STANDARD DRAWINGS.
 - 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.
 - 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.
 - 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.
 - 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.
 - DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
 - ACCESS ROAD SHALL THE SAME FLOOD IMMUNITY CRITERIA AS REQUIRED FOR CONNECTING ROADS.
 - 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

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

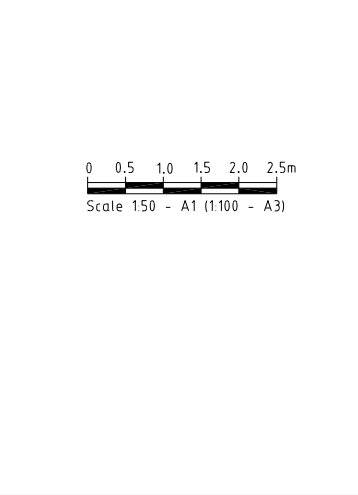


SEQ CODE SEWER NOTES

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SEQ-SP-1300-7 AND 1300-8.
- DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
- 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.
- PROVIDE STAINLESS STEEL RISER PIPE SUPPORT BRACKETS AT 2500 MAX. CENTRES FIXED TO WALL WITH GRADE 316 S/S MASONRY FASTENERS. REFER NOTE 6.
- 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.**
- 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.
- FALL ARREST FLUSH MOUNT ANCHORAGE POINT. REFER SEQ-SP ACCEPTED PRODUCTS AND MATERIALS LIST.
- CoGC - PE100 PIPE BETWEEN INLET MAINTENANCE HOLE AND WET WELL, NO ROCKER PIPE ARRANGEMENT.

PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

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



REV	DATE	DESCRIPTION	INT
A	18-12-23	COUNCIL ISSUE	BL

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION. DO NOT SCALE FROM THIS DRAWING.



DRAWING TITLE
**SEWER PUMP
STATION
NOTES**

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	REPEQ 706
DRAWING NUMBER 41901-SPS-520	REV A

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1499

Dated: 12 March 2024

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

NOTE: THE APPLICANT MUST ENSURE THAT THE DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-MAINTENANCE INSPECTION.



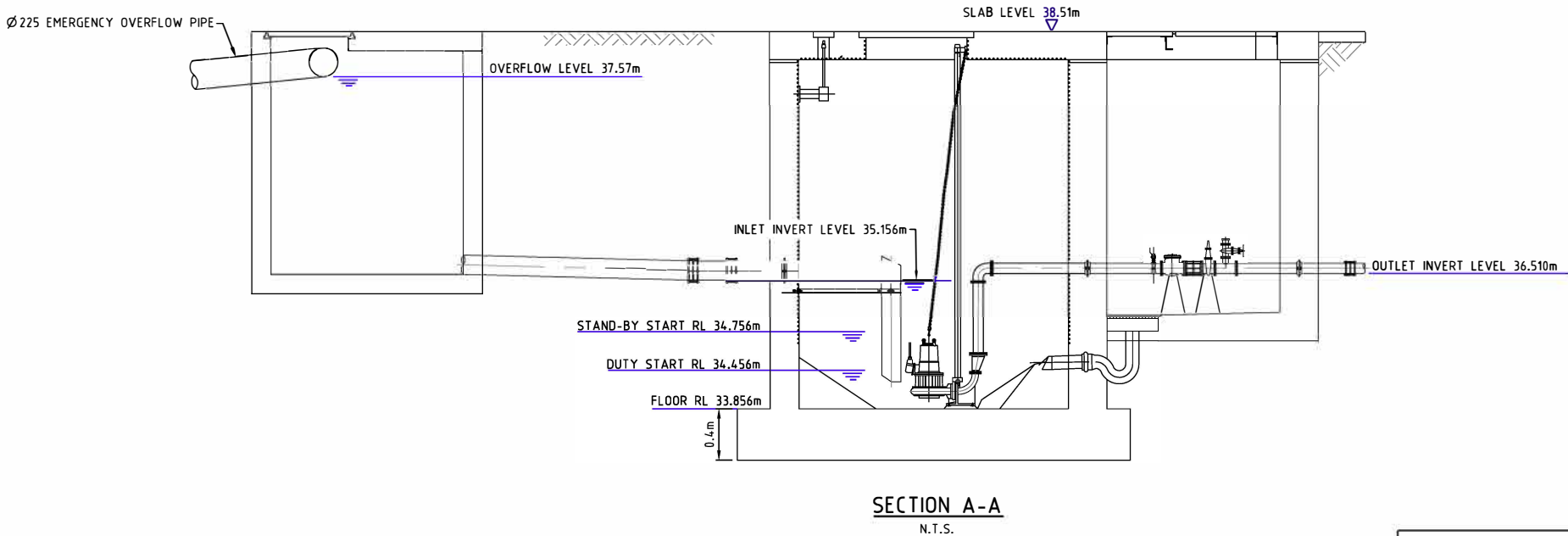
NOTE: THE APPLICANT MUST ENSURE THAT THE DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-MAINTENANCE INSPECTION.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.: OPW/2023/1499

Dated: 12 March 2024

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



- NOTES:**
- ALL CRITICAL LEVELS AND DIMENSIONS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING CONSTRUCTION.
 - PUMP STATION LID THICKNESS SHALL ALLOW FOR RECESSED DAVIT BASE - MIN 250.
 - PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP ON INSIDE & OUTSIDE FACE OF ALL PUDDLE FLANGES.
 - ALL WALL PENETRATIONS SHALL BE VIA CONCRETE BLOCKOUT WITH WATER PROOFING AS PER NOTE 3.
 - WHERE CONSTRUCTION JOINTS ARE REQUIRED, PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP.
 - SPACING BETWEEN PUMPS AND CLEARANCE BETWEEN PUMP & FINISHED FLOOR SHALL BE IN ACCORDANCE WITH PUMP MANUFACTURER'S RECOMMENDATIONS.
 - BENCHING SHALL BE CLEAR OF PIPEWORK & BOLTS AS PER PUMP MANUFACTURER RECOMMENDATIONS.
 - FOR DETAILS OF LEVEL SENSORS AND OTHER ELECTRICAL EQUIPMENT, REFER TO APPROPRIATE SEQ-SP ELECTRICAL SPECIFICATIONS.
 - CoGC - PE100 PIPE BETWEEN INLET MAINTENANCE HOLE AND WET WELL, NO ROCKER PIPE ARRANGEMENT.
 - 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 THAN 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.
 - 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	38.51	
B INLET	35.156	
C DUTY START	34.456	
D PUMP STOP	34.256	
E FLOOR SLAB	33.856	
F PUMP STATION DEPTH		4.654
G PLUG DEPTH		0.400
H EXISTING GROUND LEVEL		
I STANDBY START	34.756	
J HIGH LEVEL ALARM	35.05	
K OVERFLOW LEVEL	37.57	
L PER-OVERFLOW ALARM		
M 100/STORM SURGE LEVEL	35.55	

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

SEWER PUMP STATION

RP DESCRIPTION

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

CLIENT

B	31-01-24	INVERT IL AMENDED	RK
A	18-12-23	COUNCIL ISSUE	BL
REV	DATE	DESCRIPTION	INT

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION. DO NOT SCALE FROM THIS DRAWING.

ASSOCIATED CONSULTANTS

DRAWING TITLE

SEWER PUMP
STATION
SECTION

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

DESIGNED RB	DRAWN EP
APPROVED	PER 4706 DATE 18-12-23
DRAWING NUMBER	
41901-SPS-522	
REV	
B	

F:\Autocad Client\1419 - HB Land\01 - Courtney Drive\Overall\Engineering Drawings\Sewer Pump Station\Engineering Drawings\Current\141901-SPS-523.dwg, CALCULATION TABLE, 18/12/2023 3:57:54 PM, 1:2

Sewage Pump Station - Duty Calculations				Only edit items in RED (valid for rising main up to 150mm, internal pipework to 150mm, wells of 2.1 or 2.4 diameter)															
Development :		Courtney Drive		Never edit or copy cells coloured in yellow															
				4 C Value		5 regular sewer, 4 RIGS													
Length Rising Main =		358.073 m		Pump Station Diameter =		2250 mm													
Internal Pipework Dia. =		80 mm		No of allotments =		196 Allotments													
Rising Main Dia =		80 mm		Flow per allotment =		546 Per Household						4.95							
Pipes: 100,150,200,225,250,300,375,450,500,600,750				Pump Station Starts=		12 Per Hour						60 SECONDS							
Highest Alignment R.L. =		55.383 m		Flow Rate =		4.95 Litres/second						60 MINUTES							
Pump Suction Level =		33.956 m		Wet Well Pump Storage Volume =		0.372 Cubic Metres						4 C FACTOR							
Static Lift Head =		21.427 m		Equiv. Depth in Wet Well =		93 mm						71.344							
Friction Resistance Head =		13.522 m		Rising Main Velocity (run constant) =		0.99 Metres/second		(0.75 to 1.6m/sec*)		pass		*max 2.0 with written approval							
Minor Losses =		0.109 m		Internal Pipework Velocity (run constant) =		0.99 Metres/second													
Total Losses =		35.058 m		4hr Storage required in system before overflow occurs (based on av. dry flow) =		17.8 Cubic Metres													
Pump Duty =		4.954 Litres / Second @		Minimum Pump storage to be provided =		200.0 mm		minimum storage depth = 200mm, max 2000mm											
		35.058 Metres Head		Actual Pump volume storage provided =		0.80 Cubic Metres													
Q100 flood RL =		35.550 m																	
Bulk Head Calculation																			
Depth of pump station =		4.654 m		Overflow Level =		37.577		lowest of (a) 300 below underside of pump well top slab (b) 100mm below underside of top slab of lowest manhole in upstream system											
Valve box height (from fsl) =		2.360 m		Length of 150mm pipework to PS fsl =		0.69		38.957											
Valve box (internal) width =		2.1 m		Length of 225mm pipework to PS fsl =		0.97		24.518											
Valve box (internal) length =		2.05 m		Pit No		ps/200		02/08		12/07		13/07		14/07		15/07		17/08	
Valve box thick =		0.23 m		F.S.L.		38.510		38.51		38.162		37.852		38.409		39		40.162	
Valve box lid thick =		0.25 m		I.L.		33.856		35.21		36.615		36.74		37.07		37.63		38.227	
Well thickness =		0.23 m		Actual depth =		4.654		3.3		1.547		1.112		1.339		1.37		1.935	
Well lid thickness =		0.25 m		underside of lid =		38.260		38.285		37.962		37.677		38.234		38.825		39.987	
Diameter of well (internal) =		2.25 m		pump stop level =		34.256													
Diameter of well (incl. walls) =		2.71 m		Usable depths to Overflow =		2.521		2.367		0.962		0.837		0.507		0		0	
Displacement of well. =		9.77 m3 (to Q100)		Diameter =		2.25		1.5		1.2		1.05		1.05		1.05		1.05	
Displacement of valve box (incl. walls) =		-2.16 m3 (to Q100)		Volume =		16.46		10.02		4.18		1.09		0.72		0.44		0.00	
Total displacement volume =		7.61 m3																	
15% Factor of safety =		8.75 m3 (= tonne displ.)		Total Storage =		18.12 Cubic Metres		pass											
Mass of conc well =		8.340 m3		Actual length of storage time =		1.0160 hours WET													
Mass of 400 conc plug =		2.31 m3		Required additional storage (to get 4hr) =		0.00													
1/2 Mass of well lid =		0.50				4.0640 hours DRY weather flow		minimum length of time = 4 hours											
Mass of conc box =		5.45 m3		END		1.52													
Total mass with 400 plug =		16.60 m3		SIDE x2		2.44													
Weight of concrete (2.4t/m3) =		39.83 tonne		BASE		0.99													
				LID (1/2 BASE)		0.50													
Not taking displacement of plug into account =				Extra displacement allowance to account for displacement of plug =		1.714		factor to additional		Displacement of earth for extra concrete calculation									
Mass of extra conc plug =		0.000 m3		Mass of extra conc plug =		0.00 m3		1.000000 Required depth of concrete											
Weight of extra conc plug =		0.000 tonne		Weight of extra conc plug =		0.00 tonne		0.416667											
Height of extra plug =		0.000 m		Height of extra plug =		0 m		0.173611											
Total Thickness of plug required =		400 mm		Total Thickness of plug required =		400 mm		0.072338											
								0.030141											
								0.012559											
								0.005233											
								0.002180											
								0.000908											
								0.000379											
								0.000158											
								0.000066											
								0.000027											
								0.000011											
								0.000005											
								1.714 Depth including extra displacement											
Values for Pump Station Drawing																			
Diameter =		2.25																	
FSL =		38.510 RL																	
Invert Rising Main =		36.510 RL																	
Depth to RM Centre (1.32 min.) =		1.960		pass															
Invert Incoming Sewer =		35.156 RL																	
High Level Alarm =		35.056																	
extra for 4h storage depth (if req'd) =		0.000 m																	
Standby Start =		34.756 RL																	
Duty Start =		34.456 RL																	
Pump Stop =		34.256 RL																	

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1499

Dated: 12 March 2024

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

NOTE: THE APPLICANT MUST ENSURE THAT THE DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-MAINTENANCE INSPECTION.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

SEWER PUMP STATION

RP DESCRIPTION

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

CLIENT



A	18-12-23	COUNCIL ISSUE	BL
REV	DATE	DESCRIPTION	INT

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION. DO NOT SCALE FROM THIS DRAWING.

ASSOCIATED CONSULTANTS





DRAWING TITLE

SEWER PUMP
CALCULATION TABLE


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

DESIGNED RB	DRAWN EP
APPROVED 	REQ 4706 DATE 18-12-23
DRAWING NUMBER	
41901-SPS-523	
REV	
A	

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	PROPRIETARY 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 MAINS
PE100 PN16 SDR11
4.ALL EMBEDMENT TYPE IS
TO BE TYPE 3 U.N.O.
5.ALL BENDS TO BE LONG
RADIUS BEND, 1.2m
RADIUS MIN.
6.CONTRACTOR TO VERIFY
DOWNSTREAM EXISTING
PIPE LEVELS PRIOR TO
COMMENCEMENT OF
PIPEWORK
7.PROTECTIVE COATING IS
TO BE INSTALLED TO
MAINTENANCE
STRUCTURES (WHERE
REQUIRED) IN
ACCORDANCE WITH
CLAUSE 4.7.2 OF SEQ
SEWERAGE CODE.
8.TRENCHSTOPS IN
ACCORDANCE
WITHSEQ-WAT-1209-1

PIPE DIAMETER (mm)
PIPE GRADE

DATUM R.L.

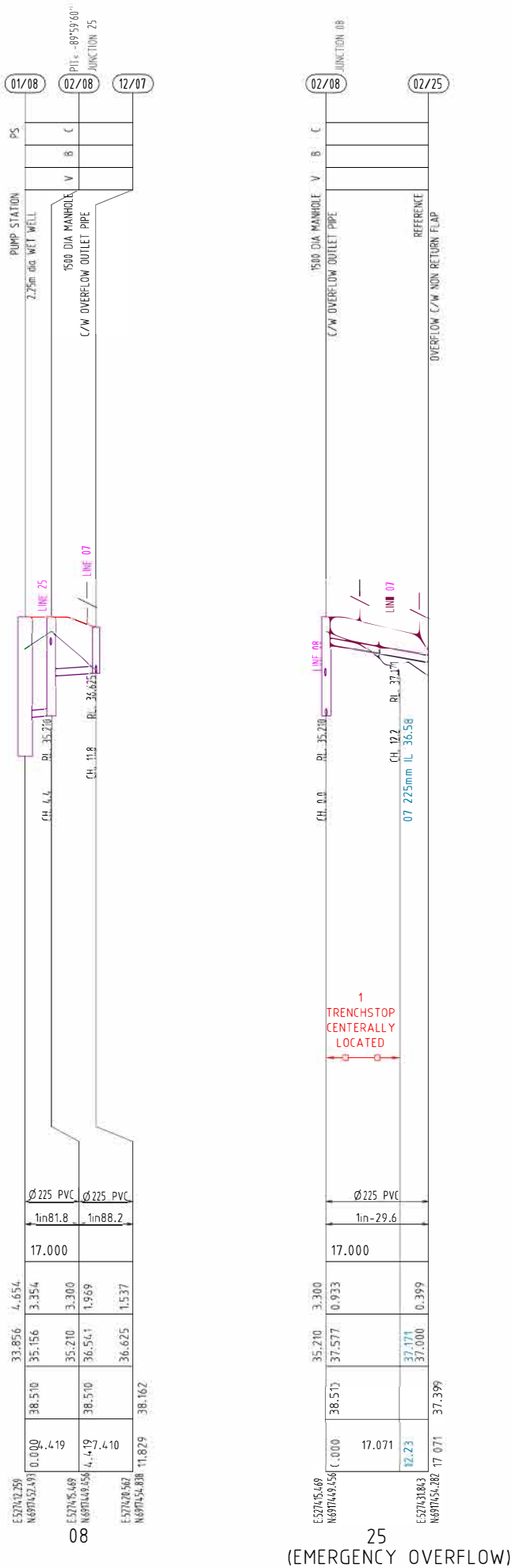
DEPTH TO INVERT

PIPE INVERT
LEVELS

DESIGN SURFACE
LEVELS

CHAINAGE

LINE NO.



PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: OPW/2023/1499

Dated: 12 March 2024

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

**NOTE: THE APPLICANT MUST ENSURE THAT THE
DEVELOPER'S CONTRIBUTION FOR THE TEMPORARY SEWER
PUMP STATION (CONDITION 6 OF OPW/2023/1499) IS PAID IN
FULL PRIOR TO A REQUEST BEING MADE FOR AN ON-
MAINTENANCE INSPECTION.**

PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

SEWER PUMP STATION

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

CLIENT



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

REV	DATE	DESCRIPTION	INT
A	18-12-23	COUNCIL ISSUE	BL

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND
WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION.
DO NOT SCALE FROM THIS DRAWING.

ASSOCIATED CONSULTANTS



DRAWING TITLE

**SEWER PUMP
STATION
PROFILES**



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

Postal Address:
PO Box 2484
Southport QLD 4215

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

DESIGNED RB	DRAWN EP
APPROVED <i>[Signature]</i>	DATE 18-12-23

DRAWING NUMBER
41901-SPS-525

REV
A

I:\nload client\419 - hb land\01 - courtney drive\overlaid\sewer pump station\engineering drawings\Current\41901-SPS-530.dwg, SHEET 01, 31/01/2024 4:16:18 PM, 1:2

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 MAINS
PE100 PN16 SDR11

4. ALL EMBEDMENT TYPE IS
TO BE TYPE 3 U.N.O

5. ALL BENDS TO BE LONG
RADIUS BEND, 1.2m
RADIUS MIN.

6. CONTRACTOR TO VERIFY
DOWNSTREAM EXISTING
PIPE LEVELS PRIOR TO
COMMENCEMENT OF
PIPEWORK

7. PROTECTIVE COATING IS
TO BE INSTALLED TO
MAINTENANCE
STRUCTURES (WHERE
REQUIRED) IN
ACCORDANCE WITH
CLAUSE 4.7.2 OF SEQ
SEWERAGE CODE.

8. TRENCHSTOPS IN
ACCORDANCE
WITH SEQ-WAT-1209-1

PIPE DIAMETER (mm)

PIPE GRADE

DATUM R.L.

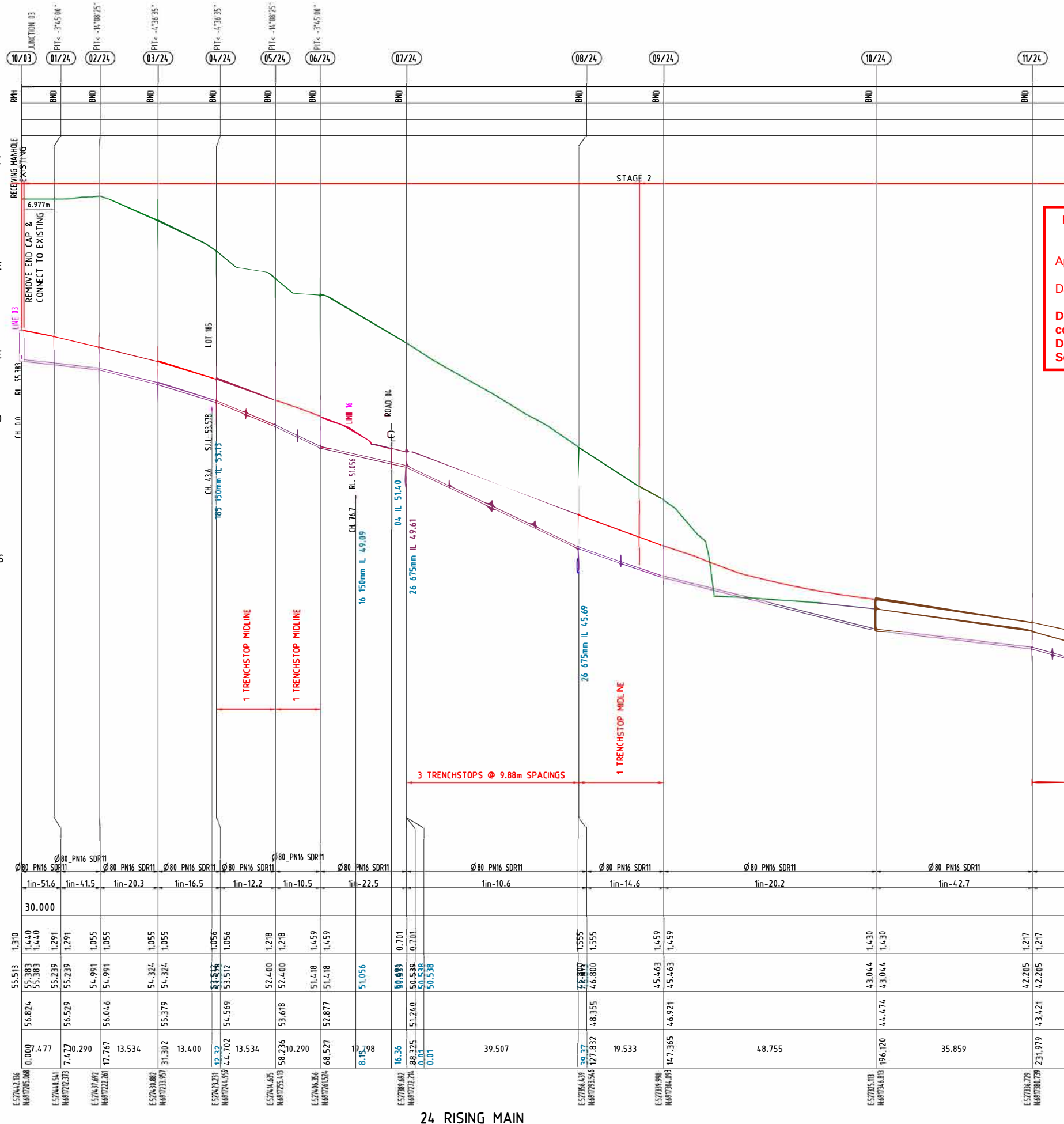
DEPTH TO INVERT

PIPE INVERT
LEVELS

DESIGN SURFACE
LEVELS

CHAINAGE

LINE NO.



PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1499

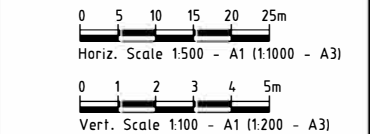
Dated: 12 March 2024

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

**NOTE: THE APPLICANT
MUST ENSURE THAT THE
DEVELOPER'S
CONTRIBUTION FOR THE
TEMPORARY SEWER PUMP
STATION (CONDITION 6 OF
OPW/2023/1499) IS PAID IN
FULL PRIOR TO A REQUEST
BEING MADE FOR AN ON-
MAINTENANCE
INSPECTION.**

PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

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



REV	DATE	DESCRIPTION	INT
B	31-01-24	TRENCHSTOPS AMENDED	RK
A	18-12-23	COUNCIL ISSUE	BL

COPYRIGHT IS VESTED IN MORTONS-URBAN SOLUTIONS AND
WRITTEN CONSENT IS REQUIRED PRIOR TO REPRODUCTION.
DO NOT SCALE FROM THIS DRAWING.

ASSOCIATED CONSULTANTS



DRAWING TITLE

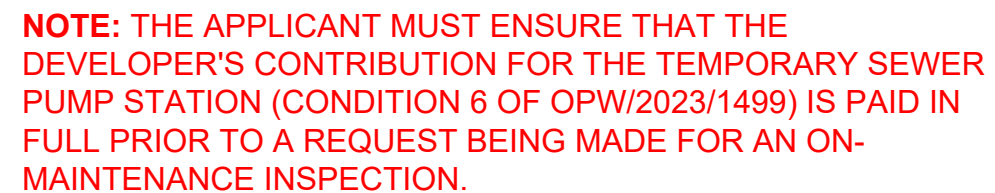
SEWER RETICULATION
PROFILES
SHEET 01



DESIGNED	RB	DRAWN	EP
APPROVED		PER 4706	DATE 18-12-23
DRAWING NUMBER			REV
41901-SPS-530			B

COURTNEY DR
UPPER COOMERA

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

SEWER RETICULATION
PROFILES
SHEET 02

DESIGNED RB	DRAWN EP	
APPROVED <i>W.K. mto</i>	RPEQ4706	DATE 18-12-23
DRAWING NUMBER		REV
41901-SPS-531		A