

Culvert 01 - LONGSECTION



SCALE HORIZ=1:500 @ A3

VERT=1:500 @ A3



**MCKENZIE & CO.**

VINEWAY LIMITED

DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 1

PURPOSE OF ISSUE:

RESOURCE CONSENT

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SCALE:

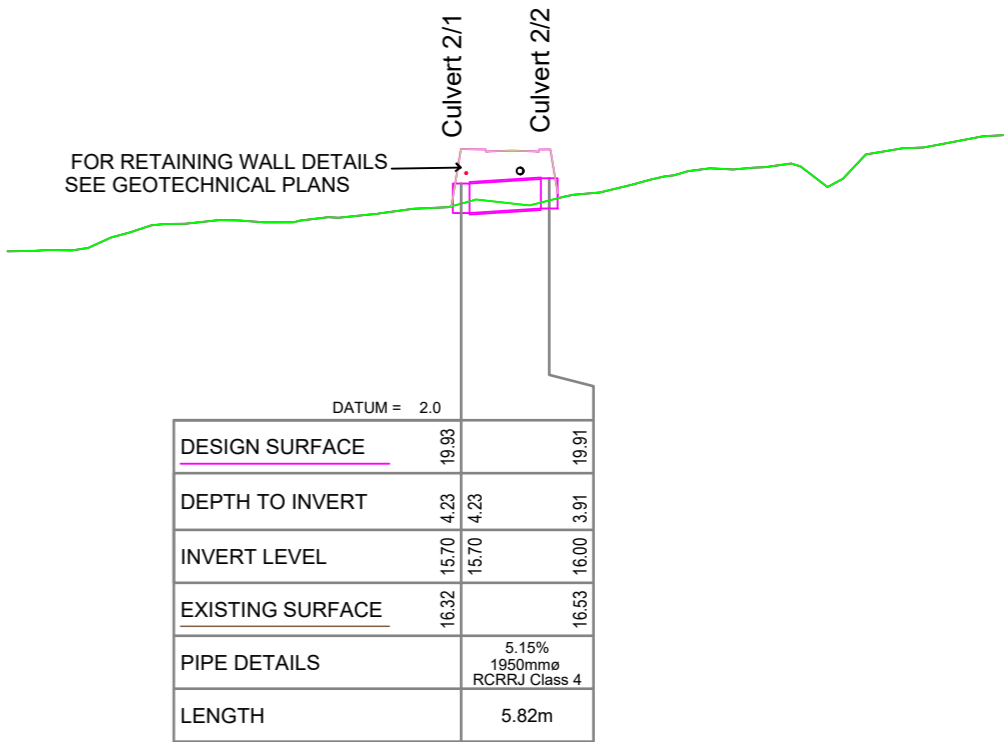
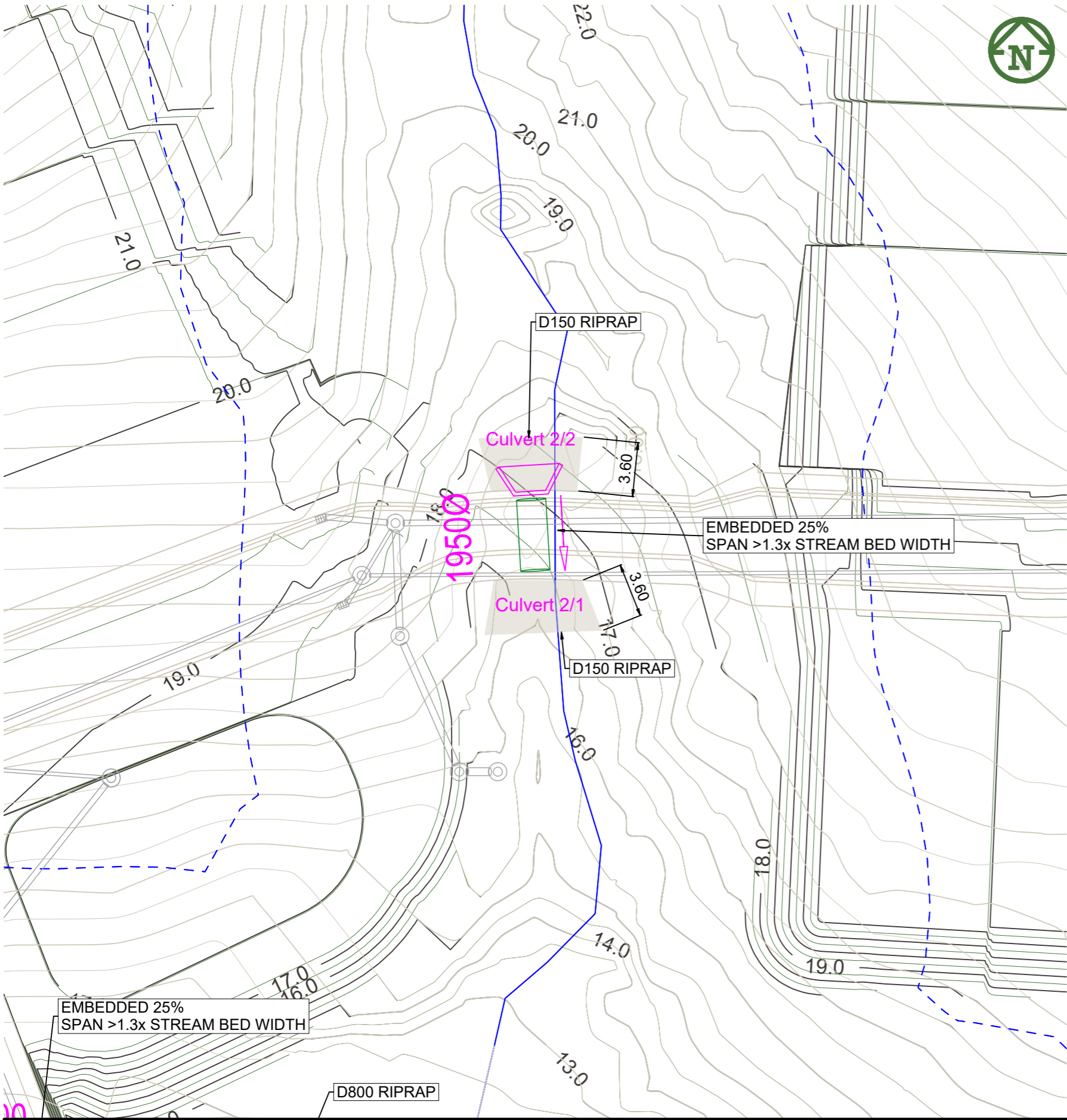
**1:300 @ A3**

DO NOT SCALE

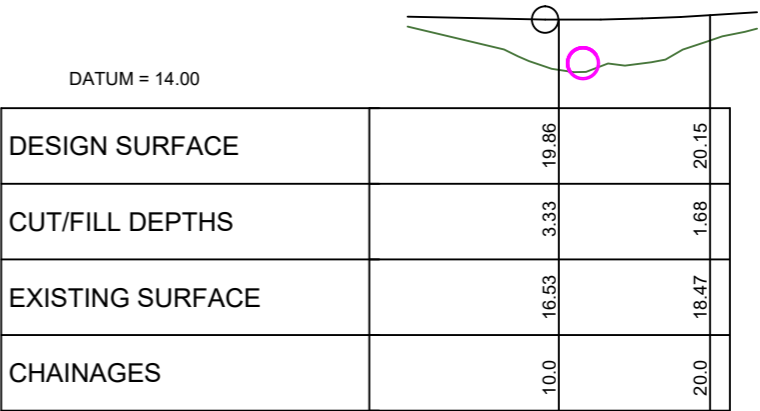
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DRAWING NO:

**3725-0-4801**



Culvert 02 - LONGSECTION



Culvert 02 - ELEVATION VIEW  
SCALE HORIZ=1:500 @ A3      VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE

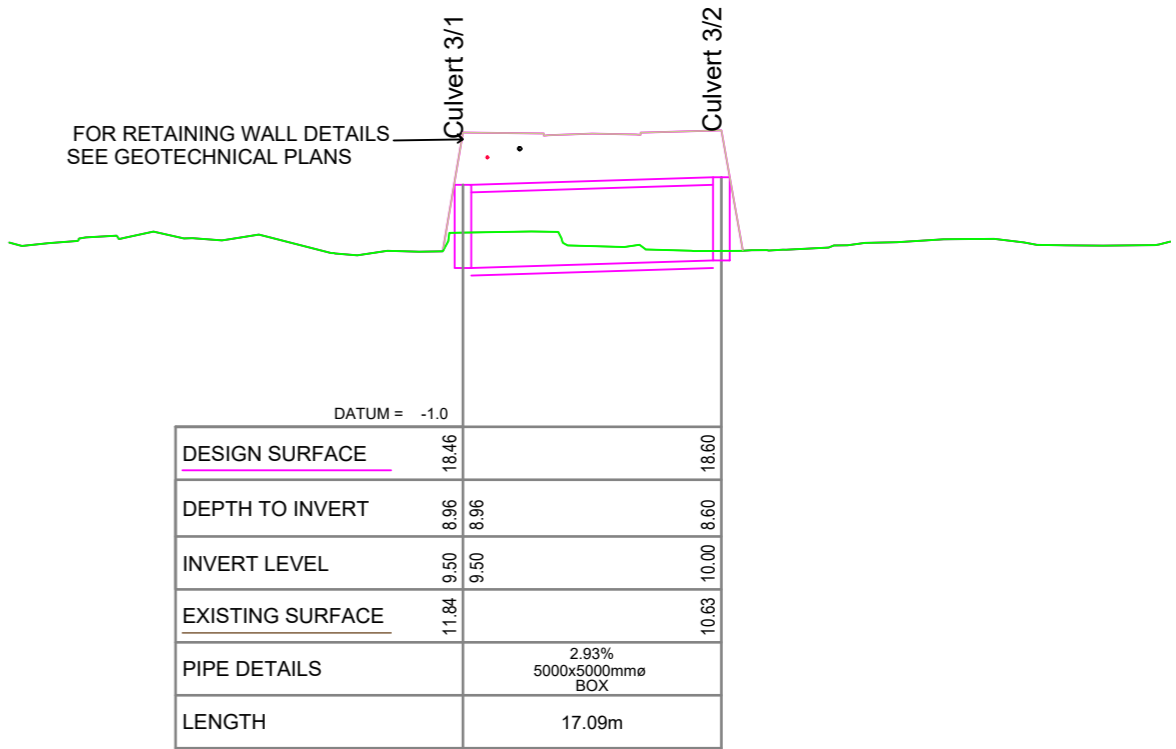
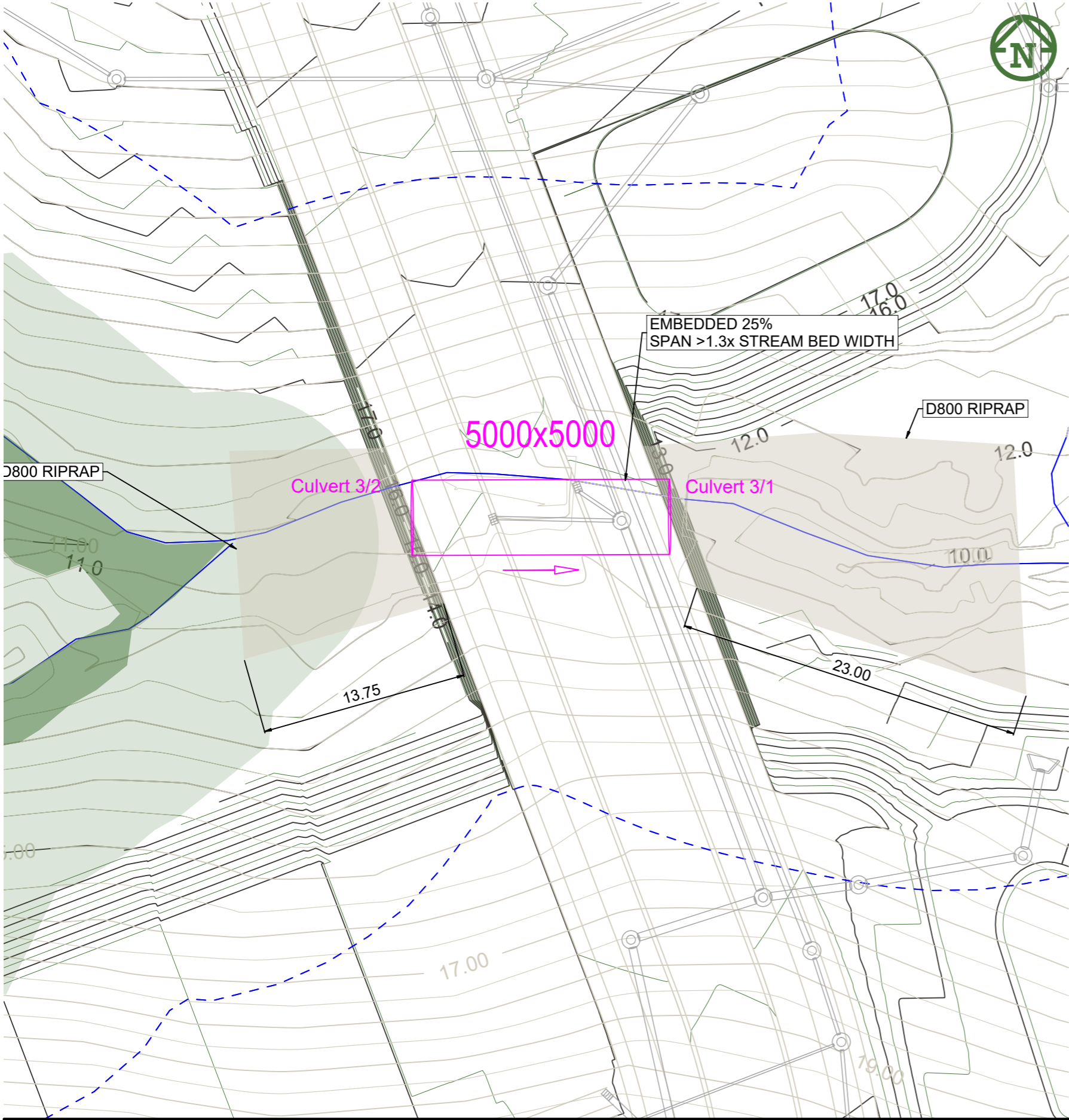


VINEWAY LIMITED

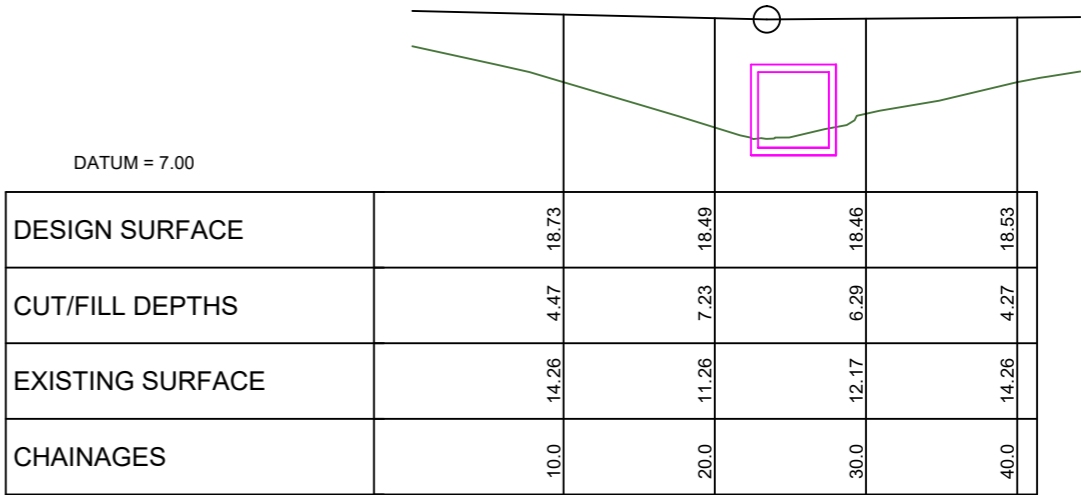
DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 2

PURPOSE OF ISSUE:	RESOURCE CONSENT
SCALE:	1:300 @ A3
DO NOT SCALE	
DRAWING NO:	3725-0-4802
REV:	E



Culvert 03 - LONGSECTION



Culvert 03 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3      VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

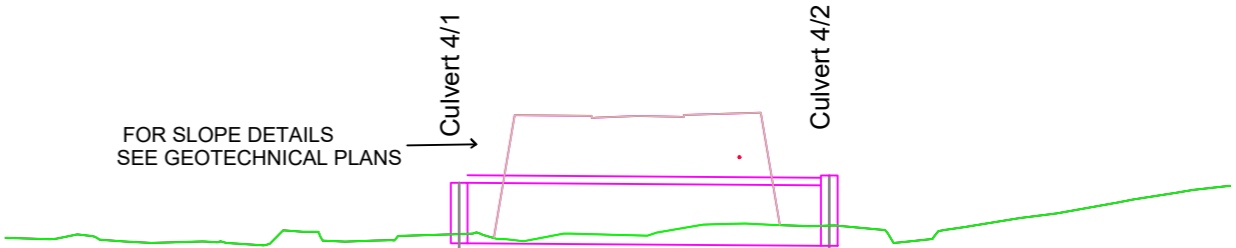
DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 3

PURPOSE OF ISSUE:  
RESOURCE CONSENT

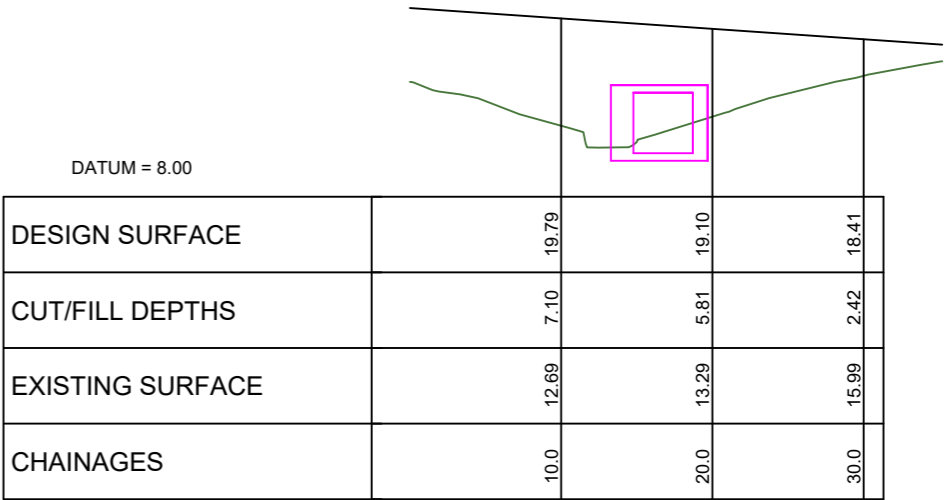
SCALE:  
1:300 @ A3  
DO NOT SCALE  
DRAWING NO:  
3725-0-4803

REV:  
E



DATUM = 0.0			
DESIGN SURFACE	11.63		12.19
DEPTH TO INVERT	0.61	0.61	1.34
INVERT LEVEL	11.02	11.02	10.85
EXISTING SURFACE	11.63		12.19
PIPE DETAILS	-0.68% 4000x4000mmø BOX		
LENGTH	24.47m		

Culvert 04 - LONGSECTION



DESIGN SURFACE	19.79	19.10	18.41
CUT/FILL DEPTHS	7.10	5.81	2.42
EXISTING SURFACE	12.69	13.29	15.99
CHAINAGES	10.0	20.0	30.0

Culvert 04 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3

VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

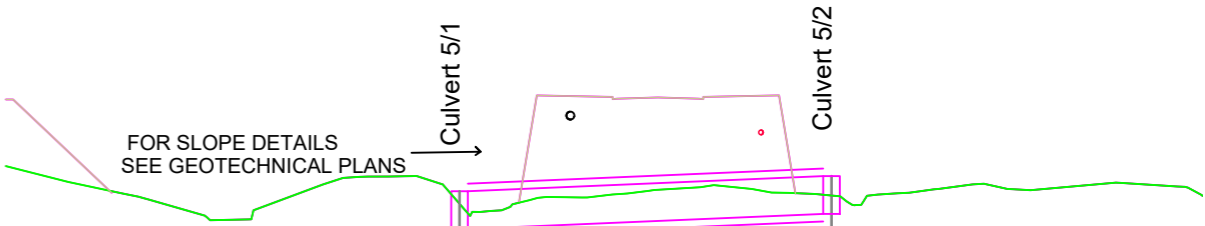
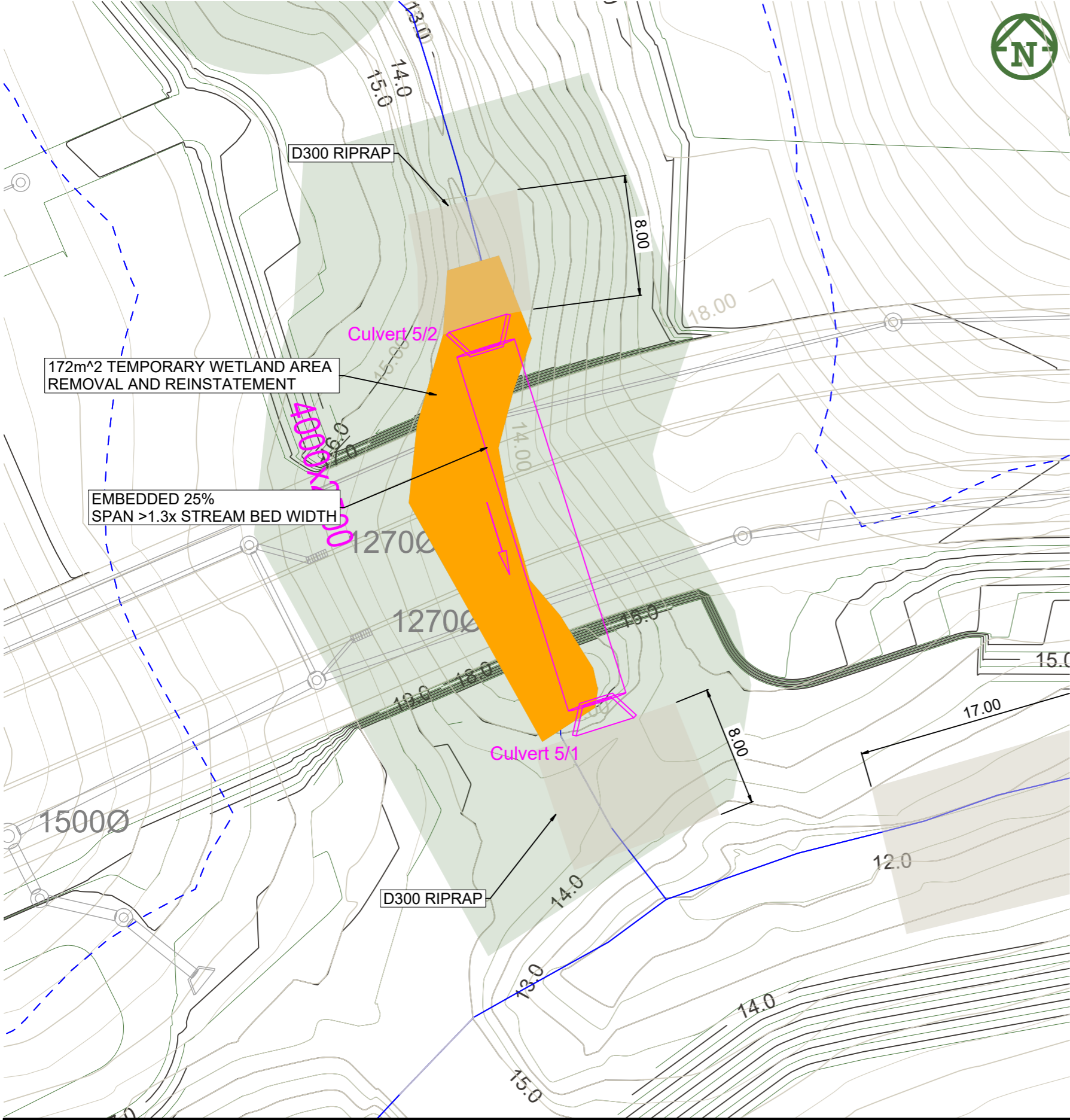
STORMWATER  
CULVERT PLAN  
CULVERT 4

PURPOSE OF ISSUE:  
RESOURCE CONSENT

SCALE:  
1:300 @ A3  
DO NOT SCALE

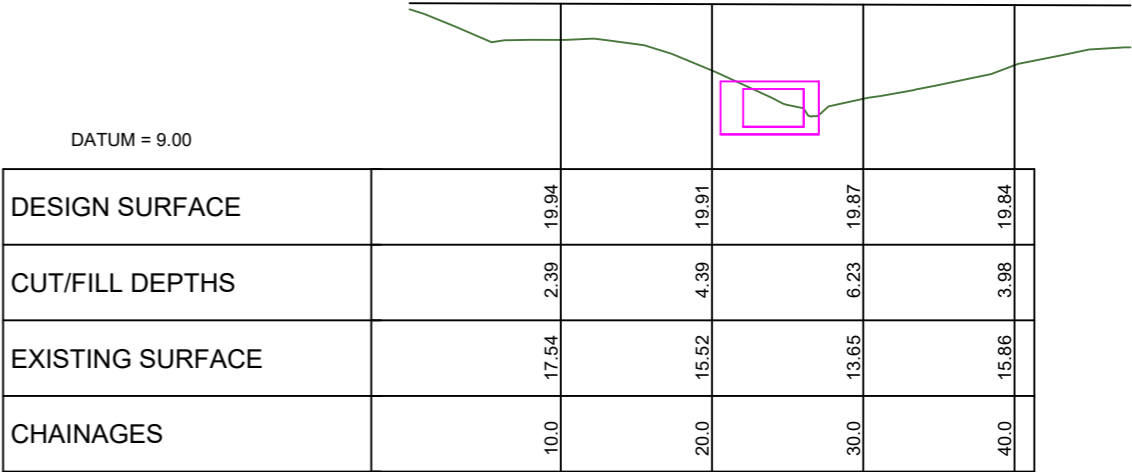
DRAWING NO:  
3725-0-4804

REV:  
E



DATUM = 0.0			
DESIGN SURFACE	12.67		13.22
DEPTH TO INVERT	1.67	1.67	1.22
INVERT LEVEL	11.00	11.00	12.00
EXISTING SURFACE	12.67		13.22
PIPE DETAILS	4.07% 4000x2500mmø BOX		
LENGTH	24.6m		

Culvert 05 - LONGSECTION



DATUM = 9.00					
DESIGN SURFACE		19.94	19.91	19.87	19.84
CUT/FILL DEPTHS		2.39	4.39	6.23	3.98
EXISTING SURFACE		17.54	15.52	13.65	15.86
CHAINAGES		10.0	20.0	30.0	40.0

Culvert 05 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3

VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

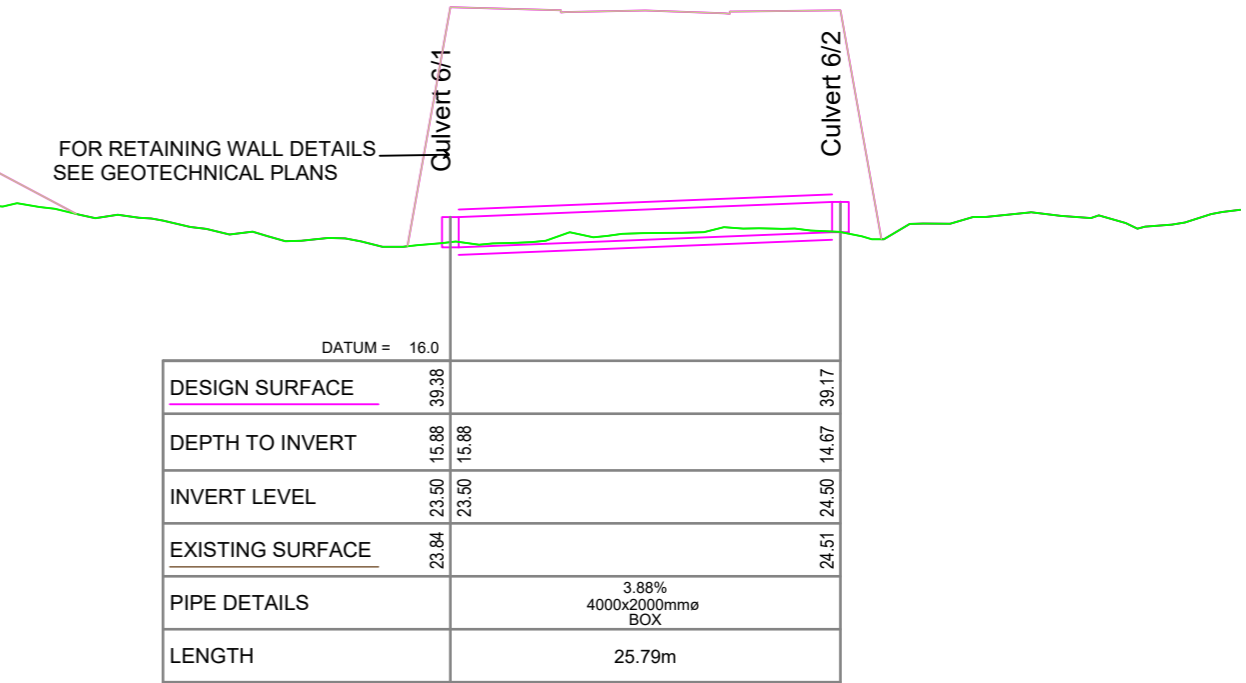
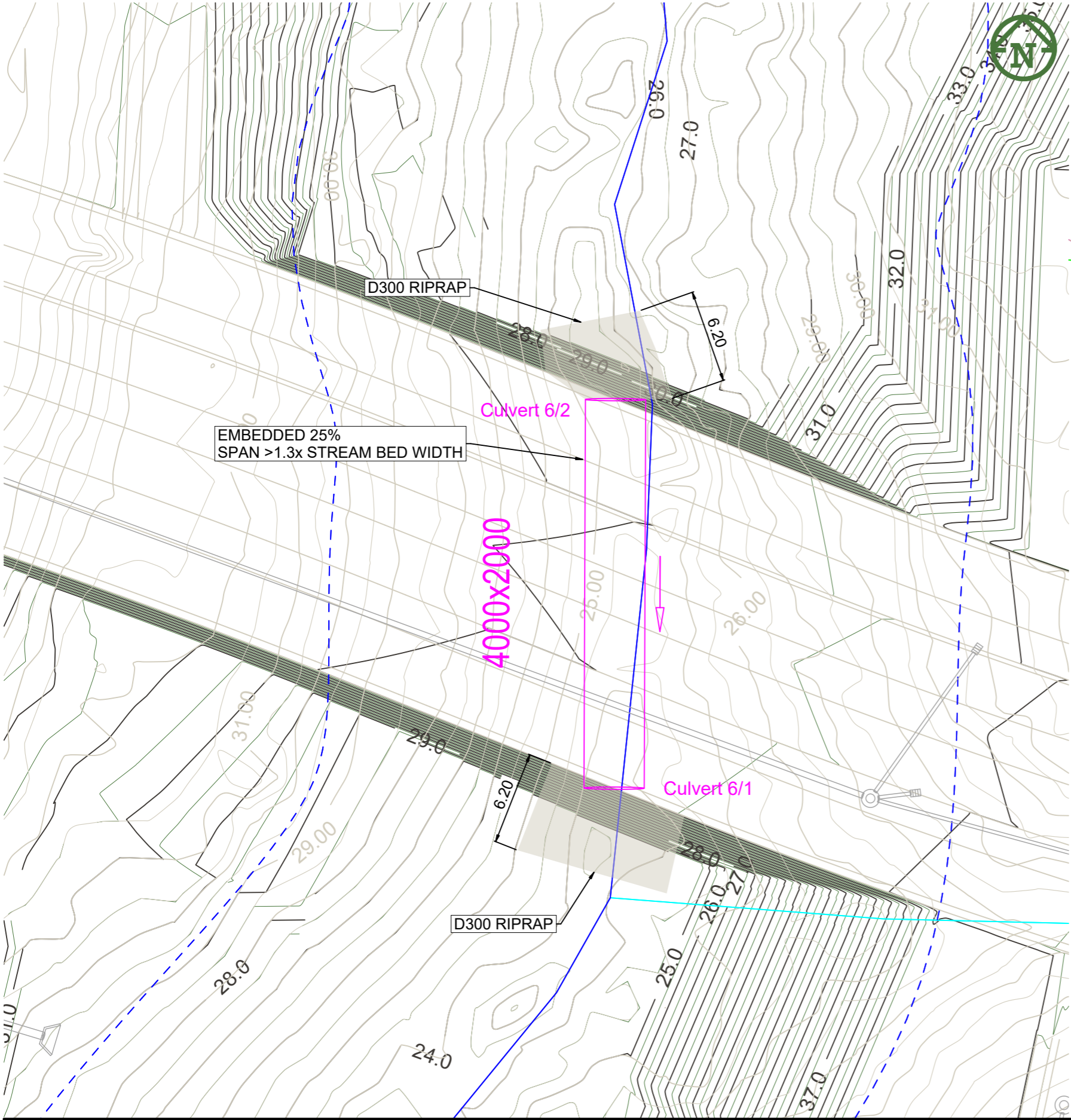
STORMWATER  
CULVERT PLAN  
CULVERT 5

PURPOSE OF ISSUE:  
RESOURCE CONSENT

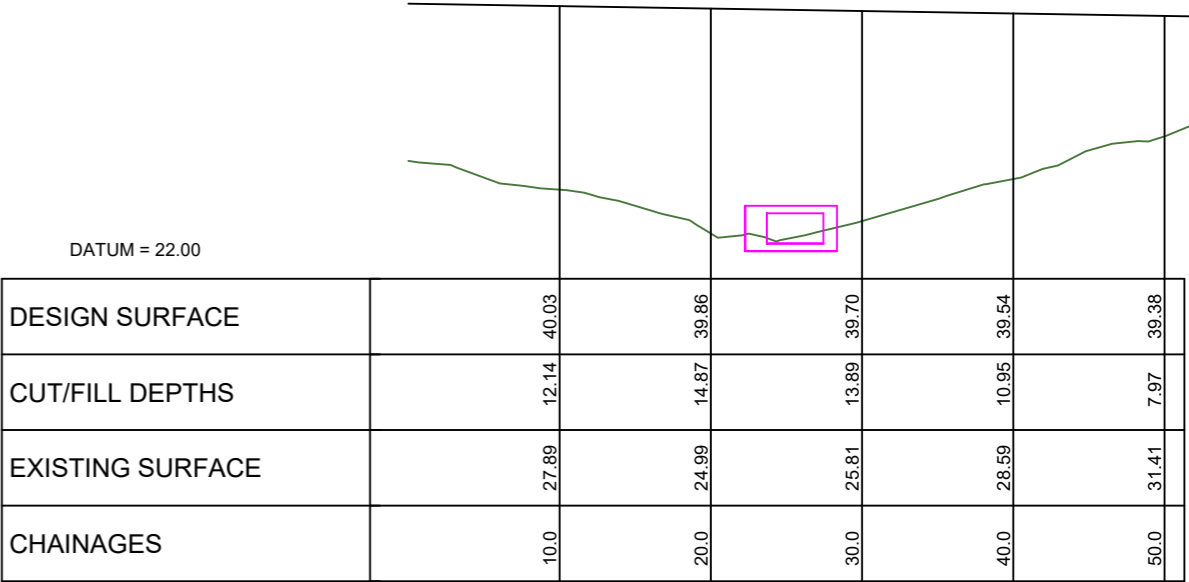
SCALE:  
1:300 @ A3  
DO NOT SCALE

DRAWING NO:  
3725-0-4805

REV:  
E



Culvert 06 - LONGSECTION



Culvert 06 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3      VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 6

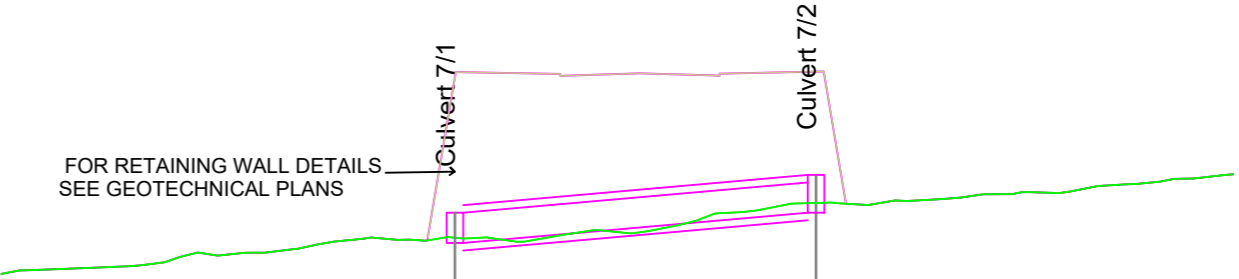
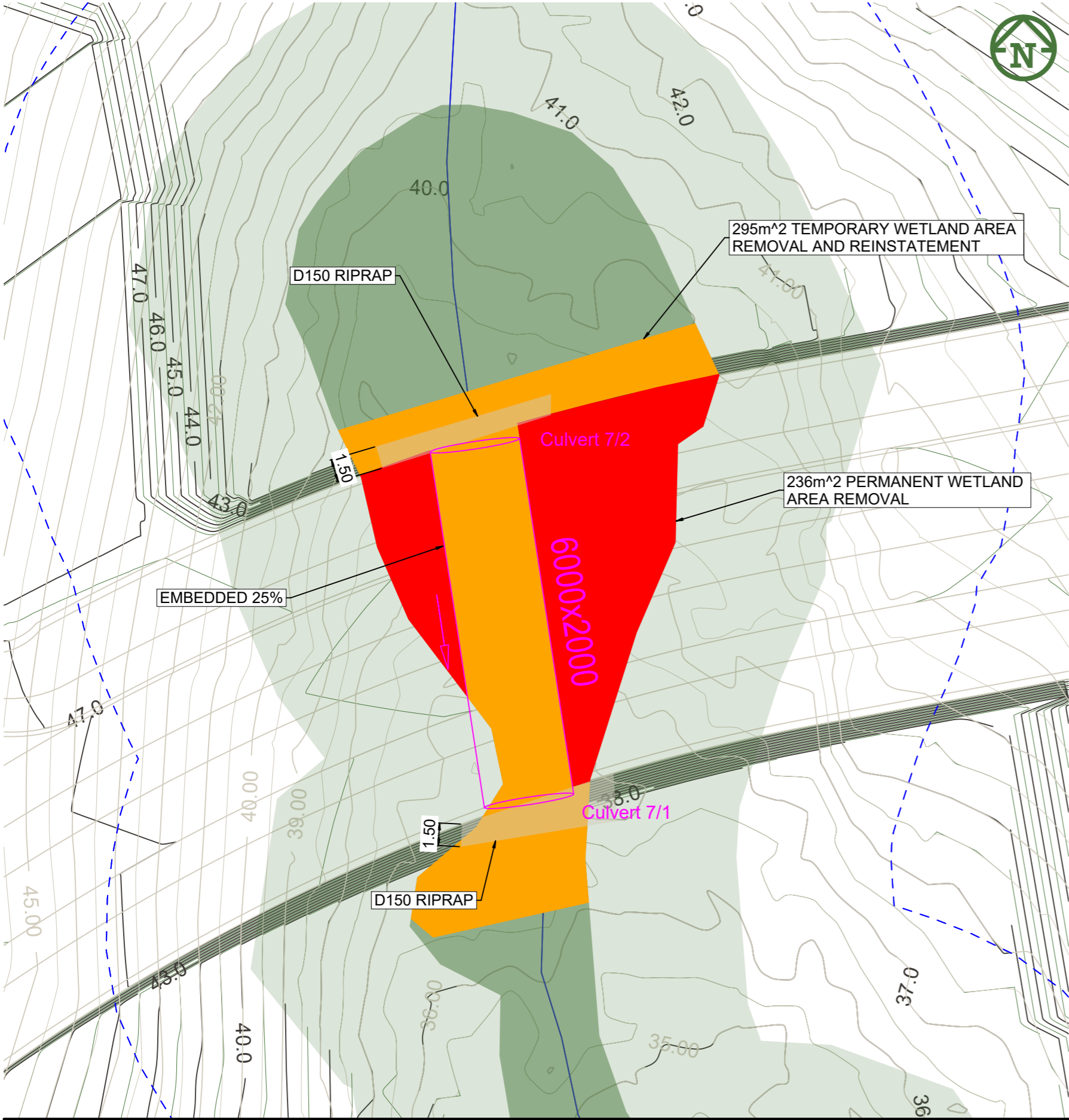
RESOURCE CONSENT

SCALE:  
1:300 @ A3

DO NOT SCALE

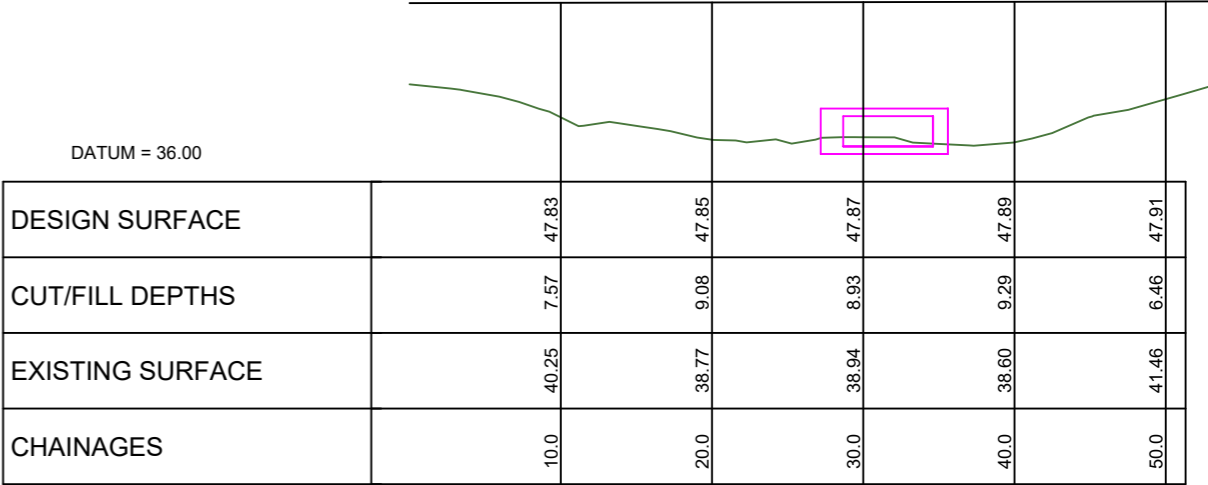
DRAWING NO:  
3725-0-4806

REV:  
E



DATUM = 27.0		
DESIGN SURFACE	47.49	47.83
DEPTH TO INVERT	10.99	9.33
INVERT LEVEL	36.50	38.50
EXISTING SURFACE	36.85	39.14
PIPE DETAILS	8.38% 6000x2000mmø BOX	
LENGTH	23.88m	

Culvert 07 - LONGSECTION



Culvert 07 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3

VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

DELMORE  
STAGE 1  
53A, 53B & 55 RUSSELL ROAD  
OREWA

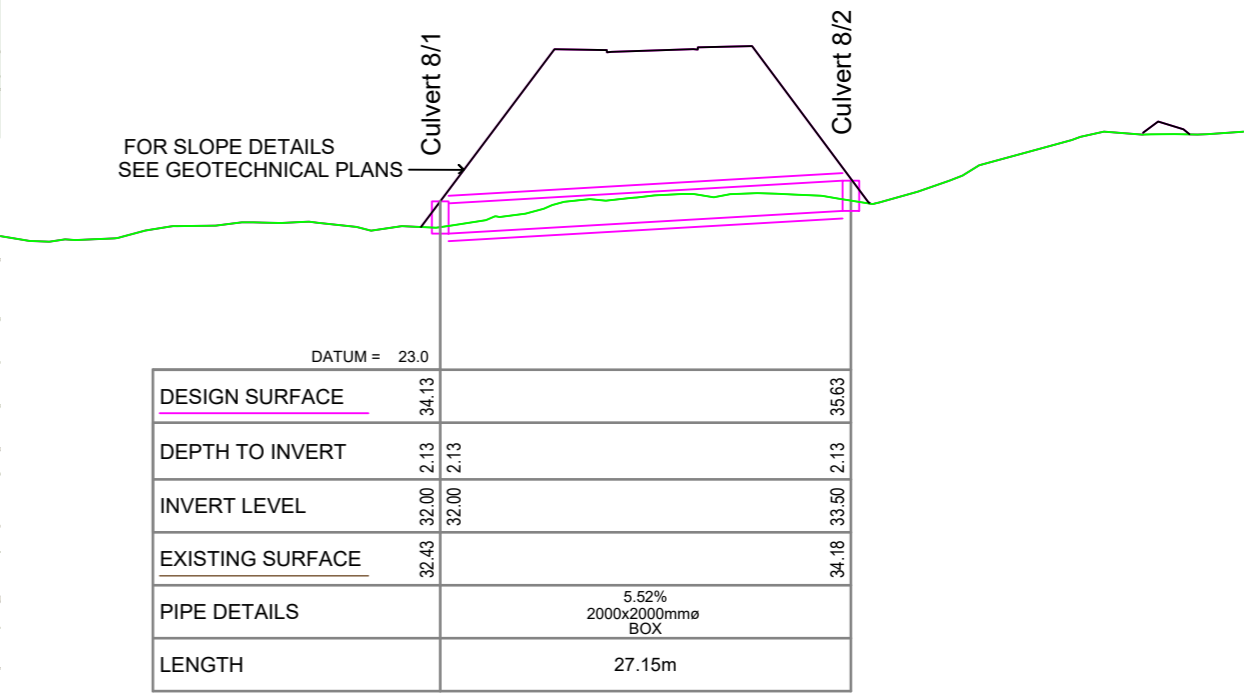
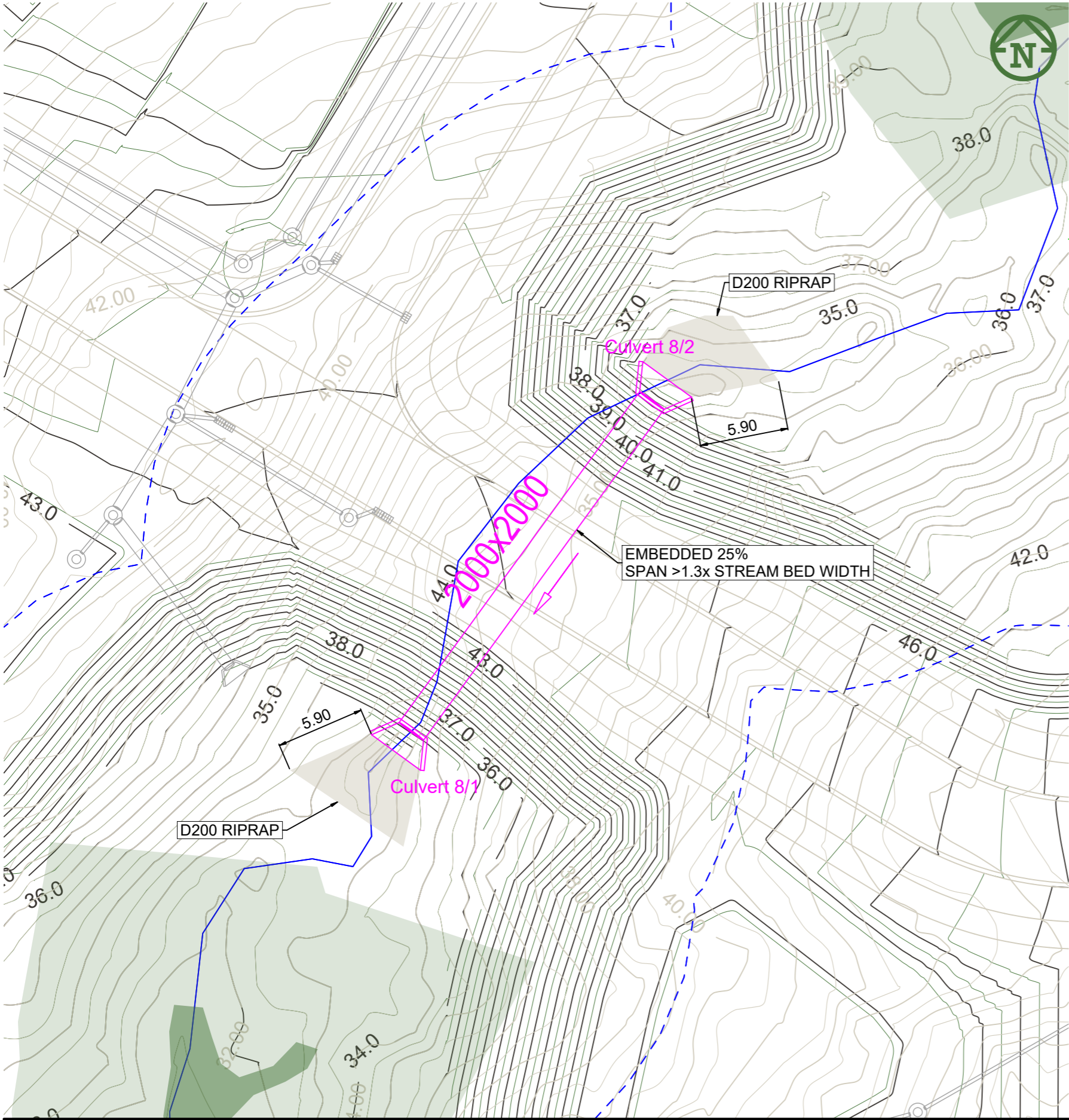
STORMWATER  
CULVERT PLAN  
CULVERT 7

PURPOSE OF ISSUE:  
RESOURCE CONSENT

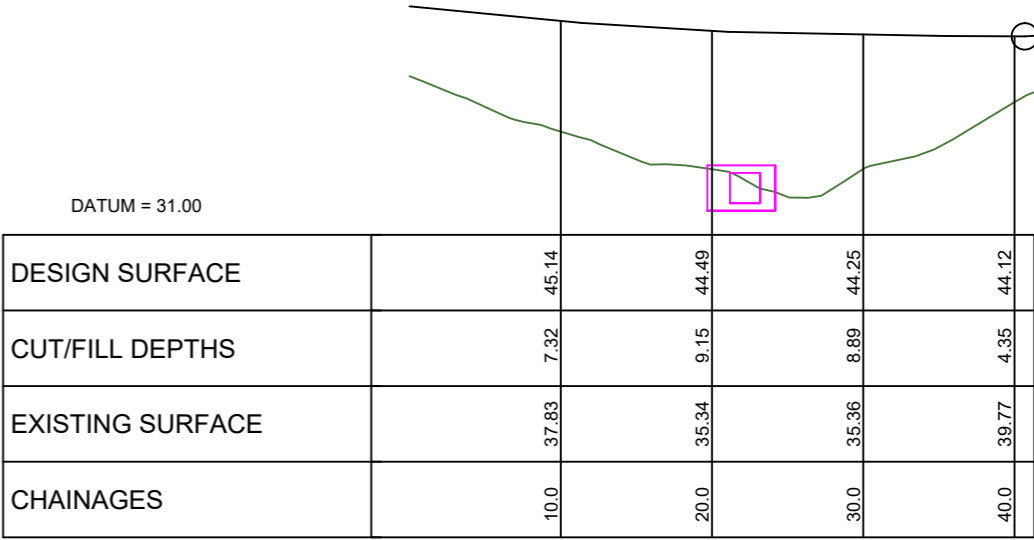
SCALE:  
1:300 @ A3  
DO NOT SCALE

DRAWING NO:  
3725-0-4807

REV:  
E



Culvert 08 - LONGSECTION



Culvert 08 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3 VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

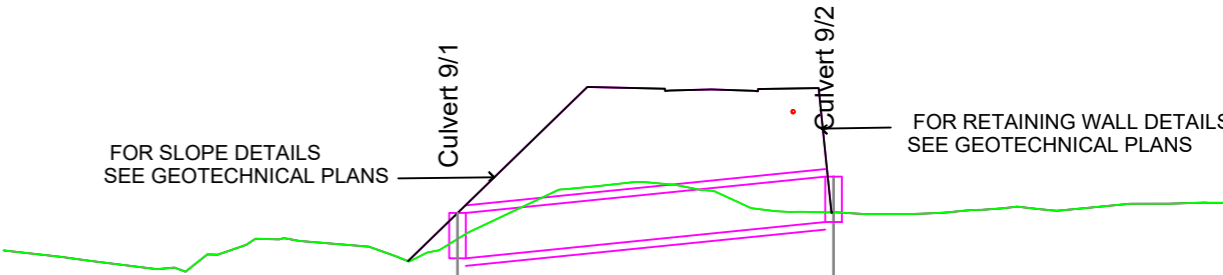
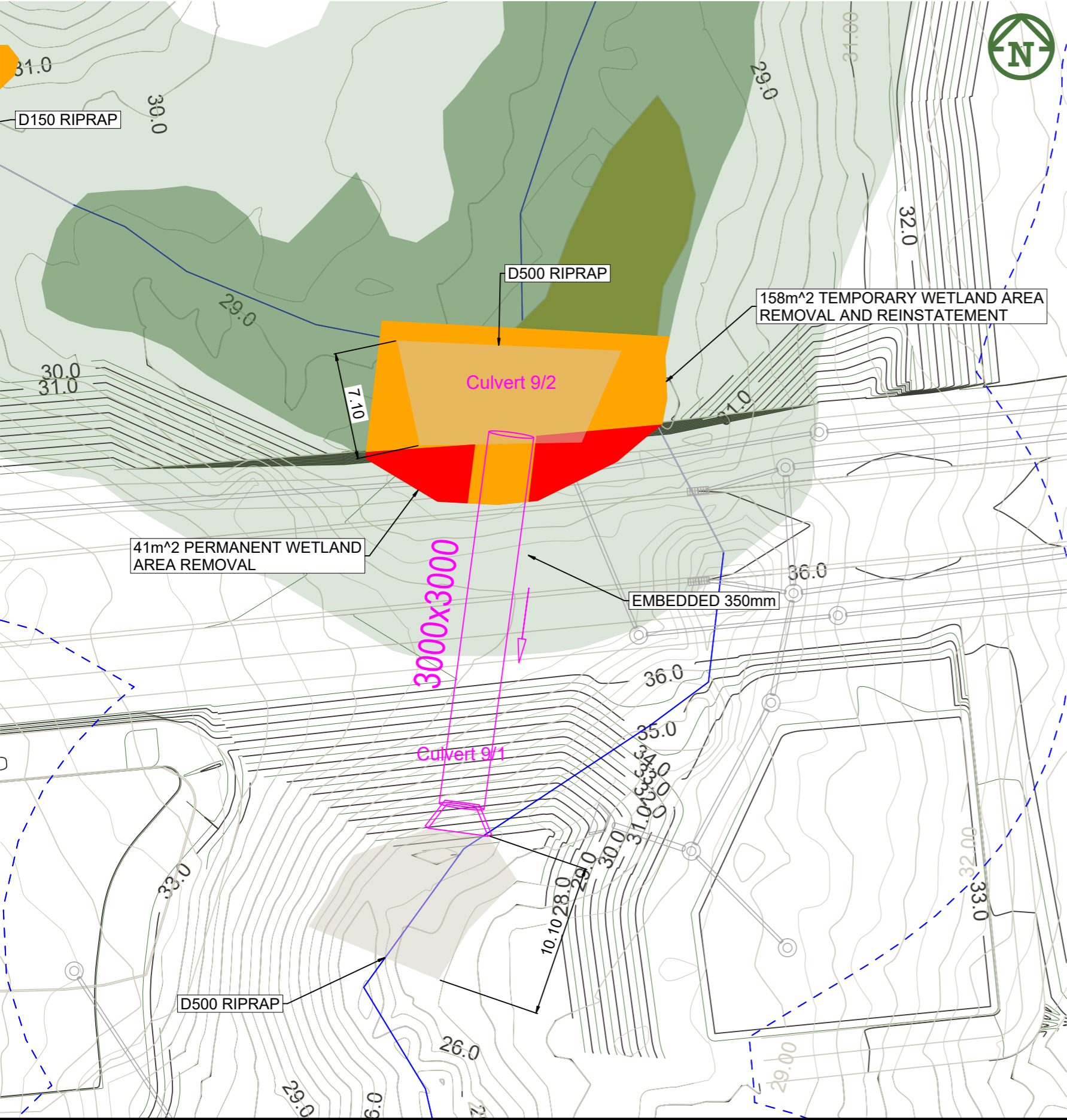
DELMORE  
STAGE 2  
88, 138 & 132 UPPER OREWA ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 8

RESOURCE CONSENT

SCALE:  
1:300 @ A3  
DO NOT SCALE  
DRAWING NO:  
3725-0-4808

REV:  
E



DATUM = 15.0			
DESIGN SURFACE	28.14		28.20
DEPTH TO INVERT	2.99	2.99	0.65
INVERT LEVEL	25.15	25.15	27.55
EXISTING SURFACE	26.42		28.20
PIPE DETAILS	9.65% 3000x3000mmø BOX		
LENGTH	24.86m		

Culvert 09 - LONGSECTION



Culvert 09 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3

VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	11/02/2025	
B	Updated wetlands	SH	JK	21/01/2025	
A	FIRST ISSUE	SH	JK	16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



MCKENZIE & CO.

VINEWAY LIMITED

DELMORE  
STAGE 2  
88, 138 & 132 UPPER OREWA ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 9

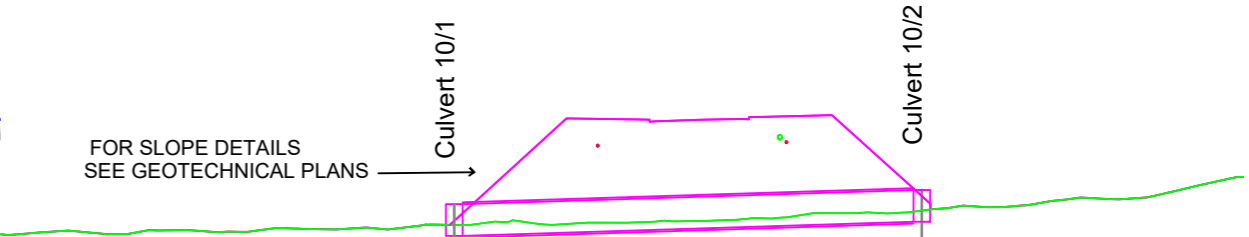
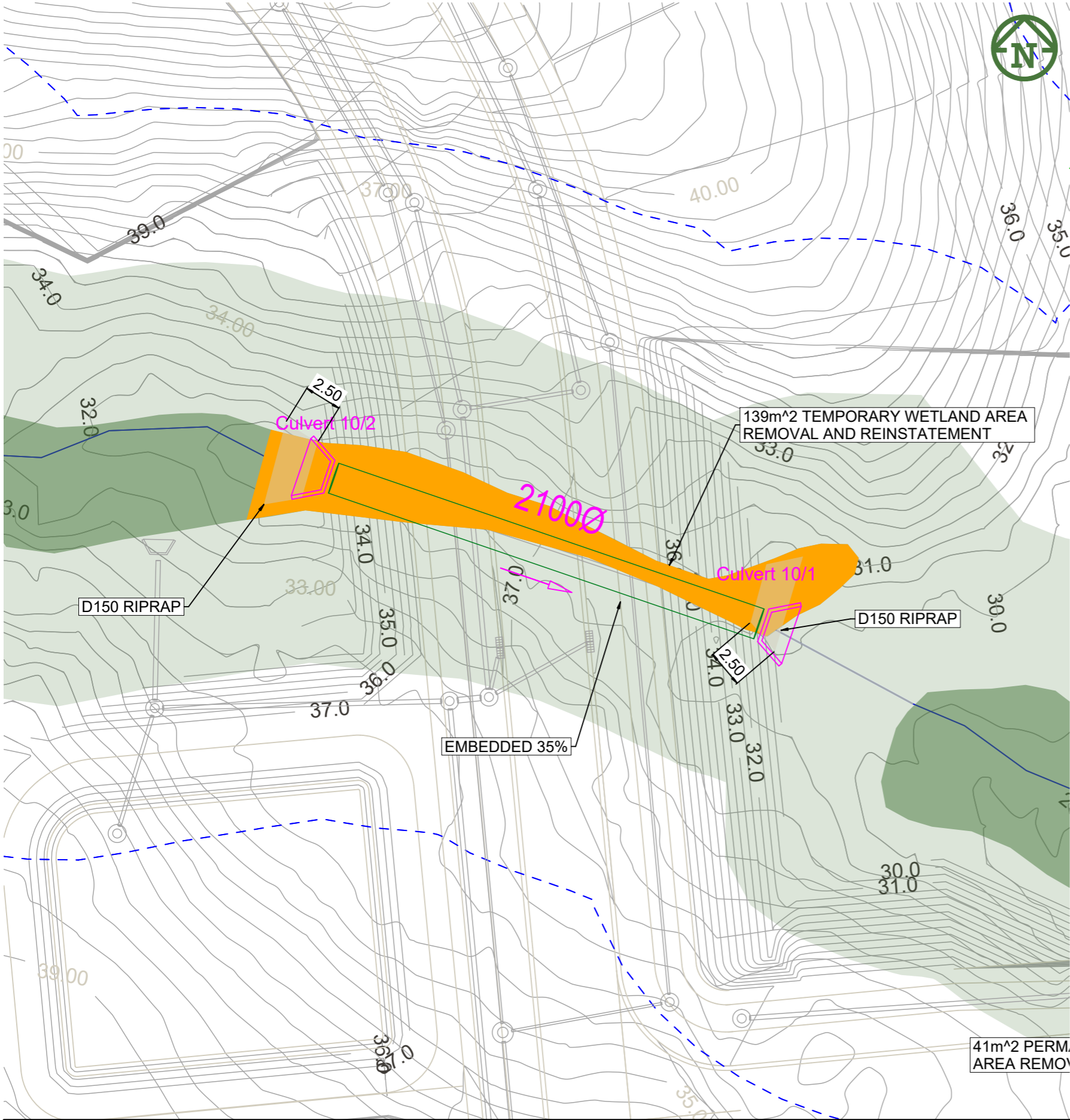
PURPOSE OF ISSUE:  
RESOURCE CONSENT

SCALE:  
1:300 @ A3

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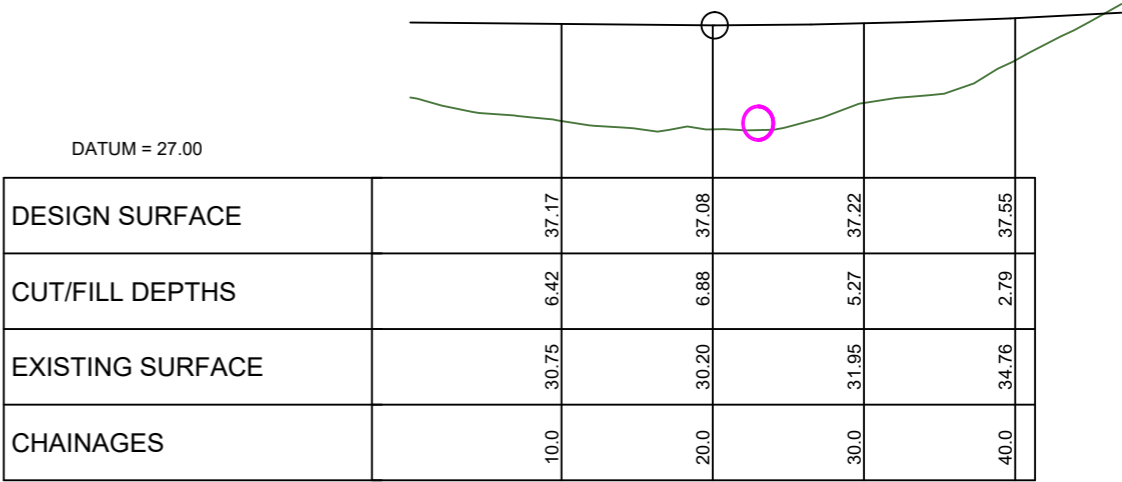
DRAWING NO:  
3725-0-4809

REV:  
E



DATUM = 18.0			
DESIGN SURFACE	30.33		31.96
DEPTH TO INVERT	1.00	1.00	
INVERT LEVEL	29.33	29.33	30.27
EXISTING SURFACE	30.05		31.01
PIPE DETAILS	3.02% 2100mmø RCRRJ Class 4		
LENGTH	30.91m		

Culvert 10 - LONGSECTION



DESIGN SURFACE	37.17	37.08	37.22	37.55
CUT/FILL DEPTHS	6.42	6.88	5.27	2.79
EXISTING SURFACE	30.75	30.20	31.95	34.76
CHAINAGES	10.0	20.0	30.0	40.0

Culvert 10 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3

VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	11/02/2025	
B	Updated wetlands	SH	JK	21/01/2025	
A	FIRST ISSUE	SH	JK	16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

DELMORE  
STAGE 2  
88, 138 & 132 UPPER OREWA ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 10

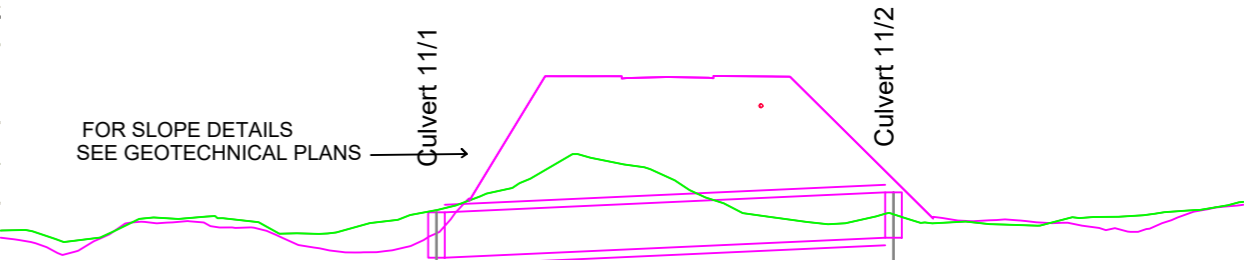
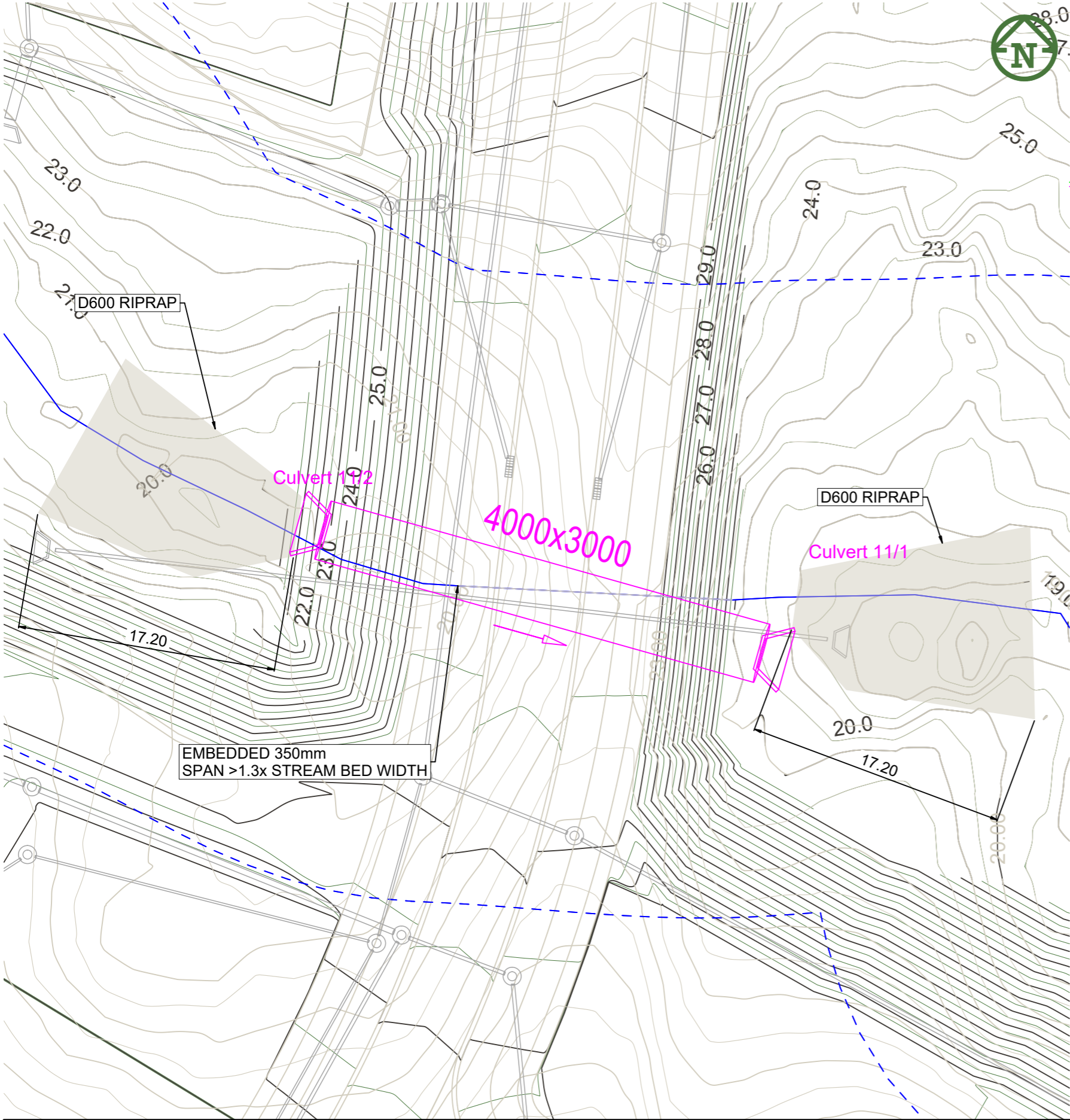
PURPOSE OF ISSUE:  
RESOURCE CONSENT

SCALE:  
1:300 @ A3

DO NOT SCALE

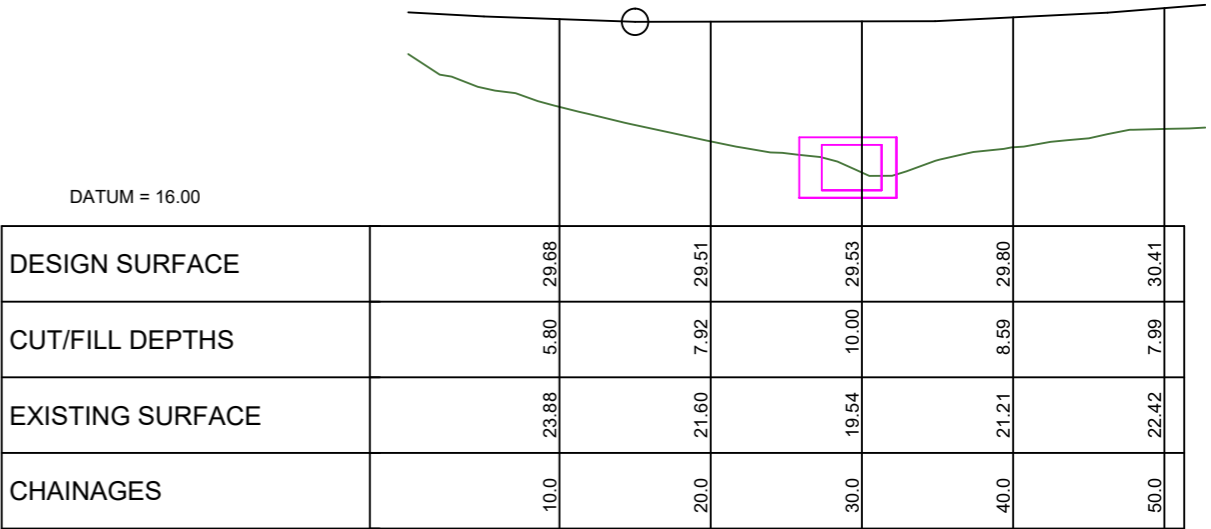
DRAWING NO:  
3725-0-4810

REV:  
E



DATUM = 8.0			
DESIGN SURFACE	18.95		22.52
DEPTH TO INVERT	1.62	1.62	3.87
INVERT LEVEL	17.33	17.33	18.65
EXISTING SURFACE	20.48		20.20
PIPE DETAILS	4.37% 4000x3000mmø BOX		
LENGTH	30.22m		

Culvert 11 - LONGSECTION



DATUM = 16.00					
DESIGN SURFACE	29.68	29.51	29.53	29.80	30.41
CUT/FILL DEPTHS	5.80	7.92	10.00	8.59	7.99
EXISTING SURFACE	23.88	21.60	19.54	21.21	22.42
CHAINAGES	10.0	20.0	30.0	40.0	50.0

Culvert 11 - ELEVATION VIEW  
SCALE HORIZ=1:500 @ A3  
VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK 11/02/2025	
B	Updated wetlands	SH	JK	JK 21/01/2025	
A	FIRST ISSUE	SH	JK	JK 16/01/2025	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE



VINEWAY LIMITED

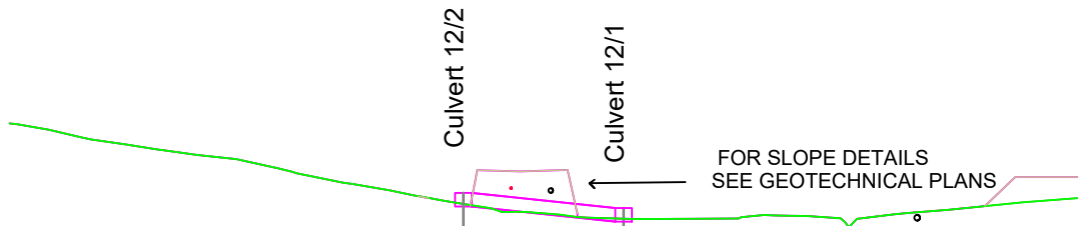
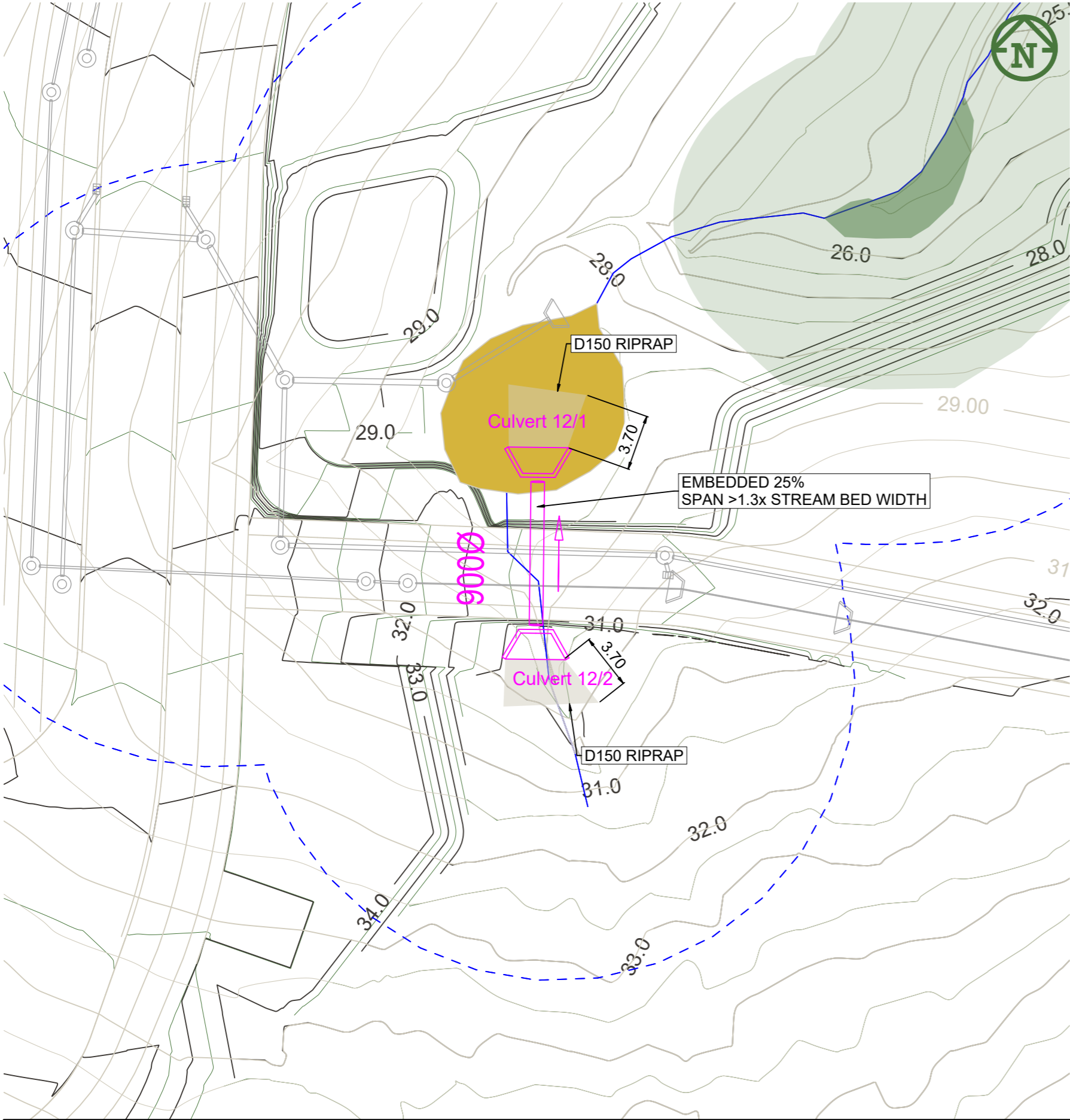
DELMORE  
STAGE 2  
88, 138 & 132 UPPER OREWA ROAD  
OREWA

STORMWATER  
CULVERT PLAN  
CULVERT 11

PURPOSE OF ISSUE:  
RESOURCE CONSENT

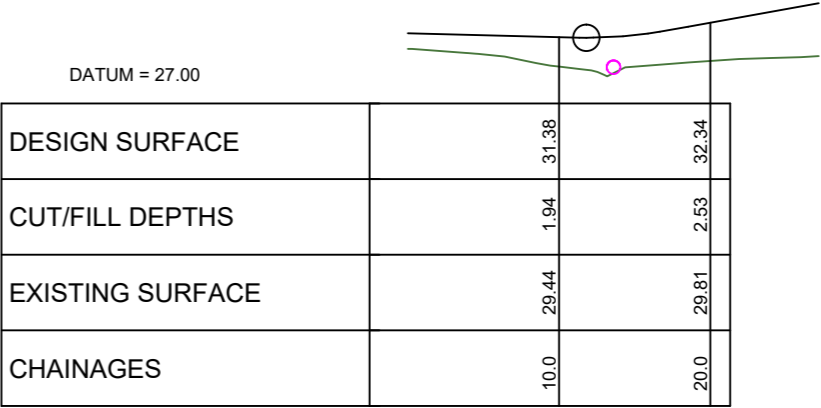
SCALE:  
1:300 @ A3  
DO NOT SCALE  
DRAWING NO:  
3725-0-4811

REV:  
E



DATUM = 14.0			
DESIGN SURFACE	29.17		28.19
DEPTH TO INVERT	0.17		0.19
INVERT LEVEL	29.00		28.00
EXISTING SURFACE	29.17		28.19
PIPE DETAILS	9.44% 900mmø RCRRJ		
LENGTH	10.59m		

Culvert 12 - LONGSECTION

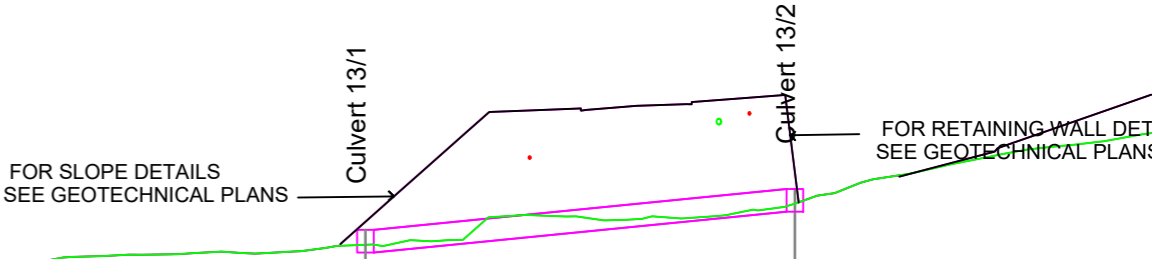
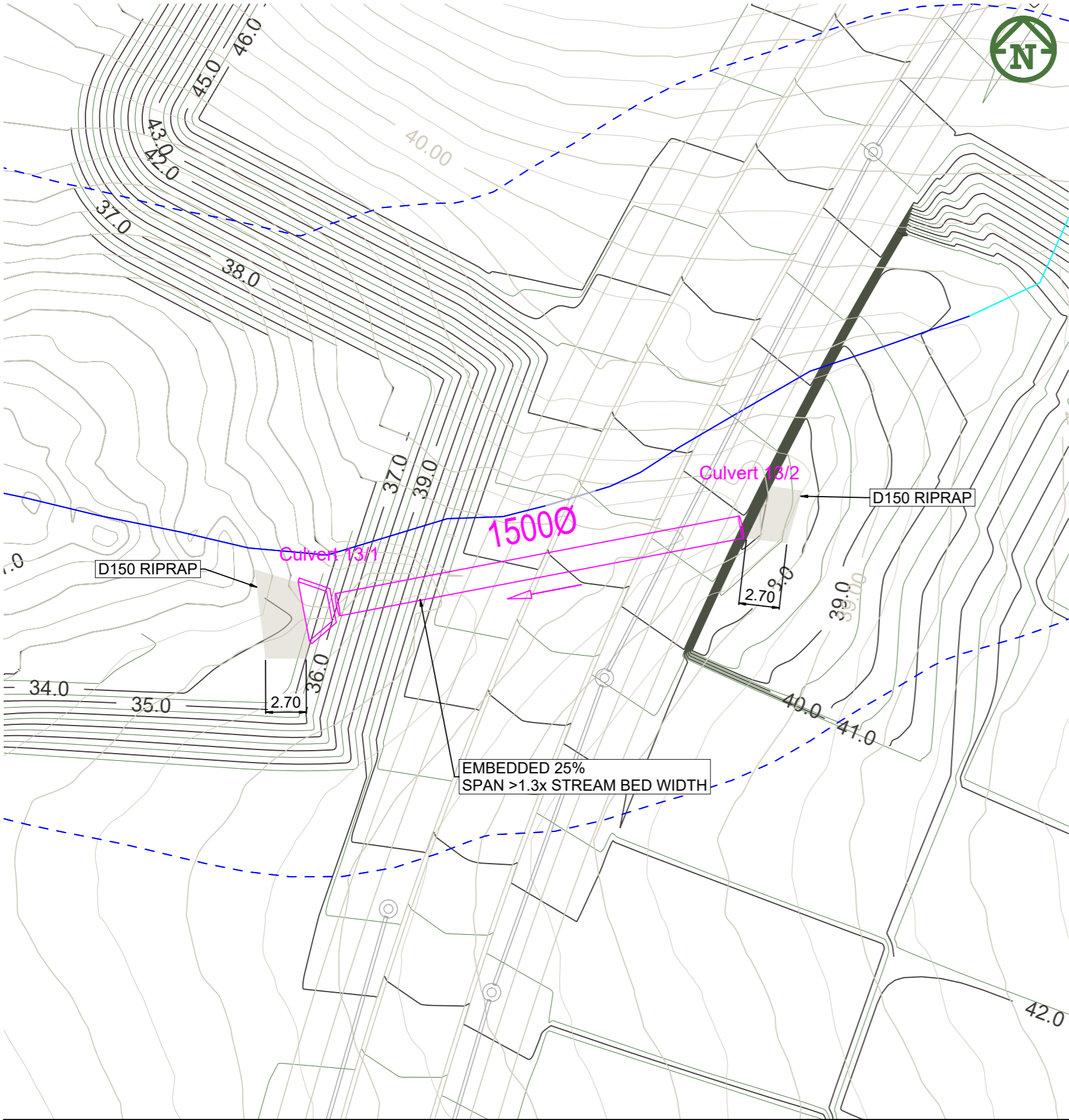


Culvert 12 - ELEVATION VIEW  
SCALE HORIZ=1:500 @ A3      VERT=1:500 @ A3

E	FOR CONSENT	ZW	JK	2/07/2025	
D	FOR TENDER	MO	PO	15/05/2025	
C	Updated contours	SH	JK	JK	11/02/2025
B	Updated wetlands	SH	JK	JK	21/01/2025
A	FIRST ISSUE	SH	JK	JK	16/01/2025
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE

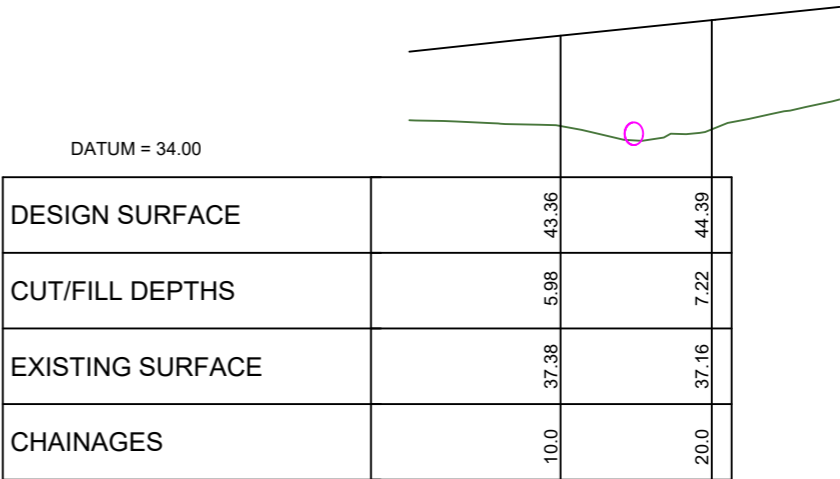


CLIENT:	PROJECT:	TITLE:	PURPOSE OF ISSUE:
VINEWAY LIMITED	DELMORE STAGE 1 53A, 53B & 55 RUSSELL ROAD OREWA	STORMWATER CULVERT PLAN CULVERT 12	RESOURCE CONSENT
SCALE:			DO NOT SCALE
1:300 @ A3			REV:
DRAWING NO:			E
3725-0-4812			



DATUM = 23.0			
DESIGN SURFACE	35.53		38.79
DEPTH TO INVERT	2.03	2.03	2.59
INVERT LEVEL	33.50	33.50	36.20
EXISTING SURFACE	34.01		36.73
PIPE DETAILS	9.51% 1500mmø RCRRJ		
LENGTH	28.4m		

Culvert 13 - LONGSECTION

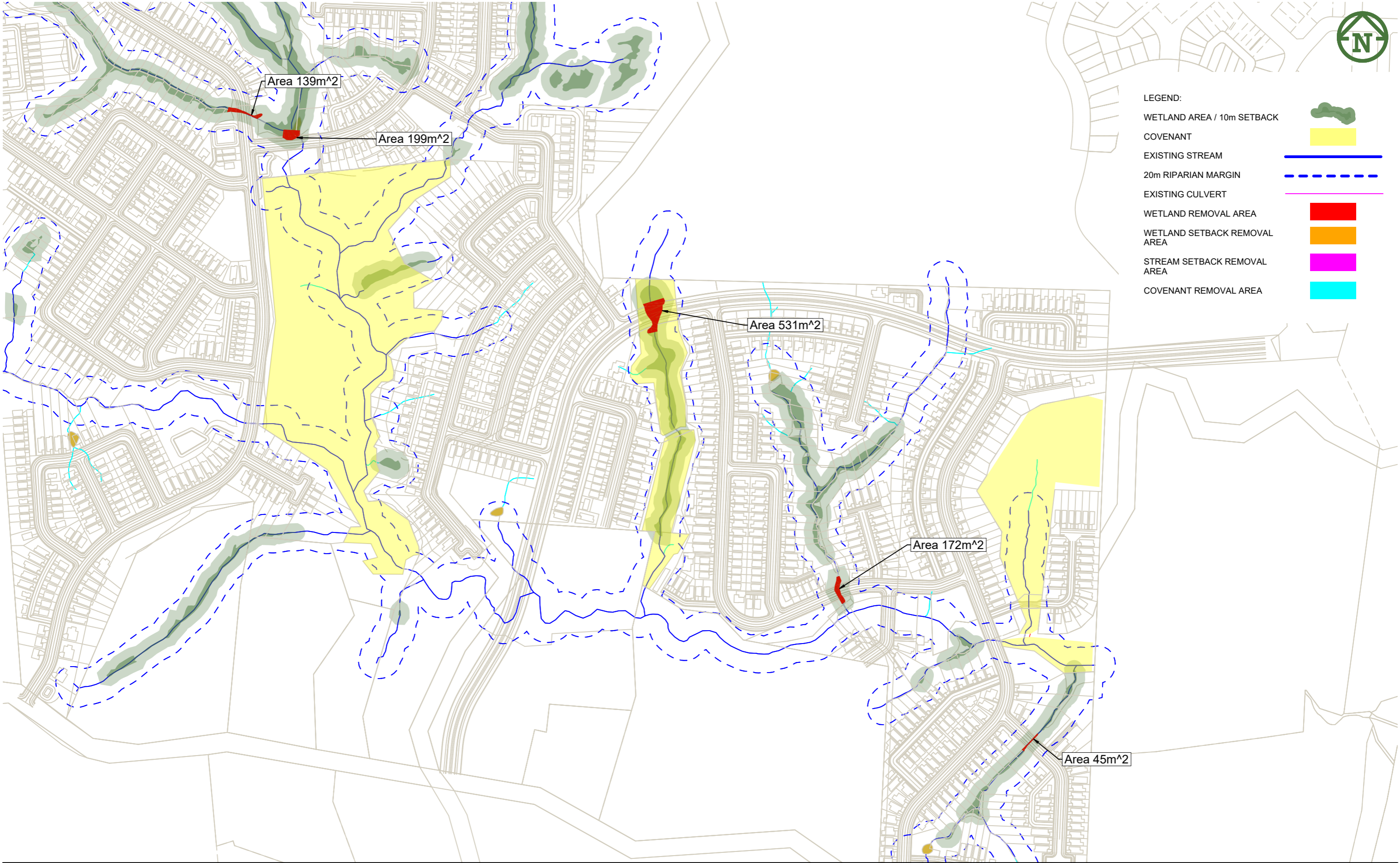


DATUM = 34.00			
DESIGN SURFACE	43.36		44.39
CUT/FILL DEPTHS	5.98		7.22
EXISTING SURFACE	37.38		37.16
CHAINAGES	10.0		20.0

Culvert 13 - ELEVATION VIEW

SCALE HORIZ=1:500 @ A3      VERT=1:500 @ A3

c:\12d5\data\MCKFS01\3725-2 Delmore Stage 2\_5201\06000. Engineering Design\6400. 12d\Stage 2AB Plotting Culverts.12dmodel Stage 2AB Plotting Culverts



NOTES:

STAGE 1 WETLAND SETBACK REMOVAL AREA = 4069m<sup>2</sup>  
STAGE 2 WETLAND SETBACK REMOVAL AREA = 3073m<sup>2</sup>



LEGEND:

WETLAND AREA / 10m SETBACK

COVENANT

EXISTING STREAM

20m RIPARIAN MARGIN

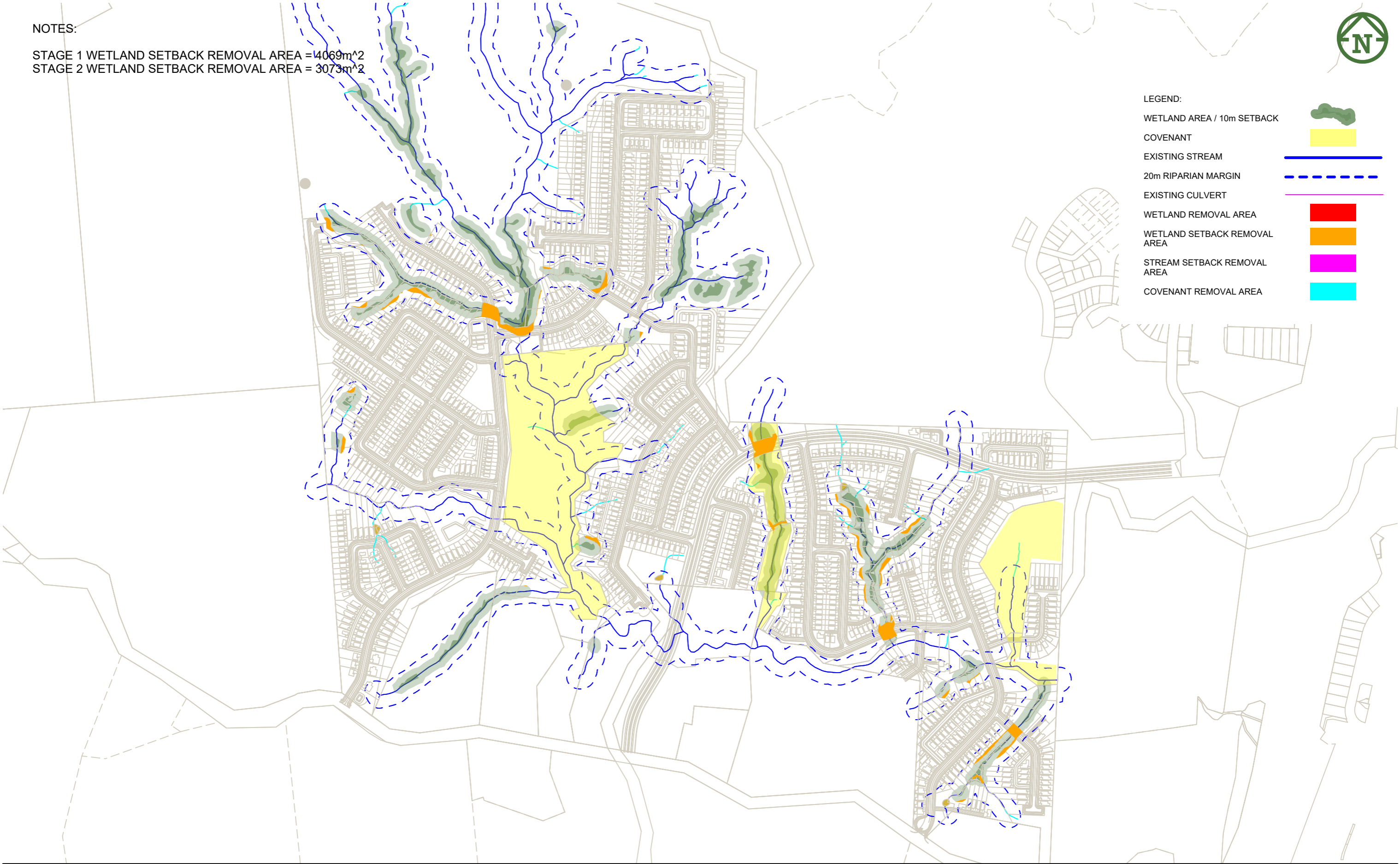
EXISTING CULVERT

WETLAND REMOVAL AREA

WETLAND SETBACK REMOVAL AREA

STREAM SETBACK REMOVAL AREA

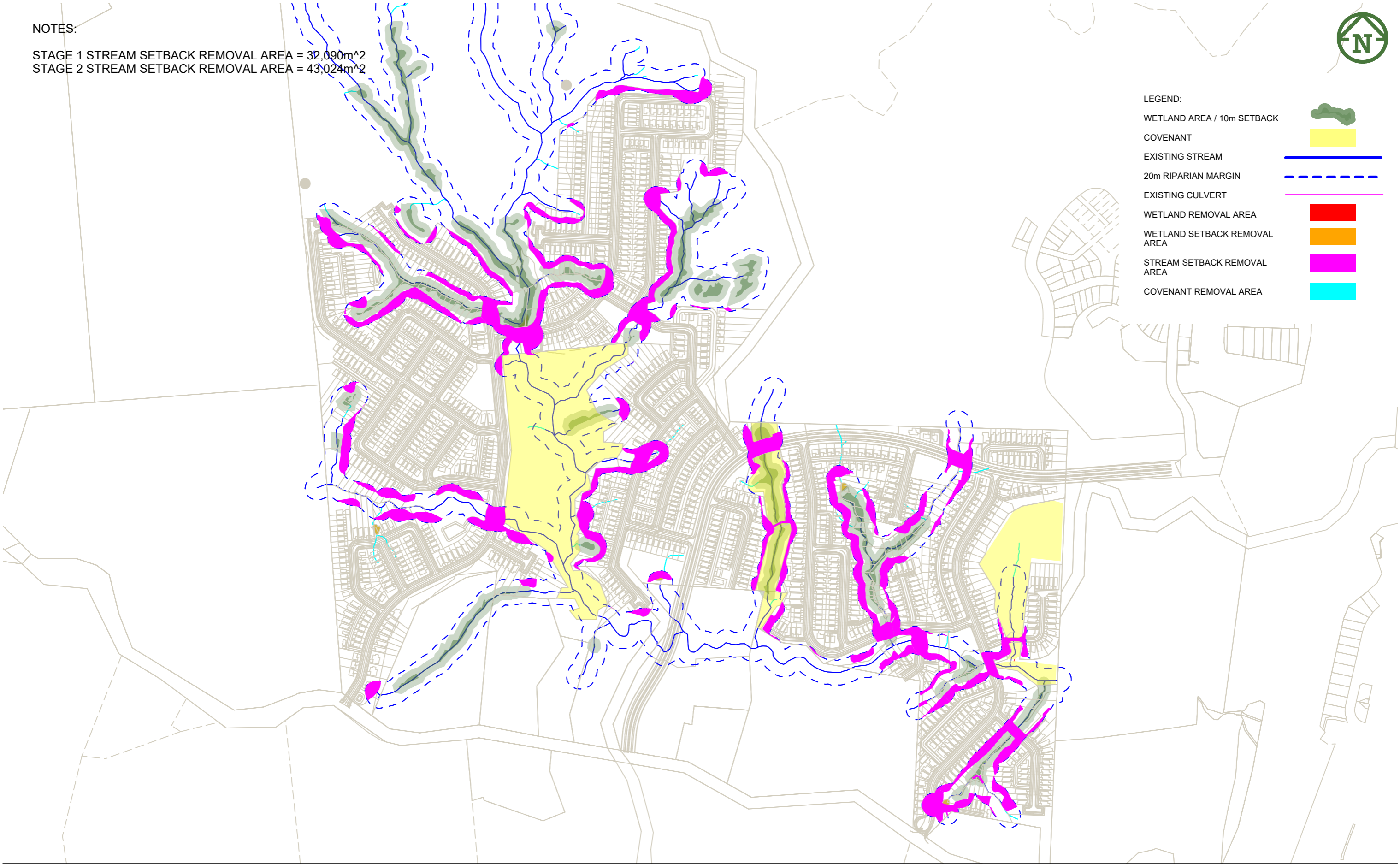
COVENANT REMOVAL AREA

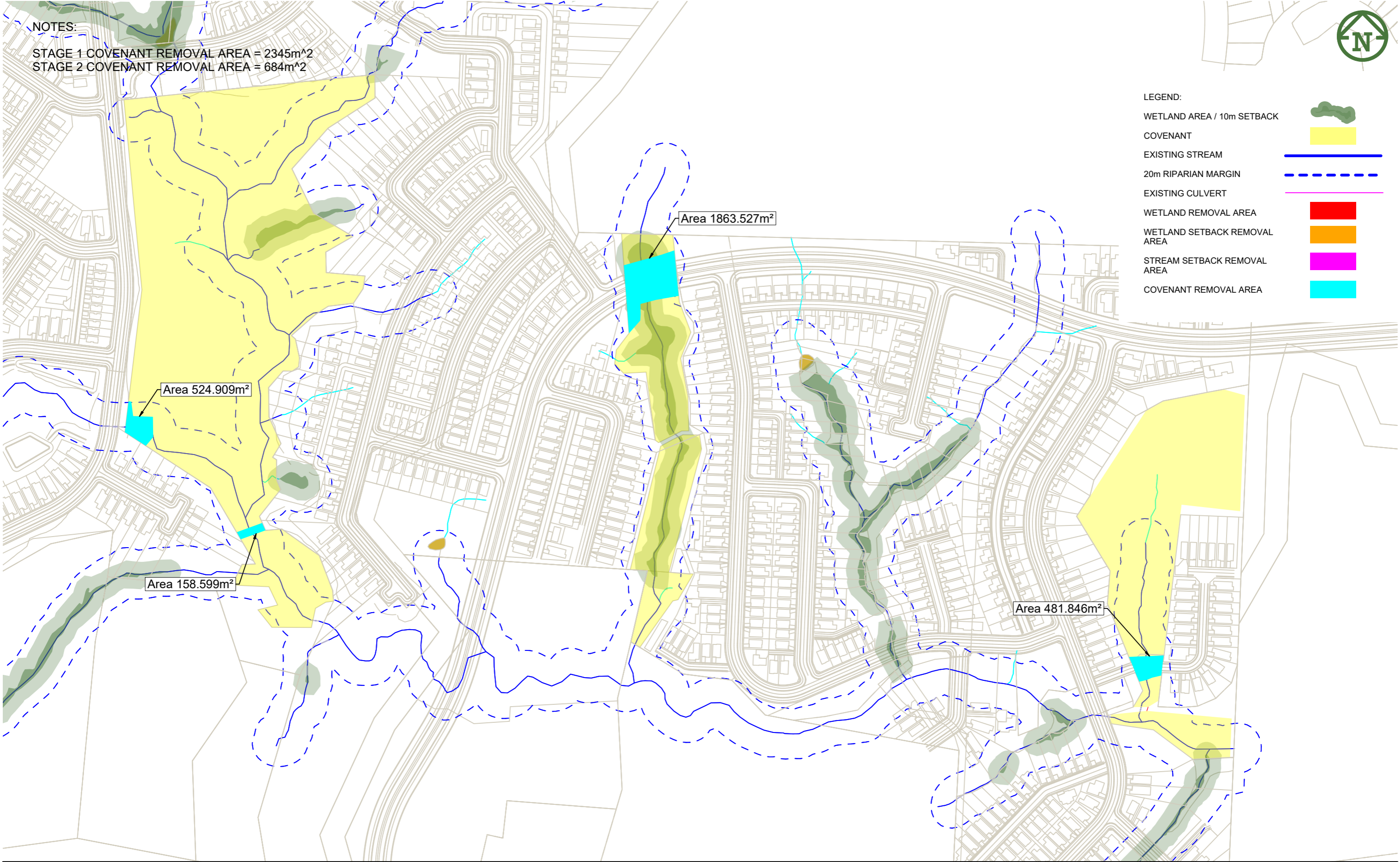


NOTES:  
STAGE 1 STREAM SETBACK REMOVAL AREA = 32,090m^2  
STAGE 2 STREAM SETBACK REMOVAL AREA = 43,024m^2



- LEGEND:
- WETLAND AREA / 10m SETBACK
  - COVENANT
  - EXISTING STREAM
  - 20m RIPARIAN MARGIN
  - EXISTING CULVERT
  - WETLAND REMOVAL AREA
  - WETLAND SETBACK REMOVAL AREA
  - STREAM SETBACK REMOVAL AREA
  - COVENANT REMOVAL AREA

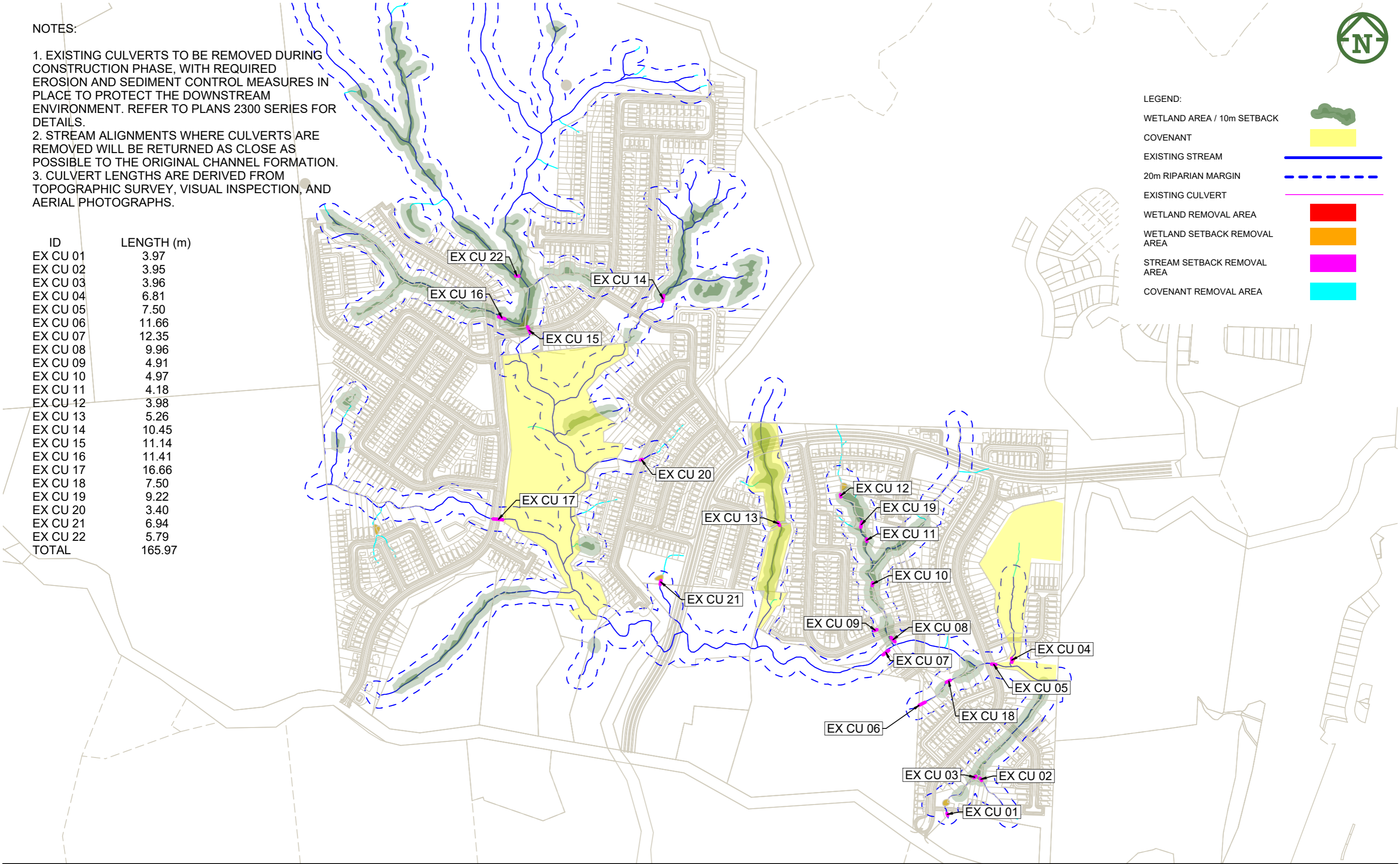




NOTES:

- 1. EXISTING CULVERTS TO BE REMOVED DURING CONSTRUCTION PHASE, WITH REQUIRED EROSION AND SEDIMENT CONTROL MEASURES IN PLACE TO PROTECT THE DOWNSTREAM ENVIRONMENT. REFER TO PLANS 2300 SERIES FOR DETAILS.
- 2. STREAM ALIGNMENTS WHERE CULVERTS ARE REMOVED WILL BE RETURNED AS CLOSE AS POSSIBLE TO THE ORIGINAL CHANNEL FORMATION.
- 3. CULVERT LENGTHS ARE DERIVED FROM TOPOGRAPHIC SURVEY, VISUAL INSPECTION, AND AERIAL PHOTOGRAPHS.

ID	LENGTH (m)
EX CU 01	3.97
EX CU 02	3.95
EX CU 03	3.96
EX CU 04	6.81
EX CU 05	7.50
EX CU 06	11.66
EX CU 07	12.35
EX CU 08	9.96
EX CU 09	4.91
EX CU 10	4.97
EX CU 11	4.18
EX CU 12	3.98
EX CU 13	5.26
EX CU 14	10.45
EX CU 15	11.14
EX CU 16	11.41
EX CU 17	16.66
EX CU 18	7.50
EX CU 19	9.22
EX CU 20	3.40
EX CU 21	6.94
EX CU 22	5.79
TOTAL	165.97



LEGEND:

- WETLAND AREA / 10m SETBACK
- COVENANT
- EXISTING STREAM
- 20m RIPARIAN MARGIN
- EXISTING CULVERT
- WETLAND REMOVAL AREA
- WETLAND SETBACK REMOVAL AREA
- STREAM SETBACK REMOVAL AREA
- COVENANT REMOVAL AREA