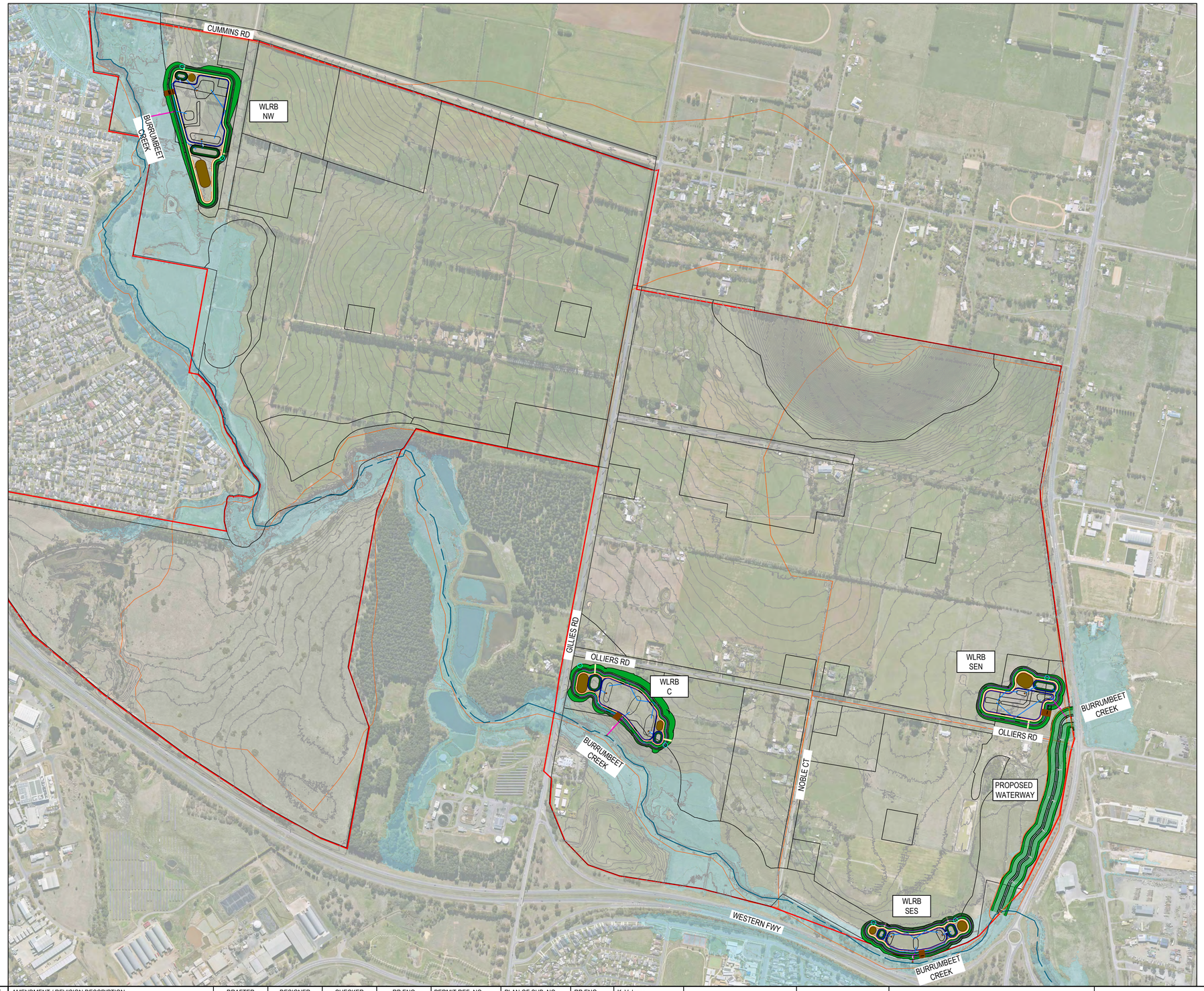
Ballarat North PSP Functional Design



DRAWING INDEX

REGISTERED PROFESSIONAL ENGINEER APPROVAL:

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B	9251E-001-111	WLRB NW Layout Plan
B	9251E-001-112	WLRB C Layout Plan
B	9251E-001-113	WLRB SES Layout Plan
B	9251E-001-114	WLRB SEN Layout Plan
B	9251E-001-115	Waterway Layout Plan
B	9251E-001-201	WLRB NW, C & SES Long Sections
B	9251E-001-202	WLRB SEN & Waterway Long Sections
B	9251E-001-251	Cross Sections: WLRB NW
B	9251E-001-252	Cross Sections: WLRB C
B	9251E-001-253	Cross Sections: WLRB SES
B	9251E-001-254	Cross Sections: WLRB SEN
B	9251E-001-255	Cross Sections: Waterway

LEGEND

ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

- STORMWATER DRAIN & PIT
- RB DRAINAGE OUTLET
- GROSS POLLUTANT TRAP (GPT)
- NWL
- TEDD
- Q100 SSP 2-4.5
- MAINTENANCE TRACK
- DRYING OUT AREA
- ROCK BEACHING
- WATERWAY CENTRELINE
- DEVELOPED 1% AEP FLOOD EXTENT SSP 5-8.5 (LSIO)
- MAJOR CATCHMENT BOUNDARY
- PSP BOUNDARY
- 60-75m CONSTRUCTED WATERWAY CORRIDOR

NOTES:

1. THE FUNCTIONAL DESIGN HAS BEEN PREPARED FOR THE PURPOSES OF THE PSP LAND USE PLANNING AND DCP COSTING PURPOSES. THE DESIGN HAS BEEN DEVELOPED WITH A NUMBER OF ASSUMPTIONS. REFER TO THE BALLARAT NORTH STORMWATER FUNCTIONAL DESIGN REPORT (SMEC, 2026)
2. THE ADOPTED NORMAL WATER LEVEL (NWL) ARE SUBJECT TO CHANGE AS THE DEVELOPMENT PROGRESS IN THE FUTURE. FOR THE PURPOSES OF THIS DRAWING, THE SEDIMENT POND ARE SHOWN TO BE THE SAME IN THE FUNCTIONAL DESIGN DRAWINGS. THE ACTUAL DESIGN LEVELS MAY VARY BETWEEN SEDIMENT POND AND WETLAND MACROPHYTE ZONE AS SHOWN IN THE FUNCTIONAL DESIGN REPORT.

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DRAFTER	DESIGNER	CHECKER	RP ENG
A	22.07.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO
B	26.08.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO

PERMIT REF. NO.	
PLAN OF SUB. NO.	
RP ENG	K. Velasco
RP ENG NO.	PE0006835
DATE	22.07.26

INFORMATION ONLY

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Road and Drainage
Cover Plan & General Notes

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
	9251E-001-101	01 of 13	B

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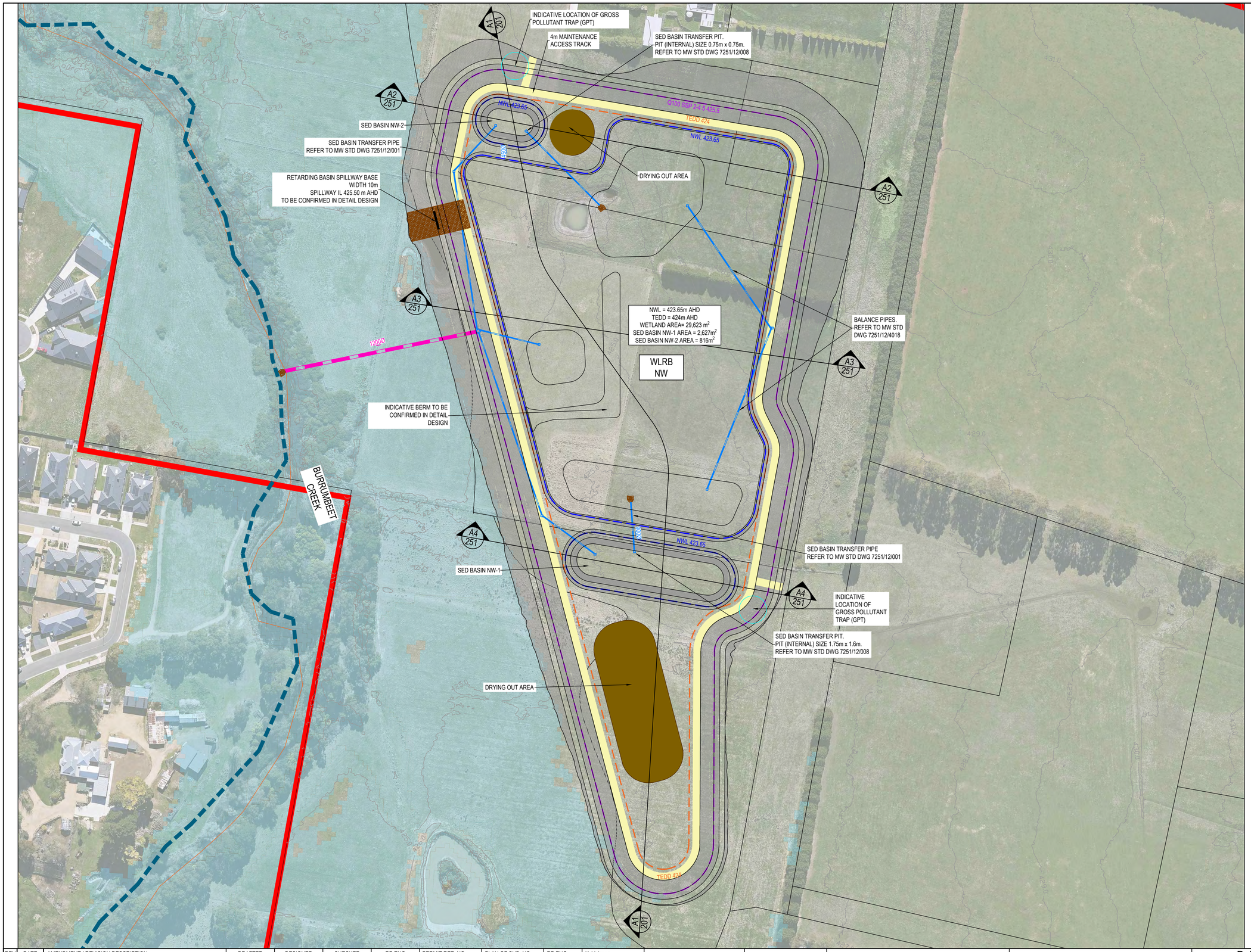

LEGEND

ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN & PIT
	RB DRAINAGE OUTLET
	GROSS POLLUTANT TRAP (GPT)
	NWL
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	Q100 SSP 2-4.5
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	DEVELOPED 1% AEP FLOOD EXTENT SSP 5-8.5 (LSIO)
	MAJOR CATCHMENT BOUNDARY
	PSP BOUNDARY
	60-75m CONSTRUCTED WATERWAY CORRIDOR

WARNING

BEWARE OF UNDERGROUND SERVICES

The location of underground services is approximate only and the exact position should be proven on site. No guarantee is given that all existing services are shown. Contractor to locate all underground services prior to commencement of works.

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PERMIT REF. NO.		PLAN OF SUB. NO.	
RP ENG	K. Velasco		
RP ENG NO.	PE0006835		
DATE	22.07.26		

INFORMATION ONLY

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WLRB NW Layout Plan

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
	9251E-001-111	02 of 13	B

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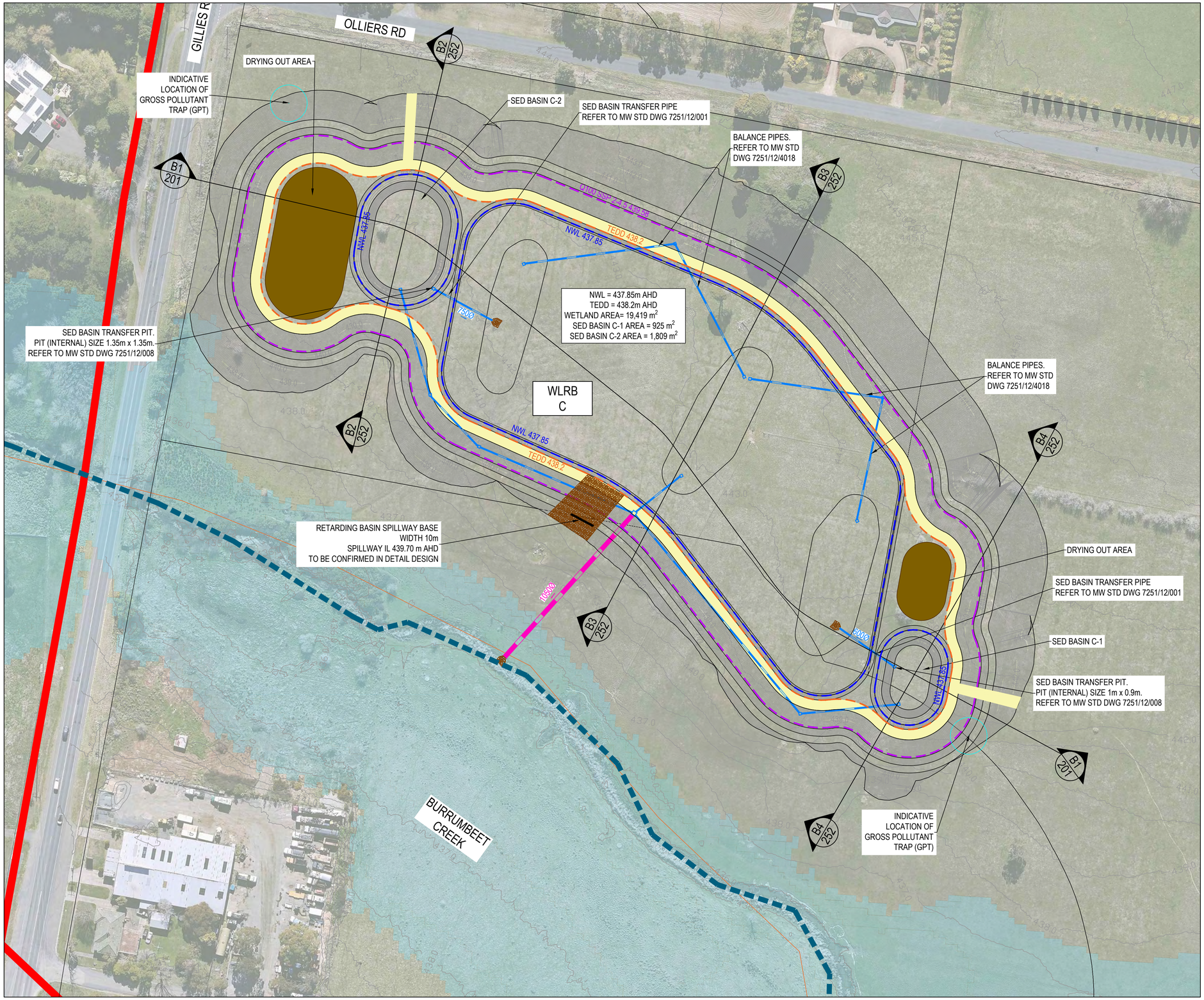

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PERMIT REF. NO.	PLAN OF SUB. NO.		
		RP ENG	K. Velasco
		RP ENG NO.	PE0006835
		DATE	22.07.26

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MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
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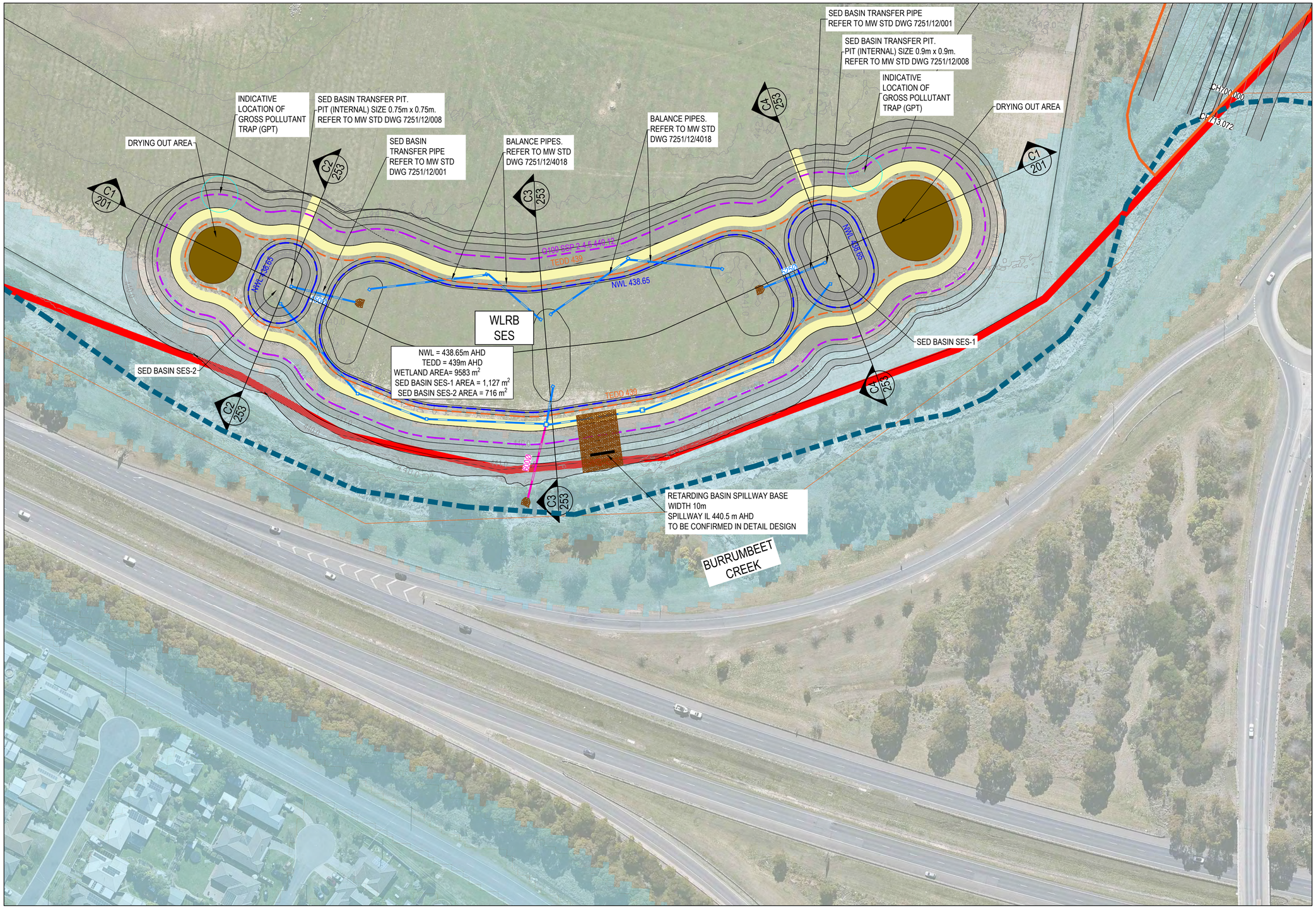

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MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
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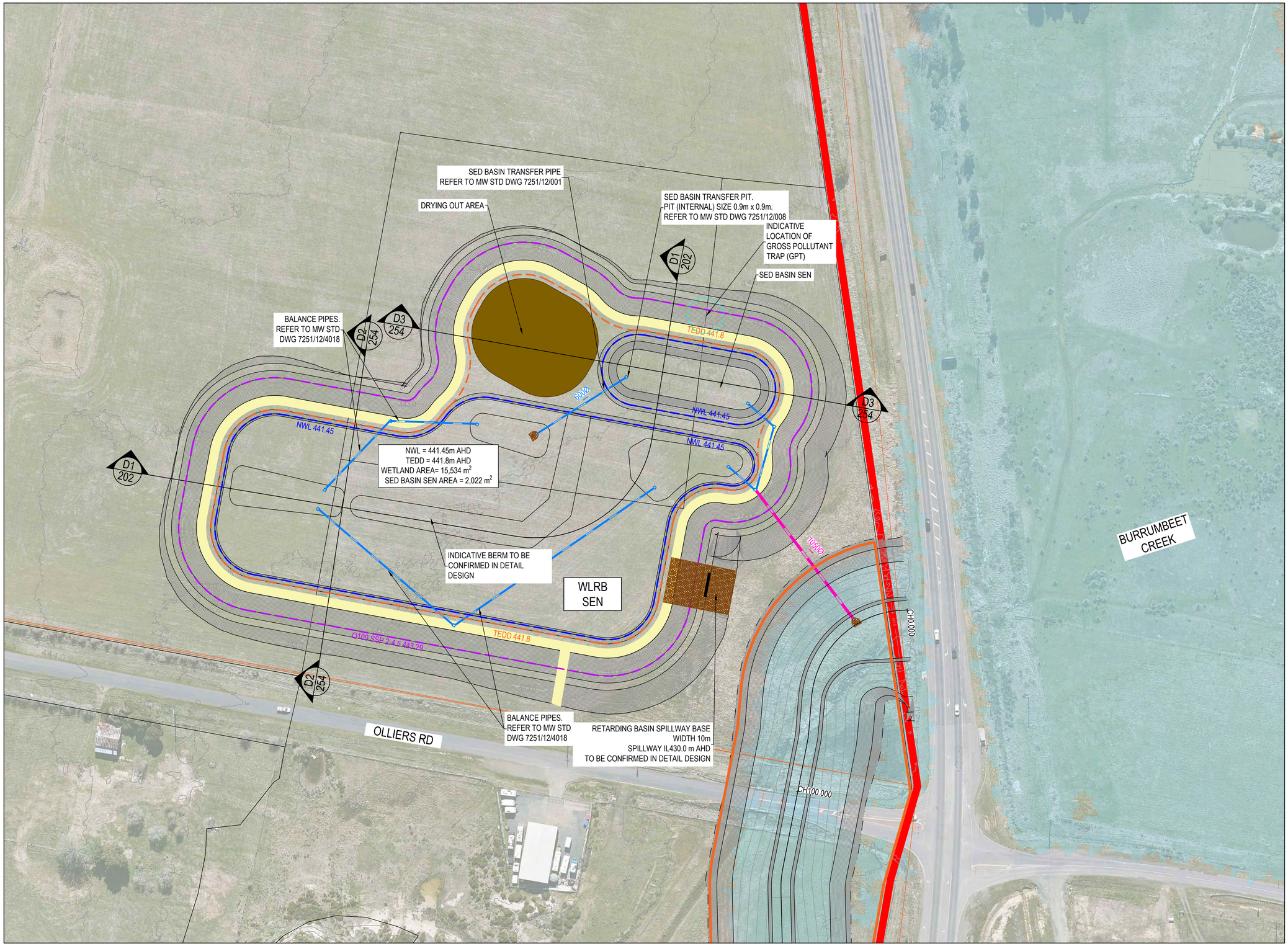

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PLAN OF SUB. NO.		RP ENG NO.	PE0006835
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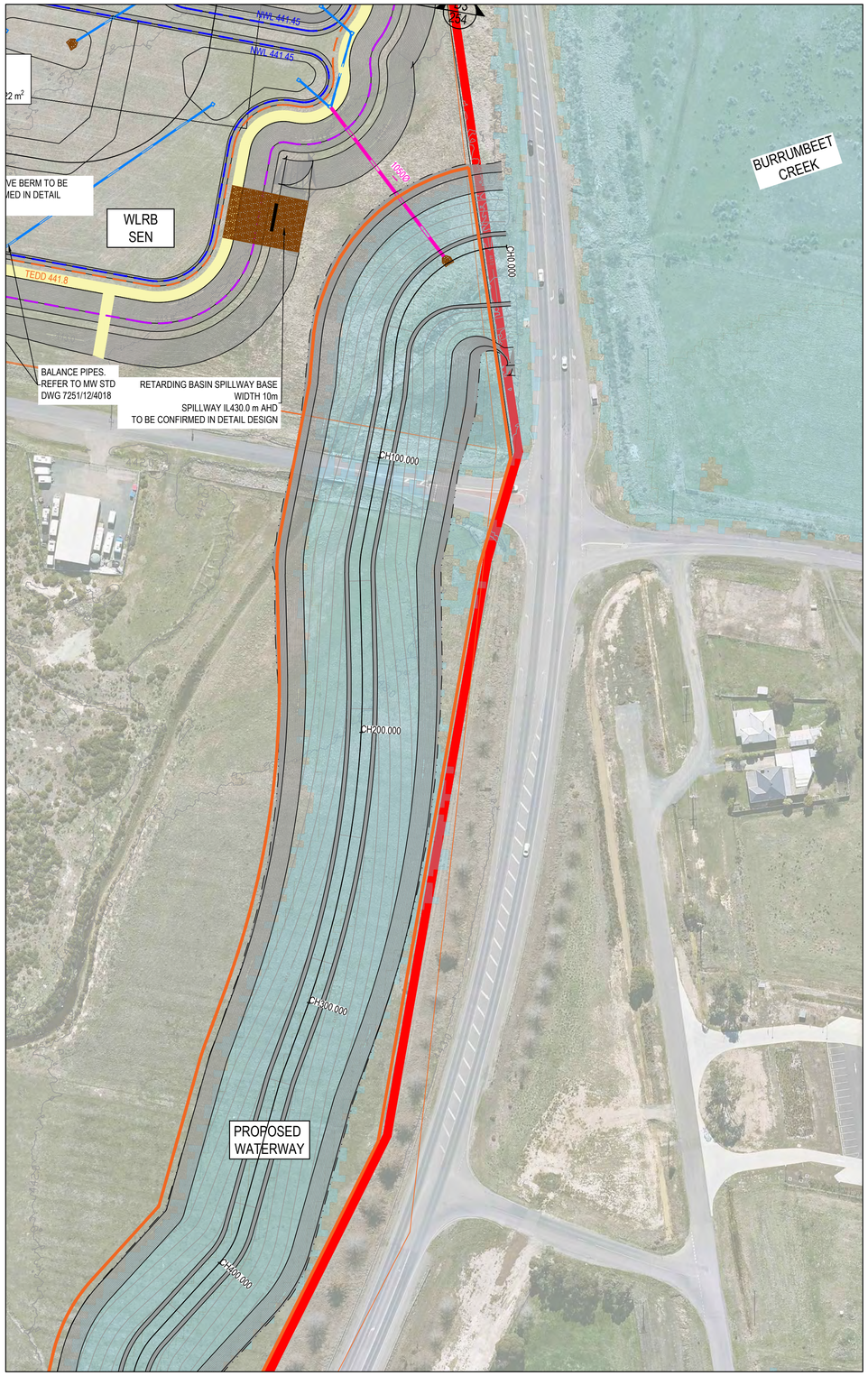

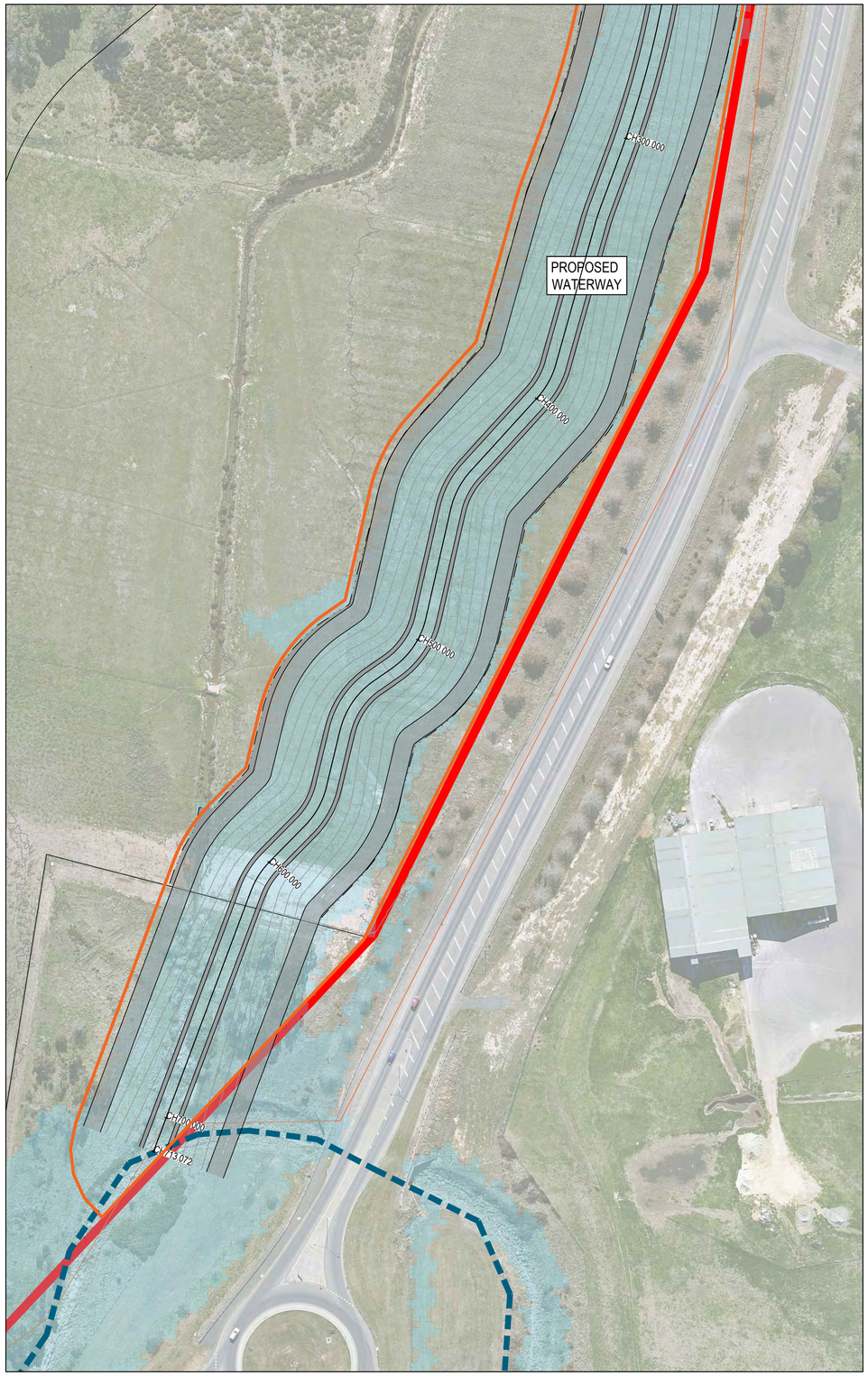

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PERMIT REF. NO.		PLAN OF SUB. NO.	
RP ENG	K. Velasco		
RP ENG NO.	PE0006835		
DATE	22.07.26		

INFORMATION ONLY

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Waterway Layout Plan

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
	9251E-001-115	06 of 13	B

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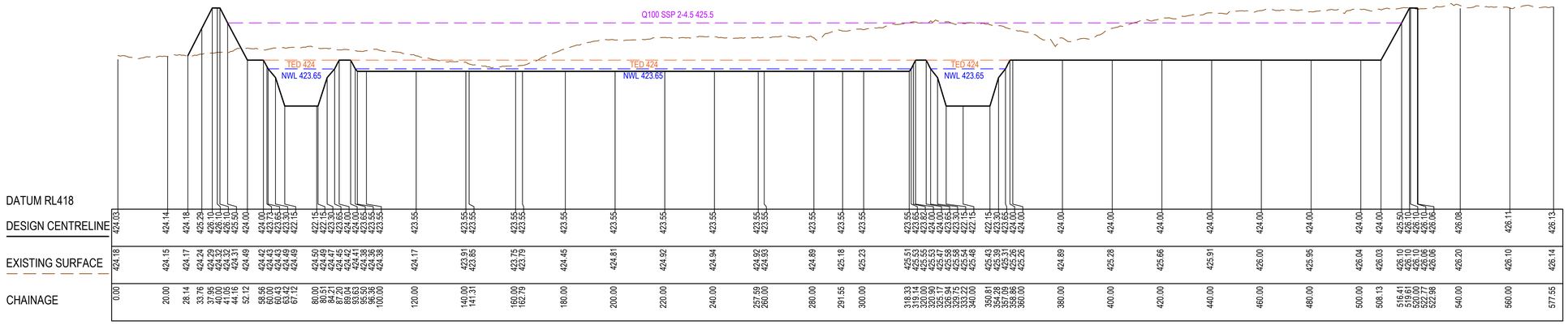

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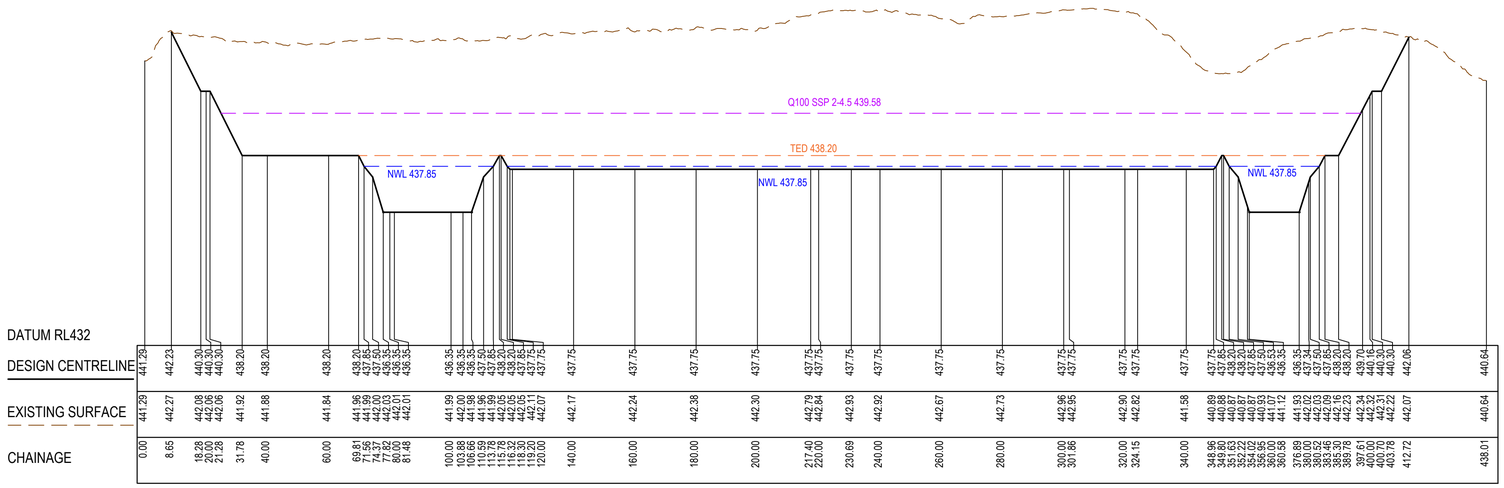

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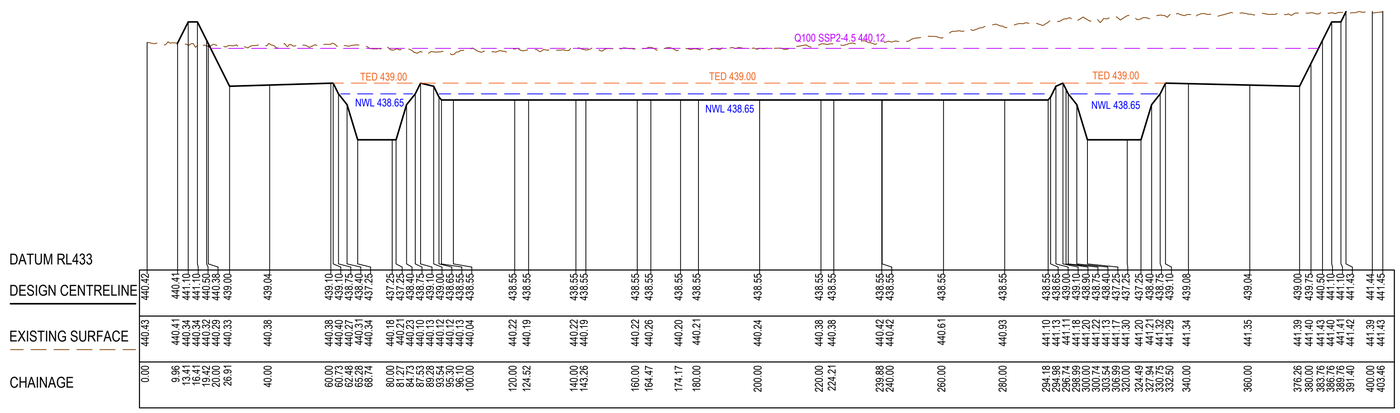

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B	26.08.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO

PERMIT REF. NO.	
PLAN OF SUB. NO.	
RP ENG	K. Velasco
RP ENG NO.	PE0006835
DATE	22.07.26

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WLRB NW, C & SES Long Sections

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
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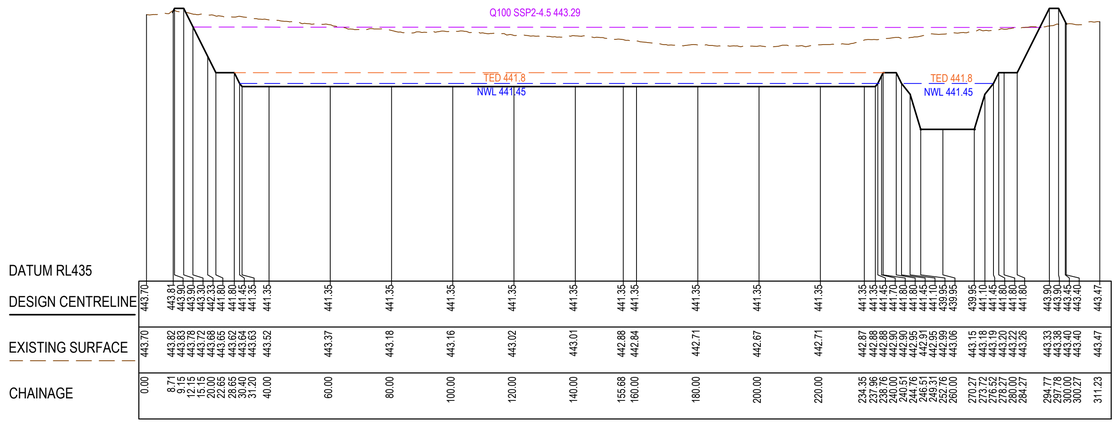

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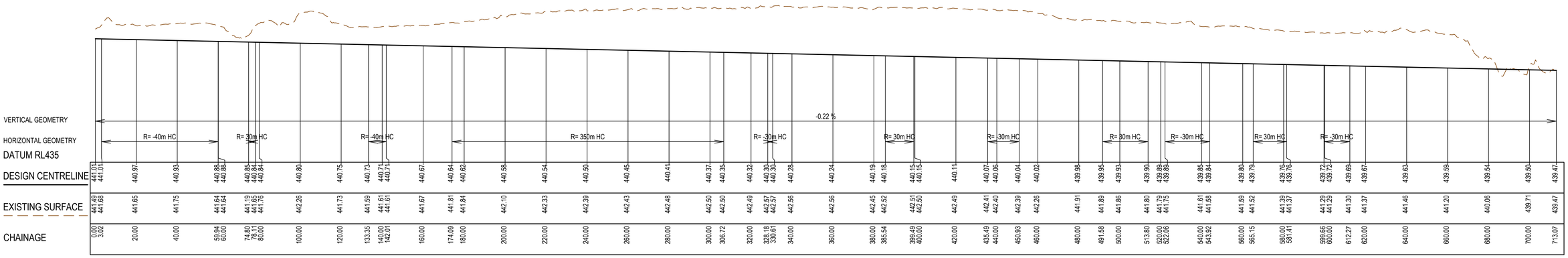

PROPOSED WATERWAY LONGITUDINAL SECTION

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DRAFTER	DESIGNER	CHECKER	RP ENG
A	22.07.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO
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PERMIT REF. NO.	PLAN OF SUB. NO.	RP ENG	K. Velasco
		RP ENG NO.	PE0006835
		DATE	22.07.26

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WLRB SEN & Waterway Long Sections

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
	9251E-001-202	08 of 13	B

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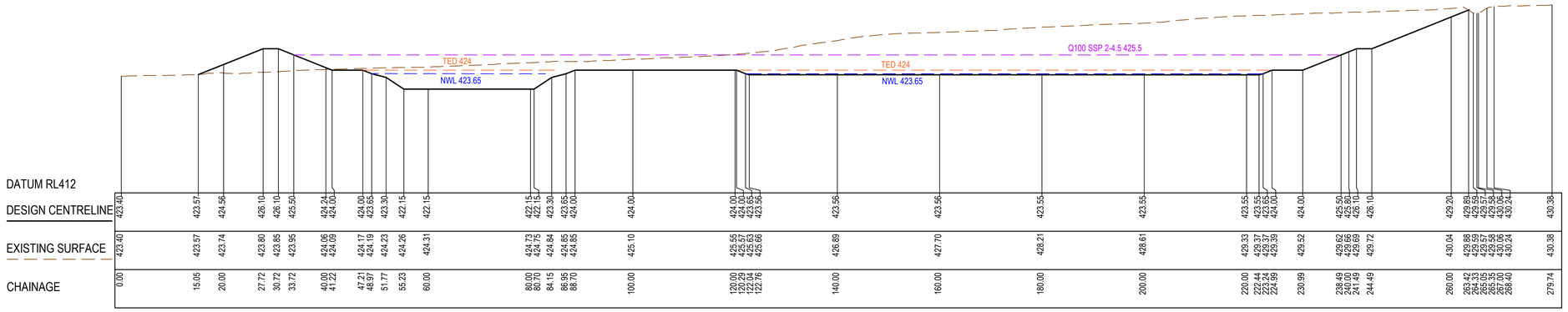
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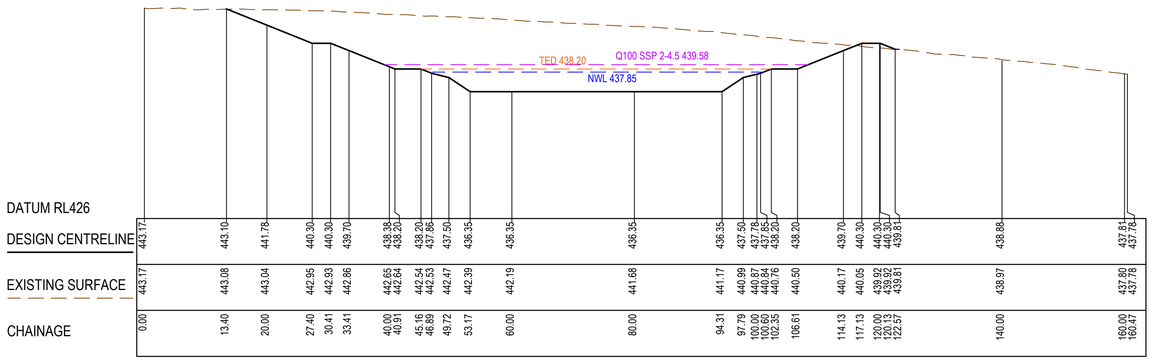

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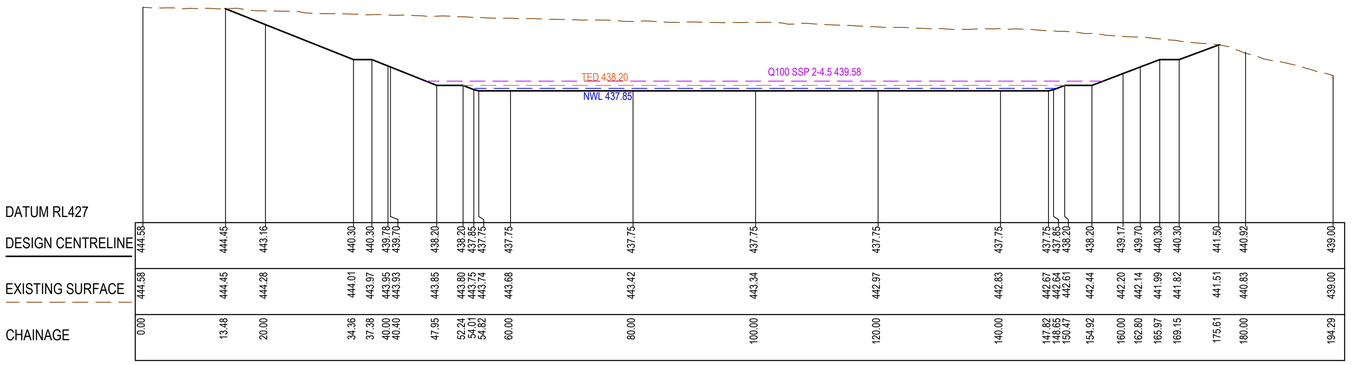

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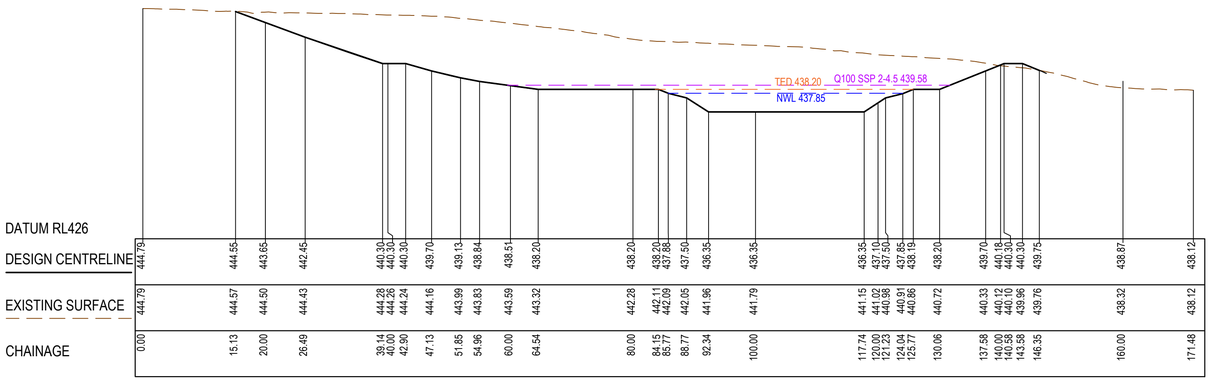

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		RP ENG NO.	PE0006835
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Department of Transport & Planning (Formerly VPA)
Road and Drainage
Cross Sections: WLRB C

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
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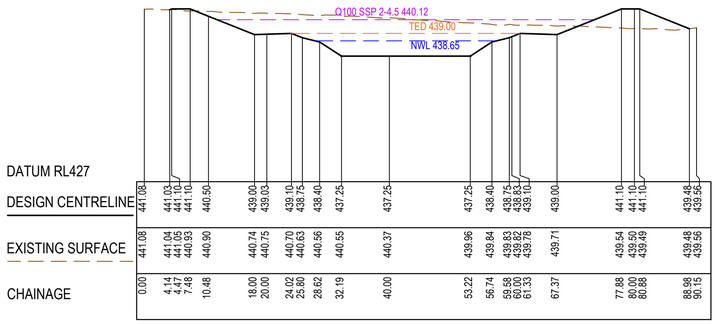

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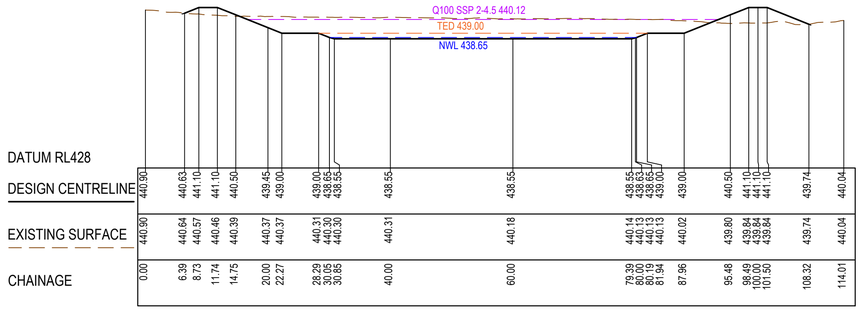

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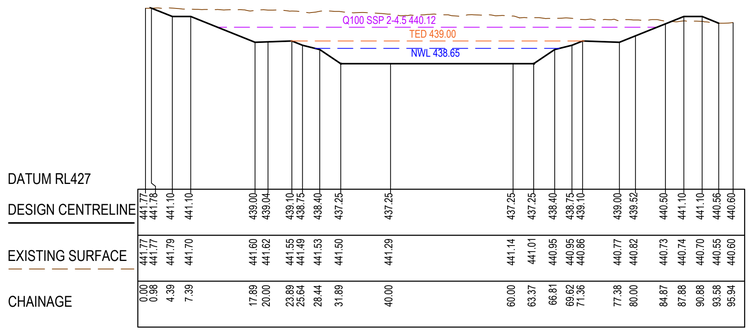

C4 LONGITUDINAL SECTION

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DRAFTER	DESIGNER	CHECKER	RP ENG
A	22.07.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO
B	26.08.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO

PERMIT REF. NO.

PLAN OF SUB. NO.

RP ENG	K. Velasco
RP ENG NO.	PE0006835
DATE	22.07.26

INFORMATION ONLY

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Road and Drainage
Cross Sections: WLRB SES

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
	9251E-001-253	11 of 13	B

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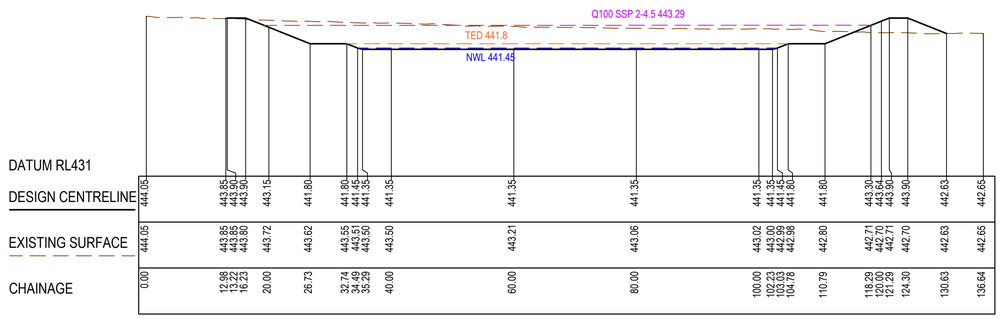

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D3 LONGITUDINAL SECTION

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DRAFTER	DESIGNER	CHECKER	RP ENG
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B	26.08.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO

PERMIT REF. NO.	PLAN OF SUB. NO.	RP ENG	K. Velasco
		RP ENG NO.	PE0006835
		DATE	22.07.26

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Cross Sections: WLRB SEN

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
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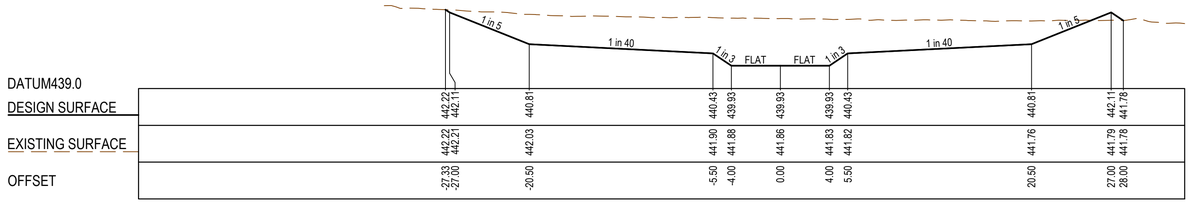

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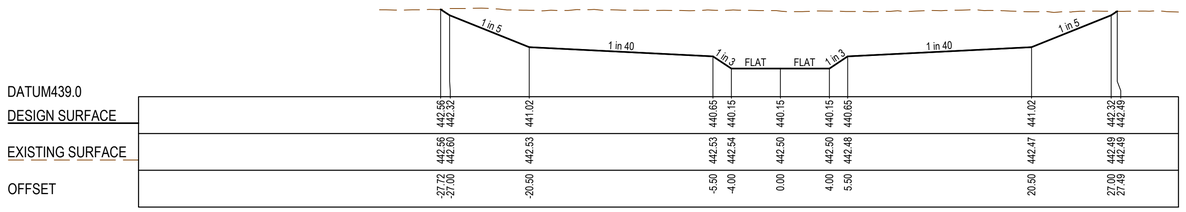

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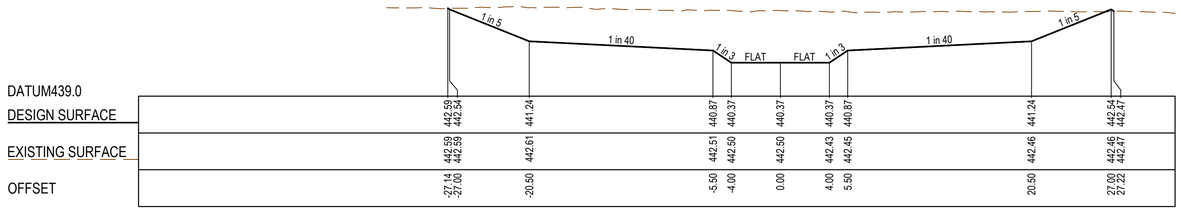

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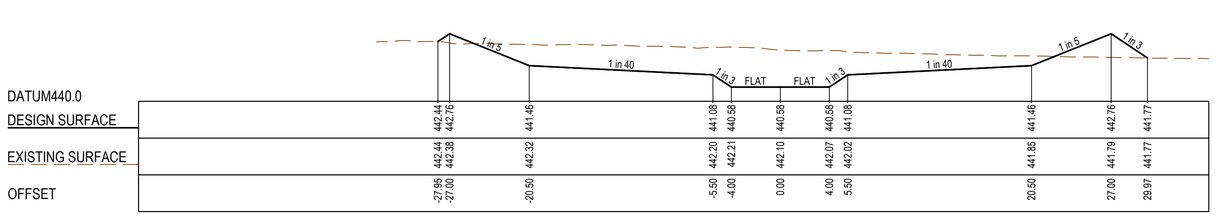

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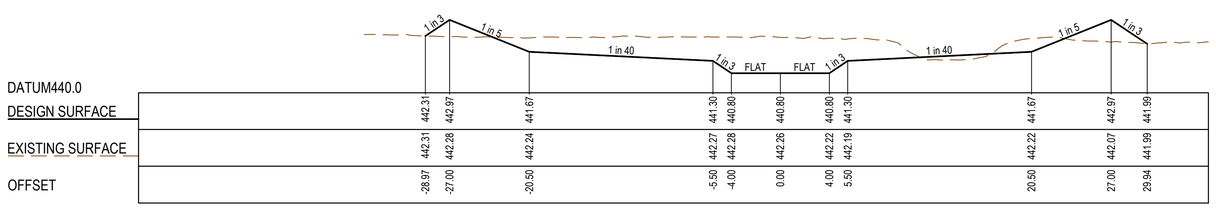

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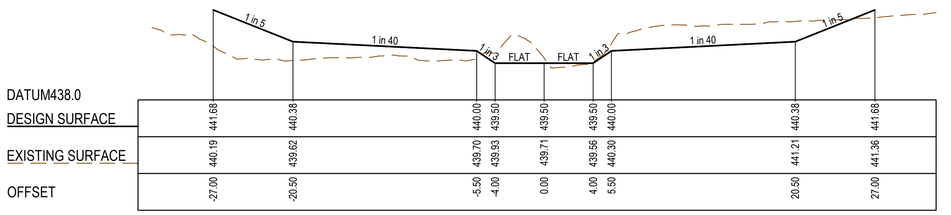

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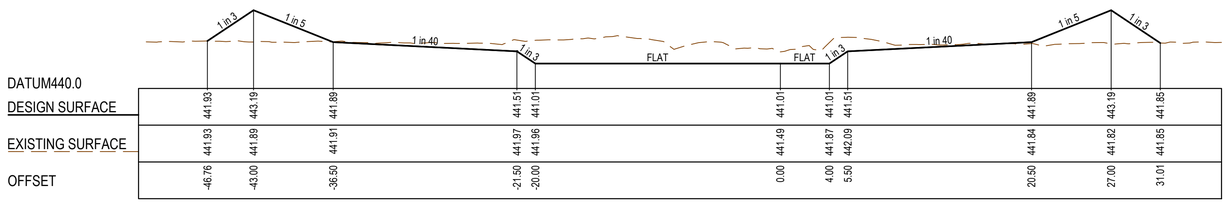

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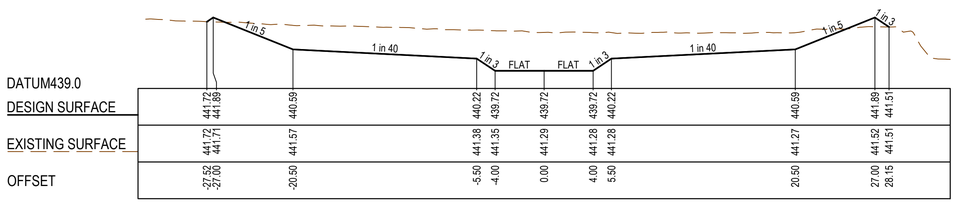

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REV	DATE	AMENDMENT / REVISION DESCRIPTION	DRAFTER	DESIGNER	CHECKER	RP ENG
A	22.07.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO
B	26.08.26	ISSUED FOR INFORMATION ONLY	D.SCHMID	D.SCHMID	K.VELASCO	K.VELASCO

PERMIT REF. NO.	PLAN OF SUB. NO.	RP ENG	K. Velasco
		RP ENG NO.	PE0006835
		DATE	22.07.26

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MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
	9251E-001-255	13 of 13	B

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Appendix H

Cost Estimate

SUMMARY

11/09/2026

Item	Description	Amount $
1.1	DRAINAGE WORKS COST ESTIMATE	$ 6,828,556.81
1.2	CONSTRUCTED WATERWAY WORKS COST ESTIMATE	$ 2,464,044.48
1.3	WETLAND NWN COST ESTIMATE	$ 12,537,314.33
1.4	WETLAND CS COST ESTIMATE	$ 16,391,888.25
1.5	WETLAND SEN COST ESTIMATE	$ 5,158,656.81
1.6	WETLAND SES COST ESTIMATE	$ 6,056,789.72
	TOTAL ESTIMATED COST	$ 49,437,250.39

This preliminary costing is only an indicative costs associated to the construction of the drainage strategy which will take several years to be constructed. Therefore, the costs required to fund these drainage assets will be spread over several years.
Does not include land acquisition or land filling
Exclude investigations fee
Does not include costs associated with uncertainties such as contaminated soil disposal or clay liner imporation (with the exception of Wetland CS including 5% soil contamination contingency)
RB/WL costs are highly variable cost items and dependent on soil conditions of the site. Without further information appropriate contingency should be applied.
Pipe Cost estimates above are based on the Melbourne Water Drainage Works Reimbursement Rates for the West Region, 2024-2025. A CPI of 2.8% was appled to the rates as an estimation of the rates in 2026.

DRAINAGE WORKS COST ESTIMATE

11/09/2026

Item	Pipe Reference	Length	Pipe Diameter	Pipe Type/Backfill	No. of pipes	Rate	Amount
		m	mm			$	$
	WORKS						
1	DRAINAGE WORKS						
1.1	A 2-3 (PC5) (Costed in Transport Items)	32	1050	RRJ-100% FCR	2		$ -
1.2	A 3-4	395	1050	RRJ-100% FCR	2	$ 974.00	$ 769,459.34
1.3	A 4-5	148	1200	RRJ-100% FCR	3	$ 1,080.62	$ 479,795.90
1.4	B 2-3	135	1050	RRJ-100% FCR	1	$ 974.00	$ 131,489.89
1.5	B 3-6	57	1200	RRJ-100% FCR	1	$ 1,080.62	$ 61,595.42
1.6	B 5-6	235	825	RRJ-100% FCR	1	$ 839.82	$ 197,357.17
1.7	B 6-7	241	1050	RRJ-100% FCR	2	$ 974.00	$ 469,467.60
1.8	C 3-4	95	825	RRJ-100% FCR	1	$ 839.82	$ 79,782.68
1.9	C 4-7	83	1050	RRJ-100% FCR	1	$ 974.00	$ 80,841.93
1.10	C 6-7	91	750	RRJ-100% FCR	1	$ 791.90	$ 72,062.83
1.11	C 7-8	89	1200	RRJ-100% FCR	1	$ 1,080.62	$ 96,175.30
1.12	C 8-11	178	1200	RRJ-100% FCR	1	$ 1,080.62	$ 192,350.61
1.13	D1-2 (PC2) (Costed in Transport Items)	30	1350	RRJ-100% FCR	1		$ -
1.14	D 2-4	372	1350	RRJ-100% FCR	1	$ 1,224.38	$ 455,471.14
1.15	D 4-8	374	1650	RRJ-100% FCR	1	$ 1,690.42	$ 632,216.23
1.16	D 6-7	185	1500	RRJ-100% FCR	1	$ 1,420.86	$ 262,859.36
1.17	D 7-8	121	1800	RRJ-100% FCR	1	$ 2,048.63	$ 247,884.01
1.18	D 8-10 (PC1) (Costed in Transport Items)	31	1500	RRJ-100% FCR	2		$ -
1.19	D 10-11	98	1500	RRJ-100% FCR	2	$ 1,420.86	$ 278,488.83
	SUB-TOTAL DELIVERY						$ 4,507,298.23
2	DELIVERY						
2.1	Council Fees	3.25	%				$ 146,487.19
2.2	Authority Fees	1	%				$ 45,072.98
2.3	Traffic Management	5	%				$ 225,364.91
2.4	Environmental Management	0.5	%				$ 22,536.49
2.5	Survey & Design	5	%				$ 225,364.91
2.6	Supervision & Project Management	9	%				$ 405,656.84
2.7	Site Establishment	2.5	%				$ 112,682.46
2.8	Contingency	20	%				$ 1,138,092.80
	SUB-TOTAL DELIVERY						$ 2,321,258.59
3	TOTAL ESTIMATED COST						$ 6,828,556.81

This preliminary costing is only an indicative costs associated to the construction of the drainage strategy which will take several years to be constructed. Therefore, the costs required to fund these drainage assets will be spread over several years.

Does not include land acquisition or land filling

Exclude investigations fee

Does not include costs associated with uncertainties such as contaminated soil disposal or clay liner imporation

RB/WL costs are highly variable cost items and dependent on soil conditions of the site. Without further information appropriate contingency should be applied.

Pipe Cost estimates above are based on the Melbourne Water Drainage Works Reimbursement Rates for the West Region, 2024-2025. A CPI of 2.8% was appled to the rates as an estimation of the rates in 2026.

CONSTRUCTED WATERWAY WORKS COST ESTIMATE

25/08/2026

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS					
1.1	Site preparation	1	Item	$ 10,000.00	$ 10,000.00	
1.2	Temp Diversion Works	1	Item	$ 20,000.00	$ 20,000.00	
1.3	Waterway connection	1	Item	5000	$ 5,000.00	Erosion Protection Connection into Waterway
1.4	Stripping of topsoil		m2			Included below
1.5	Excavation		m3			Included below
1.6	Formation of batters		m3			Included below
2	DRAINAGE WORKS					
2.1	WATERWAYS					
2.1.1	Pools and Riffle	1535	m2	$ 250.00	$ 383,750.00	
2.2	EARTHWORKS					
2.2.1	WATERWAY DIVERSION CW1					
	Stripping of topsoil & stockpiling	7069.4	m3	$ 7.50	$ 53,020.50	Assumed 200mm topsoil
	Spread topsoil	7069.4	m3	$ 12.50	$ 88,367.50	Assumed 200mm topsoil
	Cut	25930.6	m3	$ 40.00	$ 1,037,224.00	Assumed cut to onsite stockpile
	Fill	2907	m3	$ 10.00	$ 29,070.00	Spread and compact, no import
	SUB-TOTAL WORKS				$ 1,626,432.00	
3	DELIVERY					
3.1	Council Fees	3.25	%		$ 52,859.04	
3.2	Authority Fees	1	%		$ 16,264.32	
3.3	Traffic Management	5	%		$ 81,321.60	
3.4	Environmental Management	0.5	%		$ 8,132.16	
3.5	Survey & Design	5	%		$ 81,321.60	
3.6	Supervision & Project Management	9	%		$ 146,378.88	
3.7	Site Establishment	2.5	%		$ 40,660.80	
3.8	Contingency	20	%		$ 410,674.08	
	SUB-TOTAL DELIVERY				$ 837,612.48	
4	TOTAL ESTIMATED COST				$ 2,464,044.48	

This preliminary costing is only an indicative costs associated to the construction of the drainage strategy which will take several years to be constructed. Therefore, the costs required to fund these drainage assets will be spread over several years.

Does not include land acquisition or land filling

Exclude investigations fee

Does not include costs associated with uncertainties such as contaminated soil disposal or clay liner imporation

RB/WL costs are highly variable cost items and dependent on soil conditions of the site. Without further information appropriate contingency should be applied.

WETLAND NWN COST ESTIMATE

25/08/2026

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS					
1.1	Site preparation		Item			Included in Site Establishment
1.2	Temp Diversion Works	1	Item	$ 20,000.00	$ 20,000.00	
1.3	Waterway connection	1	Item	$ 5,000.00	$ 5,000.00	Erosion Protection Connection into Waterway
1.4	Stripping of topsoil		m2			Included below
1.5	Excavation		m3			Included below
1.6	Formation of batters		m3			Included below
2	DRAINAGE WORKS					
2.1	WATERWAYS					
2.1.1						
2.2	SEDIMENTATION PONDS					
2.2.1	SP NWN	3443	m2	$ 250.00	$ 860,750.00	Recently received a $250/sq.m rate
2.3	DRAINAGE PIPES/PITS					
2.3.1	Outlet Pipes	123	LM	$ 1,080.00	$ 132,840.00	1200mm pipe
2.3.2	Balance Pipes	178	LM	$ 336.00	$ 59,808.00	300mm pipe
2.3.3	Transfer Pipe	27	LM	$ 883.00	$ 23,841.00	900mm pipe
2.3.4	Transfer Pipe	64	LM	$ 538.00	$ 34,432.00	450mm pipe
2.3.5	Outlet Pipe from wetland	32	LM	$ 617.00	$ 19,744.00	525mm pipe
2.3.6	High Flow Bypass	268	LM	$ 1,080.00	$ 289,440.00	1200mm pipe
2.3.7	Control Structures	7	Item	$ 20,000.00	$ 140,000.00	estimated rate for a large pit
2.3.8	Junction Pits	4	Item	$ 2,500.00	$ 10,000.00	small junction pits
2.3.9	Outfall Pit Structure	3	Item	$ 4,000.00	$ 12,000.00	Rock outlet
2.3.10	Litter Traps / GPT	1	Item	$ 32,200.00	$ 32,200.00	CDS Unit
2.4	EARTHWORKS					
2.4.1	Wetland / RB NWN					
	Stripping of topsoil & stockpiling	14980.4	m3	$ 7.50	$ 112,353.00	Assumed 200mm topsoil
	Spread topsoil	14980.4	m3	$ 12.50	$ 187,255.00	Assumed 200mm topsoil
	Cut	109096.6	m3	$ 40.00	$ 4,363,864.00	Assumed cut to onsite stockpile
	Fill	13429	m3	$ 10.00	$ 134,290.00	Spread and compact, no import
2.5	ROCKWORKS					
2.5.1	Supply and installation of rockwork at sediment basin and wetland pipes	545	m2	$ 140.00	$ 76,300.00	Includes spillway
2.6	CLAY LINER					
2.6.1	Sediment basin: placement of 300mm compacted clay liners for sediment basin	3443	m2	$ 19.50	$ 67,138.50	Assumed in-situ material is used
2.6.2	Wetland : placement of 300mm compacted clay liners for wetland	29623	m2	$ 19.50	$ 577,648.50	
2.7	AQUATIC PLANTING					
2.7.1	Supply & install aquatic plants	23698.4	m2	$ 10.00	$ 236,984.00	wetland area at NWL x 80%
2.7.2	Supply & install terrestrial planting	7527	m2	$ 10.00	$ 75,270.00	
2.7.3	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically	13226.4	m2	$ 10.00	$ 132,264.00	
2.7.4	Supply, install and maintain plant protection netting for a select species in the aquatic zones	1	No.	$ 20,000.00	$ 20,000.00	
2.8	LANDSCAPING					
2.8.1	Supply & install RB perimeter concrete access path	4394	m2	$ 100.00	$ 439,400.00	
2.8.3	Supply & install trees (tubestock)	100	No.	$ 6.00	$ 600.00	
4	MISCELLANEOUS					
4.1	Works maintenance – 1 year	33066	m2	$ 0.50	$ 16,533.00	
4.2	Civil Works Defect Maintenance inclu pits, pipes and rockwork	1	month	$ 2,500.00	$ 2,500.00	
4.3	3 month Plant Establisment Maintenance period of all soft landscape work including waterof plants and trees during establisment, weed control of all plants area	3	month	$ 2,000.00	$ 6,000.00	
4.4	24 month plant maintenance period of all soft landscape works including watering plants and trees during establishment, weed control of all planted areas as per specification	24	month	$ 750.00	$ 18,000.00	
4.5	Allowance for timber bollards	12	No.	$ 300.00	$ 3,600.00	
4.6	Allowance for seats	2	No.	$ 2,500.00		
4.7	WL/SB: install habitat logs approx. 4.0m long (no securing require) to wetland area	2	No.	$ 5,000.00	$ 10,000.00	
4.8	Fencing: supply and install timber post and rail fencing around wetland	1295	LM	$ 120.00	$ 155,400.00	
	SUB-TOTAL WORKS				$ 8,275,455.00	
5	DELIVERY					
5.1	Council Fees	3.25	%		$ 268,952.29	
5.2	Authority Fees	1	%		$ 82,754.55	
5.3	Traffic Management	5	%		$ 413,772.75	
5.4	Environmental Management	0.5	%		$ 41,377.28	
5.5	Survey & Design	5	%		$ 413,772.75	
5.6	Supervision & Project Management	9	%		$ 744,790.95	
5.7	Site Establishment	2.5	%		$ 206,886.38	
5.8	Contingency	20	%		$ 2,089,552.39	
	SUB-TOTAL DELIVERY				$ 4,261,859.33	
6	TOTAL ESTIMATED COST				$ 12,537,314.33	

This preliminary costing is only an indicative costs associated to the construction of the drainage strategy which will take several years to be constructed. Therefore, the costs required to fund these drainage assets will be spread over several years.

Does not include land acquisition or land filling

Exclude investigations fee

Does not include costs associated with uncertainties such as contaminated soil disposal or clay liner imporation

RB/WL costs are highly variable cost items and dependent on soil conditions of the site. Without further information appropriate contingency should be applied.

Pipe Cost estimates above are based on the Melbourne Water Drainage Works Reimbursement Rates for the West Region, 2024-2025. A CPI of 2.8% was appled to the rates as an estimation of the rates in 2026.

WETLAND CS COST ESTIMATE

25/08/2026

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS					
1.1	Site preparation		Item			Included in Site Establishment
1.2	Temp Diversion Works	1	Item	$ 20,000.00	$ 20,000.00	
1.3	Waterway connection	1	Item	$ 5,000.00	$ 5,000.00	Erosion Protection Connection into Waterway
1.4	Stripping of topsoil		m2			Included below
1.5	Excavation		m3			Included below
1.6	Formation of batters		m3			Included below
2	DRAINAGE WORKS					
2.1	WATERWAYS					
2.1.1						
2.2	SEDIMENTATION PONDS					
2.2.1	SP CS	3197	m2	$ 250.00	$ 799,250.00	Recently received a $250/sq.m rate
2.3	DRAINAGE PIPES/PITS					
2.3.1	Outlet Pipes	88	LM	$ 974.00	$ 85,712.00	1050mm pipe
2.3.2	Balance Pipes	221	LM	$ 336.00	$ 74,256.00	300mm pipe
2.3.3	Transfer Pipe	30	LM	$ 792.00	$ 23,760.00	750mm pipe
2.3.4	Transfer Pipe	34	LM	$ 683.00	$ 23,222.00	600mm pipe
2.3.5	Outlet Pipe from wetland	22	LM	$ 617.00	$ 13,574.00	525mm pipe
2.3.6	High Flow Bypass	269	LM	$ 1,080.00	$ 290,520.00	1200mm pipe
2.3.7	Control Structures	7	Item	$ 20,000.00	$ 140,000.00	estimated rate for a large pit
2.3.8	Junction Pits	7	Item	$ 2,500.00	$ 17,500.00	small junction pits
2.3.9	Outfall Pit Structure	3	Item	$ 4,000.00	$ 12,000.00	Rock outlet
2.3.10	Litter Traps / GPT	1	Item	$ 32,200.00	$ 32,200.00	CDS Unit
2.4	EARTHWORKS					
2.4.1	Wetland/RB CS					
2.4.2	Stripping of topsoil & stockpiling	10865	m3	$ 7.50	$ 81,490.50	Assumed 200mm topsoil
2.4.3	Spread topsoil	10865	m3	$ 12.50	$ 135,817.50	Assumed 200mm topsoil
2.4.4	Cut	182014	m3	$ 40.00	$ 7,280,544.00	Assumed cut to onsite stockpile
2.4.5	Fill	2314	m3	$ 10.00	$ 23,140.00	Spread and compact, no import
2.5	ROCKWORKS					
2.5.1	Supply and installation of rockwork at sediment basin and wetland pipes	770	m2	$ 140.00	$ 107,800.00	Includes Spillway
2.6	CLAY LINER					
2.6.1	Sediment basin: placement of 300mm compacted clay liners for sediment basin	3197	m2	$ 19.50	$ 62,341.50	Assumed in-situ material is used
2.6.2	Wetland : placement of 300mm compacted clay liners for wetland	20468	m2	$ 19.50	$ 399,126.00	
2.7	AQUATIC PLANTING					
2.7.1	Supply & install aquatic plants	16374	m2	$ 10.00	$ 163,744.00	wetland area at NWL x 80%
2.7.2	Supply & install terrestrial planting	3564	m2	$ 10.00	$ 35,640.00	
2.7.3	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically	9466	m2	$ 10.00	$ 94,660.00	
2.7.4	Supply, install and maintain plant protection netting for a select species in the aquatic zones	1	No.	$ 20,000.00	$ 20,000.00	
2.8	LANDSCAPING					
2.8.1	Supply & install RB perimeter concrete access path	3659	m2	$ 100.00	$ 365,900.00	
2.8.3	Supply & install trees (tubestock)	100	No.	$ 6.00	$ 600.00	
4	MISCELLANEOUS					
4.1	Works maintenance – 1 year	23665	m2	$ 0.50	$ 11,832.50	
4.2	Civil Works Defect Maintenance inclu pits, pipes and rockwork	1	month	$ 2,500.00	$ 2,500.00	
4.3	3 month Plant Establisment Maintenance period of all soft landscape work including waterof plants and trees during establisment, weed control of all plants area	3	month	$ 2,000.00	$ 6,000.00	
4.4	24 month plant maintenance period of all soft landscape works including watering plants and trees during establishment, weed control of all planted areas as per specification	24	month	$ 750.00	$ 18,000.00	
4.5	Allowance for timber bollards	12	No.	$ 300.00	$ 3,600.00	
4.6	Allowance for seats	2	No.	$ 2,500.00	$ 5,000.00	
4.7	WL/SB: install habitat logs approx. 4.0m long (no securing require) to wetland area	2	No.	$ 5,000.00	$ 10,000.00	
4.8	Fencing: supply and install timber post and rail fencing around wetland	911	LM	$ 120.00	$ 109,320.00	
	SUB-TOTAL WORKS				$ 10,474,050.00	
5	DELIVERY					
5.1	Council Fees	3.25	%		$ 340,406.63	
5.2	Authority Fees	1	%		$ 104,740.50	
5.3	Traffic Management	5	%		$ 523,702.50	
5.4	Environmental Management	0.5	%		$ 52,370.25	
5.5	Survey & Design	5	%		$ 523,702.50	
5.6	Supervision & Project Management	9	%		$ 942,664.50	
5.7	Site Establishment	2.5	%		$ 261,851.25	
5.8	Contingency	20	%		$ 2,644,697.63	
6.8	Contingency Soil Contamination	5	%		$ 523,702.50	Soil contamination disposal
	SUB-TOTAL DELIVERY				$ 5,917,838.25	
6	TOTAL ESTIMATED COST				$ 16,391,888.25	

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Does not include land acquisition or land filling

Exclude investigations fee

Does not include costs associated with uncertainties such as clay liner imporation

RB/WL costs are highly variable cost items and dependent on soil conditions of the site. Without further information appropriate contingency should be applied.

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WETLAND SEN COST ESTIMATE

25/08/2026

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS					
1.1	Site preparation		Item			Included in Site Establishment
1.2	Temp Diversion Works	1	Item	$ 20,000.00	$ 20,000.00	
1.3	Waterway connection	1	Item	$ 5,000.00	$ 5,000.00	Erosion Protection Connection into Waterway
1.4	Stripping of topsoil		m2			Included below
1.5	Excavation		m3			Included below
1.6	Formation of batters		m3			Included below
2	DRAINAGE WORKS					
2.1	WATERWAYS					
2.1.1						
2.2	SEDIMENTATION PONDS					
2.2.1	SP SEN	1843	m2	$ 250.00	$ 460,750.00	Recently received a $250/sq.m rate
2.3	DRAINAGE PIPES/PITS					
2.3.1	Outlet Pipes	71	LM	$ 974.00	$ 69,154.00	1050mm pipe
2.3.2	Balance Pipes	268	LM	$ 336.00	$ 90,048.00	300mm pipe
2.3.3	Transfer Pipe	45	LM	$ 683.00		600mm pipe
2.3.4	Outlet Pipe from wetland	14	LM	$ 617.00		525mm pipe
2.3.5	High Flow Bypass	60	LM	$ 1,080.00	$ 64,800.00	1200mm pipe
2.3.6	Control Structures	6	Item	$ 20,000.00	$ 120,000.00	estimated rate for a large pit
2.3.7	Junction Pits	7	Item	$ 2,500.00	$ 17,500.00	small junction pits
2.3.8	Outfall Pit Structure	2	Item	$ 4,000.00	$ 8,000.00	Rock outlet
2.3.9	Litter Traps / GPT	1	Item	$ 32,200.00	$ 32,200.00	CDS Unit
2.4	EARTHWORKS					
2.4.1	Wetland / RB SEN					
	Stripping of topsoil & stockpiling	6725	m3	$ 7.50	$ 50,436.00	Assumed 200mm topsoil
	Spread topsoil	6725	m3	$ 12.50	$ 84,060.00	Assumed 200mm topsoil
	Cut	35918	m3	$ 40.00	$ 1,436,728.00	Assumed cut to onsite stockpile
	Fill	4676	m3	$ 10.00	$ 46,760.00	Spread and compact, no import
2.5	ROCKWORKS					
2.5.1	Supply and installation of rockwork at sediment basin and wetland pipes	258	m2	$ 140.00	$ 36,120.00	Includes Spillway
2.6	CLAY LINER					
2.6.1	Sediment basin: placement of 300mm compacted clay liners for sediment basin	1843	m2	$ 19.50	$ 35,938.50	Assumed in-situ material is used
2.6.2	Wetland : placement of 300mm compacted clay liners for wetland	9563	m2	$ 19.50	$ 186,478.50	
2.7	AQUATIC PLANTING					
2.7.1	Supply & install aquatic plants	7650.4	m2	$ 10.00	$ 76,504.00	wetland area at NWL x 80%
2.7.2	Supply & install terrestrial planting	2448	m2	$ 10.00	$ 24,480.00	
2.7.3	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically	4570.4	m2	$ 10.00	$ 45,704.00	
2.7.4	Supply, install and maintain plant protection netting for a select species in the aquatic zones	1	No.	$ 20,000.00	$ 20,000.00	
2.8	LANDSCAPING					
2.8.1	Supply & install RB perimeter concrete access path	3139	m2	$ 100.00	$ 313,900.00	
2.8.3	Supply & install trees (tubestock)	100	No.	$ 6.00	$ 600.00	
4	MISCELLANEOUS					
4.1	Works maintenance – 1 year	11426	m2	$ 0.50	$ 5,713.00	
4.2	Civil Works Defect Maintenance inclu pits, pipes and rockwork	1	month	$ 2,500.00	$ 2,500.00	
4.3	3 month Plant Establisment Maintenance period of all soft landscape work including waterof plants and trees during establisment, weed control of all plants area	3	month	$ 2,000.00	$ 6,000.00	
4.4	24 month plant maintenance period of all soft landscape works including watering plants and trees during establishment, weed control of all planted areas as per specification	24	month	$ 750.00	$ 18,000.00	
4.5	Allowance for timber bollards	12	No.	$ 300.00	$ 3,600.00	
4.6	Allowance for seats	2	No.	$ 2,500.00	$ 5,000.00	
4.7	WL/SB: install habitat logs approx. 4.0m long (no securing require) to wetland area	2	No.	$ 5,000.00	$ 10,000.00	
4.8	Fencing: supply and install timber post and rail fencing around wetland	909	LM	$ 120.00	$ 109,080.00	
	SUB-TOTAL WORKS				$ 3,405,054.00	
5	DELIVERY					
5.1	Council Fees	3.25	%		$ 110,664.26	
5.2	Authority Fees	1	%		$ 34,050.54	
5.3	Traffic Management	5	%		$ 170,252.70	
5.4	Environmental Management	0.5	%		$ 17,025.27	
5.5	Survey & Design	5	%		$ 170,252.70	
5.6	Supervision & Project Management	9	%		$ 306,454.86	
5.7	Site Establishment	2.5	%		$ 85,126.35	
5.8	Contingency	20	%		$ 859,776.14	
	SUB-TOTAL DELIVERY				$ 1,753,602.81	
6	TOTAL ESTIMATED COST				$ 5,158,656.81	

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Does not include land acquisition or land filling

Exclude investigations fee

Does not include costs associated with uncertainties such as contaminated soil disposal or clay liner imporation

RB/WL costs are highly variable cost items and dependent on soil conditions of the site. Without further information appropriate contingency should be applied.

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WETLAND SES COST ESTIMATE

25/08/2026

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS					
1.1	Site preparation		Item			Included in Site Establishment
1.2	Temp Diversion Works	1	Item	$ 20,000.00	$ 20,000.00	
1.3	Waterway connection	1	Item	$ 5,000.00	$ 5,000.00	Erosion Protection Connection into Waterway
1.4	Stripping of topsoil		m2			Included below
1.5	Excavation		m3			Included below
1.6	Formation of batters		m3			Included below
2	DRAINAGE WORKS					
2.1	WATERWAYS					
2.1.1						
2.2	SEDIMENTATION PONDS					
2.2.1	SP SES	2022	m2	$ 250.00	$ 505,500.00	Recently received a $250/sq.m rate
2.3	DRAINAGE PIPES/PITS					
2.3.1	Outlet Pipes	34	LM	$ 683.00	$ 23,222.00	600mm pipe
2.3.2	Balance Pipes	154	LM	$ 336.00	$ 51,744.00	300mm pipe
2.3.3	Transfer Pipe	22	LM	$ 617.00	$ 13,574.00	525mm pipe
2.3.4	Transfer Pipe	17	LM	$ 538.00	$ 9,146.00	450mm pipe
2.3.5	Outlet Pipe from wetland	19	LM	$ 617.00	$ 11,723.00	525mm pipe
2.3.6	High Flow Bypass	258	LM	$ 1,080.00	$ 278,640.00	1200mm pipe
2.3.7	Control Structures	9	Item	$ 20,000.00	$ 180,000.00	estimated rate for a large pit
2.3.8	Junction Pits	7	Item	$ 2,500.00	$ 17,500.00	small junction pits
2.3.9	Outfall Pit Structure	3	Item	$ 4,000.00	$ 12,000.00	Rock outlet
2.3.10	Litter Traps / GPT	1	Item	$ 32,200.00	$ 32,200.00	CDS Unit
2.4	EARTHWORKS					
2.4.1	Wetland / RB SES					
	Stripping of topsoil & stockpiling	8049.2	m3	$ 7.50	$ 60,369.00	Assumed 200mm topsoil
	Spread topsoil	8049.2	m3	$ 12.50	$ 100,615.00	Assumed 200mm topsoil
	Cut	37957.8	m3	$ 40.00	$ 1,518,312.00	Assumed cut to onsite stockpile
	Fill	7431	m3	$ 10.00	$ 74,310.00	Spread and compact, no import
2.5	ROCKWORKS					
2.5.1	Supply and installation of rockwork at sediment basin and wetland pipes	414	m2	$ 140.00	$ 57,960.00	Includes spillway
2.6	CLAY LINER					
2.6.1	Sediment basin: placement of 300mm compacted clay liners for sediment basin	2022	m2	$ 19.50	$ 39,429.00	Assumed in-situ material is used
2.6.2	Wetland : placement of 300mm compacted clay liners for wetland	15534	m2	$ 19.50	$ 302,913.00	
2.7	AQUATIC PLANTING					
2.7.1	Supply & install aquatic plants	12427.2	m2	$ 10.00	$ 124,272.00	wetland area at NWL x 80%
2.7.2	Supply & install terrestrial planting	2409	m2	$ 10.00	$ 24,090.00	
2.7.3	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically	7022.4	m2	$ 10.00	$ 70,224.00	
2.7.4	Supply, install and maintain plant protection netting for a select species in the aquatic zones	1	No.	$ 20,000.00	$ 20,000.00	
2.8	LANDSCAPING					
2.8.1	Supply & install RB perimeter concrete access path	2865	m2	$ 100.00	$ 286,500.00	
2.8.3	Supply & install trees (tubestock)	100	No.	$ 6.00	$ 600.00	
4	MISCELLANEOUS					
4.1	Works maintenance – 1 year	17556	m2	$ 0.50	$ 8,778.00	
4.2	Civil Works Defect Maintenance inclu pits, pipes and rockwork	1	month	$ 2,500.00	$ 2,500.00	
4.3	3 month Plant Establisment Maintenance period of all soft landscape work including waterof plants and trees during establisment, weed control of all plants area	3	month	$ 2,000.00	$ 6,000.00	
4.4	24 month plant maintenance period of all soft landscape works including watering plants and trees during establishment. weed control of all	24	month	$ 750.00	$ 18,000.00	
4.5	Allowance for timber bollards	12	No.	$ 300.00	$ 3,600.00	
4.6	Allowance for seats	2	No.	$ 2,500.00	$ 5,000.00	
4.7	WL/SB: install habitat logs approx. 4.0m long (no securing require) to wetland area	2	No.	$ 5,000.00	$ 10,000.00	
4.8	Fencing: supply and install timber post and rail fencing around wetland	868	LM	$ 120.00	$ 104,160.00	
	SUB-TOTAL WORKS				$ 3,997,881.00	
5	DELIVERY					
5.1	Council Fees	3.25	%		$ 129,931.13	
5.2	Authority Fees	1	%		$ 39,978.81	
5.3	Traffic Management	5	%		$ 199,894.05	
5.4	Environmental Management	0.5	%		$ 19,989.41	
5.5	Survey & Design	5	%		$ 199,894.05	
5.6	Supervision & Project Management	9	%		$ 359,809.29	
5.7	Site Establishment	2.5	%		$ 99,947.03	
5.8	Contingency	20	%		$ 1,009,464.95	
	SUB-TOTAL DELIVERY				$ 2,058,908.72	
6	TOTAL ESTIMATED COST				$ 6,056,789.72	

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Exclude investigations fee

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