

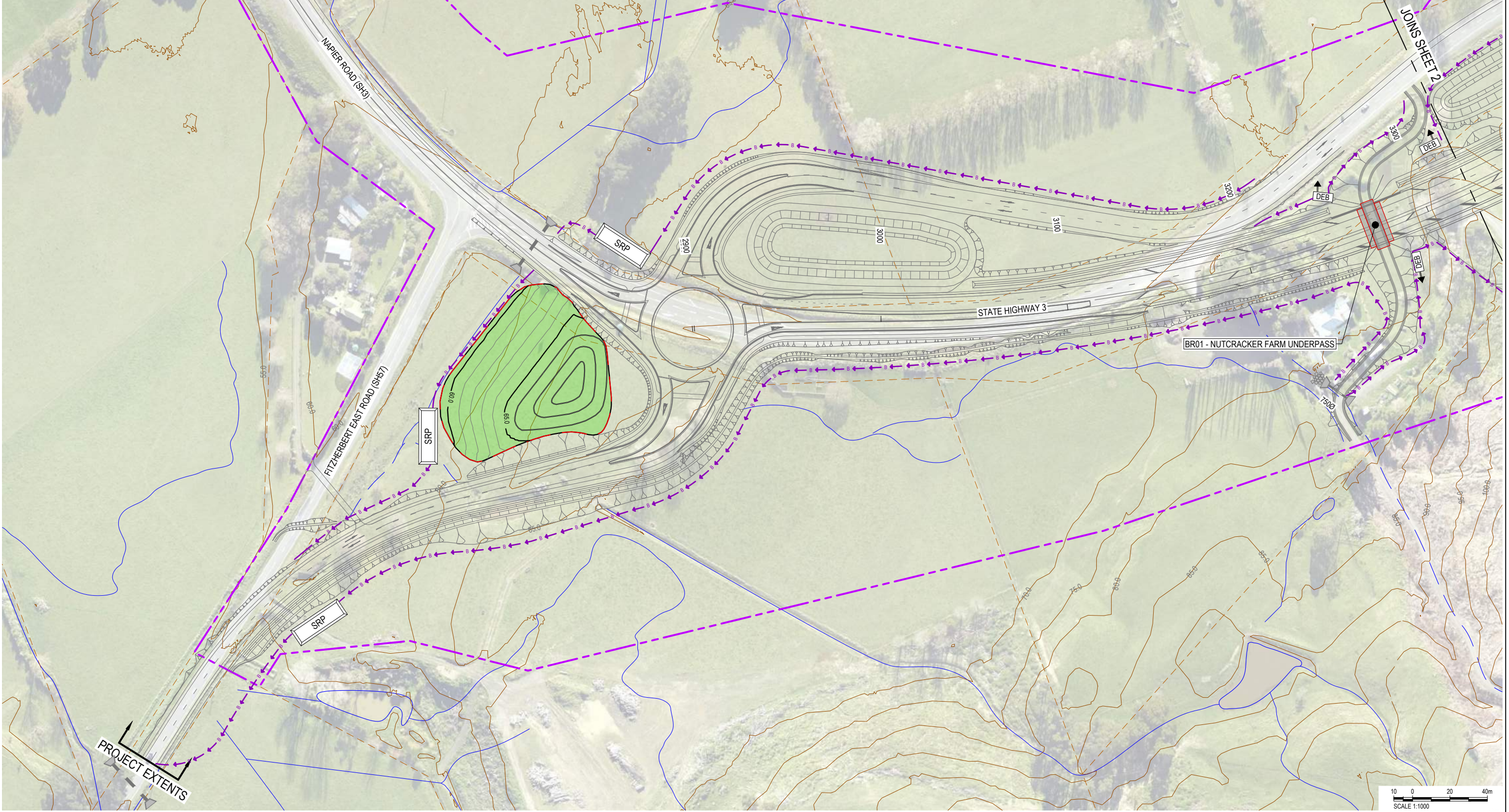
LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SEDIMENT RETENTION POND
- DECANTING EARTH BUND
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 WIND TURBINE

NOTES

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KEY PLAN



Proj Date: 2020/02/24 15:28:35 Client: NZTA Engineer: N. MANAWATU TARARUA HIGHWAY PHASES: TECHNICAL - DESIGN WORKING HEADLINE/INTEGRATED DESIGN DRAWING DRAWING: DESIGN CONCEPT AND CONSENTING ID: 1302 E: 3801_3801.DWG

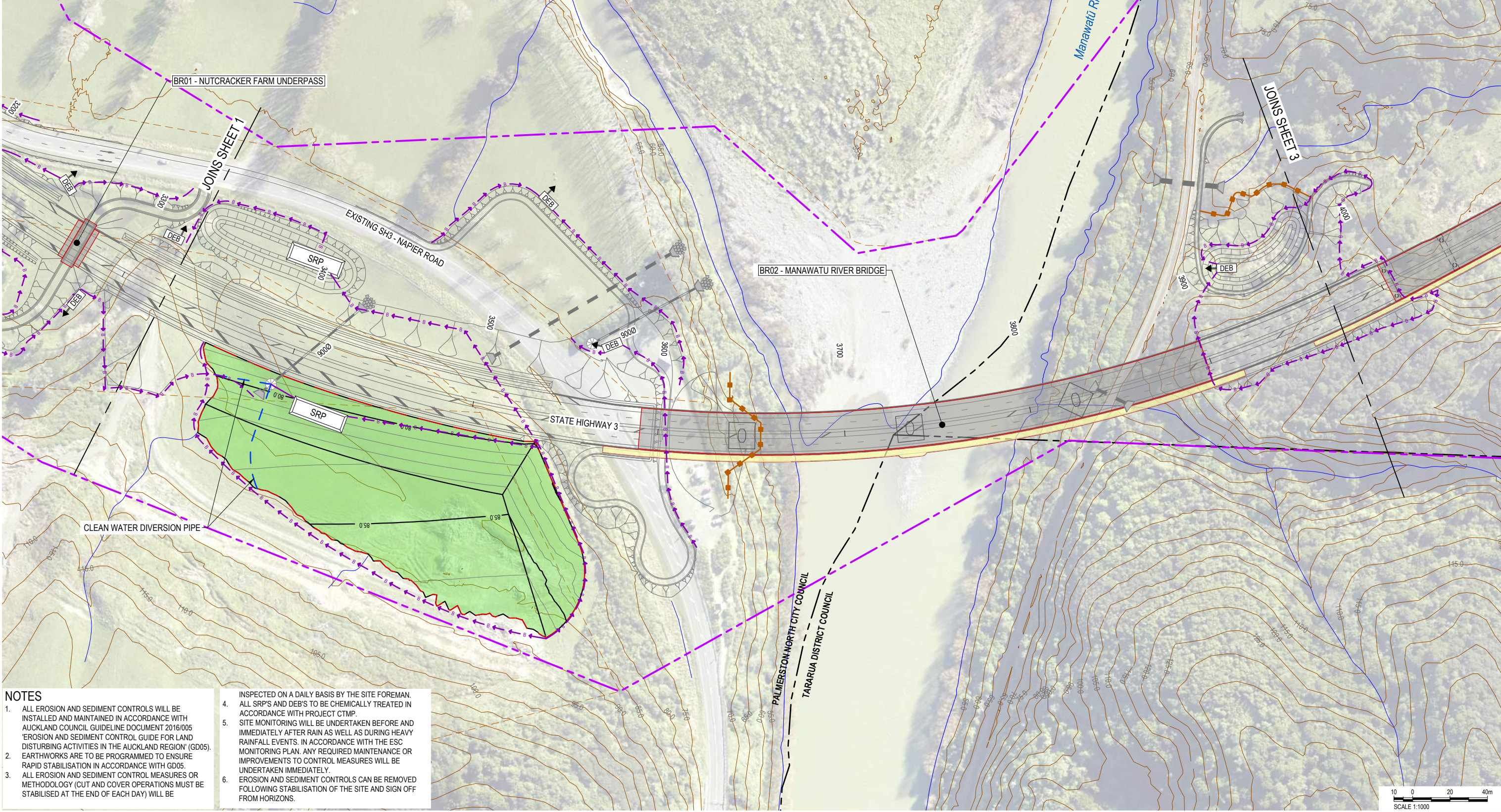
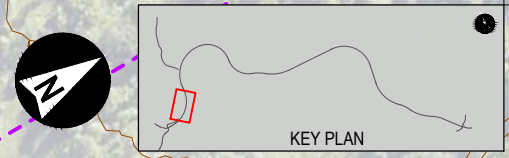
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											DRAWN		L. STEINER		APPROVED		TITLE	
											DESIGNED		C. STEWART		DATE		CONCEPT EROSION AND SEDIMENT CONTROL	
											REVIEWED		T. WATTERSON		24/02/2020		BULK EARTHWORKS (MAIN ALIGNMENT)	
											D. MACKINTOSH		T. WATTERSON				SHEET 1	
															DRAWING No.			
															PROJECT No.			
															PHASE			
															TYPE			
															DISC			
															NUMBER			
															REV			
															3801		A	



GP1340 23/01/20

LEGEND

- PROPOSED DESIGNATION BOUNDARY
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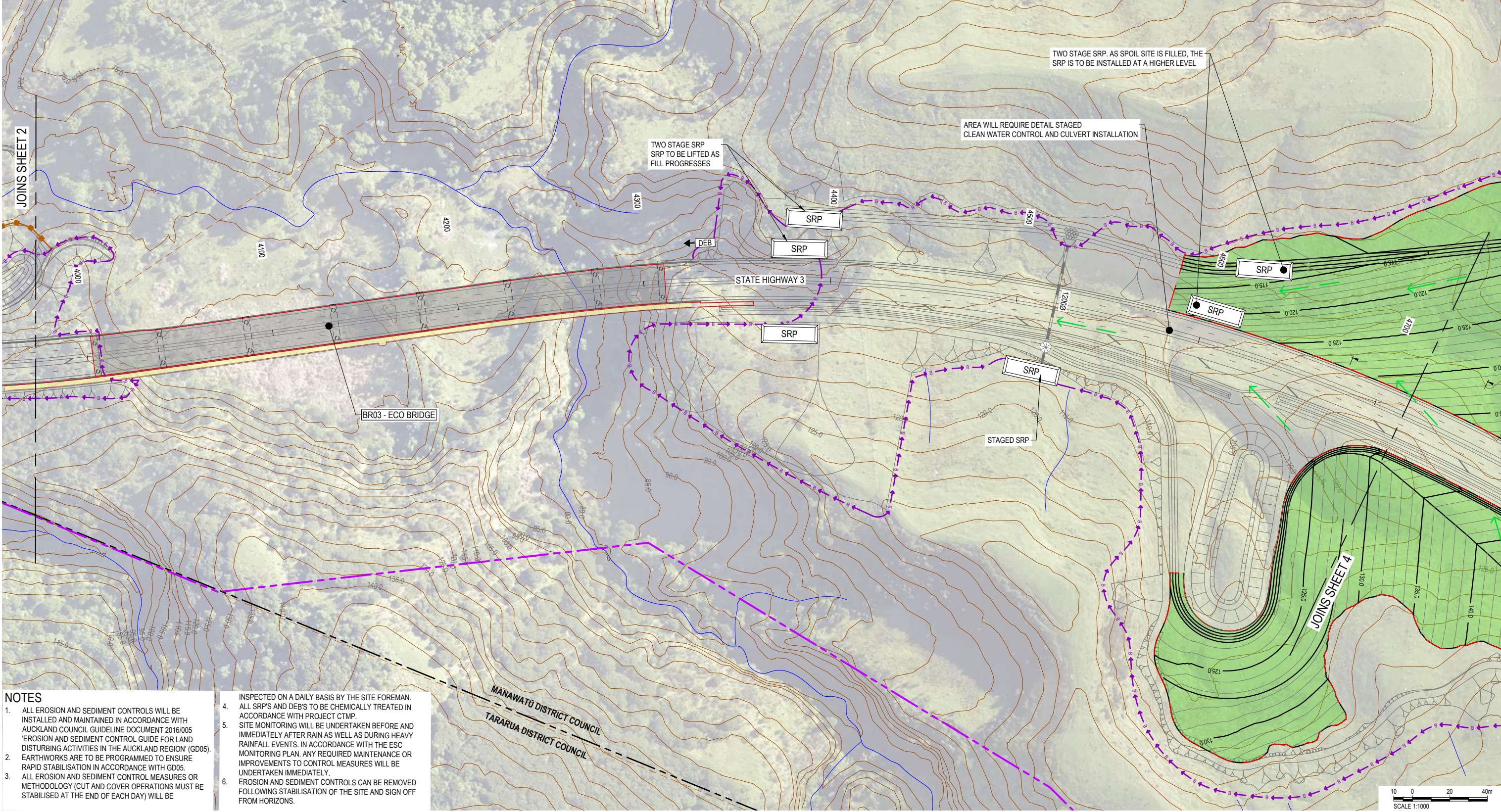
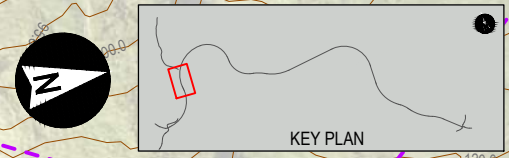
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		ISSUED FOR REGIONAL CONSENT				DRAWN				APPROVED		TITLE	
						L. STEINER				DATE		CONCEPT EROSION AND SEDIMENT CONTROL	
						DESIGNED				24/02/2020		BULK EARTHWORKS (MAIN ALIGNMENT)	
						C. STEWART				T. WATTERSON		SHEET 2	
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										T. WATTERSON		PHASE	
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										T. WATTERSON		TYPE	
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										T. WATTERSON		A	



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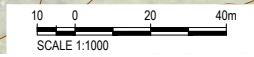
LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (Sediment Retention Pond)
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MANAWATŪ DISTRICT COUNCIL
TARARUA DISTRICT COUNCIL



CLIENT		REV		APPROVED		SCALE		SIZE		CONSENT		PROJECT	
A		24/02/2020		D. MCGAHAN		1:1000		A1		NOT FOR CONSTRUCTION		TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY	
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						L. STEINER				DATE		CONCEPT EROSION AND SEDIMENT CONTROL	
						DESIGNED				24/02/2020		BULK EARTHWORKS (MAIN ALIGNMENT)	
						C. STEWART				T. WATTERSON		SHEET 3	
						REVIEWED				T. WATTERSON		DRAWING No.	
						D. MACKINTOSH				T. WATTERSON		PROJECT No.	
												TAT	
												PHASE	
												3	
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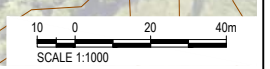
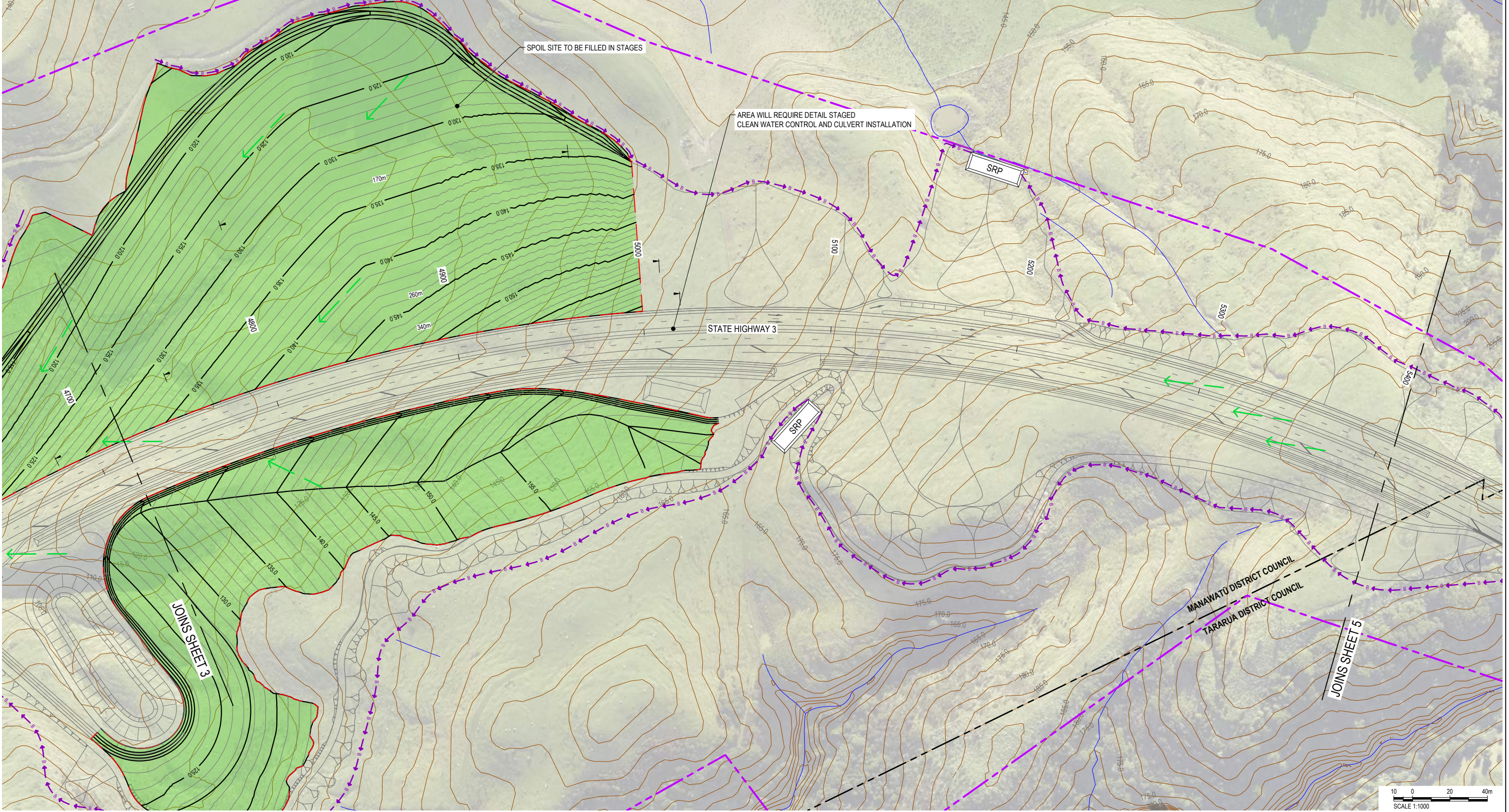
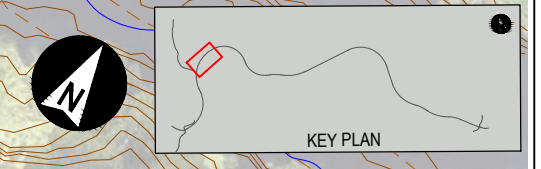
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 User: NIKI

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
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- SRP (Sediment Retention Pond)
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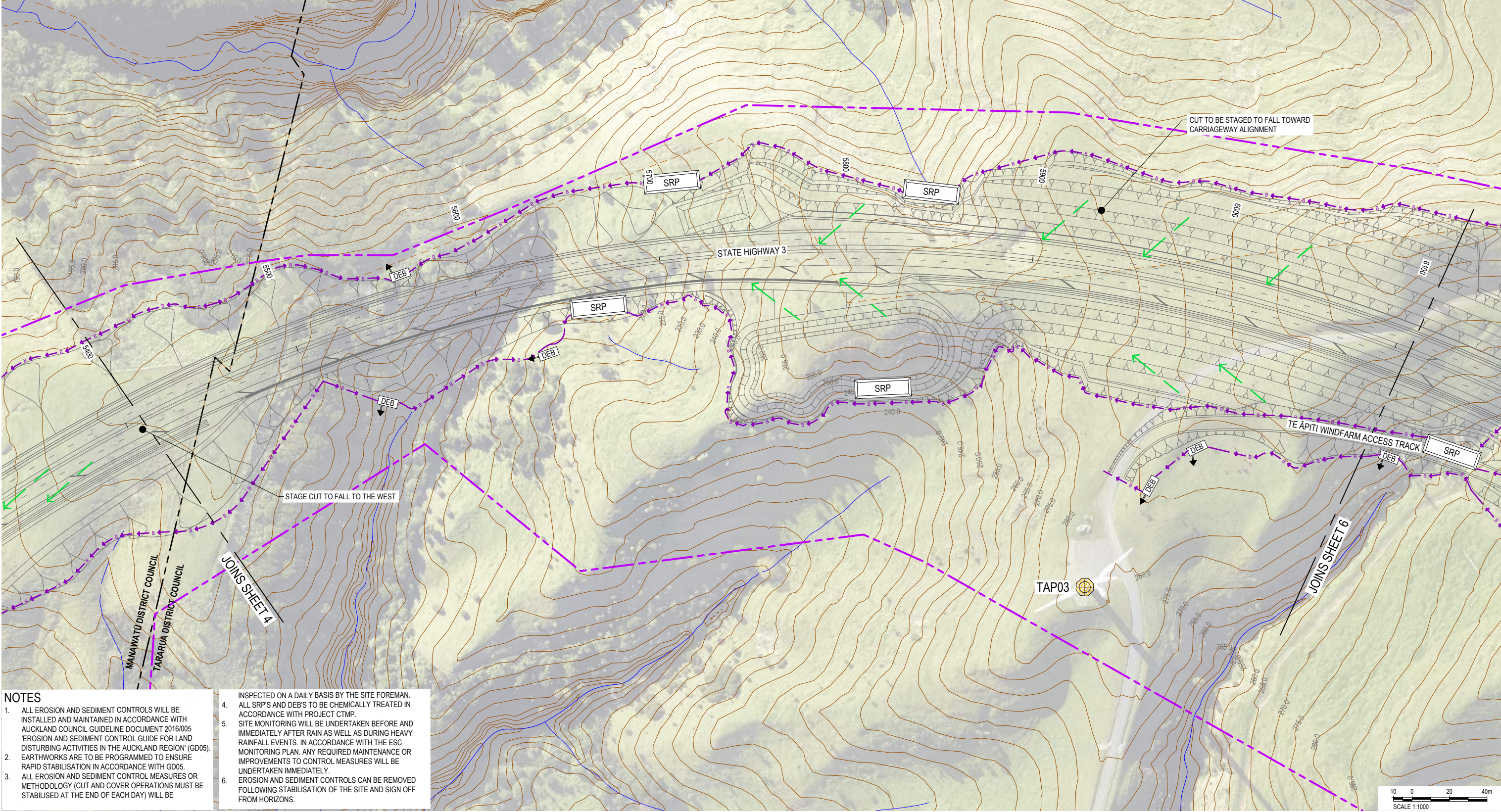
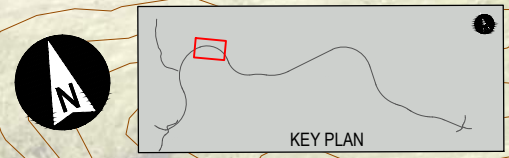


CLIENT	REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT	PROJECT
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					DRAWN		APPROVED	TITLE
					L. STEINER		T. WATTERSON	CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 4
					DESIGNED		DATE	
					C. STEWART		24/02/2020	
					REVIEWED			DRAWING No.
					D. MACKINTOSH			TAT
								PROJECT No.
								3
								PHASE
								3
								TYPE
								DG
								DISC
								E
								NUMBER
								3804
								REV
								A



LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (SEDIMENT RETENTION POND)
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- PROPOSED CULVERT
- TAP03 WIND TURBINE



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STAGE CUT TO FALL TO THE WEST

CUT TO BE STAGED TO FALL TOWARD CARRIAGEWAY ALIGNMENT

TE ĀPITI WINDFARM ACCESS TRACK

MANAWATŪ DISTRICT COUNCIL

TARARUA DISTRICT COUNCIL

JOINS SHEET 4

JOINS SHEET 6

TAP03

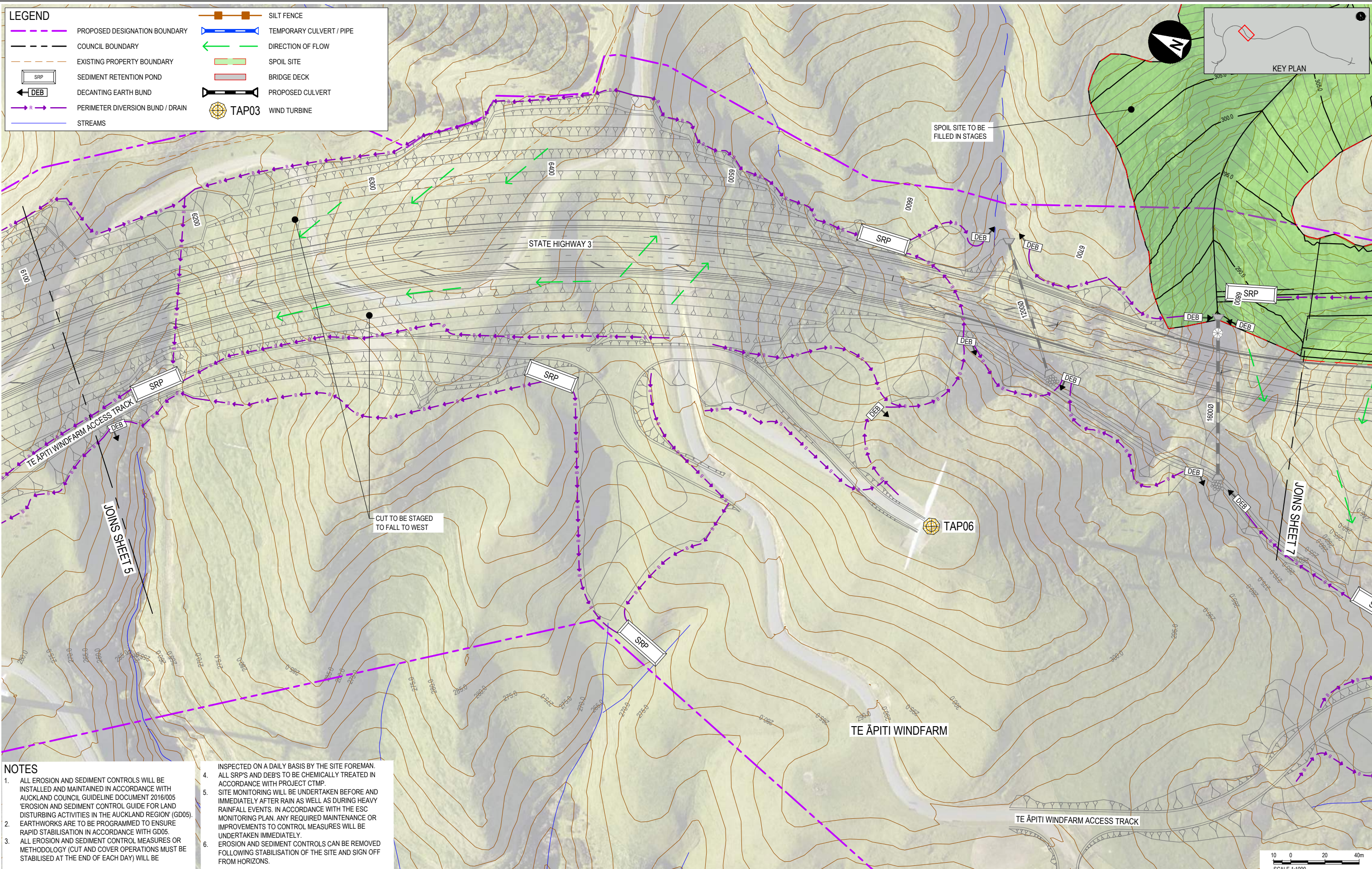
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WAKA KOTAHI NZ TRANSPORT AGENCY						DRAWN L. STEINER		APPROVED	
Te Ahu a Turanga Manawatū Tararua Highway						DESIGNED C. STEWART		DATE 24/02/2020	
						REVIEWED D. MACKINTOSH		T. WATTERSON	
								T. WATTERSON	
TITLE		PROJECT No.		PHASE		TYPE		DISC	
CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 5		TAT		3		DG		E	
DRAWING No.		NUMBER		REV					
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 Plot Date: 2020/02/24 15:28:32
 Client: NZTA

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP SEDIMENT RETENTION POND
- DEB DECANTING EARTH BUND
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- STREAMS
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- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- T--- TAP03 WIND TURBINE



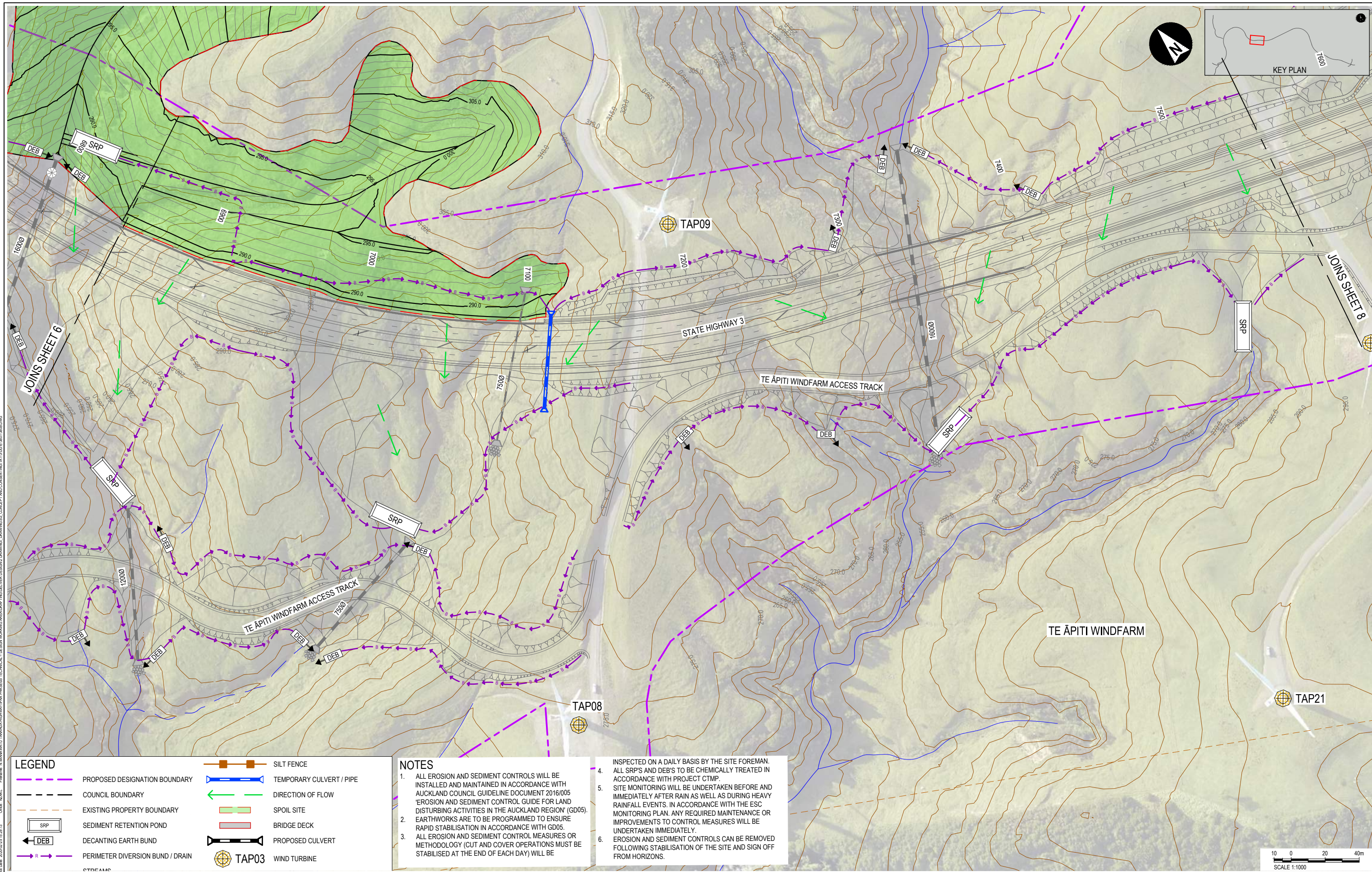
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		A		24/02/2020		ISSUED FOR REGIONAL CONSENT		D. McGAHAN		1:1000		A1		NOT FOR CONSTRUCTION		TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY	
										DRAWN L. STEINER				APPROVED		TITLE	
										DESIGNED C. STEWART				DATE 24/02/2020		CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 6	
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GP1340 23/01/20



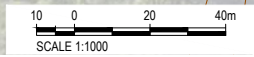
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LEGEND

	PROPOSED DESIGNATION BOUNDARY		SILT FENCE
	COUNCIL BOUNDARY		TEMPORARY CULVERT / PIPE
	EXISTING PROPERTY BOUNDARY		DIRECTION OF FLOW
	SEDIMENT RETENTION POND		SPOIL SITE
	DECANTING EARTH BUND		BRIDGE DECK
	PERIMETER DIVERSION BUND / DRAIN		PROPOSED CULVERT
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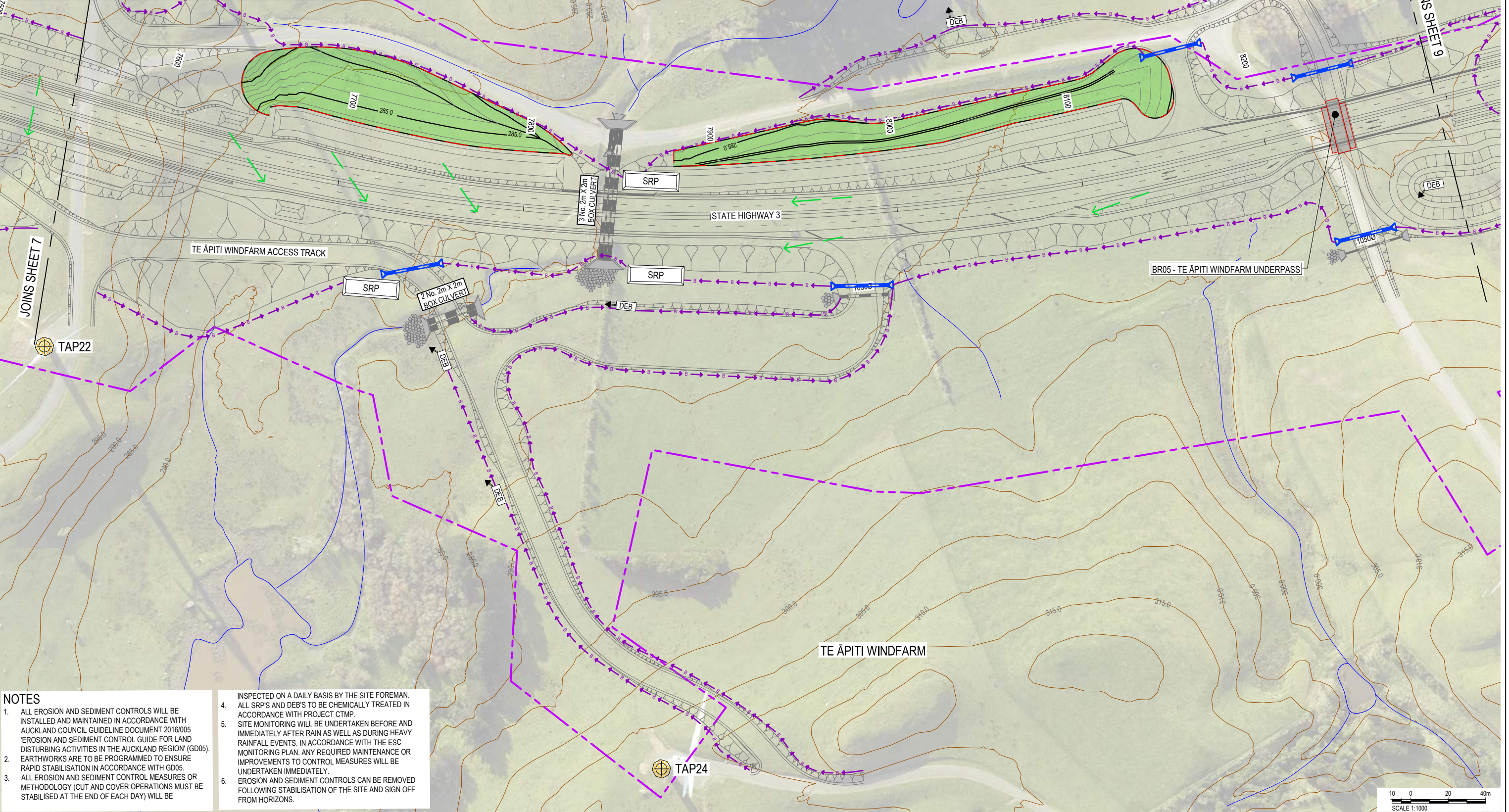


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										DRAWN				APPROVED		TITLE	
										L. STEINER				DATE		CONCEPT EROSION AND SEDIMENT CONTROL	
										DESIGNED				24/02/2020		BULK EARTHWORKS (MAIN ALIGNMENT)	
										C. STEWART				T. WATTERSON		SHEET 7	
										REVIEWED				T. WATTERSON		DRAWING No.	
										D. MACKINTOSH				T. WATTERSON		PROJECT No.	
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														T. WATTERSON		REV	
														T. WATTERSON		A	



LEGEND

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- COUNCIL BOUNDARY
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- TAP03 WIND TURBINE



- NOTES**
- ALL EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH AUCKLAND COUNCIL GUIDELINE DOCUMENT 2016/005 'EROSION AND SEDIMENT CONTROL GUIDE FOR LAND DISTURBING ACTIVITIES IN THE AUCKLAND REGION' (GD05).
 - EARTHWORKS ARE TO BE PROGRAMMED TO ENSURE RAPID STABILISATION IN ACCORDANCE WITH GD05.
 - ALL EROSION AND SEDIMENT CONTROL MEASURES OR METHODOLOGY (CUT AND COVER OPERATIONS MUST BE STABILISED AT THE END OF EACH DAY) WILL BE

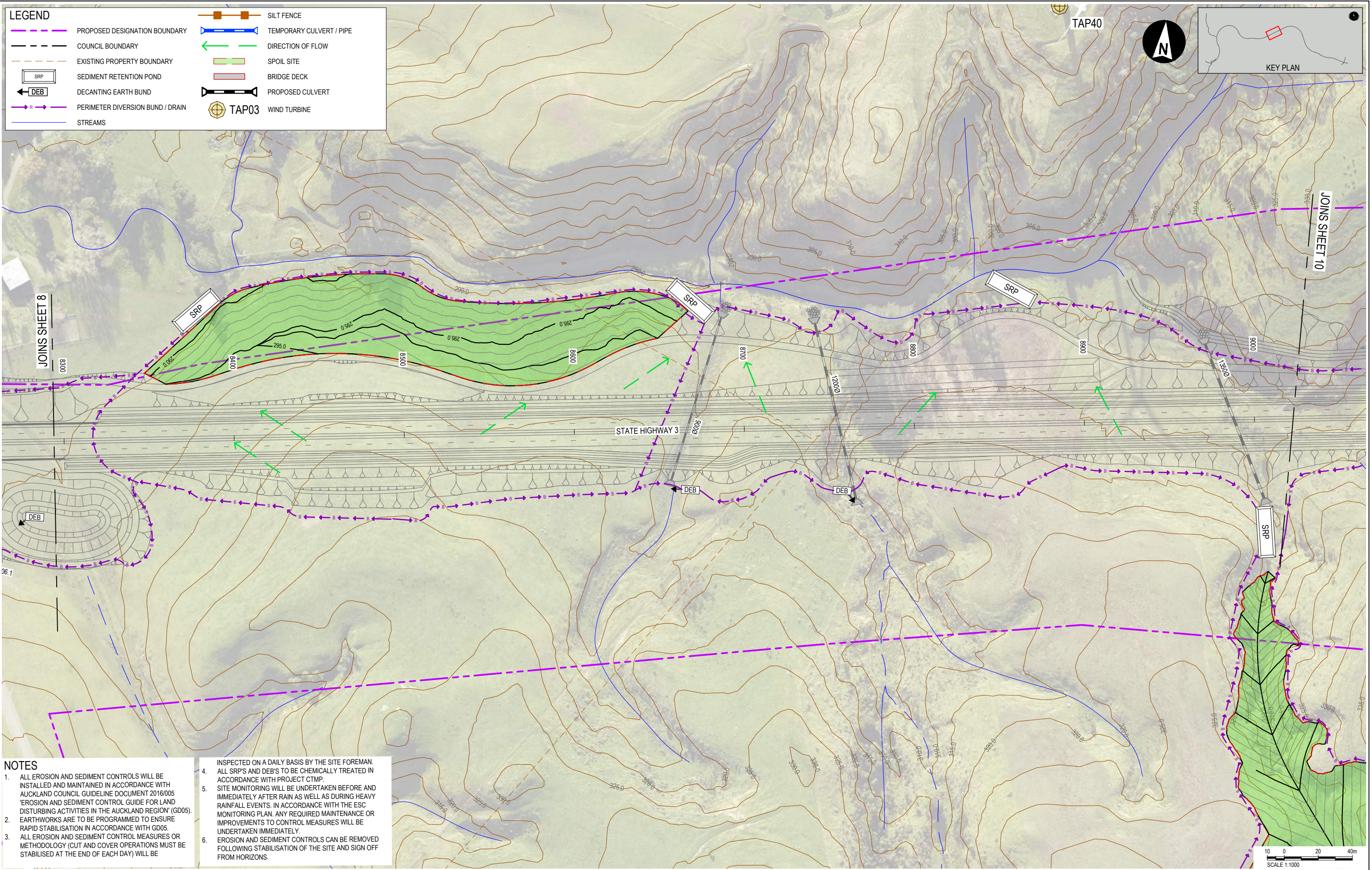
- INSPECTED ON A DAILY BASIS BY THE SITE FOREMAN. ALL SRP'S AND DEB'S TO BE CHEMICALLY TREATED IN ACCORDANCE WITH PROJECT CTMP.
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CLIENT		REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT	PROJECT
		A	24/02/2020	ISSUED FOR REGIONAL CONSENT	D. MCGAHAN	1:1000	A1	NOT FOR CONSTRUCTION	TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY
WAKA KOTAHI NZ TRANSPORT AGENCY						DRAWN L. STEINER		APPROVED	
Te Ahu a Turanga Manawatū Tararua Highway						DESIGNED C. STEWART		DATE 24/02/2020	
						REVIEWED D. MACKINTOSH		T. WATTERSON	
								T. WATTERSON	
TITLE		PROJECT No.		PHASE		TYPE		DISC	
CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 8		TAT		3		DG		E	
DRAWING No.		NUMBER		REV		SCALE			
3808		3808		A		SCALE 1:1000			

File Name: N:\MANAWATU\TARARUA HIGHWAY\RA\PHASES\TECHNICAL - DESIGN WORKING\EROSION AND SEDIMENT CONTROL DRAWING - DRAWING DESIGN AND CONSENTING\13.DWG Date: 23/01/2020 11:29:22

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (Sediment Retention Pond)
- DEB (Decanting Earth Bund)
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 WIND TURBINE



- NOTES**
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CLIENT		REV		DATE		REVISION DETAILS		APPROVED		SCALE		SIZE		CONSENT		PROJECT	
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										DRAWN				APPROVED		TITLE	
										L. STEINER				DATE		CONCEPT EROSION AND SEDIMENT CONTROL	
										DESIGNED				24/02/2020		BULK EARTHWORKS (MAIN ALIGNMENT)	
										C. STEWART				T. WATTERSON		SHEET 9	
										REVIEWED				T. WATTERSON		DRAWING No.	
										D. MACKINTOSH				T. WATTERSON		PROJECT No.	
														T. WATTERSON		PHASE	
														T. WATTERSON		3	
														T. WATTERSON		TYPE	
														T. WATTERSON		DG	
														T. WATTERSON		DISC	
														T. WATTERSON		E	
														T. WATTERSON		NUMBER	
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														T. WATTERSON		REV	
														T. WATTERSON		A	



File Name: N:\MANAWATU TARARUA HIGHWAY\RA\PHASES\TECHNICAL - DESIGN WORKING\HELD\EROSION CONTROL DRAWING - DESIGN CONCEPT AND CONSENTING\13.DWG; 3809.DWG
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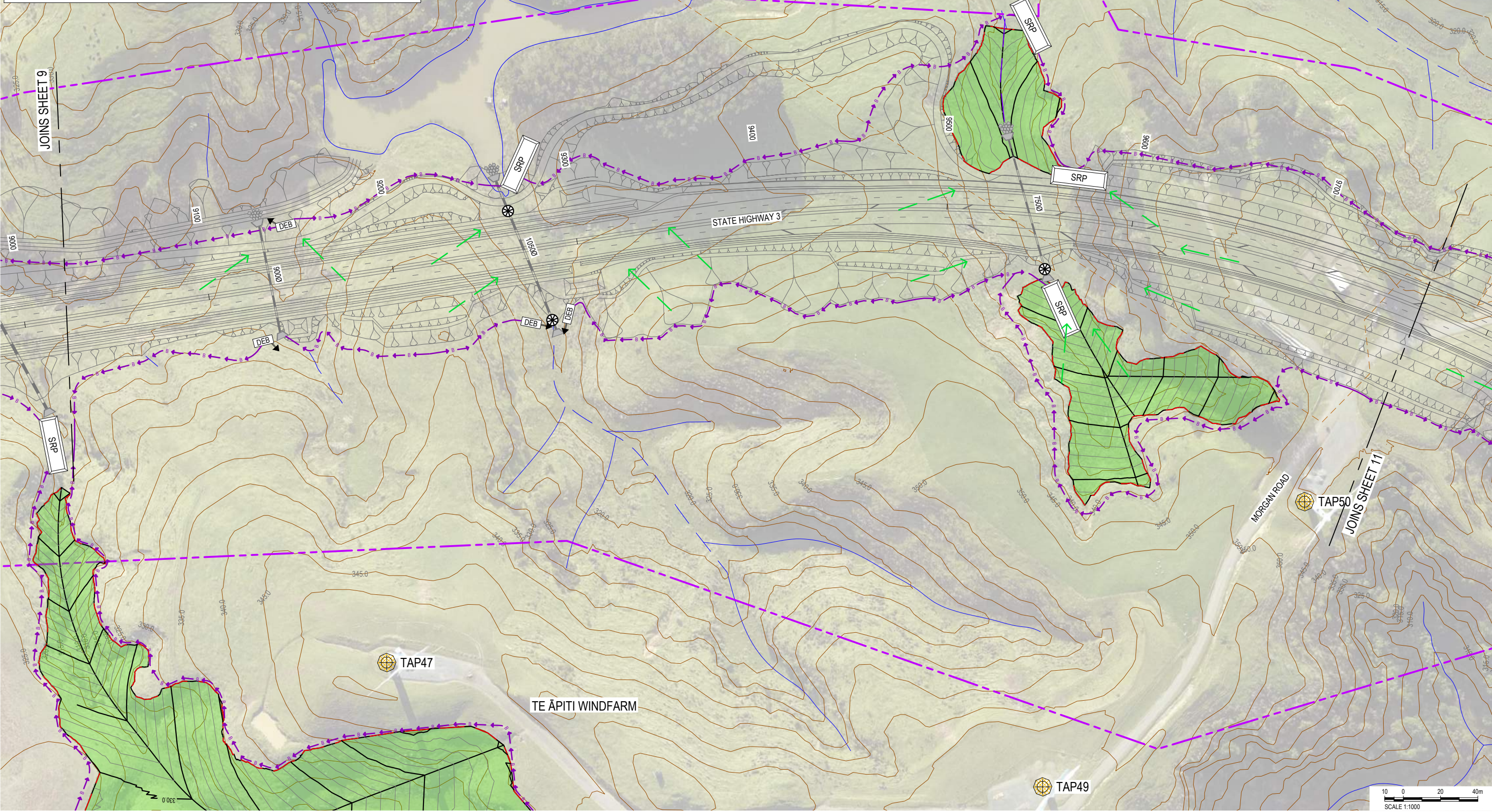
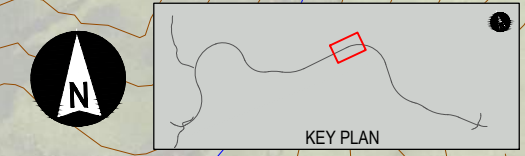
GP1340 23/01/20

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (Sediment Retention Pond)
- DEB (Decanting Earth Bund)
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 (Wind Turbine)

NOTES

- ALL EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH AUCKLAND COUNCIL GUIDELINE DOCUMENT 2016/005 'EROSION AND SEDIMENT CONTROL GUIDE FOR LAND DISTURBING ACTIVITIES IN THE AUCKLAND REGION' (GD05).
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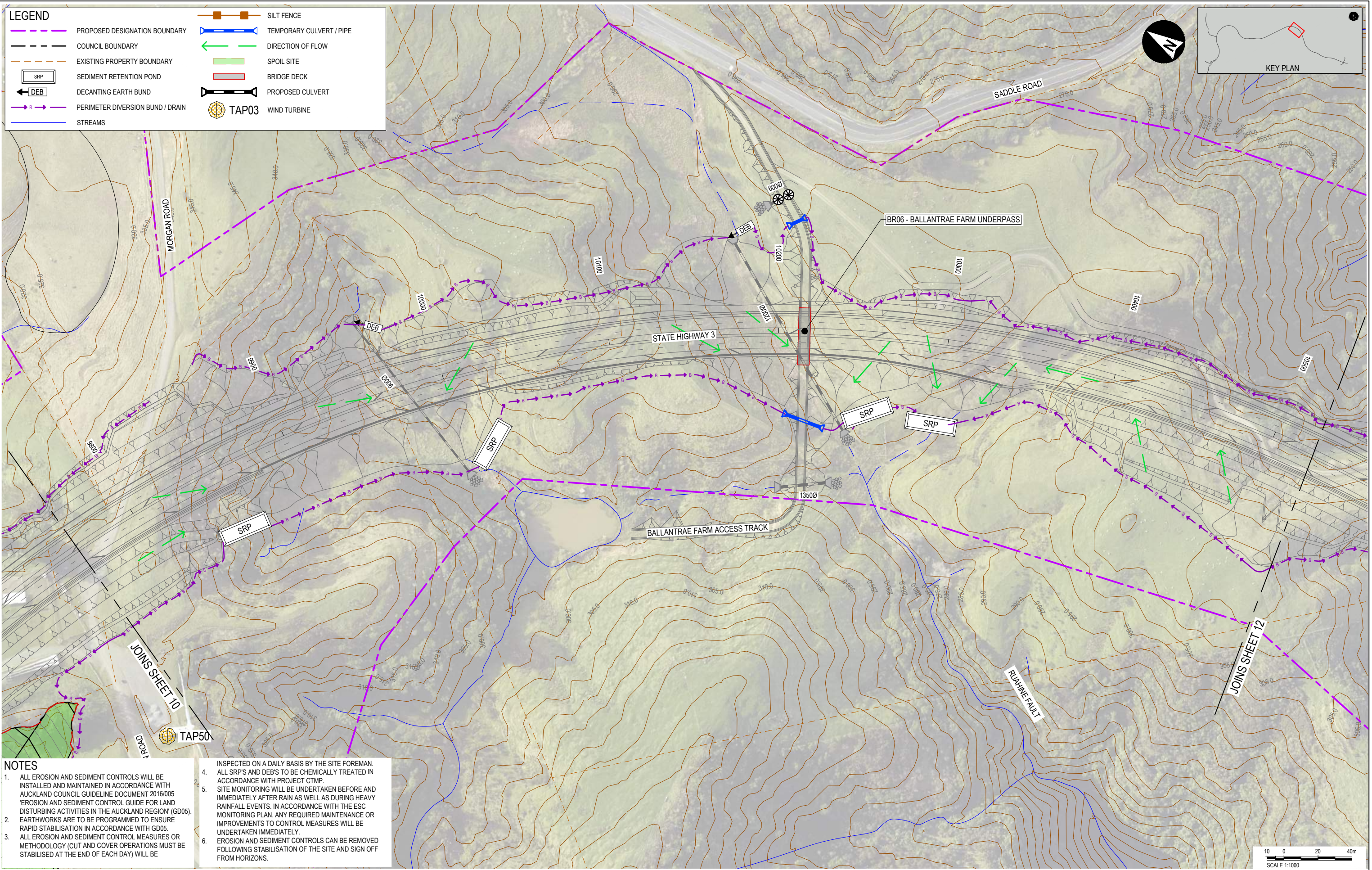


Project Name: N MANAWATU TARARUA HIGHWAY 3A PHASE 3 TECHNICAL - DESIGN WORKING HEADLINE PLAN PRELIMINARY DESIGN DRAWING. DRAWING NO: TAT 3810 01/20. DATE: 24/02/2020.

CLIENT		REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT	PROJECT
		A	24/02/2020	ISSUED FOR REGIONAL CONSENT	D. McGAHAN	1:1000	A1	NOT FOR CONSTRUCTION	TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY
					DRAWN			APPROVED	TITLE
					L. STEINER			T. WATTERSON	CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 10
					DESIGNED			DATE	PROJECT No.
					C. STEWART			24/02/2020	TAT
					REVIEWED			PHASE	TYPE
					D. MACKINTOSH			3	DG
					T. WATTERSON			DISC	NUMBER
								E	3810
								REV	A



SPH40 23/01/20



- NOTES**
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CLIENT		REV		APPROVED		SCALE		SIZE		CONSENT		PROJECT	
A		24/02/2020		D. MCGAHAN		1:1000		A1		NOT FOR CONSTRUCTION		TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY	
		ISSUED FOR REGIONAL CONSENT				DRAWN				APPROVED		TITLE	
						L. STEINER				T. WATTERSON		CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 11	
						DESIGNED				DATE		DRAWING No.	
						C. STEWART				24/02/2020		PROJECT No.	
						REVIEWED				T. WATTERSON		PHASE	
						D. MACKINTOSH				T. WATTERSON		3	
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												REV	
												A	



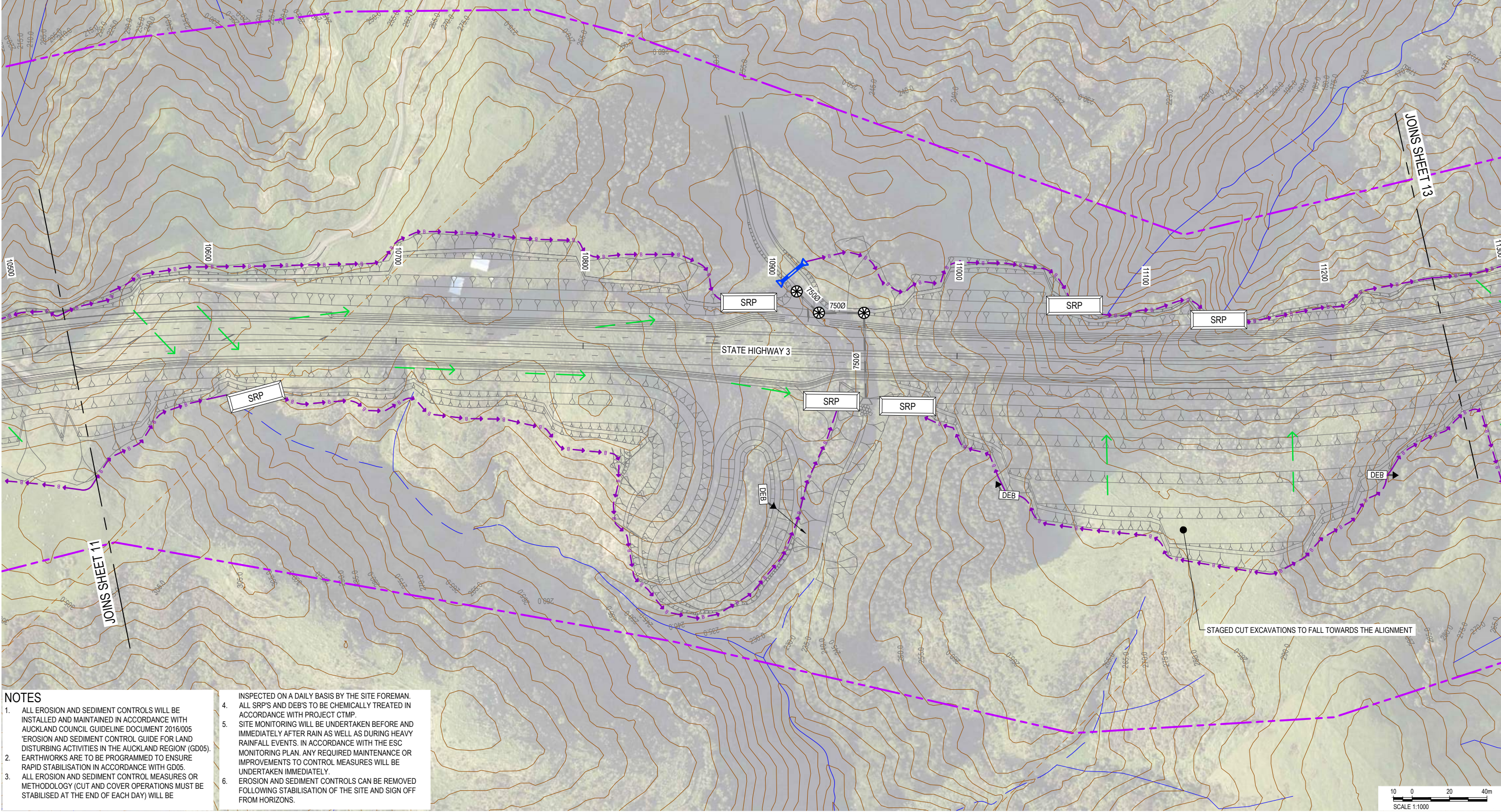
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 Date: 2020/02/24 13:30:30
 User: N. MCKINNON

SP140 23/01/20

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (Sediment Retention Pond)
- DEB (Decanting Earth Bund)
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 WIND TURBINE

KEY PLAN



- NOTES**
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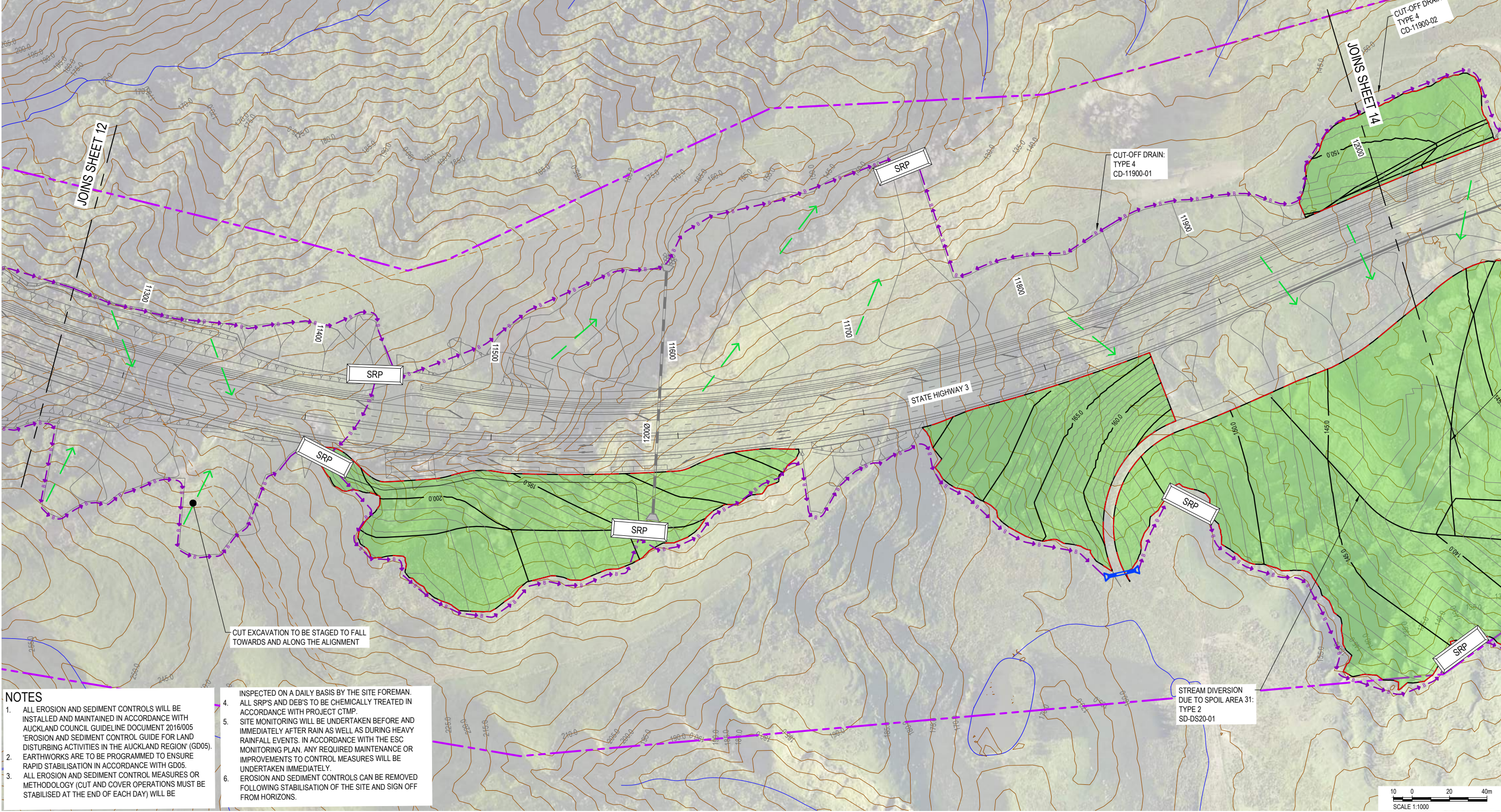
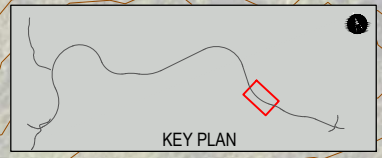
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CLIENT		REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT	PROJECT
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WAKA KOTAHĪ NZ TRANSPORT AGENCY						DRAWN L. STEINER		APPROVED	
Te Ahu a Turanga Manawatū Tararua Highway						DESIGNED C. STEWART		DATE 24/02/2020	
						REVIEWED D. MACKINTOSH		T. WATTERSON	
								T. WATTERSON	
TITLE	CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 12								
DRAWING No.	TAT	PROJECT No.		PHASE	3	TYPE	DG	DISC	E
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SPH40 24/02/20

LEGEND	
	PROPOSED DESIGNATION BOUNDARY
	COUNCIL BOUNDARY
	EXISTING PROPERTY BOUNDARY
	SEDIMENT RETENTION POND
	DECANTING EARTH BUND
	PERIMETER DIVERSION BUND / DRAIN
	STREAMS
	SILT FENCE
	TEMPORARY CULVERT / PIPE
	DIRECTION OF FLOW
	SPOIL SITE
	BRIDGE DECK
	PROPOSED CULVERT
	TAP03 WIND TURBINE



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CLIENT	REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT	PROJECT
	A	24/02/2020	ISSUED FOR REGIONAL CONSENT	D. MCGAHAN	1:1000	A1	NOT FOR CONSTRUCTION	TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY
					DRAWN		APPROVED	TITLE
					L. STEINER		T. WATTERSON	CONCEPT EROSION AND SEDIMENT CONTROL
					DESIGNED		DATE	BULK EARTHWORKS (MAIN ALIGNMENT)
					C. STEWART		24/02/2020	SHEET 13
					REVIEWED			DRAWING No.
					D. MACKINTOSH			TAT
								PROJECT No.
								3
								PHASE
								3
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								DG
								DISC
								E
								NUMBER
								3813
								REV
								A



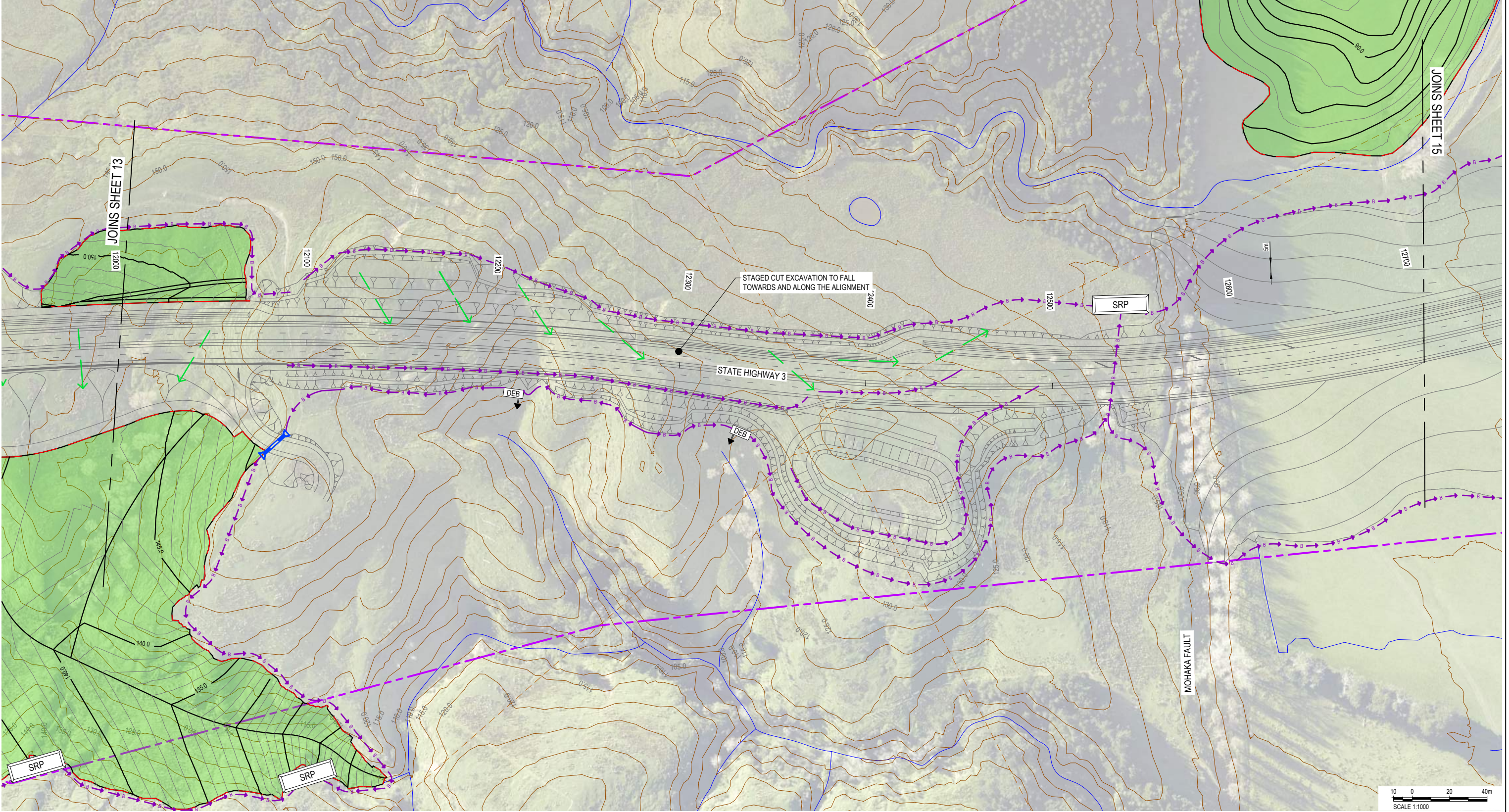
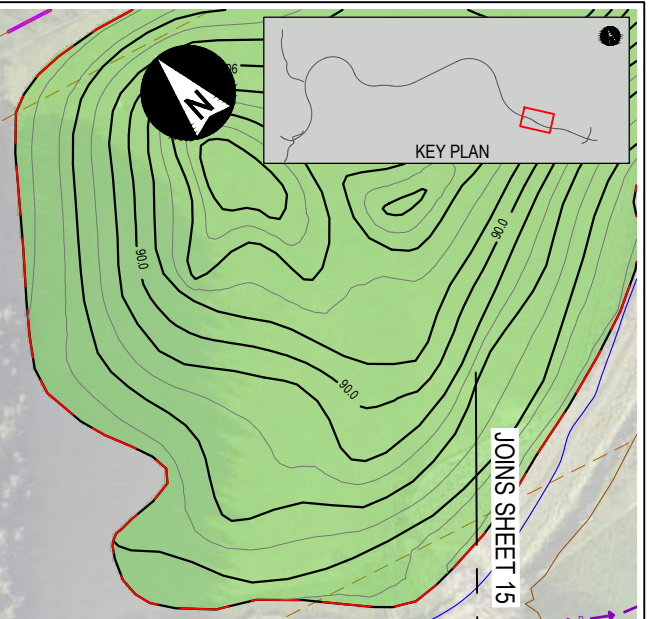
Te Ahu a Turanga
Manawatū Tararua Highway

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (Sediment Retention Pond)
- DEB (Decanting Earth Bund)
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 WIND TURBINE

NOTES

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P:\DWG\2020\24\13\13105_Civil_NZTA_Erwin_N.MANAWATU_TARARUA HIGHWAY 3A_Plan_Sheet 14.dwg - DESIGN WORKING HEADLINE UNDER DESIGN DRAWING. DRAWINGS, CONCEPT AND CONSENTING. TEL: 06 381 3812. DWG

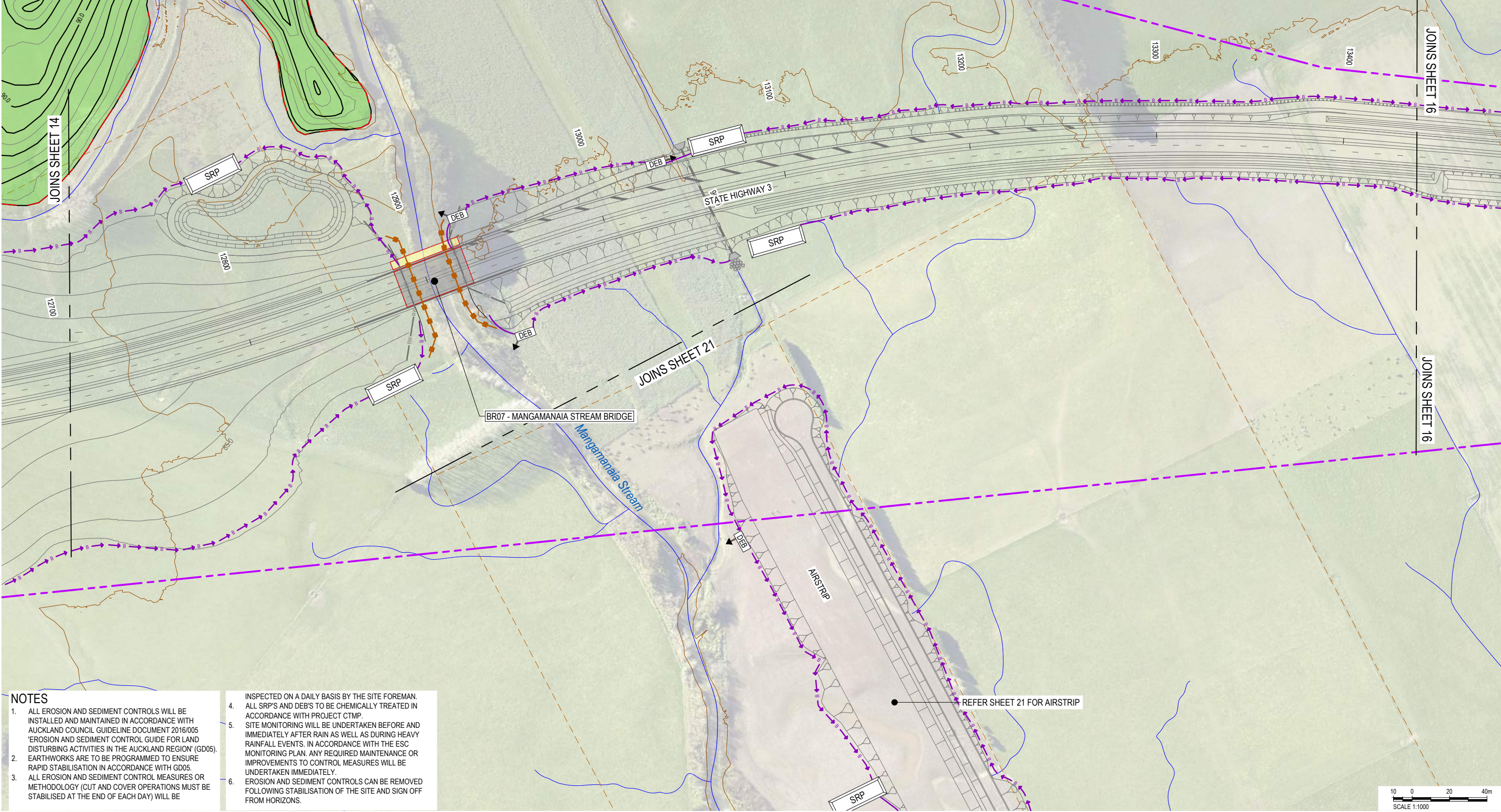
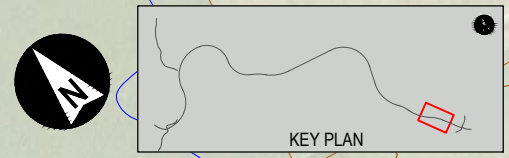
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		24/02/2020								APPROVED		TITLE	
		ISSUED FOR REGIONAL CONSENT								T. WATTERSON		CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 14	
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												PHASE - 3 -	
												TYPE - DG -	
												DISC - E -	
												NUMBER - 3814 -	
												REV - A	



SPH40 23/01/20

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (SEDIMENT RETENTION POND)
- DEB (DECANTING EARTH BUND)
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 WIND TURBINE



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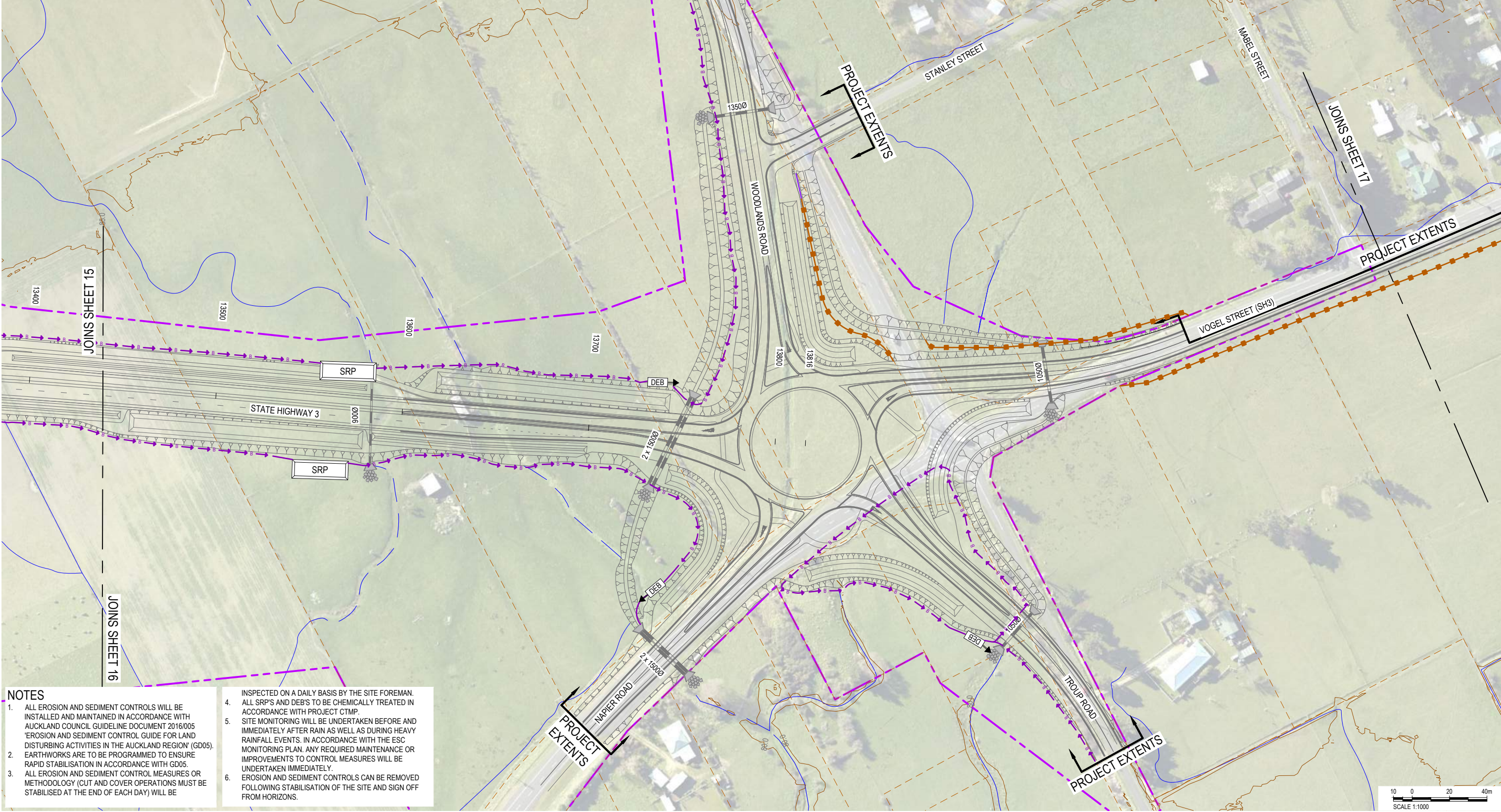
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CLIENT		REV		APPROVED	SCALE	SIZE	CONSENT	PROJECT
A		24/02/2020	ISSUED FOR REGIONAL CONSENT	D. McGAHAN	1:1000	A1	NOT FOR CONSTRUCTION	TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY
WAKA KOTAHI NZ TRANSPORT AGENCY		Te Ahu a Turanga Manawatū Tararua Highway		DRAWN L. STEINER	DESIGNED C. STEWART		APPROVED T. WATTERSON	TITLE CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 15
DRAWING No.		PROJECT No.	PHASE	TYPE	DISC	NUMBER	REV	
TAT		3	DG	E	3815	A		

SP140 23/01/20

LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (Sediment Retention Pond)
- DEB (Decanting Earth Bund)
- PERIMETER DIVERSION BUND / DRAIN
- STREAMS
- SILT FENCE
- TEMPORARY CULVERT / PIPE
- DIRECTION OF FLOW
- SPOIL SITE
- BRIDGE DECK
- PROPOSED CULVERT
- TAP03 WIND TURBINE



- NOTES**
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Proj. Date: 2020/02/24 15:31:32 Client: WAKA KOTAHĪ
 Engineer: N. MANAWATŪ TARARUA HIGHWAY TEAM PHASES: TECHNICAL - DESIGN WORKING HEADLINE/ENGINEER DESIGN DRAWING - DESIGN WORKING HEADLINE/ENGINEER DESIGN AND CONSENTING/NO.13.DOC.E.3816.3817.DWG

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						L. STEINER				DATE		CONCEPT EROSION AND SEDIMENT CONTROL	
						DESIGNED				24/02/2020		BULK EARTHWORKS (MAIN ALIGNMENT)	
						C. STEWART				T. WATTERSON		SHEET 16	
						REVIEWED				T. WATTERSON		DRAWING No.	
						D. MACKINTOSH				T. WATTERSON		PROJECT No.	
												TAT	
												PHASE	
												3	
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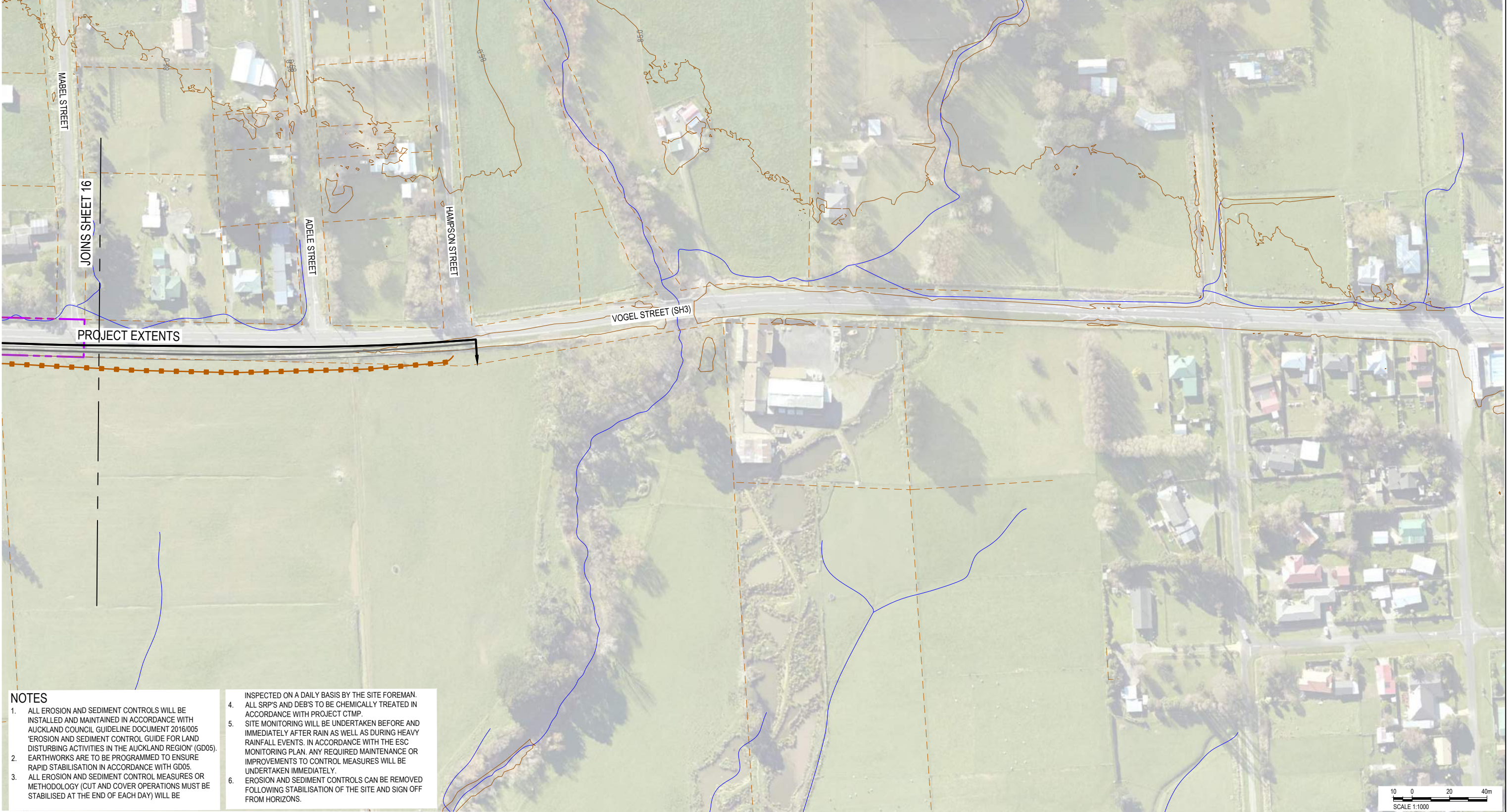


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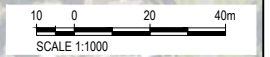
LEGEND

- PROPOSED DESIGNATION BOUNDARY
- COUNCIL BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SRP (SEDIMENT RETENTION POND)
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KEY PLAN



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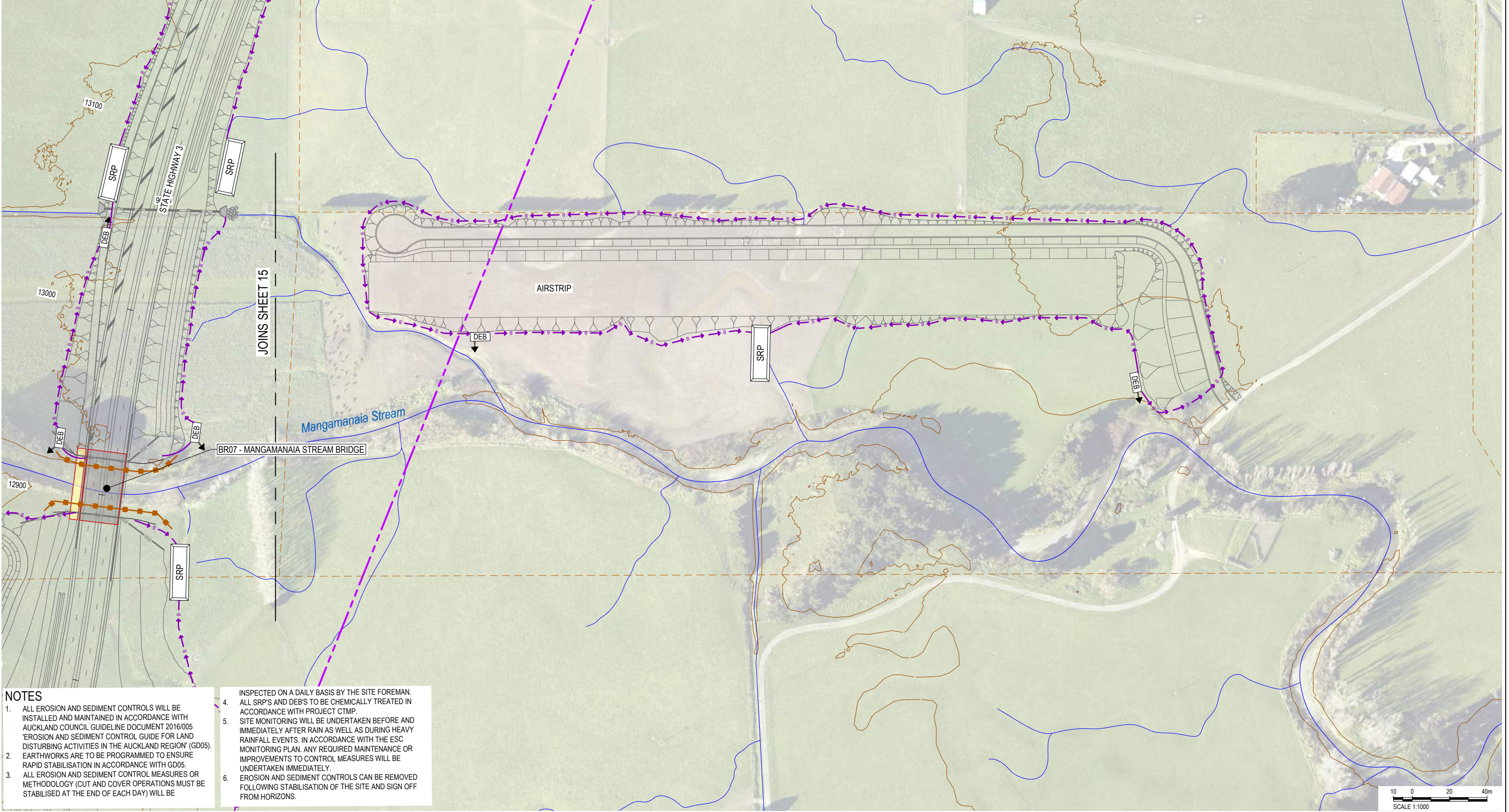
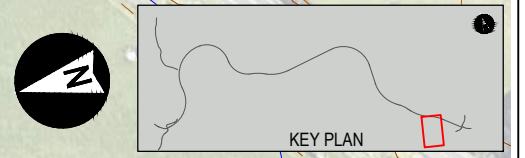
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						DRAWN		APPROVED	TITLE
						L. STEINER		T. WATTERSON	CONCEPT EROSION AND SEDIMENT CONTROL
						DESIGNED		DATE	BULK EARTHWORKS (MAIN ALIGNMENT)
						C. STEWART		24/02/2020	SHEET 17
						REVIEWED			DRAWING No.
						D. MACKINTOSH			TAT
									PROJECT No.
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									PHASE
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									TYPE
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SPH40 23/01/20

LEGEND

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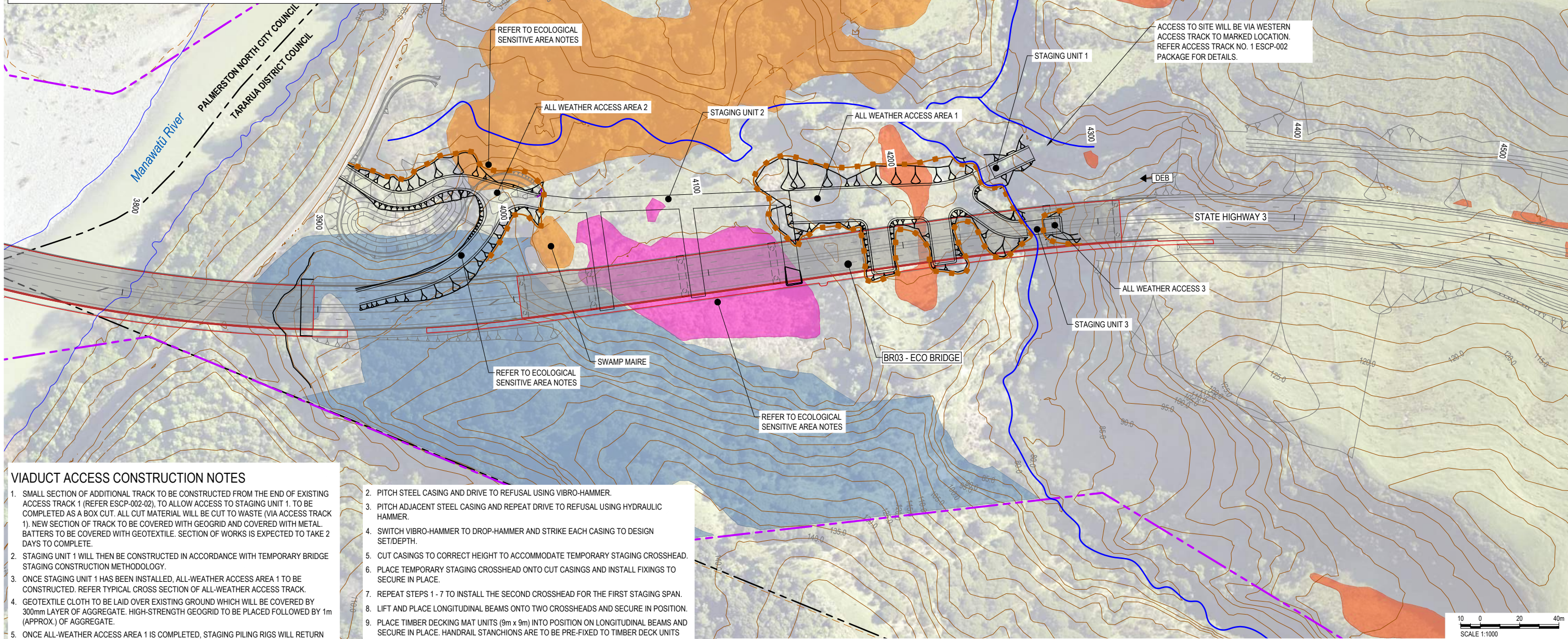
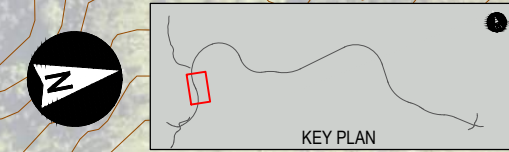
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WAKA KOTAHI NZ TRANSPORT AGENCY						DRAWN L. STEINER		APPROVED		
Te Ahu a Turanga Manawatū Tararua Highway						DESIGNED C. STEWART		DATE 24/02/2020		
						REVIEWED D. MACKINTOSH		T. WATTERSON		
								T. WATTERSON		
TITLE	CONCEPT EROSION AND SEDIMENT CONTROL BULK EARTHWORKS (MAIN ALIGNMENT) SHEET 21									
DRAWING No.	TAT	PROJECT No.		PHASE	3	TYPE	DG	DISC	E	
				NUMBER	3821	REV	A			

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	COUNCIL BOUNDARY
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	STREAMS
	SEDIMENT RETENTION POND
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	SILT FENCE
	TEMPORARY CULVERT
	PROPOSED CULVERT
	DIRECTION OF FLOW
	TEMPORARY PIPE IN SWALE DRAIN
	HIGH VALUE SEEPAGE WETLANDS
	KANUKA FORESTS
	OLD GROWTH FOREST ALLUVIAL
	EXOTIC OR NATIVE DOMINATED WETLAND

- ### NOTES
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VIADUCT ACCESS CONSTRUCTION NOTES

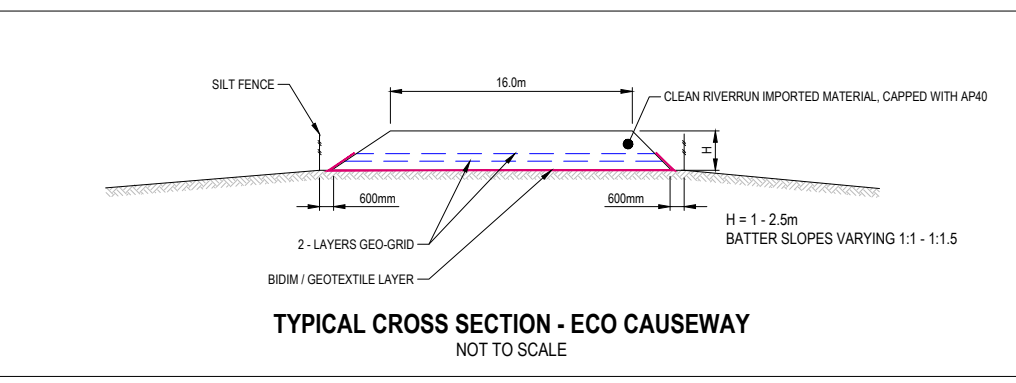
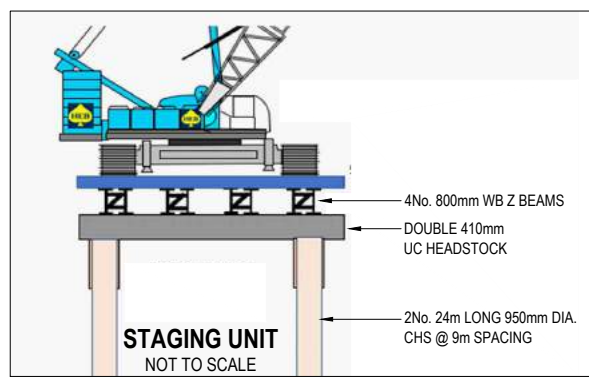
- SMALL SECTION OF ADDITIONAL TRACK TO BE CONSTRUCTED FROM THE END OF EXISTING ACCESS TRACK 1 (REFER ESCP-002-02), TO ALLOW ACCESS TO STAGING UNIT 1. TO BE COMPLETED AS A BOX CUT. ALL CUT MATERIAL WILL BE CUT TO WASTE (VIA ACCESS TRACK 1). NEW SECTION OF TRACK TO BE COVERED WITH GEOGRID AND COVERED WITH METAL. BATTERS TO BE COVERED WITH GEOTEXTILE. SECTION OF WORKS IS EXPECTED TO TAKE 2 DAYS TO COMPLETE.
- STAGING UNIT 1 WILL THEN BE CONSTRUCTED IN ACCORDANCE WITH TEMPORARY BRIDGE STAGING CONSTRUCTION METHODOLOGY.
- ONCE STAGING UNIT 1 HAS BEEN INSTALLED, ALL-WEATHER ACCESS AREA 1 TO BE CONSTRUCTED. REFER TYPICAL CROSS SECTION OF ALL-WEATHER ACCESS TRACK.
- GEOTEXTILE CLOTH TO BE LAID OVER EXISTING GROUND WHICH WILL BE COVERED BY 300mm LAYER OF AGGREGATE. HIGH-STRENGTH GEOGRID TO BE PLACED FOLLOWED BY 1m (APPROX.) OF AGGREGATE.
- ONCE ALL-WEATHER ACCESS AREA 1 IS COMPLETED, STAGING PILING RIGS WILL RETURN AND COMMENCE INSTALLATION OF STAGING UNIT 2. STAGING UNIT TO BE CONSTRUCTED IN ACCORDANCE WITH TEMPORARY BRIDGE STAGING CONSTRUCTION METHODOLOGY.
- UPON COMPLETION OF STAGING UNIT 2, ALL-WEATHER ACCESS AREA 2 WILL BE CONSTRUCTED. FOLLOW SAME METHODOLOGY AS PER CONSTRUCTION OF ALL-WEATHER ACCESS AREA 1.
- METHODOLOGY TO BE REPEATED FOR STAGING UNIT 3 AND ALL-WEATHER ACCESS AREA 3.

- PITCH STEEL CASING AND DRIVE TO REFUSAL USING VIBRO-HAMMER.
- PITCH ADJACENT STEEL CASING AND REPEAT DRIVE TO REFUSAL USING HYDRAULIC HAMMER.
- SWITCH VIBRO-HAMMER TO DROP-HAMMER AND STRIKE EACH CASING TO DESIGN SET/DEPTH.
- CUT CASINGS TO CORRECT HEIGHT TO ACCOMMODATE TEMPORARY STAGING CROSSHEAD.
- PLACE TEMPORARY STAGING CROSSHEAD ONTO CUT CASINGS AND INSTALL FIXINGS TO SECURE IN PLACE.
- REPEAT STEPS 1 - 7 TO INSTALL THE SECOND CROSSHEAD FOR THE FIRST STAGING SPAN.
- LIFT AND PLACE LONGITUDINAL BEAMS ONTO TWO CROSSHEADS AND SECURE IN POSITION.
- PLACE TIMBER DECKING MAT UNITS (9m x 9m) INTO POSITION ON LONGITUDINAL BEAMS AND SECURE IN PLACE. HANDRAIL STANCHIONS ARE TO BE PRE-FIXED TO TIMBER DECK UNITS PRIOR TO INSTALLATION.
- COMPLETE HANDRAIL AND TOE-BOARD INSTALLATION.
- COMPLETE REQUIRED TEMPORARY WORKS DESIGN CHECKS AND CONFIRM APPROVAL TO LOAD THE SPAN.
- REPEAT STEPS 7-11 FOR REMAINING STAGING SPANS.

TEMPORARY BRIDGE STAGING CONSTRUCTION METHODOLOGY

- TEMPORARY STAGING UNITS TO BE CONSTRUCTED USING THE SAME CONSTRUCTION METHODOLOGY IN A STAGED MANNER AS FOLLOWS:
- PILING RIG TO BE SET UP ON THE ACCESS AREAS AND WORK IN A NORTH TO SOUTH DIRECTION.
- INSTALLATION OF TEMPORARY STAGING TO BE UNDERTAKEN IN STAGED MANNER AS FOLLOWS:
- SETOUT STAGING PILE (STEEL CASING) LOCATIONS WORKING FROM THE END OF THE ALL-WEATHER ACCESS AREA.

- ### ECOLOGICAL SENSITIVE AREA NOTES
- PRIOR TO WORKS COMMENCING AREAS OF NATIVE VEGETATION AND WETLANDS ARE TO BE FENCED AND VIEWED ON SITE BY IWI CULTURAL MONITORS SO EXTENT OF VEGETATION CLEARANCE WILL BE CLEARLY AND PHYSICALLY DELINEATED.
 - NO CONSTRUCTION MATERIALS OR WASTE TO BE DEPOSITED INTO VEGETATION OUTSIDE OF FENCING.
 - PRIOR TO VEGETATION CLEARANCE APPROVAL MUST BE OBTAINED FROM THE PROJECT ECOLOGIST THAT NATIVE FAUNA AND FLORA RELOCATIONS HAVE BEEN COMPLETED.
 - VEGETATION CLEARANCE CAN ONLY BE UNDERTAKEN BETWEEN 1 OCTOBER TO 31 MARCH.

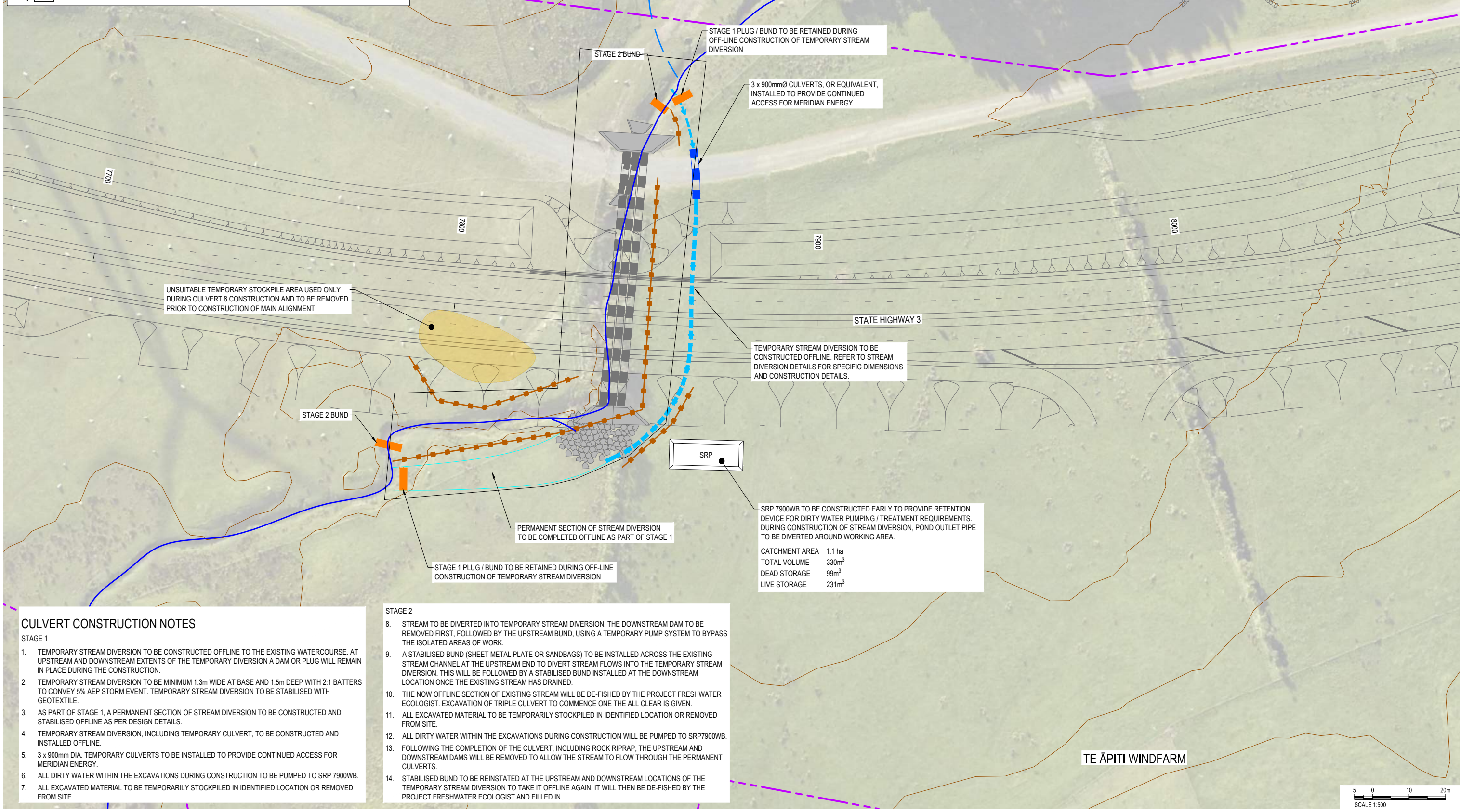
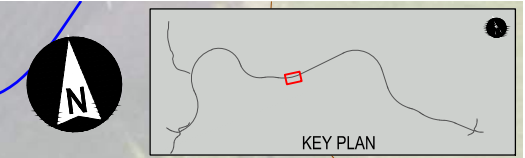


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WAKA KOTAHU NZ TRANSPORT AGENCY		A	24/02/2020	ISSUED FOR REGIONAL CONSENT	D. MCGAHAN	1:1000	A1	NOT FOR CONSTRUCTION	TE AHU A TURANGA: MANAWATU TARARUA HIGHWAY	
Te Ahu a Turanga Manawatu Tararua Highway		DRAWN		DESIGNED		REVIEWED		APPROVED	TITLE	
		L. STEINER		C. STEWART		D. MACKINTOSH		T. WATTERSON	SITE SPECIFIC EROSION AND SEDIMENT CONTROL ECO BRIDGE	
		DATE		PROJECT No.		PHASE		TYPE		
		24/02/2020		TAT		3		DG		
		DISC		NUMBER		REV				
		E		3831		A				

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LEGEND	
	PROPOSED DESIGNATION BOUNDARY
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	DECANTING EARTH BUND
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CULVERT CONSTRUCTION NOTES

- STAGE 1**
1. TEMPORARY STREAM DIVERSION TO BE CONSTRUCTED OFFLINE TO THE EXISTING WATERCOURSE. AT UPSTREAM AND DOWNSTREAM EXTENTS OF THE TEMPORARY DIVERSION A DAM OR PLUG WILL REMAIN IN PLACE DURING THE CONSTRUCTION.
 2. TEMPORARY STREAM DIVERSION TO BE MINIMUM 1.3m WIDE AT BASE AND 1.5m DEEP WITH 2:1 BATTERS TO CONVEY 5% AEP STORM EVENT. TEMPORARY STREAM DIVERSION TO BE STABILISED WITH GEOTEXTILE.
 3. AS PART OF STAGE 1, A PERMANENT SECTION OF STREAM DIVERSION TO BE CONSTRUCTED AND STABILISED OFFLINE AS PER DESIGN DETAILS.
 4. TEMPORARY STREAM DIVERSION, INCLUDING TEMPORARY CULVERT, TO BE CONSTRUCTED AND INSTALLED OFFLINE.
 5. 3 x 900mm DIA. TEMPORARY CULVERTS TO BE INSTALLED TO PROVIDE CONTINUED ACCESS FOR MERIDIAN ENERGY.
 6. ALL DIRTY WATER WITHIN THE EXCAVATIONS DURING CONSTRUCTION TO BE PUMPED TO SRP 7900WB.
 7. ALL EXCAVATED MATERIAL TO BE TEMPORARILY STOCKPILED IN IDENTIFIED LOCATION OR REMOVED FROM SITE.

- STAGE 2**
8. STREAM TO BE DIVERTED INTO TEMPORARY STREAM DIVERSION. THE DOWNSTREAM DAM TO BE REMOVED FIRST, FOLLOWED BY THE UPSTREAM BUND, USING A TEMPORARY PUMP SYSTEM TO BYPASS THE ISOLATED AREAS OF WORK.
 9. A STABILISED BUND (SHEET METAL PLATE OR SANDBAGS) TO BE INSTALLED ACROSS THE EXISTING STREAM CHANNEL AT THE UPSTREAM END TO DIVERT STREAM FLOWS INTO THE TEMPORARY STREAM DIVERSION. THIS WILL BE FOLLOWED BY A STABILISED BUND INSTALLED AT THE DOWNSTREAM LOCATION ONCE THE EXISTING STREAM HAS DRAINED.
 10. THE NOW OFFLINE SECTION OF EXISTING STREAM WILL BE DE-FISHED BY THE PROJECT FRESHWATER ECOLOGIST. EXCAVATION OF TRIPLE CULVERT TO COMMENCE ONCE THE ALL CLEAR IS GIVEN.
 11. ALL EXCAVATED MATERIAL TO BE TEMPORARILY STOCKPILED IN IDENTIFIED LOCATION OR REMOVED FROM SITE.
 12. ALL DIRTY WATER WITHIN THE EXCAVATIONS DURING CONSTRUCTION WILL BE PUMPED TO SRP7900WB.
 13. FOLLOWING THE COMPLETION OF THE CULVERT, INCLUDING ROCK RIPRAP, THE UPSTREAM AND DOWNSTREAM DAMS WILL BE REMOVED TO ALLOW THE STREAM TO FLOW THROUGH THE PERMANENT CULVERTS.
 14. STABILISED BUND TO BE REINSTATED AT THE UPSTREAM AND DOWNSTREAM LOCATIONS OF THE TEMPORARY STREAM DIVERSION TO TAKE IT OFFLINE AGAIN. IT WILL THEN BE DE-FISHED BY THE PROJECT FRESHWATER ECOLOGIST AND FILLED IN.

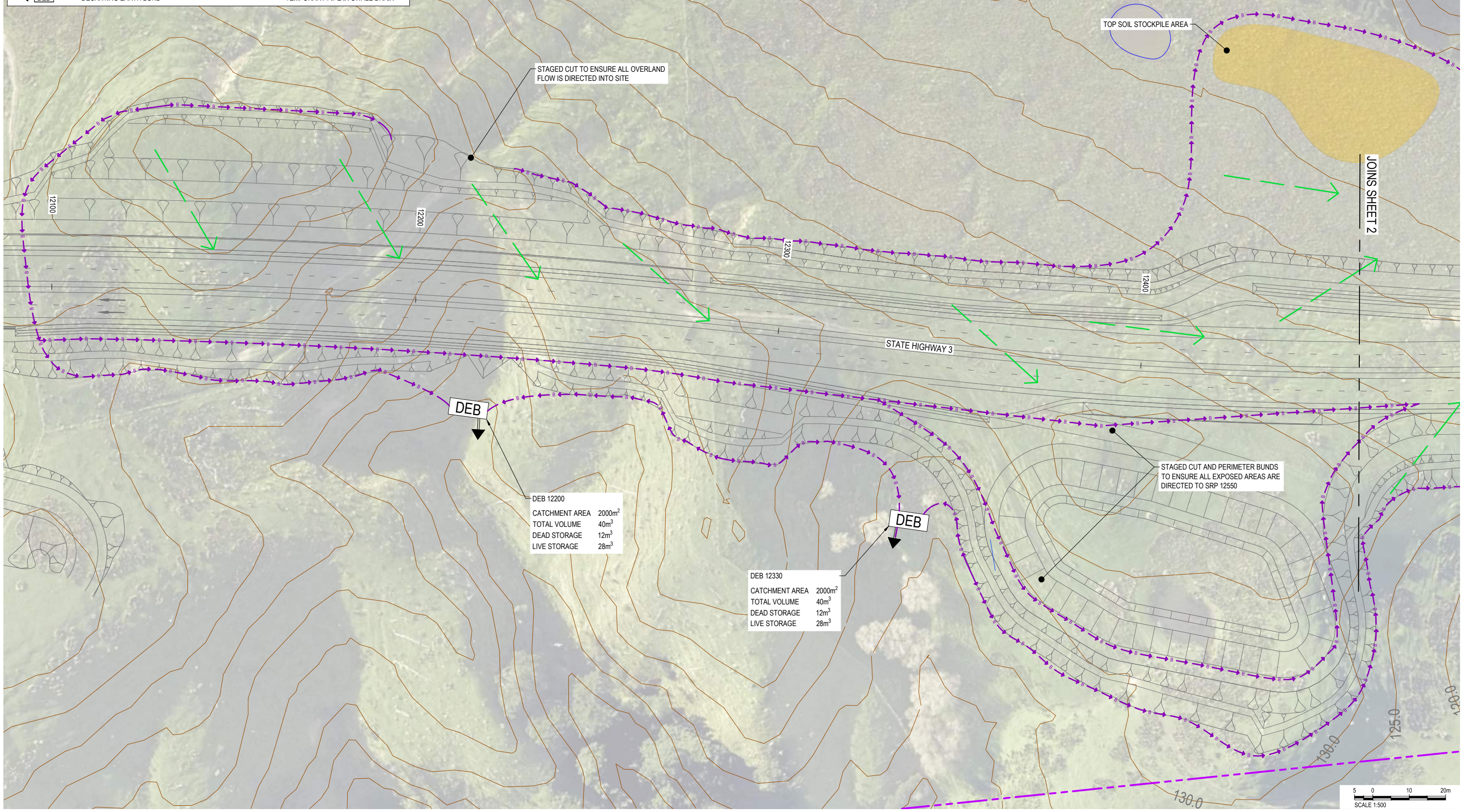
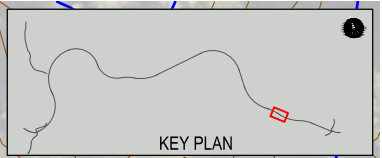
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CLIENT	REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT NOT FOR CONSTRUCTION	PROJECT	TE AHU A TURANGA: MANAWATŪ TARARUA HIGHWAY
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					L. STEINER		DATE		
					DESIGNED		24/02/2020		
					C. STEWART		T. WATTERSON		
					REVIEWED		T. WATTERSON	DRAWING No.	PROJECT No.
					D. MACKINTOSH			TAT	3
								PHASE	TYPE
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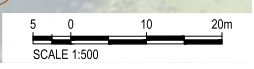


LEGEND	
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 5. ALL PERIMETER BUNDS TO BE A MINIMUM OF 0.55 m HIGH UNLESS OTHERWISE SPECIFIED.

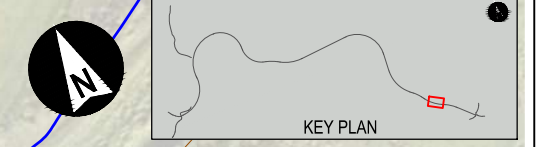


Proj. No. 2019/02/11/45/55 Client: DCAHA File Name: N:\MANAWATU TARARUA HIGHWAY\BIM PHASES\TECHNICAL - DESIGN WORKING\HEAVY\TERRAIN\DESIGN\DRAWING - CONCEPT AND CONSENTING\13130.E.383.388.DWG



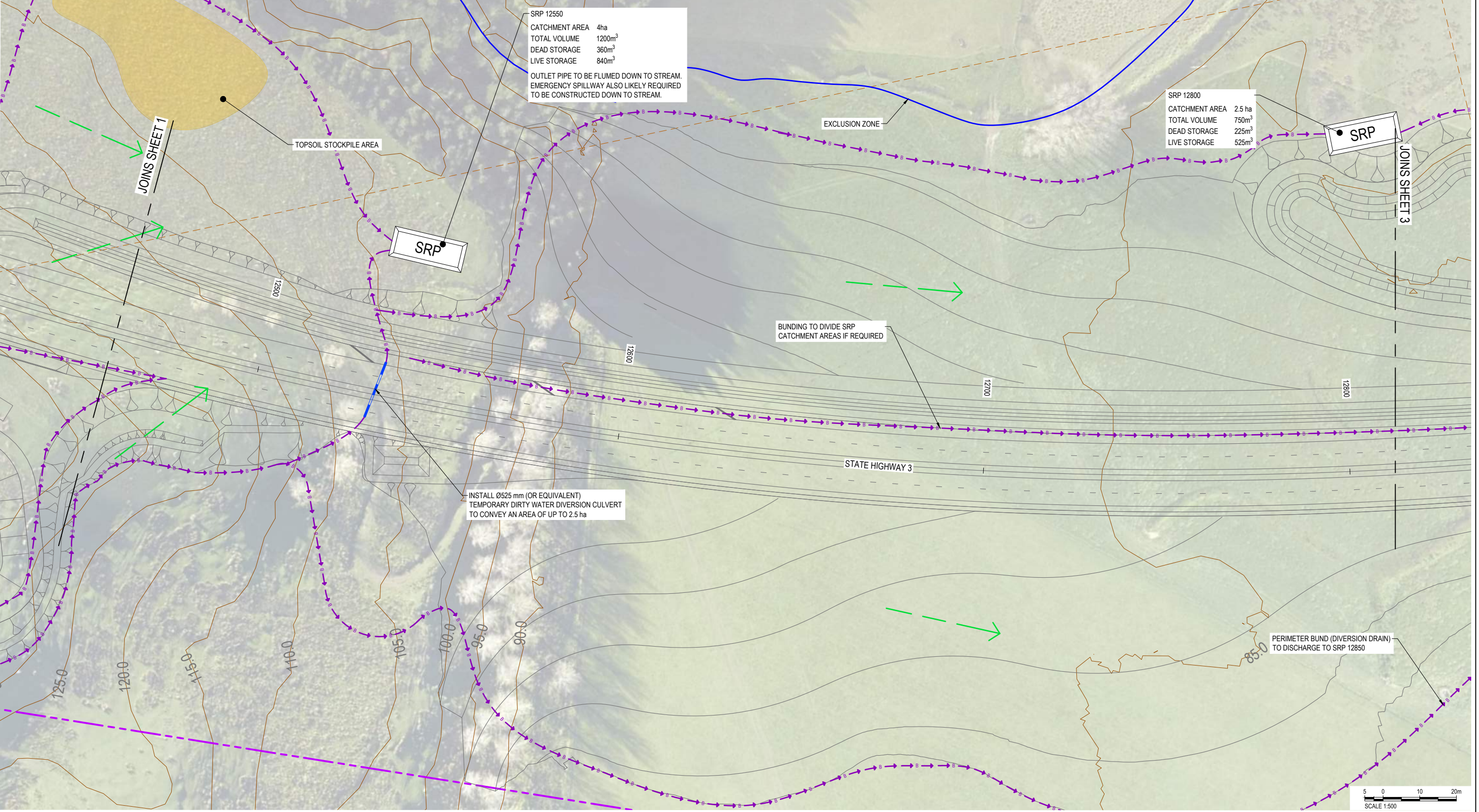
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							APPROVED	TITLE
							T. WATTERSON	SITE SPECIFIC EROSION AND SEDIMENT CONTROL
							T. WATTERSON	CH 12100 - 12900
								SHEET 1
								DRAWING No. PROJECT No. PHASE TYPE DISC NUMBER REV
								TAT - 3 - DG - E - 3833 - A

LEGEND	
	PROPOSED DESIGNATION BOUNDARY
	COUNCIL BOUNDARY
	EXISTING PROPERTY BOUNDARY
	STREAMS
	SEDIMENT RETENTION POND
	DECANTING EARTH BUND
	PERIMETER DIVERSION BUND / DRAIN
	SILT FENCE
	TEMPORARY CULVERT
	PROPOSED CULVERT
	DIRECTION OF FLOW
	TEMPORARY PIPE IN SWALE DRAIN



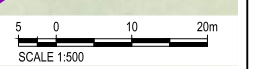
SRP 12550
 CATCHMENT AREA 4ha
 TOTAL VOLUME 1200m³
 DEAD STORAGE 360m³
 LIVE STORAGE 840m³
 OUTLET PIPE TO BE FLUMED DOWN TO STREAM.
 EMERGENCY SPILLWAY ALSO LIKELY REQUIRED TO BE CONSTRUCTED DOWN TO STREAM.

SRP 12800
 CATCHMENT AREA 2.5 ha
 TOTAL VOLUME 750m³
 DEAD STORAGE 225m³
 LIVE STORAGE 525m³



INSTALL Ø525 mm (OR EQUIVALENT)
 TEMPORARY DIRTY WATER DIVERSION CULVERT
 TO CONVEY AN AREA OF UP TO 2.5 ha

PERIMETER BUND (DIVERSION DRAIN)
 TO DISCHARGE TO SRP 12850



Proj Date: 2020/02/11 16:14 Client: DCAHA Elevation: N MANAWATU TARARUA HIGHWAY PHASES TECHNICAL - DESIGN WORKING HEADLINE/INCHLINE DRAWING DRAWING: DRAWING: CONCEPT AND CONSENTING/TA13/DC/E/383/388.DWG

REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	CONSENT	PROJECT
A	24/02/2020	ISSUED FOR REGIONAL CONSENT	D. MCGAHAN	1:500	A1	NOT FOR CONSTRUCTION	TE AHU A TURANGA: MANAWATU TARARUA HIGHWAY
				DRAWN	APPROVED		TITLE
				L. STEINER	DATE		SITE SPECIFIC EROSION AND SEDIMENT CONTROL
				DESIGNED	24/02/2020		CH 12100 - 12900
				C. STEWART	T. WATTERSON		SHEET 2
				REVIEWED	T. WATTERSON		DRAWING No. PROJECT No. PHASE TYPE DISC NUMBER REV
				D. MACKINTOSH	T. WATTERSON		TAT - 3 - DG - E - 3834 - A

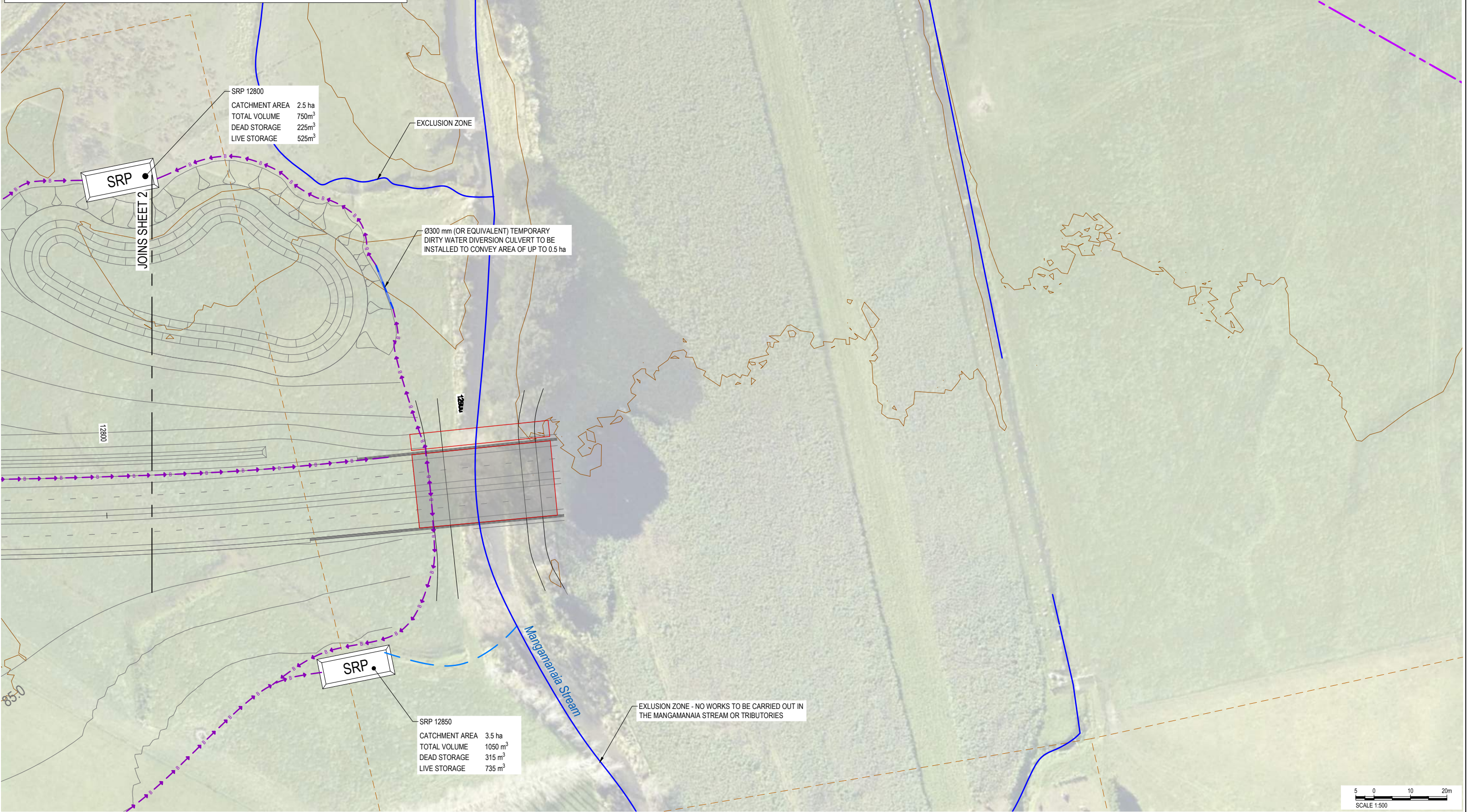
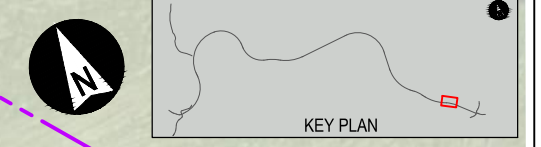


GP1340 23/01/20

LEGEND

	PROPOSED DESIGNATION BOUNDARY		PERIMETER DIVERSION BUND / DRAIN
	COUNCIL BOUNDARY		SILT FENCE
	EXISTING PROPERTY BOUNDARY		TEMPORARY CULVERT
	STREAMS		PROPOSED CULVERT
	SEDIMENT RETENTION POND		DIRECTION OF FLOW
	DECANTING EARTH BUND		TEMPORARY PIPE IN SWALE DRAIN

- NOTES**
1. ALL EROSION AND SEDIMENT CONTROLS TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH AUCKLAND COUNCIL GUIDELINE DOCUMENT 2016/005 'EROSION AND SEDIMENT CONTROL GUIDE FOR LAND DISTURBING ACTIVITIES IN THE AUCKLAND REGION' (GD05).
 2. EARTHWORKS ARE TO BE PROGRAMMED TO ENSURE RAPID STABILISATION IN ACCORDANCE WITH GD05.
 3. ALL EROSION AND SEDIMENT CONTROL MEASURES OR METHODOLOGY (CUT AND COVER OPERATIONS MUST BE STABILISED AT THE END OF EACH DAY) WILL BE INSPECTED ON A DAILY BASIS BY THE SITE FOREMAN.
 4. SITE MONITORING WILL BE UNDERTAKEN BEFORE AND IMMEDIATELY AFTER RAIN AS WELL AS DURING HEAVY RAINFALL EVENTS. ANY REQUIRED MAINTENANCE OR IMPROVEMENTS TO CONTROL MEASURES WILL BE UNDERTAKEN IMMEDIATELY.
 5. ALL PERIMETER BUNDS TO BE A MINIMUM OF 0.55 m HIGH UNLESS OTHERWISE SPECIFIED.

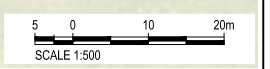


SRP 12800
 CATCHMENT AREA 2.5 ha
 TOTAL VOLUME 750m³
 DEAD STORAGE 225m³
 LIVE STORAGE 525m³

Ø300 mm (OR EQUIVALENT) TEMPORARY DIRTY WATER DIVERSION CULVERT TO BE INSTALLED TO CONVEY AREA OF UP TO 0.5 ha

SRP 12850
 CATCHMENT AREA 3.5 ha
 TOTAL VOLUME 1050 m³
 DEAD STORAGE 315 m³
 LIVE STORAGE 735 m³

EXCLUSION ZONE - NO WORKS TO BE CARRIED OUT IN THE MANGAMANIA STREAM OR TRIBUTORIES



Proj. Draw: 2020/02/11/46/32 Client: DCAHA File Name: N:\MANAWATU\TARARUA HIGHWAY\BIM\PHASES\TECHNICAL - DESIGN WORKING\HELD\BIM\DRAWING\DRAWING - DESIGN WORKING\HELD\BIM\DRAWING\DRAWING - DESIGN WORKING\CONCEPT AND CONSENTING\13\DC E 3835 3835.DWG

CLIENT		REV		DATE		REVISION DETAILS		APPROVED		SCALE		SIZE		CONSENT		PROJECT	
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Te Ahu a Turanga Manawatū Tararua Highway										L. STEINER				DATE		SITE SPECIFIC EROSION AND SEDIMENT CONTROL	
										DESIGNED				24/02/2020		CH 12100 - 12900	
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										REVIEWED						DRAWING No.	
										D. MACKINTOSH				T. WATTERSON		PROJECT No.	
														T. WATTERSON		TAT	
																PHASE	
																3	
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