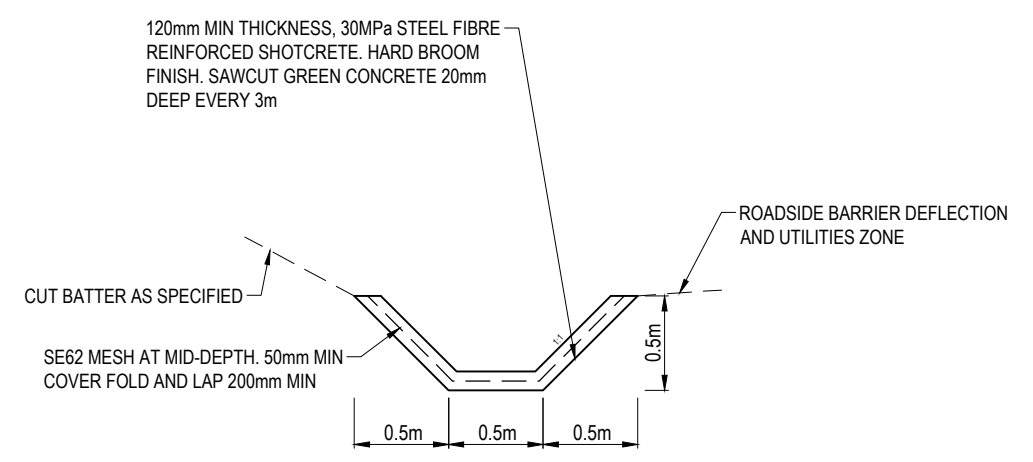
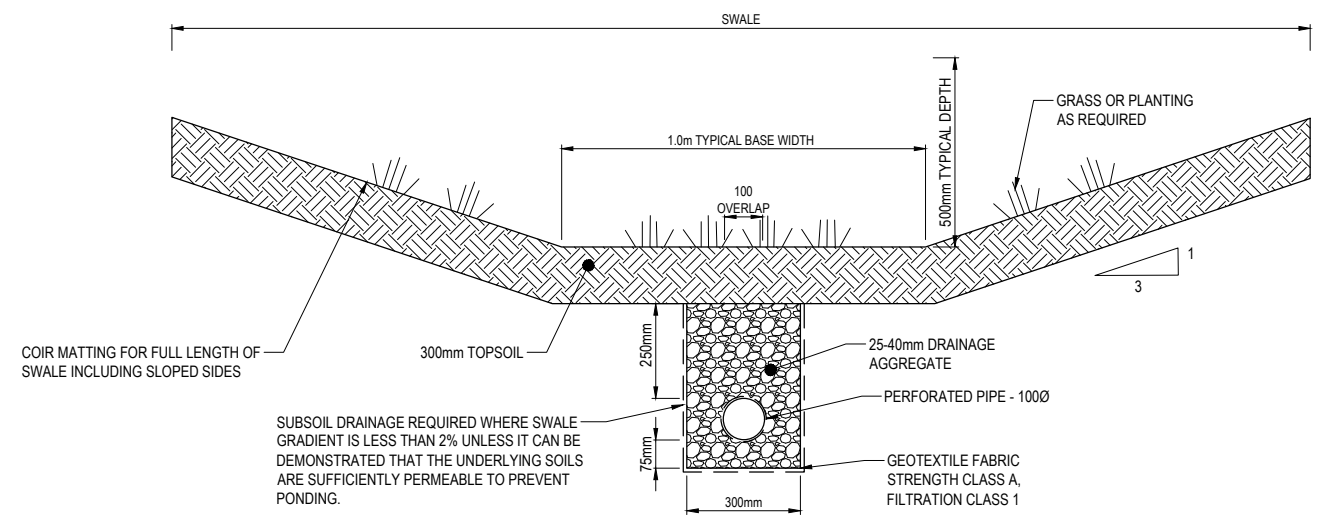


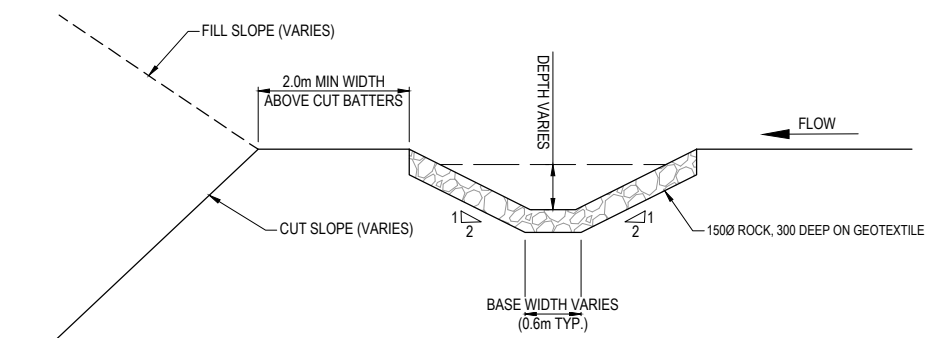
**TYPICAL WETLAND SWALE CROSS SECTION DETAILS**  
NTS



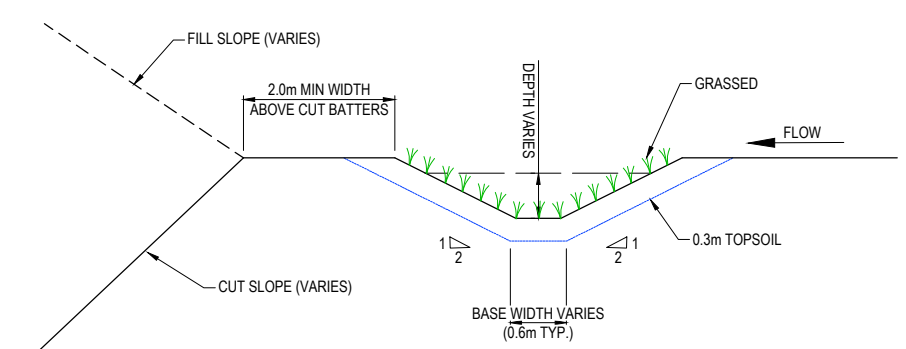
**TYPICAL ROADSIDE CONVEYANCE CHANNEL**  
NTS



**TYPICAL TREATMENT SWALE**  
NTS



**TYPICAL CUT-OFF DRAIN ( ROCK LINED )**  
( VELOCITY > 2.0 m/s )  
NTS



**TYPICAL CUT-OFF DRAIN ( GRASSED )**  
( VELOCITY ≤ 2.0m/s )  
NTS

Original size mm  
300  
200  
150  
100  
50  
10  
0

PROJECT  
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COORDINATE SYSTEM: NZTM 2000, VERTICAL DATUM: NZVD2016  
ORIGINAL IN COLOUR DETAIL MAY BE LOST IF COPIED

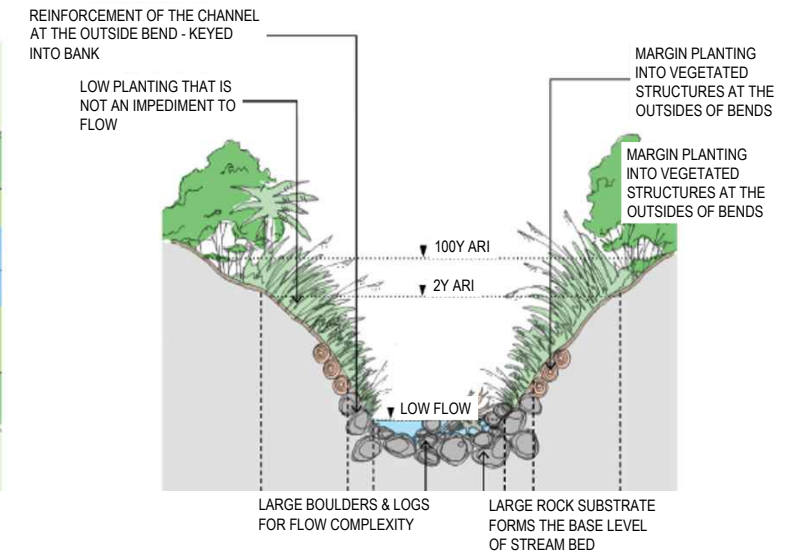
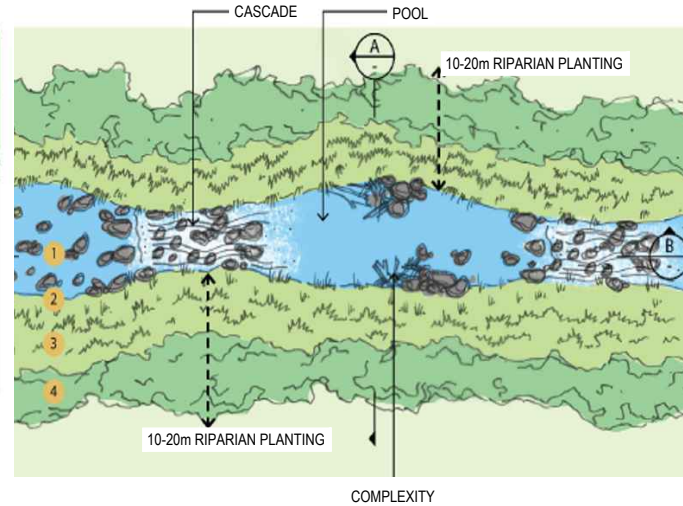
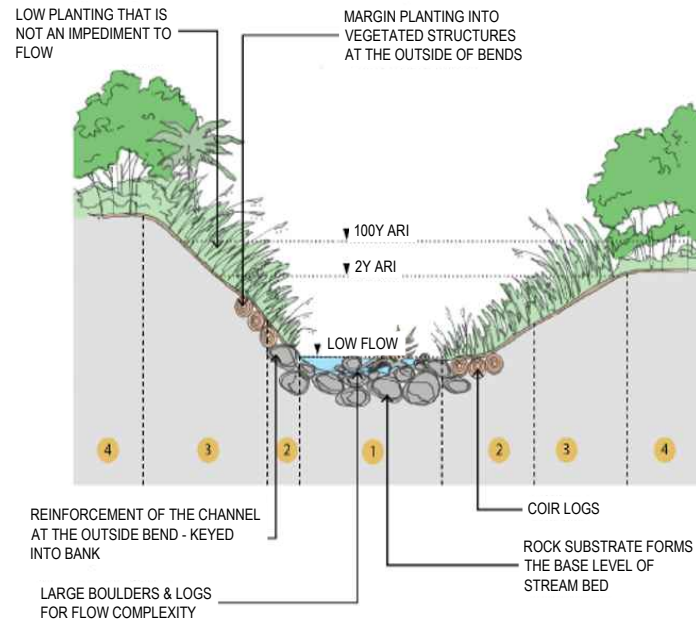
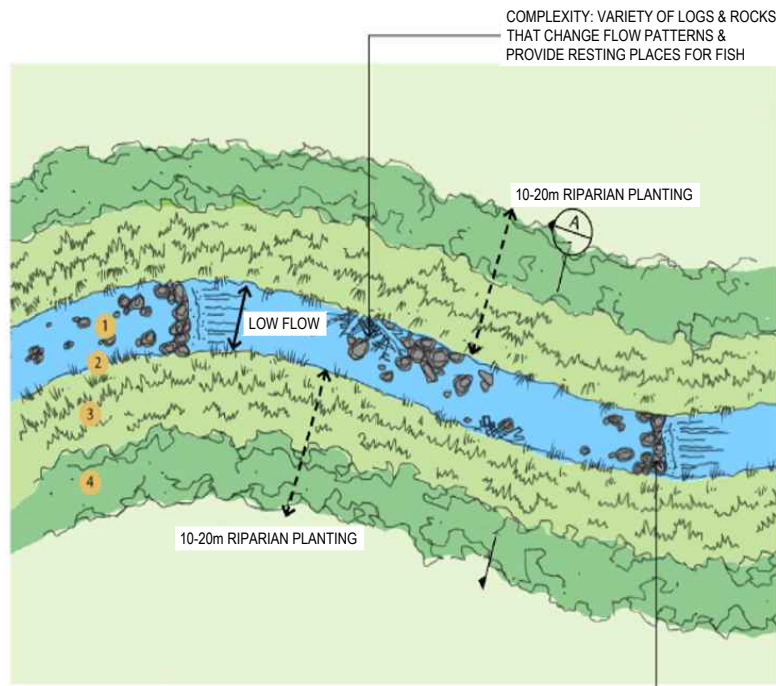
REV	DATE	REVISION DETAILS	APPROVED
A	18.02.26	CONSENT DESIGN FOR CLIENT REVIEW	R.D
B	27.03.26	CONSENT DESIGN FOR LODGEMENT	R.D

STATUS	TITLE
CONSENT DESIGN	BRYNDERWYN HILLS SECTION TYPICAL STORMWATER DETAILS CHANNELS & DRAINS
APPROVED	
R.DUPLOOY	
APPROVED BY	DATE
R.DUPLOOY	27.03.26

PROJECT LEAD	DATE
T.IRELAND	27.03.26

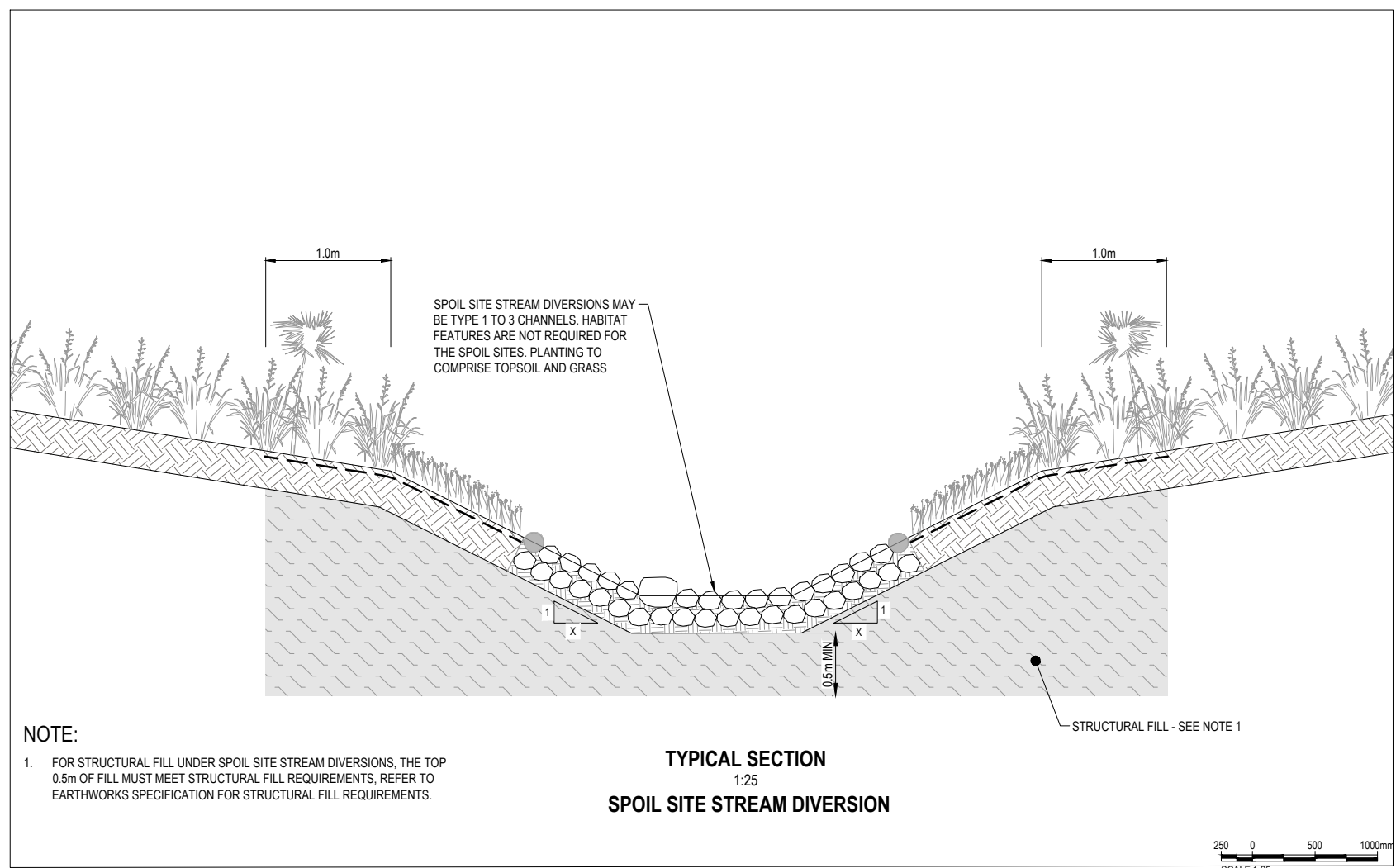
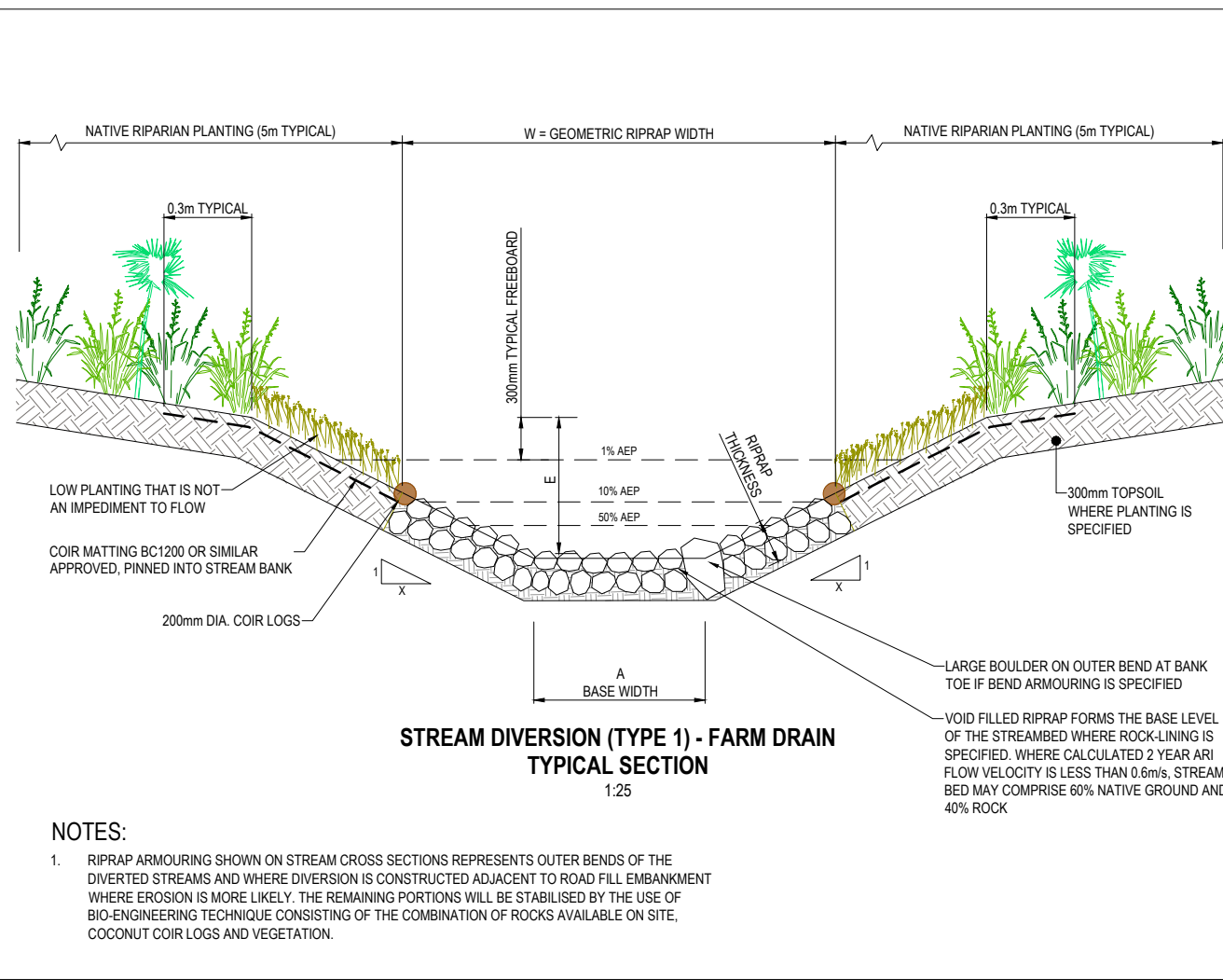
PROJECT INFORMATION			
NORTHLAND CORRIDOR			
DOCUMENT CODE			
10722-PTA-2B0-SW-DRG-1431			
SCALE	SIZE	REFERENCE No.	REV
NTS	A1	SW-1431	B

Plot Date: 3/27/2026 12:05 pm | Plotted By: Vica Hooker | Original File: C:\P\WSP-AUS-1900045141610722-PTA-2B0-SW-DRG-1431.DWG | Tab: [B]



LOWLAND STREAM DIVERSION - TYPE 2

STEEP STREAM DIVERSION - TYPE 3



PROJECT INFORMATION

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**NZ TRANSPORT AGENCY**  
WAKA KOTAHĪ

**Northland Corridor**

Roads of National Significance

COORDINATE SYSTEM: NZTM 2000, VERTICAL DATUM: NZVD2016

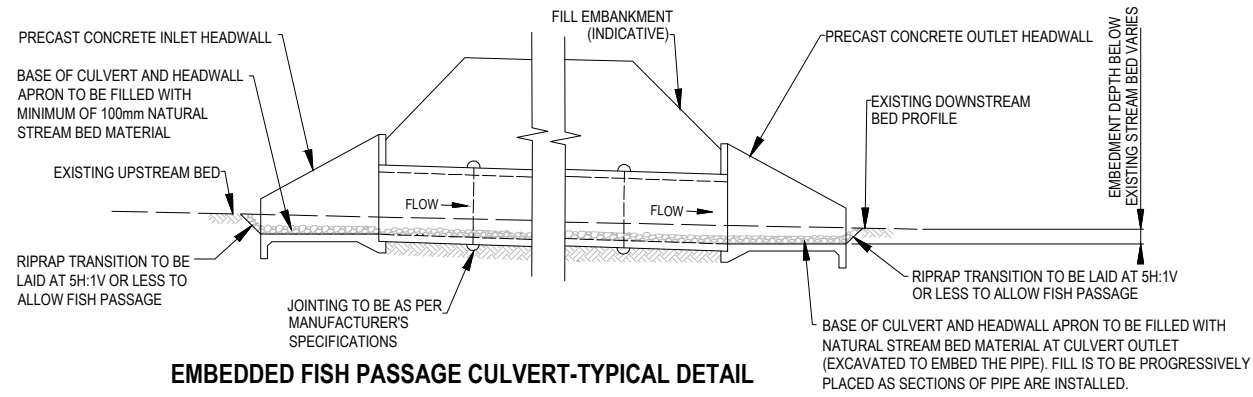
ORIGINAL IN COLOUR DETAIL MAY BE LOST IF COPIED

REV	DATE	REVISION DETAILS	APPROVED
A	18.02.26	CONSENT DESIGN FOR CLIENT REVIEW	R.D
B	27.03.26	CONSENT DESIGN FOR LODGEMENT	R.D

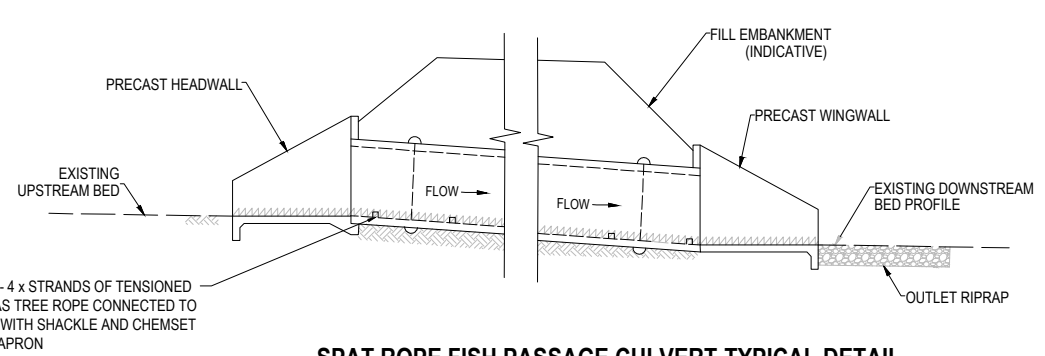
STATUS	TITLE
CONSENT DESIGN	BRYNDERWYN HILLS SECTION TYPICAL STORMWATER DETAILS STREAM DIVERSIONS
APPROVED R.DUPLLOY	
APPROVED BY	DATE
R.DUPLLOY	27.03.26

PROJECT INFORMATION			
NORTHLAND CORRIDOR			
DOCUMENT CODE			
10722-PTA-2B0-SW-DRG-1432			
SCALE	SIZE	REFERENCE No.	REV
AS SHOWN	A1	SW-1432	B

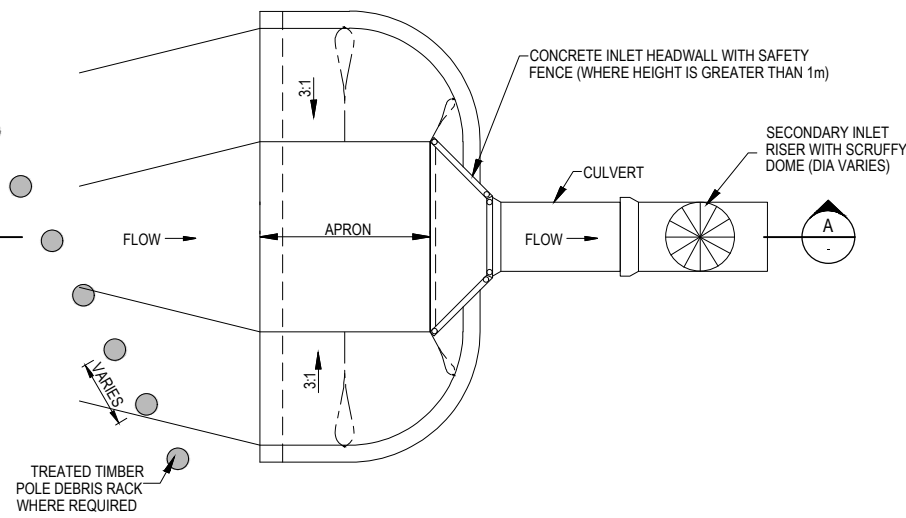
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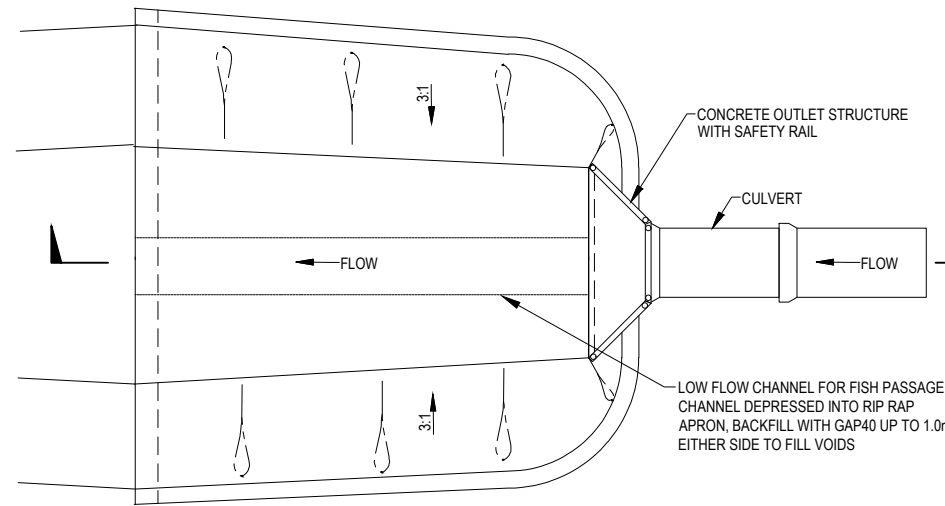
**EMBEDDED FISH PASSAGE CULVERT-TYPICAL DETAIL**



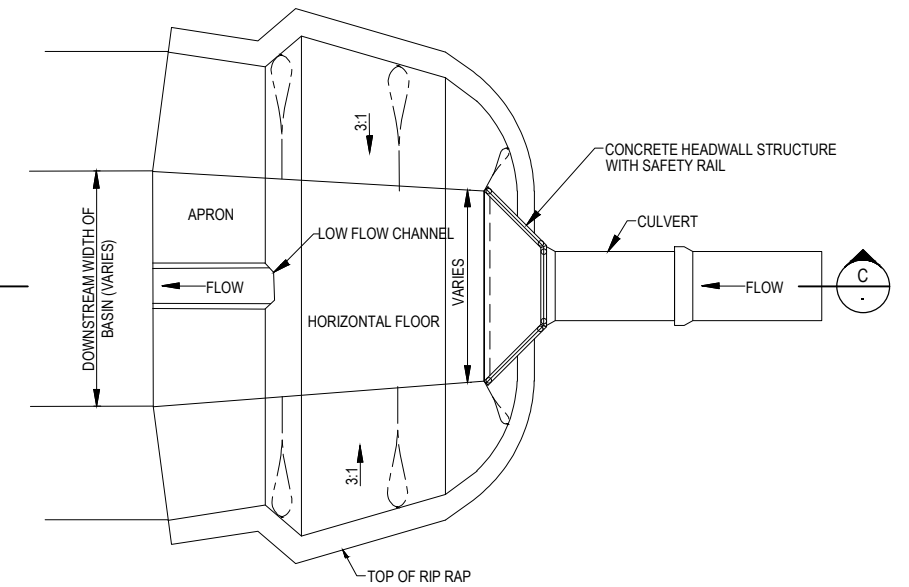
**SPAT ROPE FISH PASSAGE CULVERT-TYPICAL DETAIL**



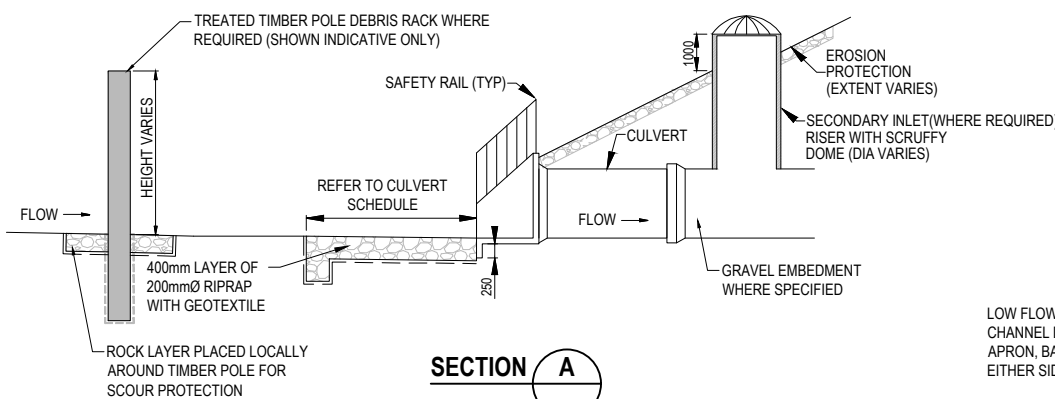
**TYPICAL CULVERT INLET (WITH RELIEF INLET AND DEBRIS RACK) - PLAN VIEW**



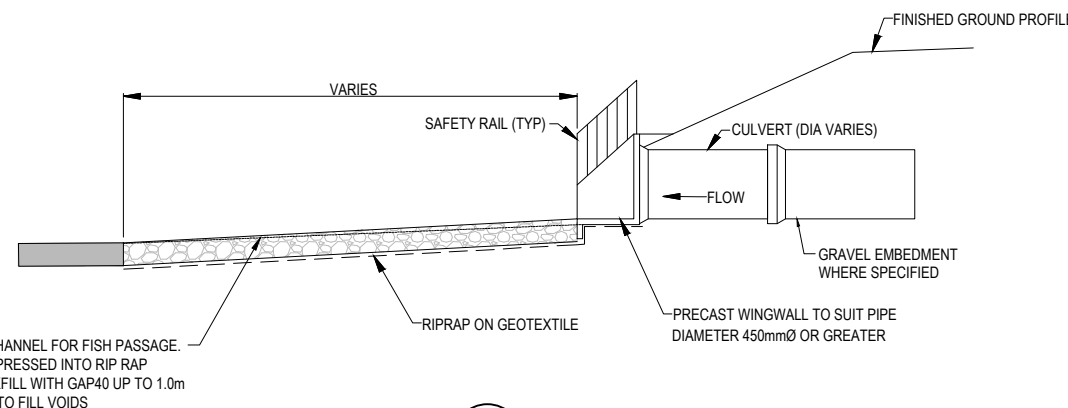
**TYPICAL CULVERT OUTLET (RIPRAP APRON) - PLAN VIEW**



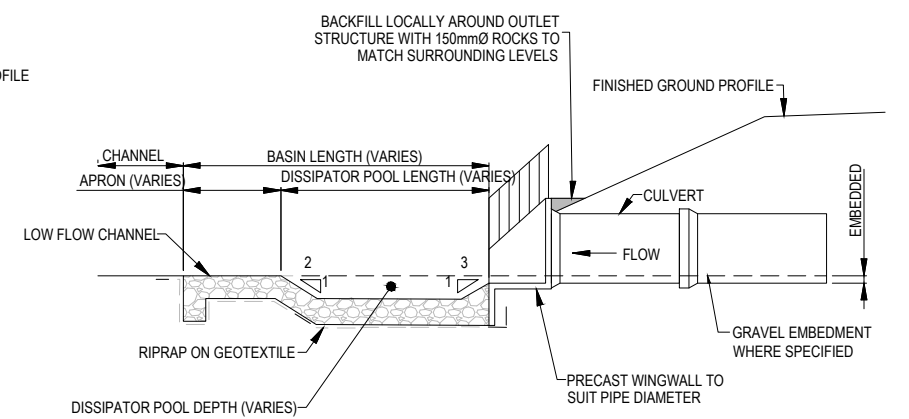
**TYPICAL CULVERT OUTLET (RIPRAP BASIN) - PLAN VIEW**



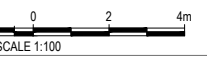
**TYPICAL CULVERT INLET WITH FLOOD PROTECTION AND MITIGATION - DEBRIS RACK AND SECONDARY INLET**



**TYPICAL CULVERT OUTLET (RIPRAP APRON)**



**TYPICAL CULVERT OUTLET (RIPRAP BASIN)**



PROJECT INFORMATION  
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COORDINATE SYSTEM: NZTM 2000, VERTICAL DATUM: NZVD2016  
 ORIGINAL IN COLOUR DETAIL MAY BE LOST IF COPIED

REV	DATE	REVISION DETAILS
A	18.02.26	CONSENT DESIGN FOR CLIENT REVIEW
B	27.03.26	CONSENT DESIGN FOR LODGEMENT

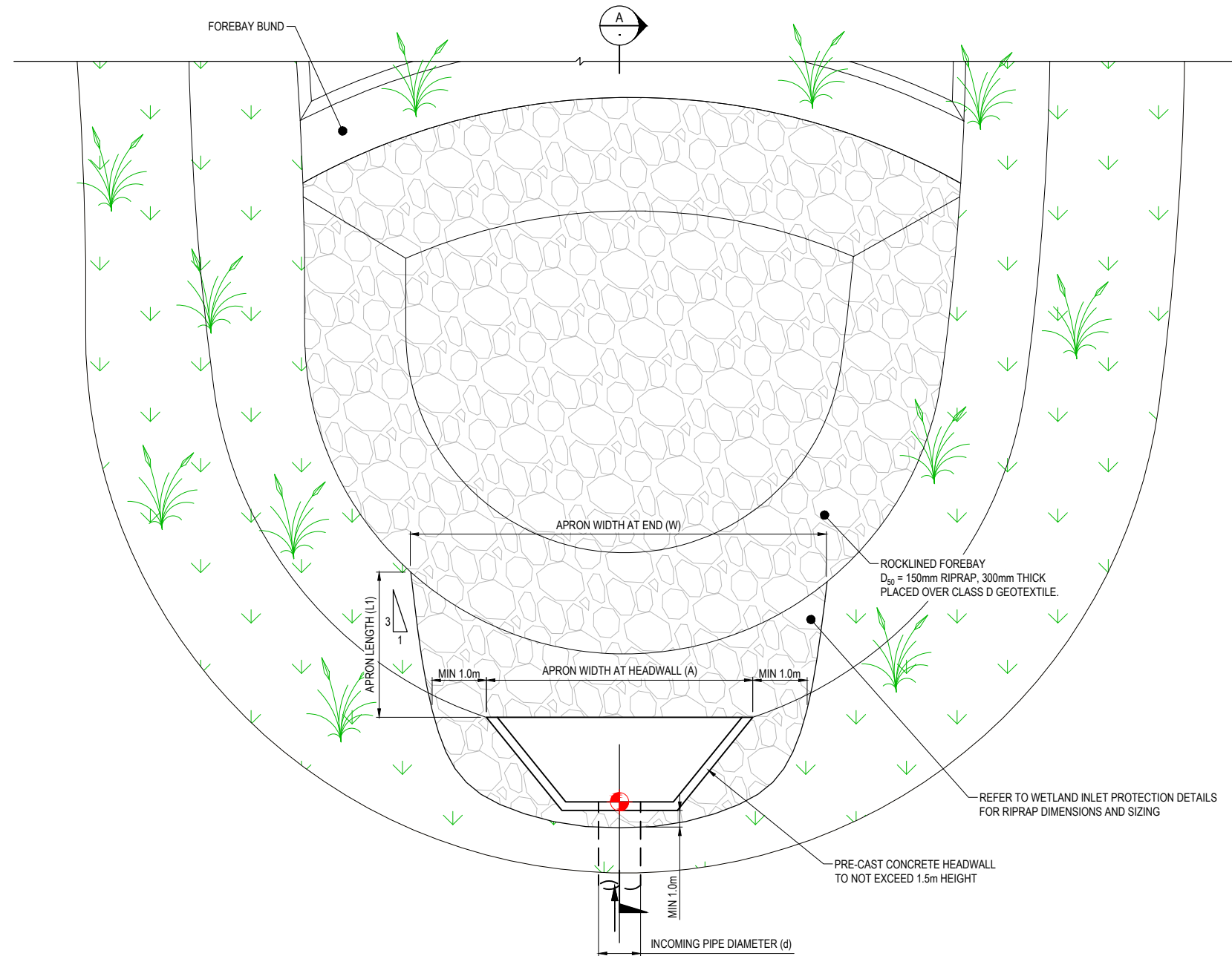
APPROVED	STATUS	TITLE
R.D	CONSENT DESIGN	BRYNDERWYN HILLS SECTION TYPICAL STORMWATER DETAILS CROSS CULVERTS
R.D	APPROVED	
	APPROVED BY	DATE
	R.DUPLLOY	27.03.26

APPROVED BY	DATE
R.DUPLLOY	27.03.26

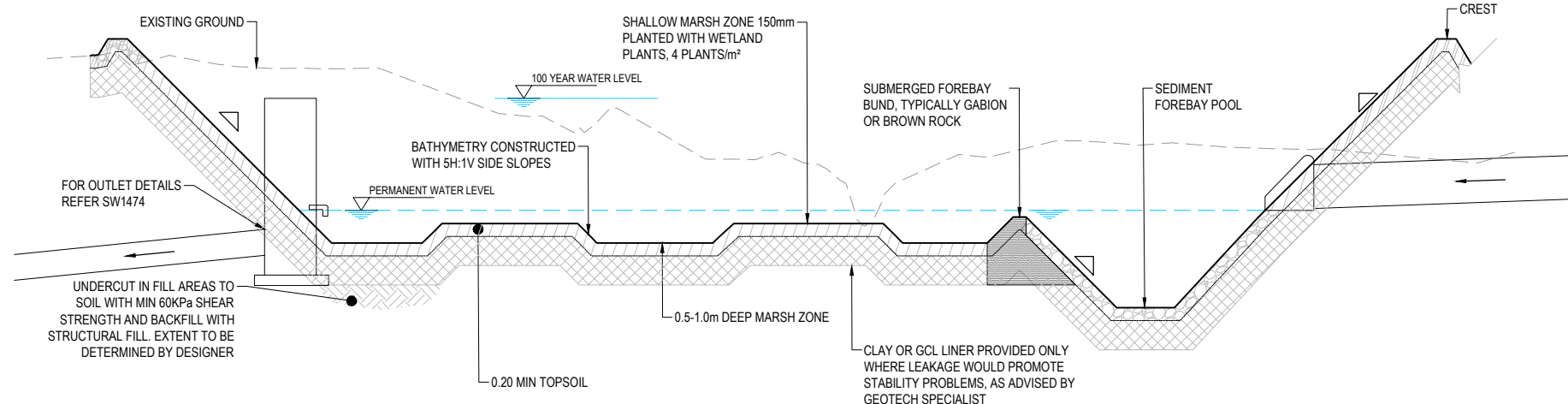
PROJECT LEAD	DATE
T.IRELAND	27.03.26

SCALE	SIZE	REFERENCE No.	REV
NTS	A1	SW-1433	B

Plot Date: 3/27/2026 12:10 pm | Plotted By: Vica Hooker | Original File: C:\PW\SWP-AUS-19000451416\10722-PTA-2B0-SW-DRG-1433.DWG | Tab: [B]



**PLAN - TYPICAL WETLAND FOREBAY**  
1:100



**TYPICAL WETLAND SECTION**  
NTS



300 Original size mm  
 200  
 150  
 100  
 50  
 20  
 0  
 10/04/2025 09:37:11:41 d  
 C:\P\WSP-AUS-19000451416\10722-PTA-2B0-SW-DRG-1434.DWG

Plot Date: 3/27/2026 12:14 pm | Plotted By: Vica Hooker | Original File: C:\P\WSP-AUS-19000451416\10722-PTA-2B0-SW-DRG-1434.DWG | Tab: [B]

PROJECT

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COORDINATE SYSTEM: NZTM 2000, VERTICAL DATUM: NZVD2016  
 ORIGINAL IN COLOUR DETAIL MAY BE LOST IF COPIED

REV	DATE	REVISION DETAILS	APPROVED
A	18.02.26	CONSENT DESIGN FOR CLIENT REVIEW	R.D
B	27.03.26	CONSENT DESIGN FOR LODGEMENT	R.D

STATUS	TITLE
CONSENT DESIGN	BRYNDERWYN HILLS SECTION TYPICAL STORMWATER DETAILS
APPROVED	TYPICAL CONSTRUCTED STORMWATER TREATMENT WETLAND PLAN AND SECTION
APPROVED BY	DATE
R.DUPLLOY	27.03.26

STATUS	TITLE
CONSENT DESIGN	BRYNDERWYN HILLS SECTION TYPICAL STORMWATER DETAILS
APPROVED	TYPICAL CONSTRUCTED STORMWATER TREATMENT WETLAND PLAN AND SECTION
APPROVED BY	DATE
R.DUPLLOY	27.03.26

PROJECT INFORMATION
NORTHLAND CORRIDOR
DOCUMENT CODE
10722-PTA-2B0-SW-DRG-1434
SCALE
AS SHOWN
SIZE
A1
REFERENCE No.
SW-1434
REV
B