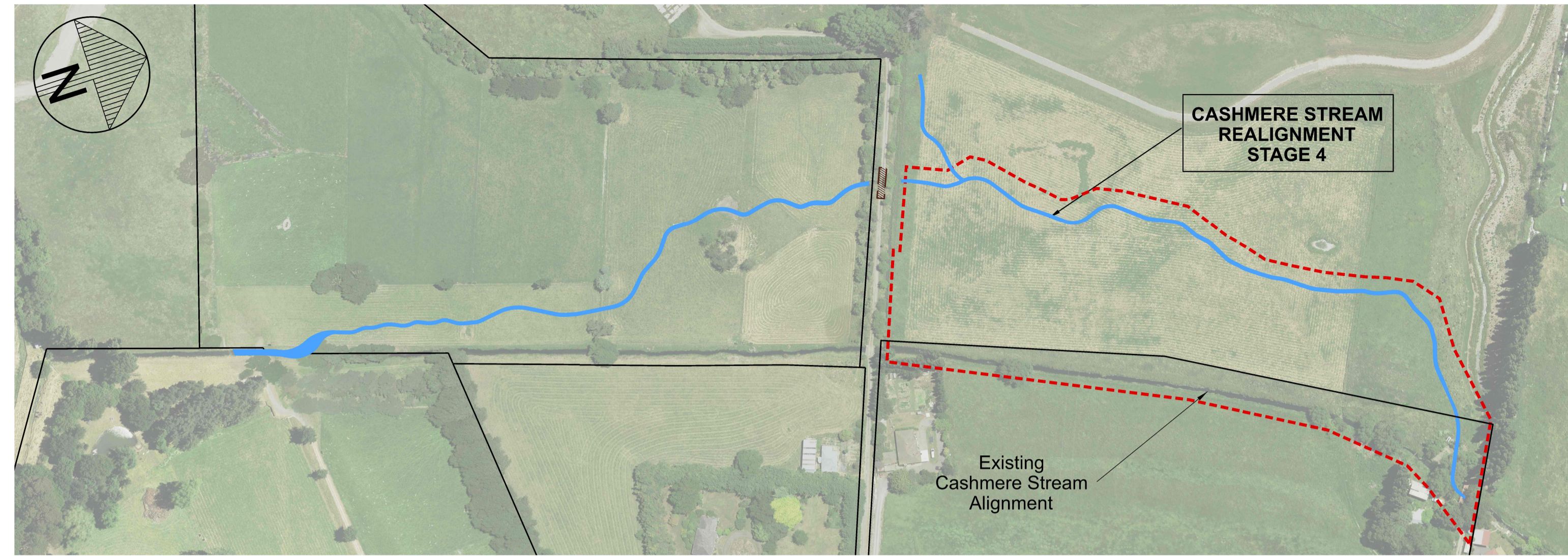


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LOCALITY PLAN
NTS

DRAWING INDEX

CONSTRUCTION		STATUS	ISSUE	COMMENTS
No.	DRAWING TITLE	CAD No	DAY : 4 MONTH : 11 YEAR : 22	
C01	Cover Sheet & Locality Plan	DD135002	For pricing	A
D01	Site Extent and Site Access Plan	DD135002	For pricing	A
D02	Overall Stage 4 Realignment Plan	DD135002	For pricing	A
D03	Demolition and Tree Removal Plan	DD135002	For pricing	A
D04	Construction Plan 1: Chainage 360-450	DD135002	For pricing	A
D05	Construction Plan 2: Chainage 450-560	DD135002	For pricing	A
D06	Construction Plan 3: Chainage 560-680	DD135002	For pricing	A
D07	Construction Plan 4: Chainage 680-end	DD135002	For pricing	A
D08	Construction Plan 5: Backfill of existing stream and Fence Layout	DD135002	For pricing	A
D09	Cross sections 1	DD135002	For pricing	A
D10	Cross sections 2	DD135002	For pricing	A
D11	Typical In-stream Features; Details A-B	DD135002	For pricing	A
D12	Typical In-stream Features; Details C-D	DD135002	For pricing	A
D13	Typical In-stream Features; Detail E	DD135002	For pricing	A
D14	Typical In-stream Features; Details F- G	DD135002	For pricing	A
D15	Typical Bank Features and Invert Details: Details H-I	DD135002	For pricing	A
D16	Typical Bank Features and Invert Details: Details J-K	DD135002	For pricing	A
D17	Typical Details: Detail L	DD135002	For pricing	A
D18	Typical Details: Details M-N	DD135002	For pricing	A
D19	Typical Details: Details O-R	DD135002	For pricing	A
D20	Details 6-8	DD135002	For pricing	A
D21	Pipework Longitudinal Profiles and Detail	DD135002	For pricing	A

LANDSCAPING		ISSUE	COMMENTS
L01	Planting Plan 1	LP404701	A
L02	Planting Plan 2	LP404701	A
L03	Planting Plan 3	LP404701	A
L04	Planting Plan 4	LP404701	A
L05	Overall Plant List	LP404701	A

NOT PROVIDED FOR PRICING

A	FOR PRICING		11/2022
ISSUE	AMENDMENTS	SIGNED	DATE

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DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		08/2022
RL	Bench Mark RL	DRAWN	G WILLIAMS		11/2022
SURVEY	Survey	DRW. CHECK	J POWICK		08/2022
SURVEY LB	Level Book				11/2022
FILE LOCATION					
DRAIN. REF.	16717 & 16718	S:\Data\Dgn\VR\Drainage\dd1300\dd135002.dgn			
SAP WBS	562/3873	PRINTED ON 3/11/2022 BY Jordaanc			

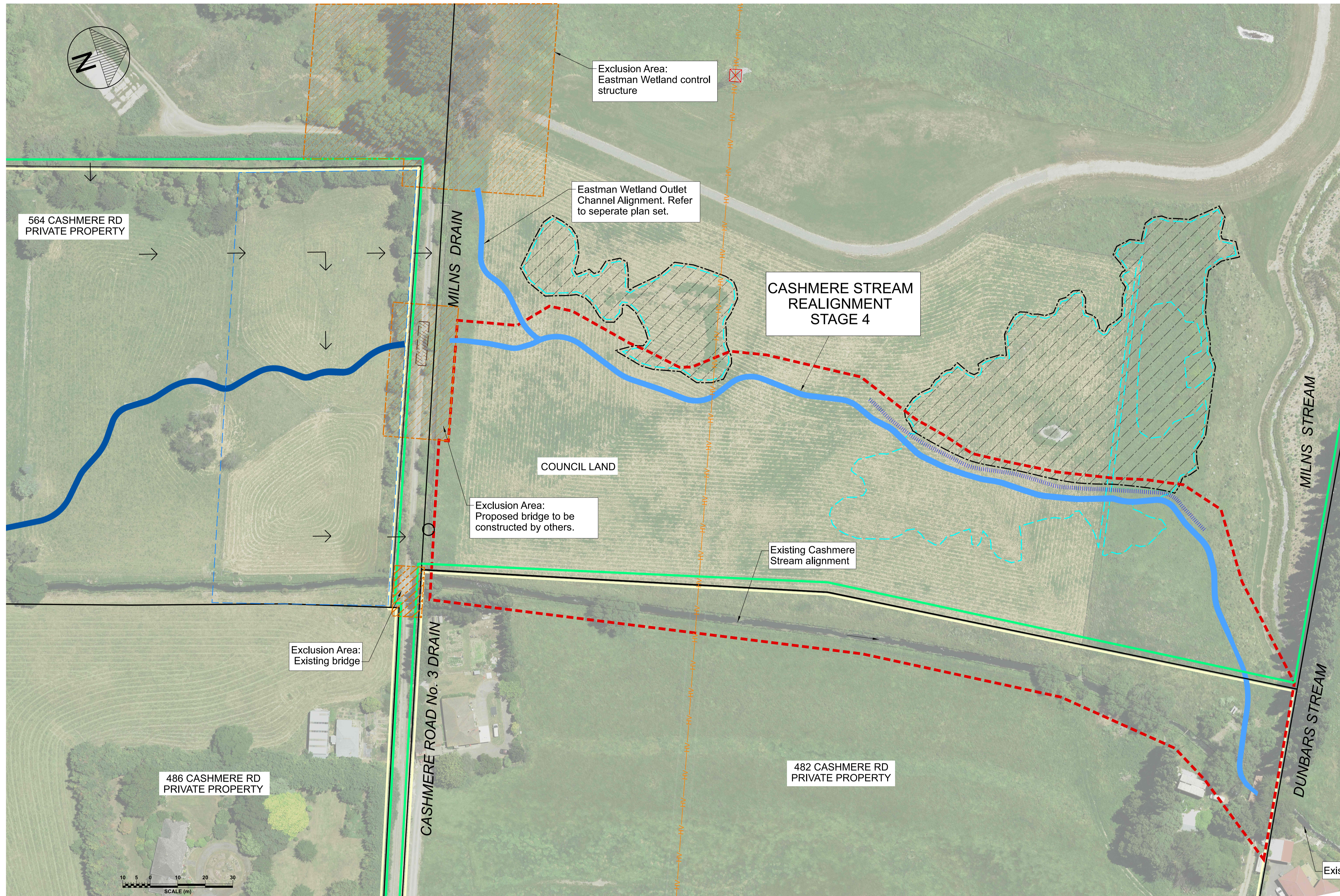
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FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.
Constn Date		

PROJECT TITLE
CASHMERE STREAM REALIGNMENT STAGE 4

DRAWING TITLE
COVER SHEET AND LOCALITY PLAN

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	NTS
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	C01	OF	1

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- LEGEND**
- Legal boundary
 - Christchurch City Council owned land
 - Land in Private Ownership
 - Cashmere Stream realignment
 - Extent of Stage 4 Works
 - Temporary Lease Area by Christchurch City Council (including stockpile area)
 - Site access by contractor via Eastman Wetlands
 - Temporary culverts required for Milns Drain
 - Exclusion Areas : (no access by contractor)
 - Extent of Natural wetlands
 - Natural wetlands area exclusion zone
 - HV — HV — High voltage lines (Orion)
 - ||||| Proposed bund

SITE PLAN
SCALE 1:750 A1
1:1500 A3

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CONSTRUCTION



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BENCH MK.	Bench Mark	DESIGNED	A SMITH		08/2022
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SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
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SAP WBS	562/3873				

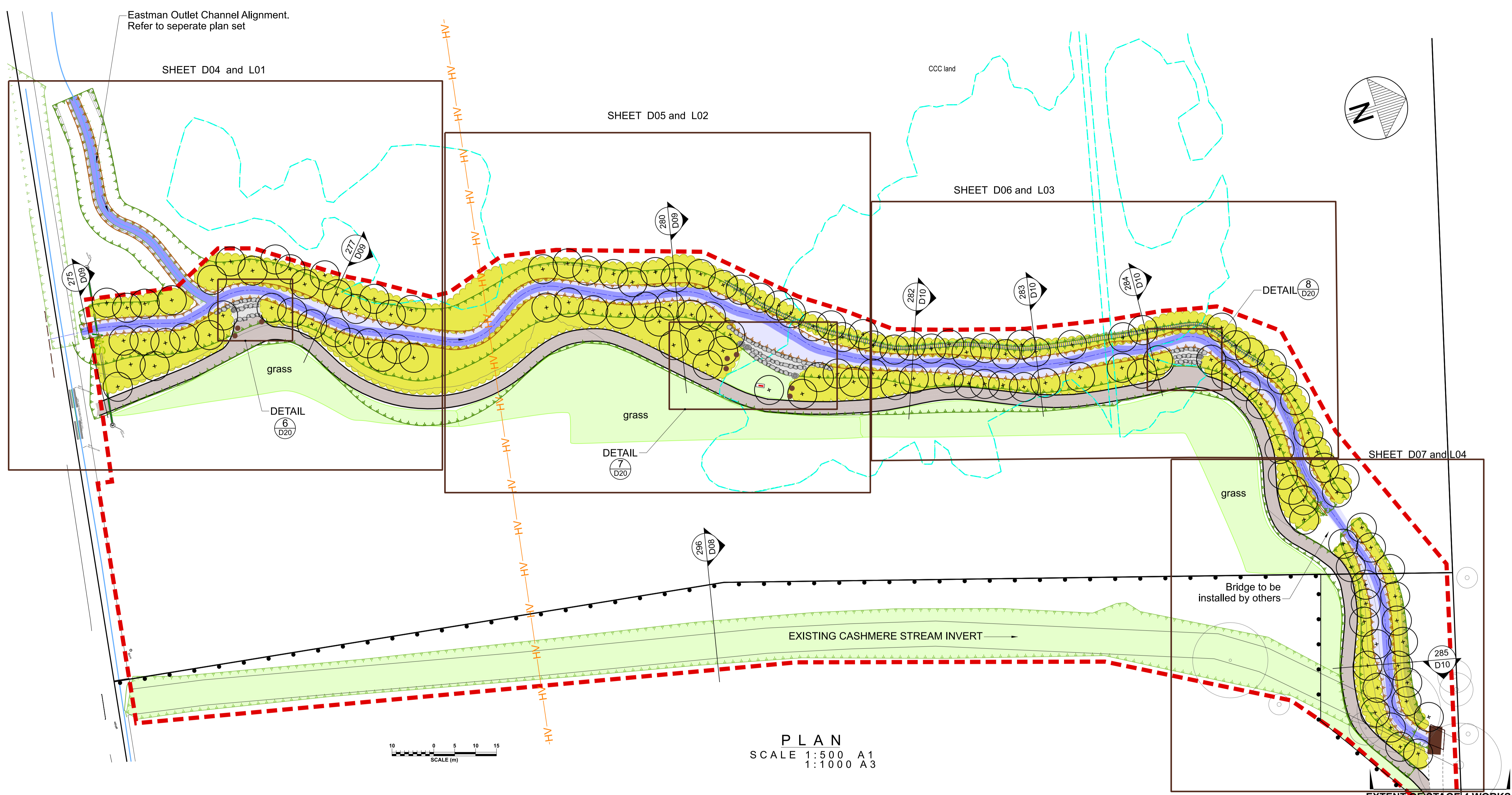
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DATE	SIGNED	DATE	SIGNED
Tender Date		Constr Date	

CONSULTANT	PROJECT TITLE
	CASHMERE STREAM REALIGNMENT STAGE 4
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.

DRAWING TITLE
SITE EXTENT AND SITE ACCESS PLAN

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	1:750 A1 1:1500 A3
CAD DRAWING FILE REF.	TSD PROJECT FILE NUMBER	SHEET
DD135002.DGN	CP503560	D01 OF 21

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PLAN
SCALE 1:500 A1
1:1000 A3

LEGEND

GENERAL

- Legal boundary
- Trees
- - - Extent of Stage 4 works
- - - Extent of Natural wetland
- ||||| Proposed bund

PROPOSED FEATURES
(Indicative only. Refer to sheets D04-D07)

- ⊕ Trees
- Fence
- Grass
- ▨ Riparian Margin Planting

NOTES

1. Services are indicative only. Contractor to check and confirm all services with authorities prior to starting work.
2. All site levels and dimensions to be confirmed prior to commencement of construction.
3. All materials and workmanship to be in accordance with the Contract Document and Specifications, the CCC Construction Standard Specification (CSS) and Infrastructure Design Standard (IDS) unless specified otherwise. Refer to CCC website for updated versions, paper copies are uncontrolled.
4. Any deviation is to be approved by the CCC Contracts Engineer. Work is not to be carried out until written instruction is received from the Contracts Engineer.
5. Datums : Levels to Christchurch Drainage Board Datum Jan 2019 & horizontal datum to Mt Pleasant Circuit NZGD 2000.
6. All works to be undertaken in accordance with EMP, CCC Erosion and Sediment Control Plan and any associated Resource Consent conditions.

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TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		08/2022
RL	Bench Mark RL	DRAWN	G WILLIAMS		11/2022
SURVEY	Survey	DRW. CHECK	J POWICK		08/2022
SURVEY LB	Level Book				11/2022
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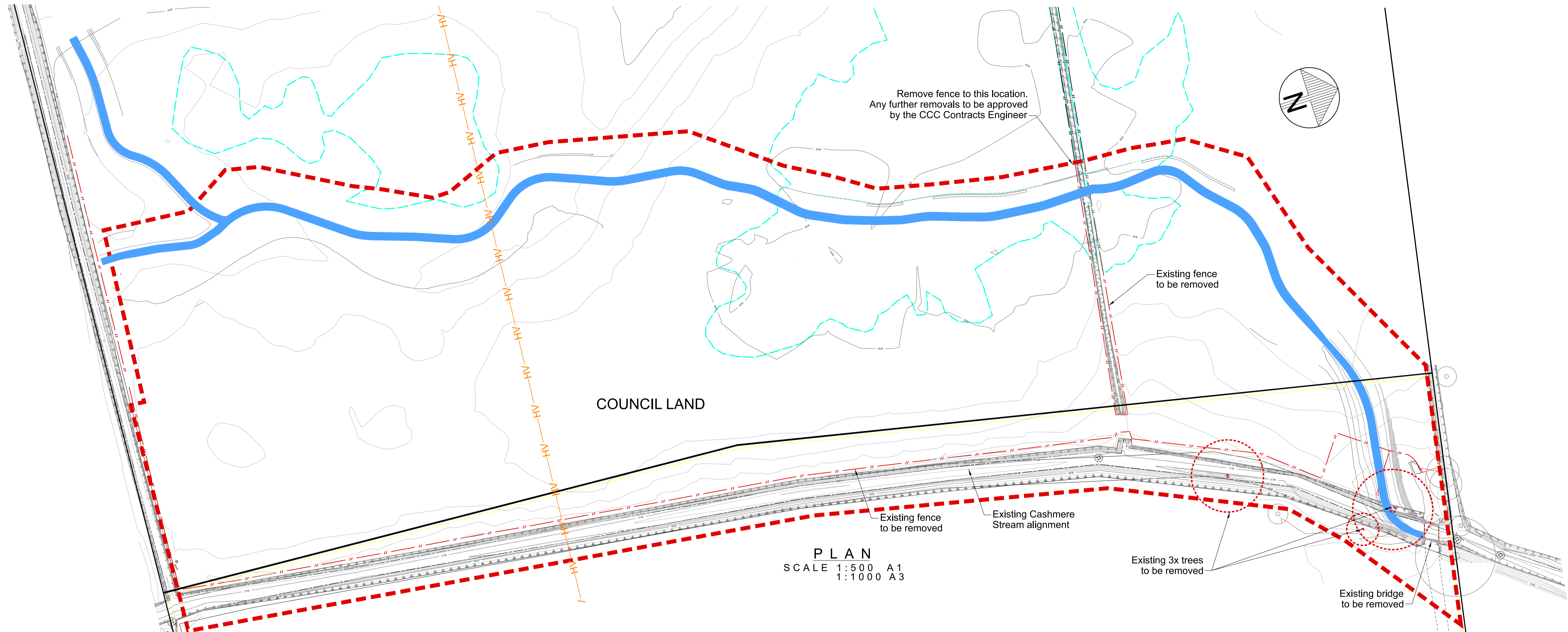
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FOR TENDER		
DATE	SIGNED	PROJECT TITLE
Tender Date		
FOR CONSTRUCTION		CONSULTANT PROJECT REF.
DATE	SIGNED	
Constn Date		CONSULTANT FILE REF.

**CASHMERE STREAM REALIGNMENT
STAGE 4**

**OVERALL STAGE 4
REALIGNMENT PLAN**

A	FOR PRICING		SIGNED	11/2022
ISSUE	AMENDMENTS		DATE	
DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	SCALES	
CAD DRAWING FILE REF.	DD135002.DGN	A1	1:500 A1	1:1000 A3
TSD PROJECT FILE NUMBER	CP503560	SHEET	D02 OF 21	

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LEGEND

GENERAL

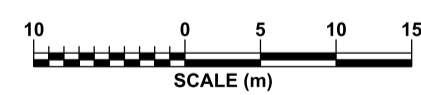
- Existing legal boundary
- Extent of natural wetland
- Land in private ownership
- Existing Trees
- High Voltage Lines (Orion)

EXISTING FEATURES TO BE REMOVED

- Trees
- Fence and gates

NOTES

1. All work is to be undertaken in accordance with the Contract Documents and Specifications, the CSS and IDS unless specified otherwise.
2. Any deviation is not to be carried out until written instruction is received from the Contracts Engineer.
3. Extreme care is to be taken when working near existing trees and vegetation.
4. Extent of vegetation clearance, including grass stripping and trees to be removed is to be confirmed on site.
5. Refer to D02 for General Notes.
6. Untreated hardwood to be removed and any other suitable timber is to be salvaged and stockpiled on site for re-use in in-stream features.



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SURVEY	Survey	DRAWN	J POWICK		08/2022
SURVEY LB	Level Book	DRW. CHECK	M RHIND		11/2022
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SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES		

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FOR TENDER	FOR CONSTRUCTION
DATE	SIGNED
Tender Date	
DATE	SIGNED
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CONSULTANT	CONSULTANT PROJECT REF.	CONSULTANT FILE REF.

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
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CAD DRAWING FILE REF. DD135002.DGN	A1	1:1000 A3
TSD PROJECT FILE NUMBER CP503560	SHEET D03	OF 21

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LEGEND

EXISTING FEATURES

- Legal boundary
- - - Natural wetland

PROPOSED FEATURES

- Top of bank
- Stream invert and lower bank
- 3.0m wide shared grit path (as per Detail R Sheet D19)
- Specimen trees (refer Sheet L01)
- Riparian Margin Planting (refer Sheet L01)
- Upper and Top of Bank Indigenous Forest Planting (refer Sheet L01)
- Grass

IN-STREAM FEATURES

- Rock Edge
- Riffle
- Timber Edge
- Log Edge
- Root Wad Edge (Option 2: Stump overhang, unless advised by Freshwater Ecologist)
- Post Snag
- Log Snag



NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. Any deviation from the CSS is not to be carried out until written instruction is received from the Contracts Engineer.
3. Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
4. The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the CCC Contracts Engineer.
5. The contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting.
6. Planting is to be as per Sheet L01.
7. Refer to Sheet D02 for General Notes.

SW01.10 DN1200 CLASS 2 RCRRJ culvert installed in existing drain with temporary headwalls. Refer to (U/D21) for longitudinal profile

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RL	Bench Mark RL	DRAWN	G WILLIAMS		08/2022
SURVEY	Survey	DRW. CHECK	J POWICK		11/2022
SURVEY LB	Level Book	FILE LOCATION			
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DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
Constn Date		CONSULTANT PROJECT REF.
		CONSULTANT FILE REF.

PROJECT TITLE

**CASHMERE STREAM REALIGNMENT
STAGE 4**

DRAWING TITLE

**CONSTRUCTION PLAN 1:
CHAINAGE 360 - 450**

A	FOR PRICING	SIGNED	11/2022
ISSUE	AMENDMENTS	DATE	
DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	SCALES
CAD DRAWING FILE REF.	DD135002.DGN	A1	1:200 A1 1:400 A3
TSD PROJECT FILE NUMBER	CP503560	SHEET	D04 OF 21

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LEGEND

GENERAL

Natural wetland

HV- High voltage lines (Orion)

PROPOSED FEATURES

Top of bank

Stream invert and lower bank

3.0m wide shared grit path (as per Detail R Sheet D19)

Proposed low bund along top of bank

Specimen trees (refer Sheet L02)

Riparian Margin Planting (refer Sheet L02)

Grass

IN-STREAM FEATURES

- Rock Edge

- Riffle

- Timber Edge

- Log Edge

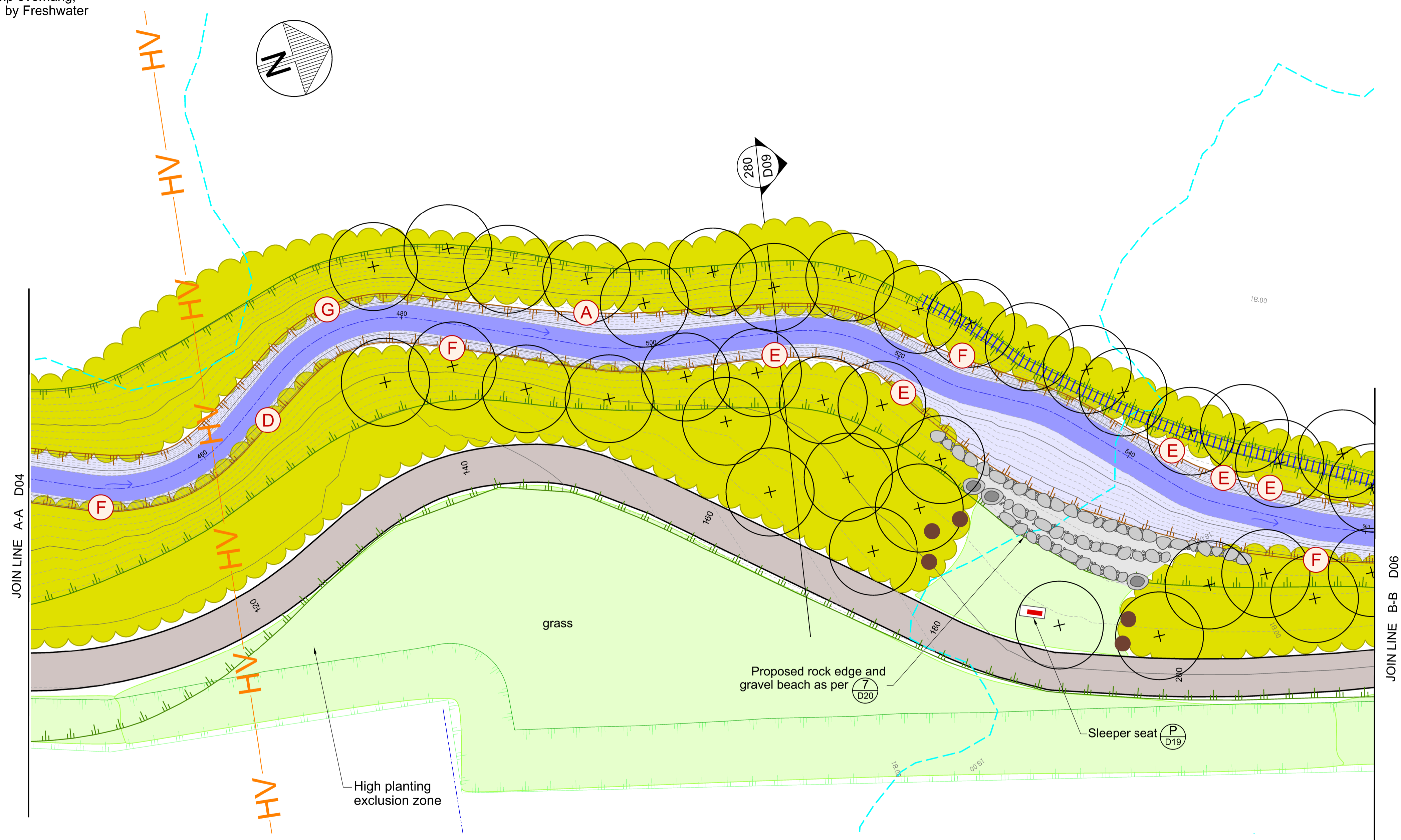
- Root Wad Edge
(Option 2: Stump overhang, unless advised by Freshwater Ecologist)

- Post Snag

- Log Snag

NOTES

- All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
- Any deviation from the CSS is not to be carried out until written instruction is received from the Contracts Engineer.
- Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
- The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the CCC Contracts Engineer.
- The contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting.
- Planting is to be as per Sheet L02.
- Refer to Sheet D02 for General Notes.



PLAN CHAINAGE 450 - 560
SCALE 1:200 A1
1:400 A3

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BENCH MK.	Bench Mark	DESIGNED	A SMITH		08/2022
RL	Bench Mark RL	DES. REVIEW	M PENTECOST		11/2022
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SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
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SAP WBS	562/3873	PRINTED ON 3/11/2022 BY Jordaanc			

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DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.		
CONSULTANT FILE REF.		

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
STAGE 4**

DRAWING TITLE
**CONSTRUCTION PLAN 2:
CHAINAGE 450 - 560**

ISSUE	FOR PRICING	AMENDMENTS	SIGNED	DATE
				11/2022

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:200 A1 1:400 A3
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D05		OF 21

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LEGEND

GENERAL

Natural wetland

PROPOSED FEATURES

Top of bank

Stream invert and lower bank

3.0m wide shared grit path (as per Detail R Sheet D19)

Proposed low bund along top of bank

Specimen trees (refer Sheet L03)

Riparian Margin Planting (refer Sheet L03)

Grass

IN-STREAM FEATURES

- Rock Edge

- Riffle

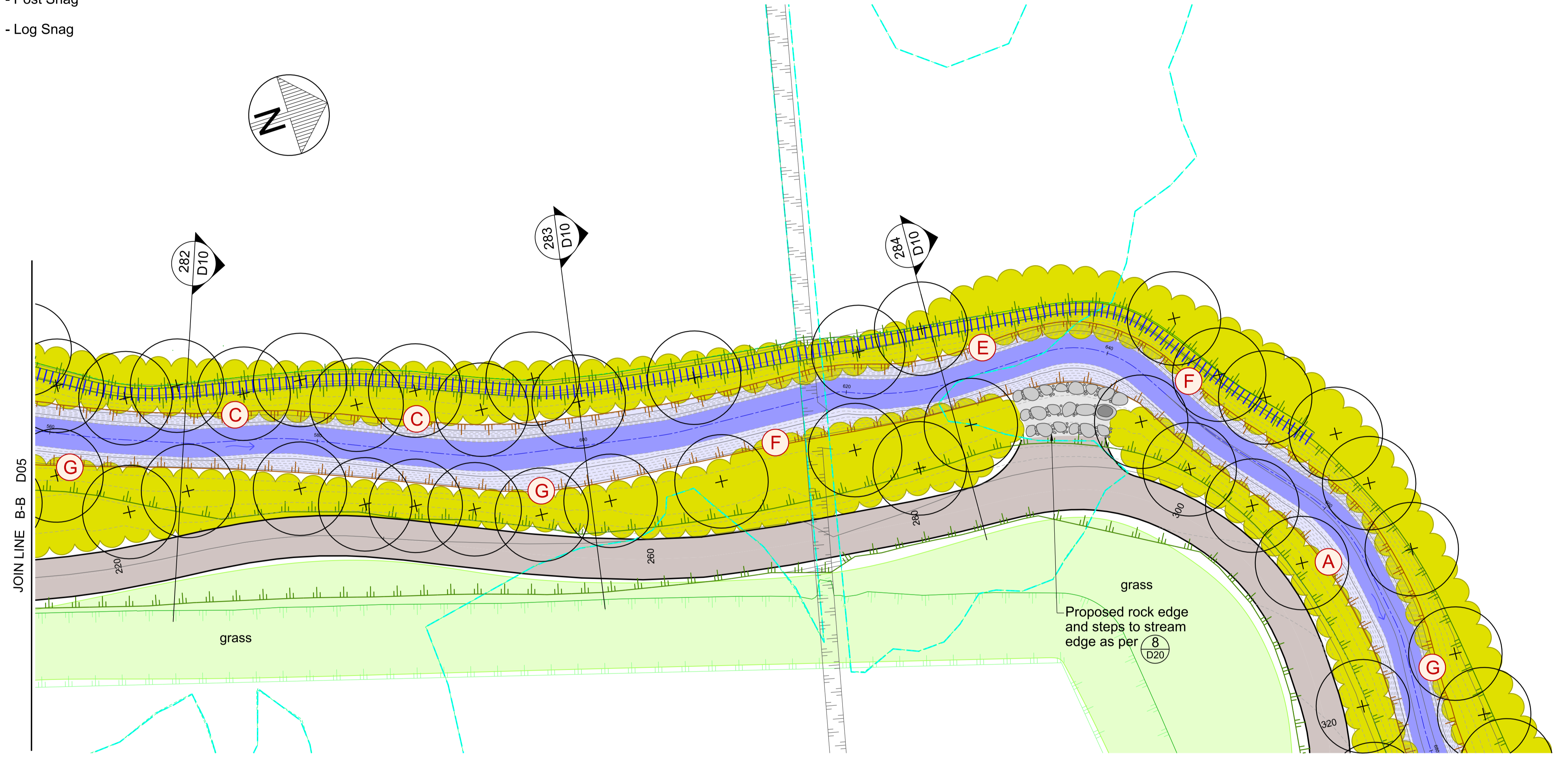
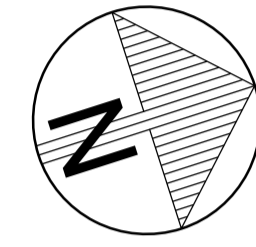
- Timber Edge

- Log Edge

- Root Wad Edge
(Option 2: Stump overhang, unless advised by Freshwater Ecologist)

- Post Snag

- Log Snag



NOTES

- All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
- Any deviation from the CSS is not to be carried out until written instruction is received from the Contracts Engineer.
- Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
- The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the CCC Contracts Engineer.
- The contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting.
- Planting is to be as per Sheet L03.
- Refer to Sheet D02 for General Notes.

PLAN CHAINAGE 560 - 680

SCALE 1:200 A1
1:400 A3

JOIN LINE C-C D07

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SURVEY	Survey	DRW. CHECK	J POWICK		08/2022
SURVEY LB	Level Book				11/2022
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FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
DATE	SIGNED	
DATE	SIGNED	

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
STAGE 4**

DRAWING TITLE
**CONSTRUCTION PLAN 3:
CHAINAGE 560 - 680**

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:200 A1 1:400 A3
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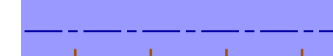


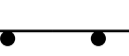
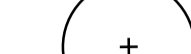

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LEGEND








GENERAL

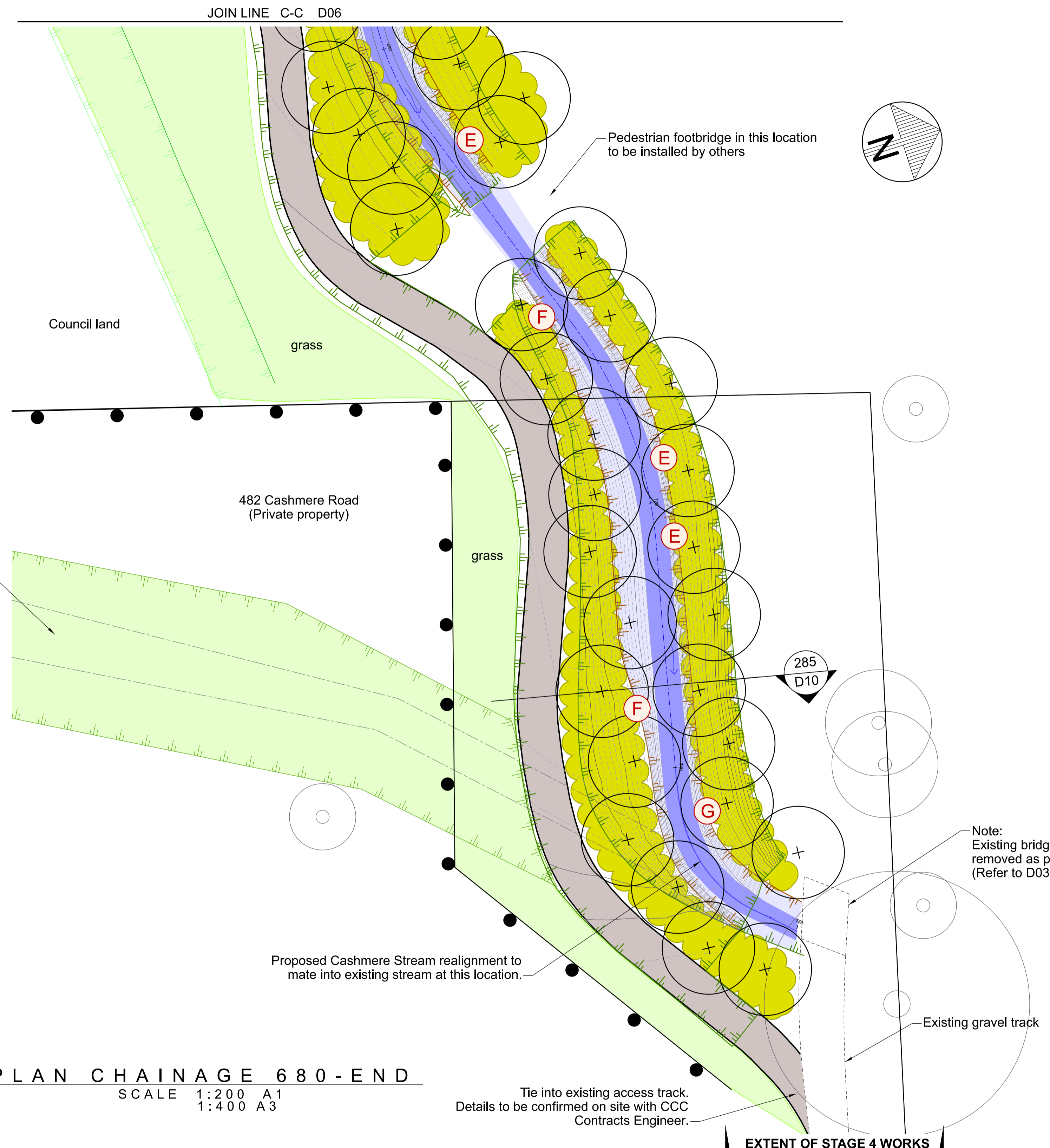
Land in private ownership

PROPOSED FEATURES

-  Top of bank
-  Stream invert and lower bank
-  3.0m wide shared grit path (as per Detail R Sheet D19)
-  Fence (Refer sheet D08)
-  Specimen trees (refer Sheet L04)
-  Riparian Margin Planting (refer Sheet L04)
-  Grass

IN-STREAM FEATURES

-  - Rock Edge
-  - Riffle
-  - Timber Edge
-  - Log Edge
-  - Root Wad Edge (Option 2: Stump overhang, unless advised by Freshwater Ecologist)
-  - Post Snag
-  - Log Snag



NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. Any deviation from the CSS is not to be carried out until written instruction is received from the Contracts Engineer.
3. Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
4. The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the CCC Contracts Engineer.
5. The contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting.
6. Planting is to be as per Sheet L04.
7. Refer to Sheet D02 for General Notes.

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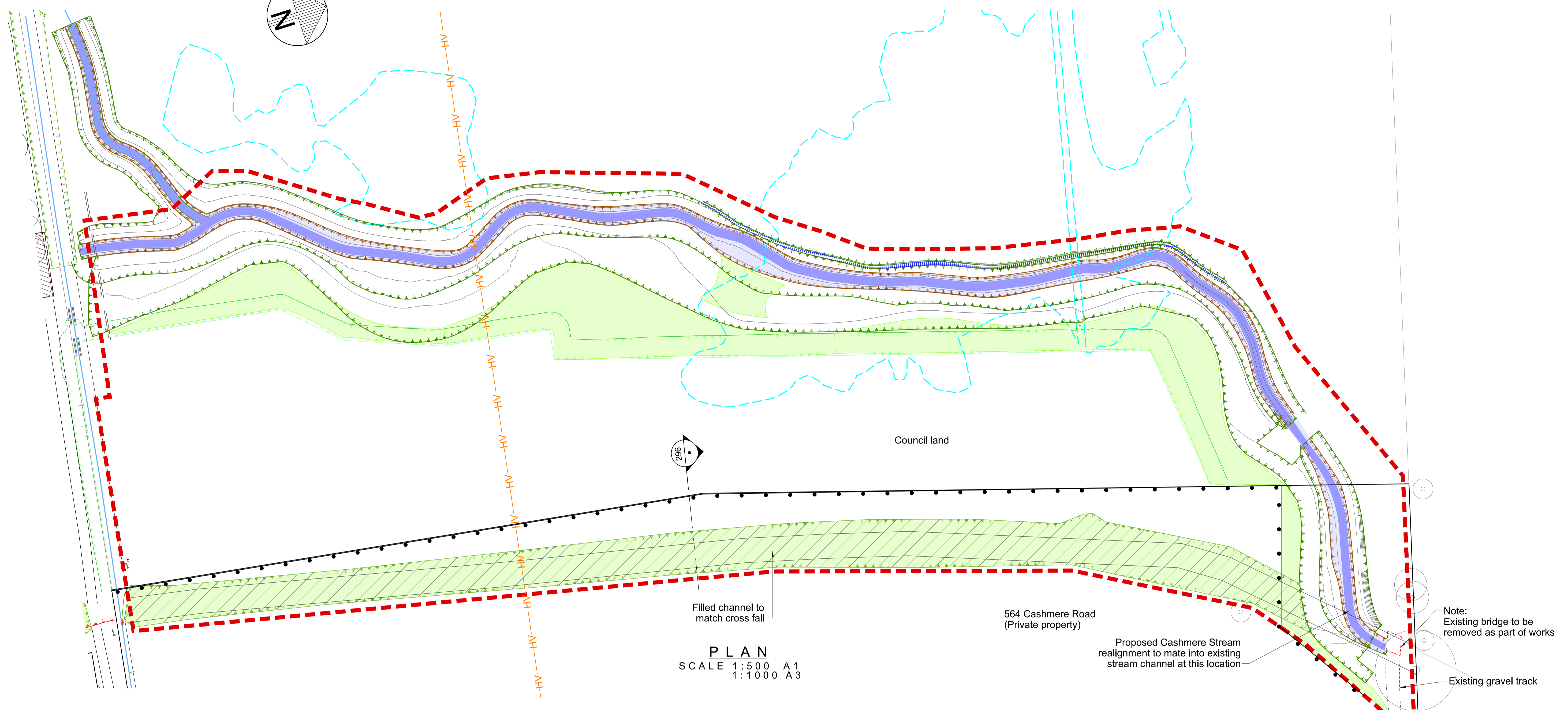
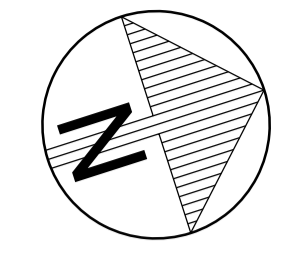


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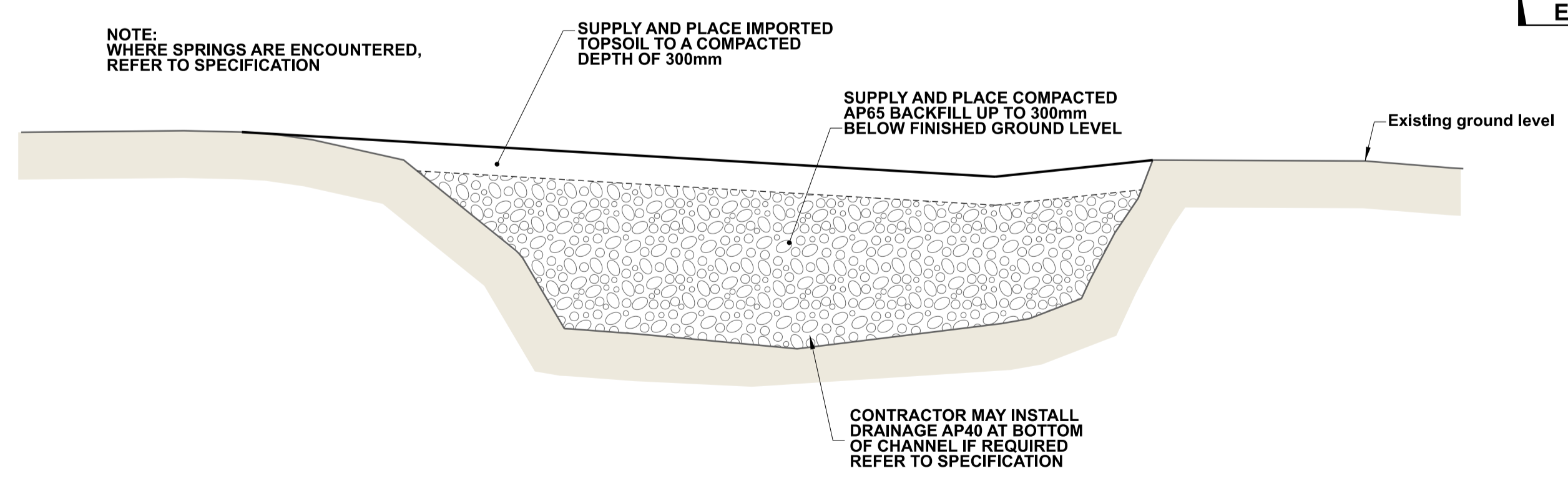
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FOR CONSTRUCTION			
DATE	SIGNED	DRAWING TITLE	
Cons'n Date		CONSTRUCTION PLAN 4: CHAINAGE 680 - END	
CONSULTANT PROJECT REF.		DOCUMENT NUMBER	
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		CP503560	
		SHEET	
		D07 OF 21	

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PLAN
SCALE 1:500 A1
1:1000 A3



296 BACKFILL OF EXISTING STREAM (TYPICAL DETAIL)
1:50 @ A1
1:100 @ A3

DRAFT
NOT FOR
CONSTRUCTION

LEGEND

GENERAL

- Legal boundary
- HV — HV High Voltage Lines (Orion)
- - - Natural wetland

PROPOSED FEATURES

- Fence (Post and cable netting fence)
- ▨ Filled Channel- As per 296
- Grass

NOTES

1. All work is to be undertaken in accordance with the Contract Document and Specification, the CCS and IDS unless specified otherwise.
2. Any deviation is not to be carried out until written instruction is received from the Contracts Engineer.
3. Drafting is indicative only, do not scale off drawing. All measurements to be confirmed on site prior to the commencement of work.
4. Refer to D02 for General Notes.

NOTE: WHERE SPRINGS ARE ENCOUNTERED, REFER TO SPECIFICATION

SUPPLY AND PLACE IMPORTED TOPSOIL TO A COMPACTED DEPTH OF 300mm

SUPPLY AND PLACE COMPACTED AP65 BACKFILL UP TO 300mm BELOW FINISHED GROUND LEVEL

CONTRACTOR MAY INSTALL DRAINAGE AP40 AT BOTTOM OF CHANNEL IF REQUIRED REFER TO SPECIFICATION



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Christchurch City Council
TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		11/2022
RL	Bench Mark RL	DRAWN	G WILLIAMS		08/2022
SURVEY	Survey	DRW. CHECK	J POWICK		11/2022
SURVEY LB	Level Book	FILE LOCATION	S:\Data\Drain\Drainage\dd1300\dd135002.dgn		
DRAIN. REF.	16717	PRINTED ON	3/11/2022 BY Jordaanc		
SAP WBS	562/3873	Constn Date			

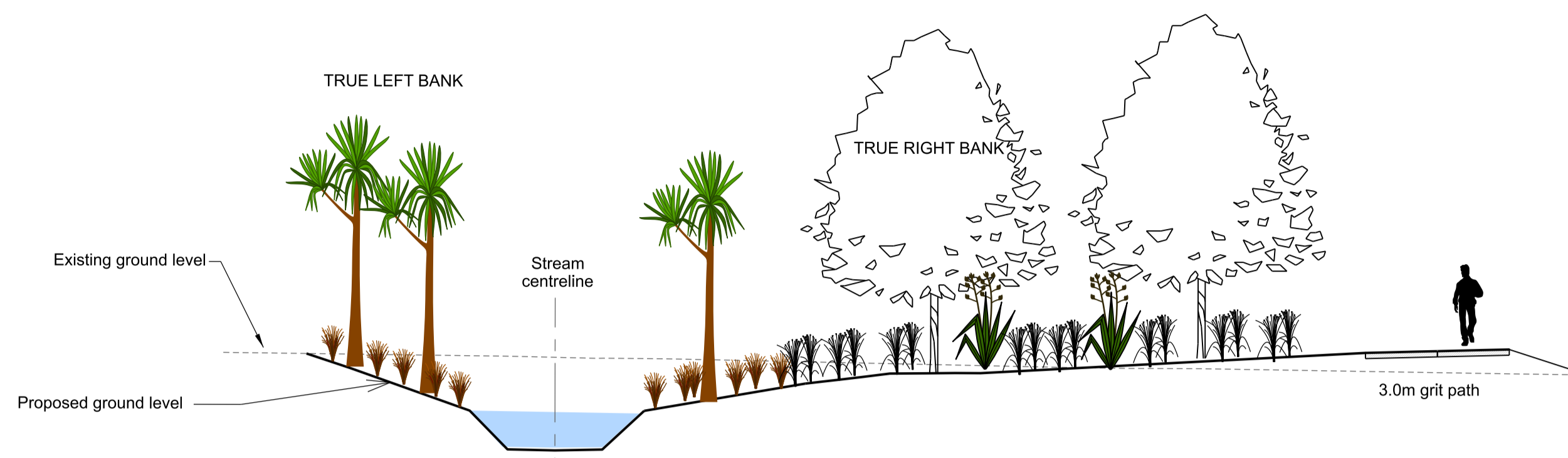
APPROVED FOR TENDER		DATE	SIGNED
APPROVED FOR CONSTRUCTION		DATE	SIGNED
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.		

CASHMERE STREAM REALIGNMENT STAGE 4

CONSTRUCTION PLAN 5: BACKFILL OF EXISTING STREAM AND FENCE LAYOUT

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	AS SHOWN
CAD DRAWING FILE REF.	DD135002.DGN	TSD PROJECT FILE NUMBER	CP503560	SHEET	D08 OF 21

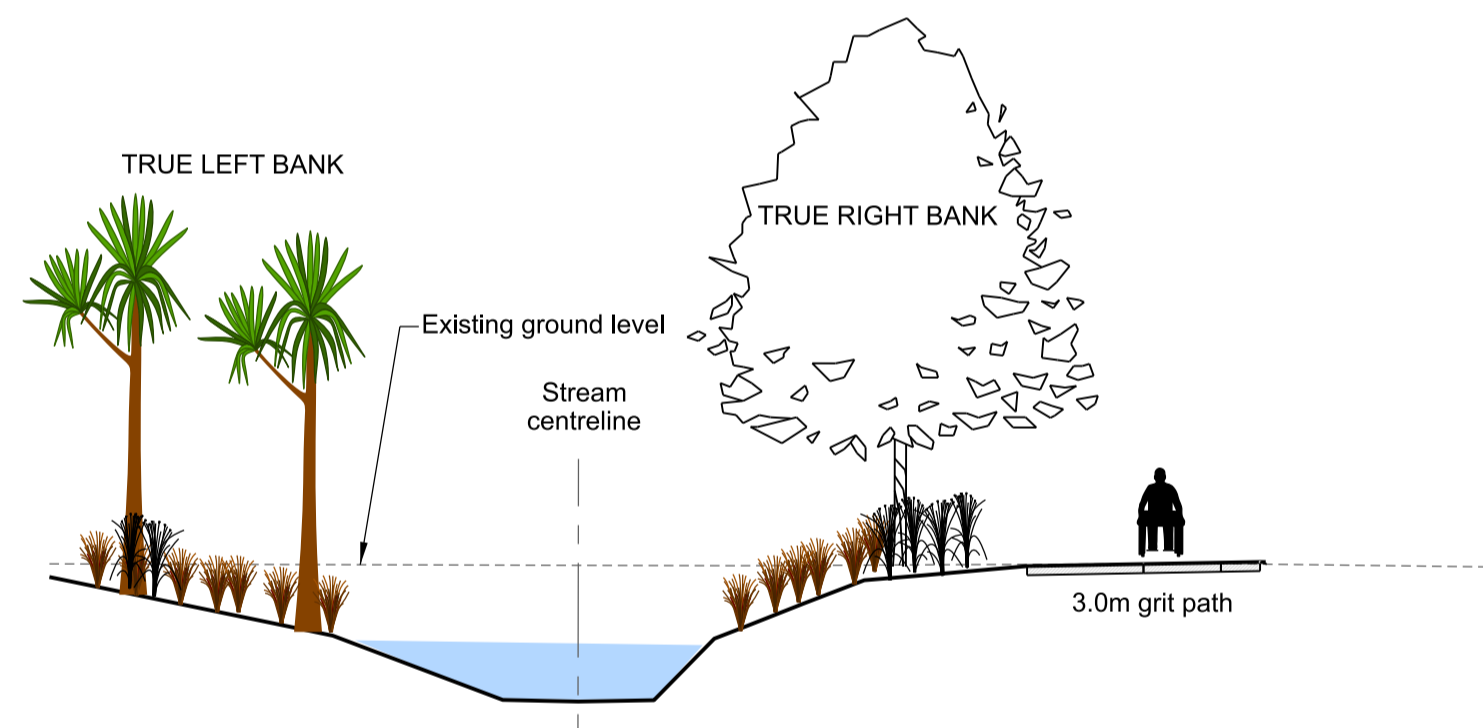
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DATUM R.L. 16.0

ELEVATION (m)	18.81	18.81	18.51	18.52	17.95	17.62	16.80	16.78	16.62	18.20	18.20	18.42	18.43	18.43	18.87	18.90	18.94	18.95
OFFSET (m)	-5.24	-4.32	-3.78	-2.74	-1.80	-1.00	0.00	1.00	1.88	5.28	6.01	7.07	7.80	8.44	17.10	18.19	19.56	20.13
FILL (m)	0.00	-0.29	-0.48	-0.83	-1.16	-1.96	-1.96	-1.93	-1.10	-0.46	-0.36	-0.21	-0.19	-0.17	0.39	0.44	0.49	0.51

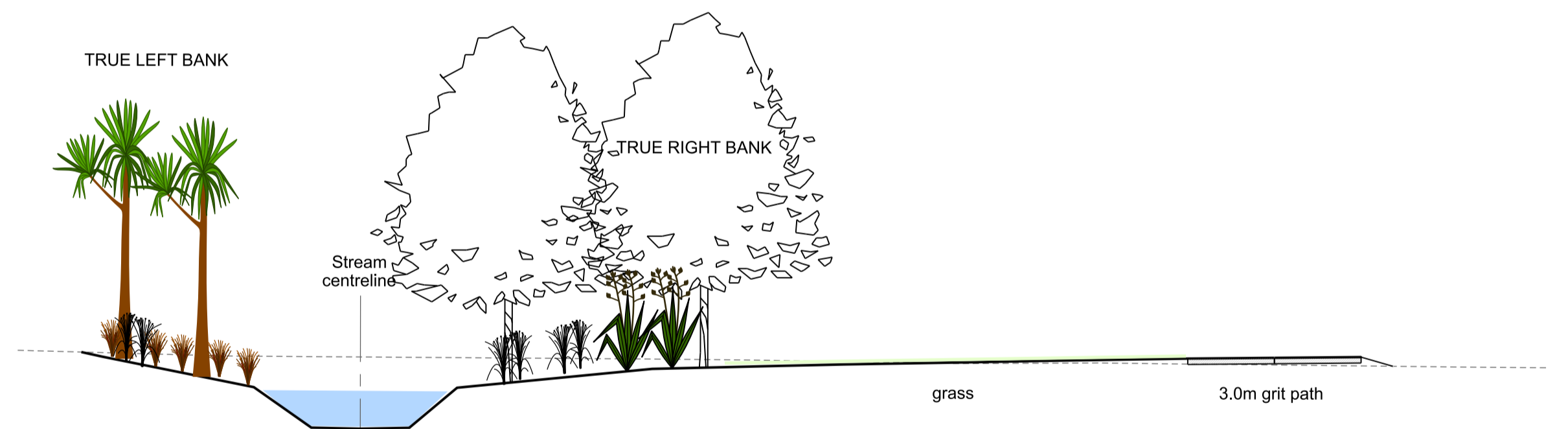
275
SECTION
D02 SCALE 1:100 A1
1:200 A3



DATUM R.L. 16.0

ELEVATION (m)	18.40	17.76	17.63	16.79	16.77	16.79	17.30	17.75	18.07	18.38	18.45	18.57	18.58	18.60	18.62	18.63
OFFSET (m)	-7.00	-3.88	-3.25	-1.00	0.00	1.00	1.51	2.19	2.98	3.78	4.59	5.93	6.63	7.47	8.50	9.01
FILL (m)	-0.17	-0.81	-0.94	-1.78	-1.80	-1.78	-1.26	-0.81	-0.50	-0.20	-0.14	-0.02	-0.01	0.00	0.01	0.03

277
SECTION
D02 SCALE 1:100 A1
1:200 A3



DATUM R.L. 16.0

ELEVATION (m)	18.29	18.20	18.07	17.96	17.58	16.76	16.74	16.76	17.54	17.97	18.03	18.07	18.12	18.13	18.15	18.20	18.21	18.22	18.23	18.24
OFFSET (m)	-5.70	-5.27	-4.63	-4.10	-2.18	-1.00	0.00	1.00	1.93	5.96	6.26	6.88	12.34	13.17	13.72	16.68	17.46	17.95	18.60	19.66
FILL (m)	0.00	-0.08	-0.19	-0.29	-0.63	-1.45	-1.46	-1.44	-0.65	-0.20	-0.12	-0.06	0.02	0.04	0.04	0.11	0.13	0.14	0.16	0.18

280
SECTION
D02 SCALE 1:100 A1
1:200 A3

NOTES

- Proposed in-stream features are not shown on these sections as locations are subject to change.

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DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.	Bench Mark	DESIGNED	A SMITH	08/2022
RL	Bench Mark RL	DES. REVIEW	M PENTECOST	11/2022
SURVEY	Survey	DRAWN	G WILLIAMS	08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK	11/2022
DRAIN REF.	16717	FILENAME\$		
SAP WBS	562/3873	PRINTED ON \$DATE\$	BY \$USER\$	Constn Date

APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	PROJECT TITLE
FOR CONSTRUCTION		CONSULTANT PROJECT REF.
DATE	SIGNED	
		CONSULTANT FILE REF.

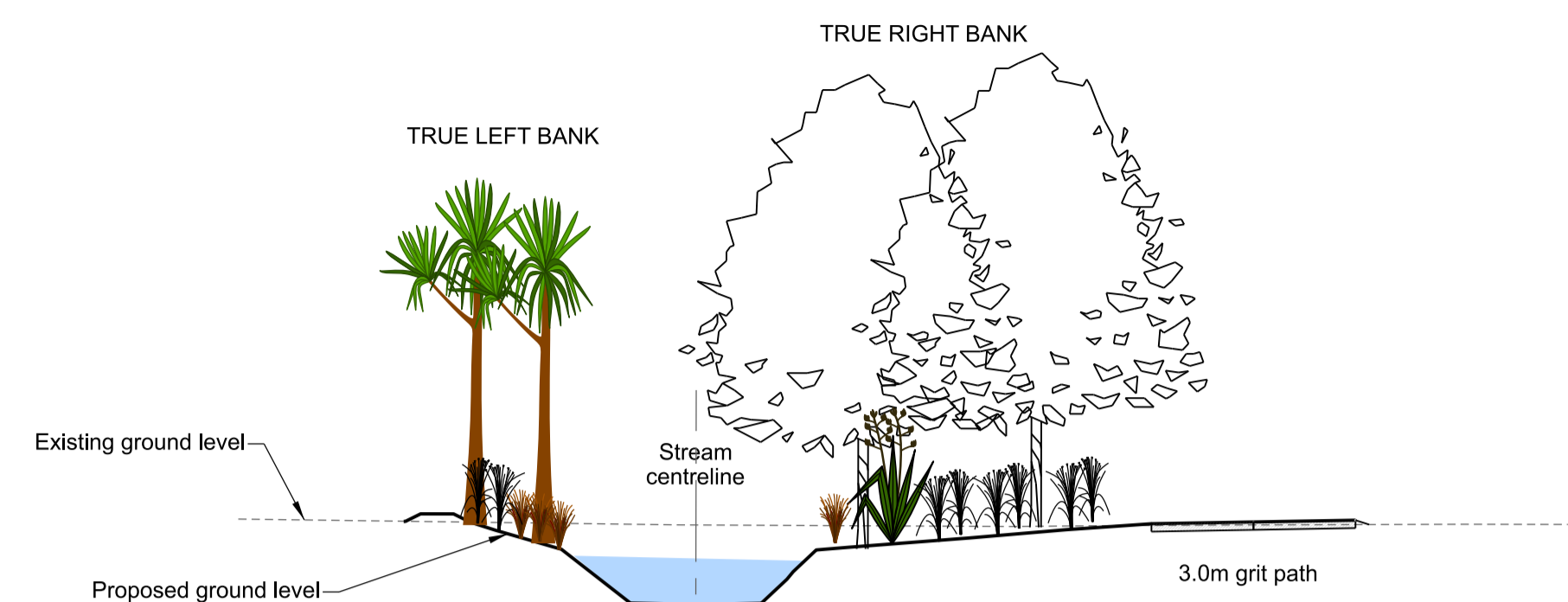
CASHMERE STREAM REALIGNMENT
STAGE 4

DRAWING TITLE
CROSS SECTIONS 1

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:100 A1 1:200 A3
CAD DRAWING FILE REF.	DD135002.DGN	SHEET		D09 OF 21	
TSD PROJECT FILE NUMBER	CP503560				

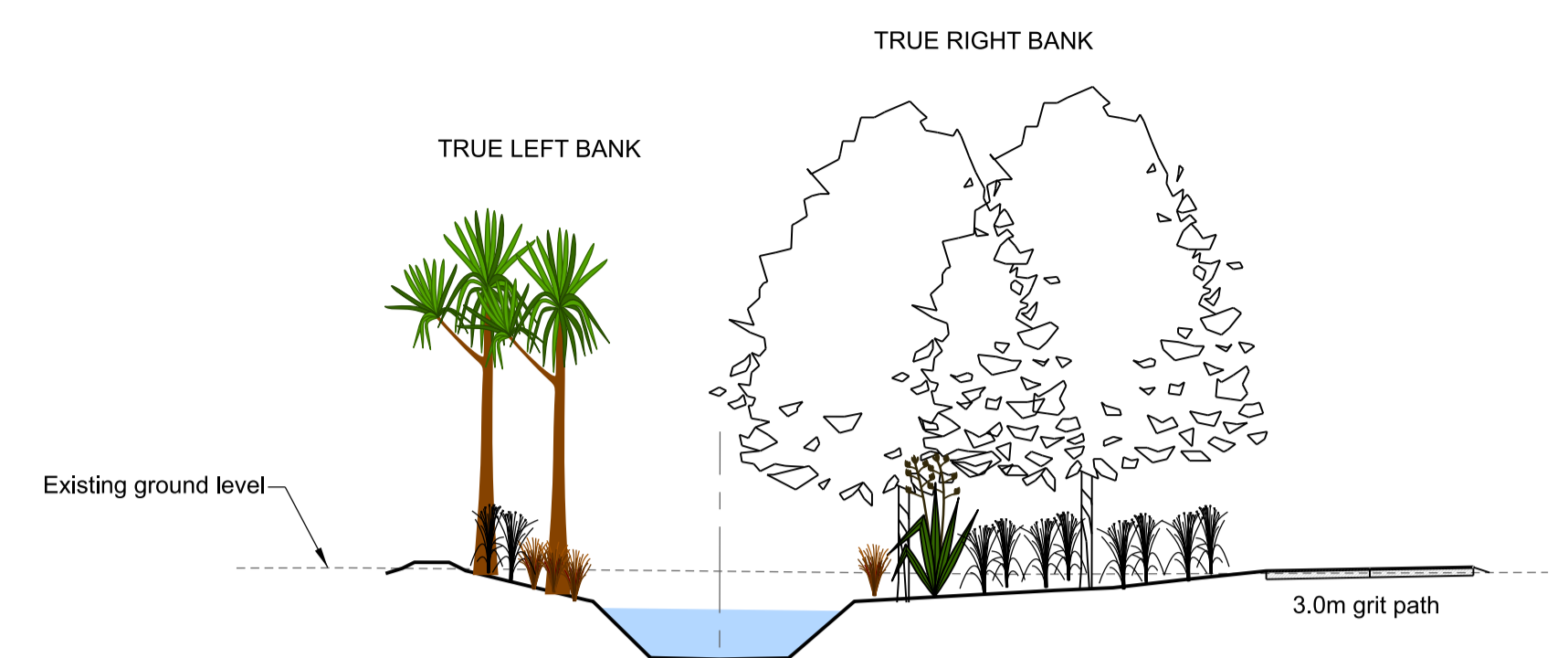
A	FOR PRICING		SIGNED	11/2022
ISSUE	AMENDMENTS			DATE

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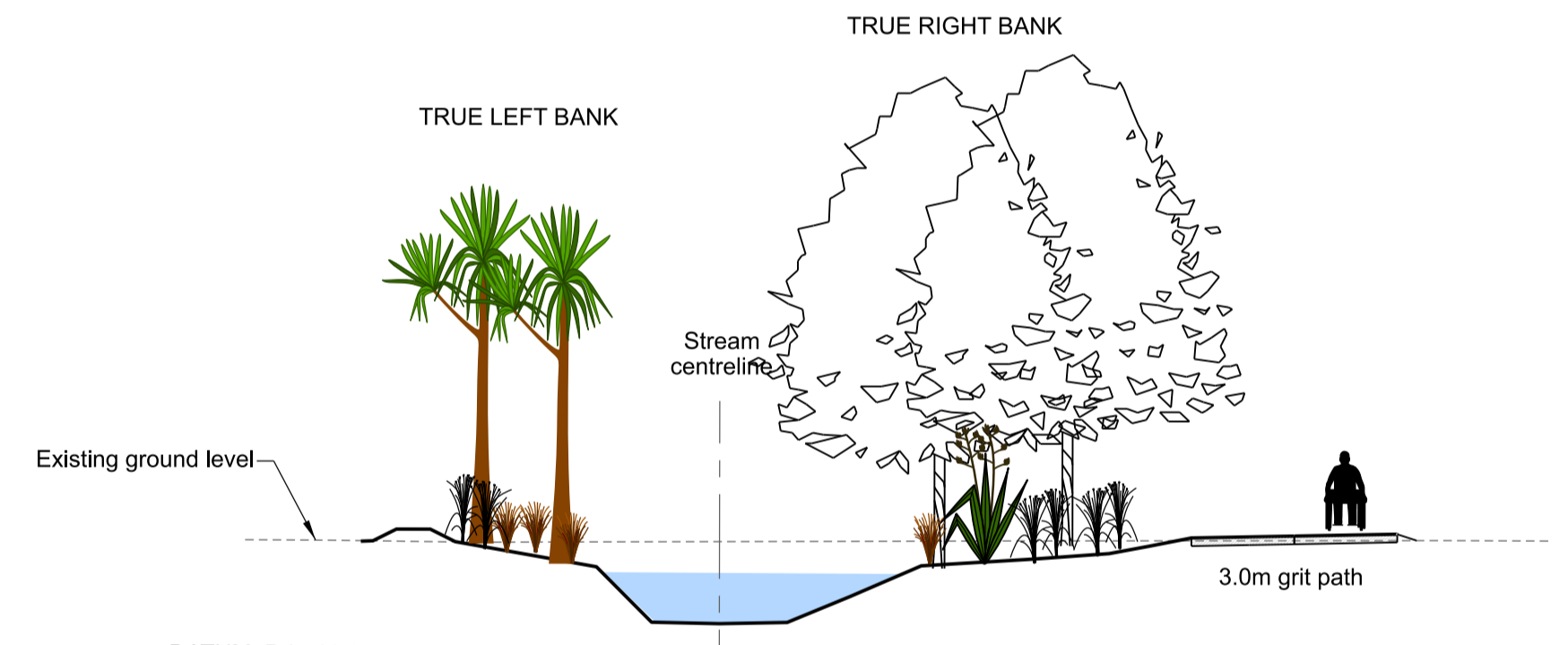
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OFFSET (m)	-4.47, -4.21, -3.71, -3.07, -2.06, -1.00, 0.00, 1.00, 1.84, 2.35, 4.17, 5.66, 6.97, 7.52, 8.53, 10.08
FILL (m)	0.00, 0.12, -0.12, -0.40, -1.21, -1.22, -1.19, -0.37, -0.33, -0.18, -0.06, 0.02, 0.03, 0.05, 0.07

282
SECTION
SCALE 1:100 A1
1:200 A3



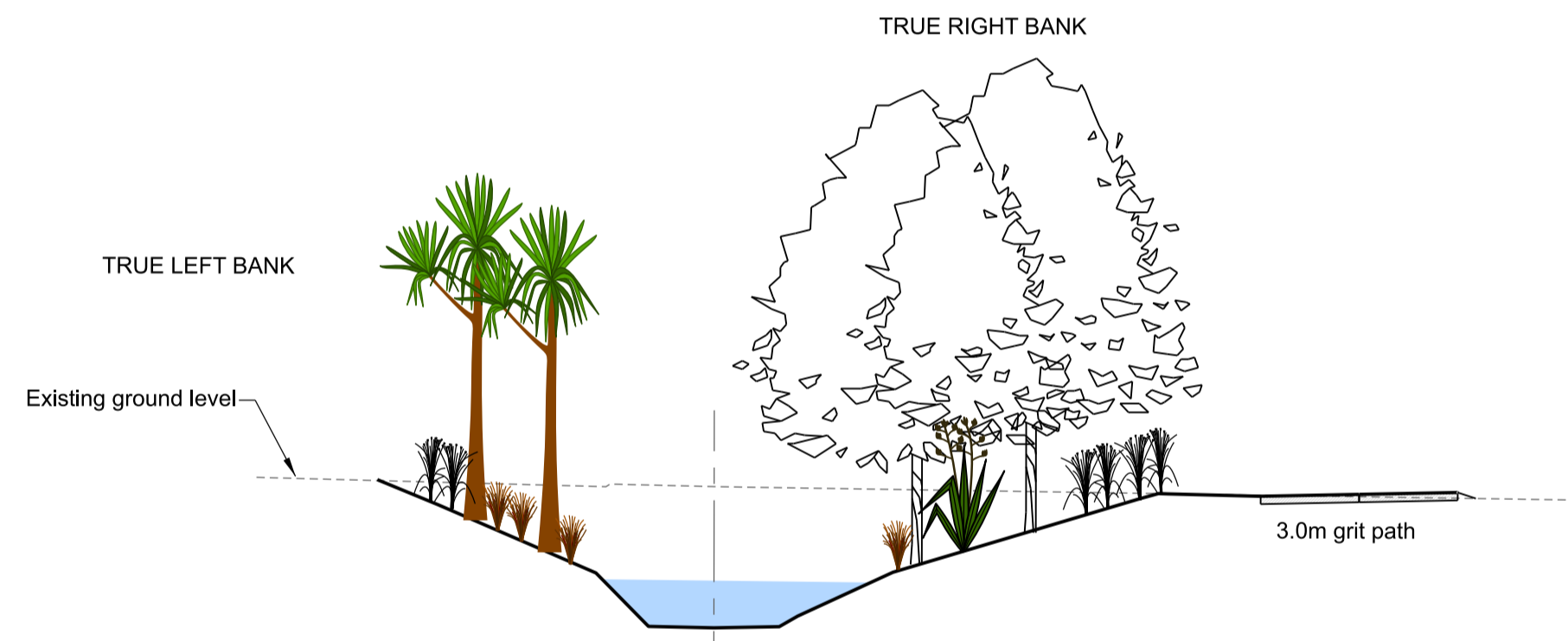
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OFFSET (m)	-4.84, -4.42, -3.68, -1.50, -1.00, 0.00, 1.00, 1.95, 4.86, 5.69, 6.75, 7.92, 8.47, 9.42, 10.34, 10.92
FILL (m)	-0.08, 0.09, -0.03, -0.78, -1.26, -1.27, -1.25, -0.42, -0.23, -0.20, -0.08, 0.04, 0.04, 0.06, 0.07, 0.08

284
SECTION
SCALE 1:100 A1
1:200 A3



DATUM R.L. 16.0	
ELEVATION (m)	17.92, 18.10, 17.92, 17.55, 16.73, 16.71, 16.73, 17.12, 17.57, 17.67, 17.76, 17.87, 17.99, 18.01, 18.02, 18.05
OFFSET (m)	-5.29, -4.52, -3.90, -1.82, -1.00, 0.00, 1.00, 1.92, 2.98, 4.61, 5.75, 6.34, 6.96, 7.82, 8.41, 9.77
FILL (m)	-0.03, 0.18, 0.01, -0.37, -1.19, -1.21, -1.20, -0.82, -0.36, -0.27, -0.19, -0.08, 0.04, 0.06, 0.07, 0.08

283
SECTION
SCALE 1:100 A1
1:200 A3



DATUM R.L. 16.0	
ELEVATION (m)	18.93, 18.55, 17.51, 16.69, 16.67, 16.69, 17.53, 18.66, 18.70, 18.73, 18.75, 18.77
OFFSET (m)	-5.15, -4.22, -1.81, -1.00, 0.00, 1.00, 2.74, 6.51, 8.36, 9.86, 10.41, 11.37
FILL (m)	0.01, -0.34, -1.32, -2.16, -2.16, -2.12, -1.27, -0.08, -0.02, 0.04, 0.05, 0.09

285
SECTION
SCALE 1:100 A1
1:200 A3

NOTES

- Proposed in-stream features are not shown on these sections as locations are subject to change.

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DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.	Bench Mark	DESIGNED	A SMITH	08/2022
RL	Bench Mark RL	DES. REVIEW	M PENTECOST	11/2022
SURVEY	Survey	DRAWN	G WILLIAMS	08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK	11/2022

APPROVED	
FOR TENDER	DATE SIGNED
FOR CONSTRUCTION	DATE SIGNED

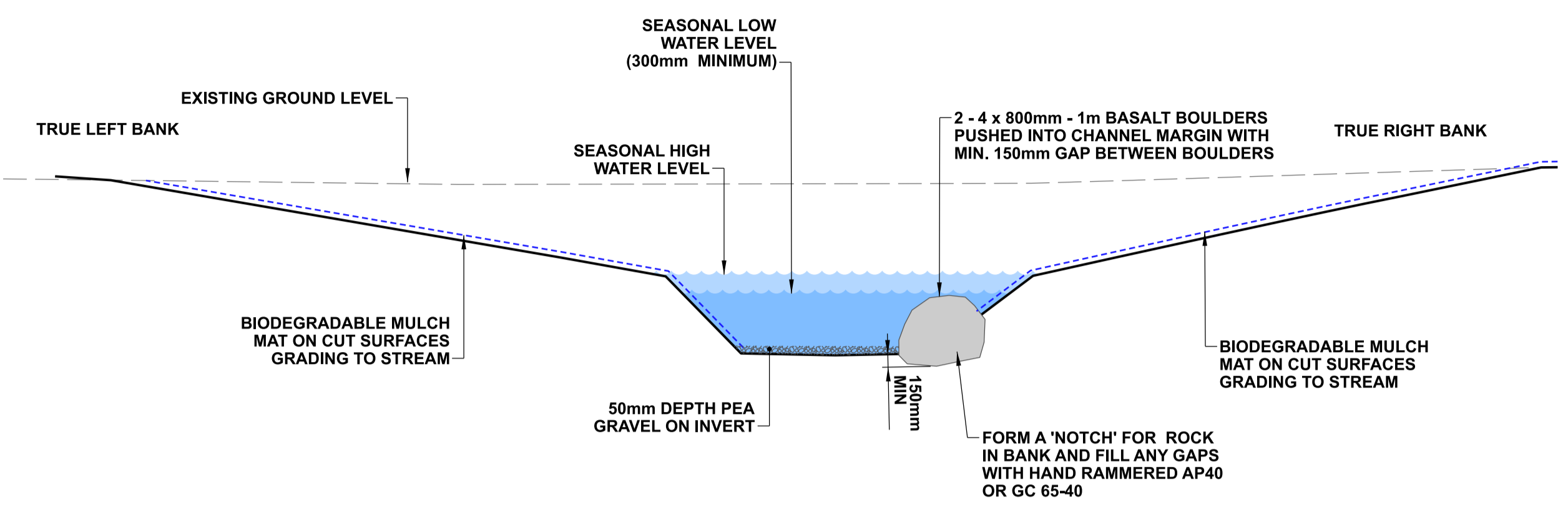
CONSULTANT	PROJECT TITLE
	CASHMERE STREAM REALIGNMENT STAGE 3

DRAWING TITLE
CROSS SECTIONS 2

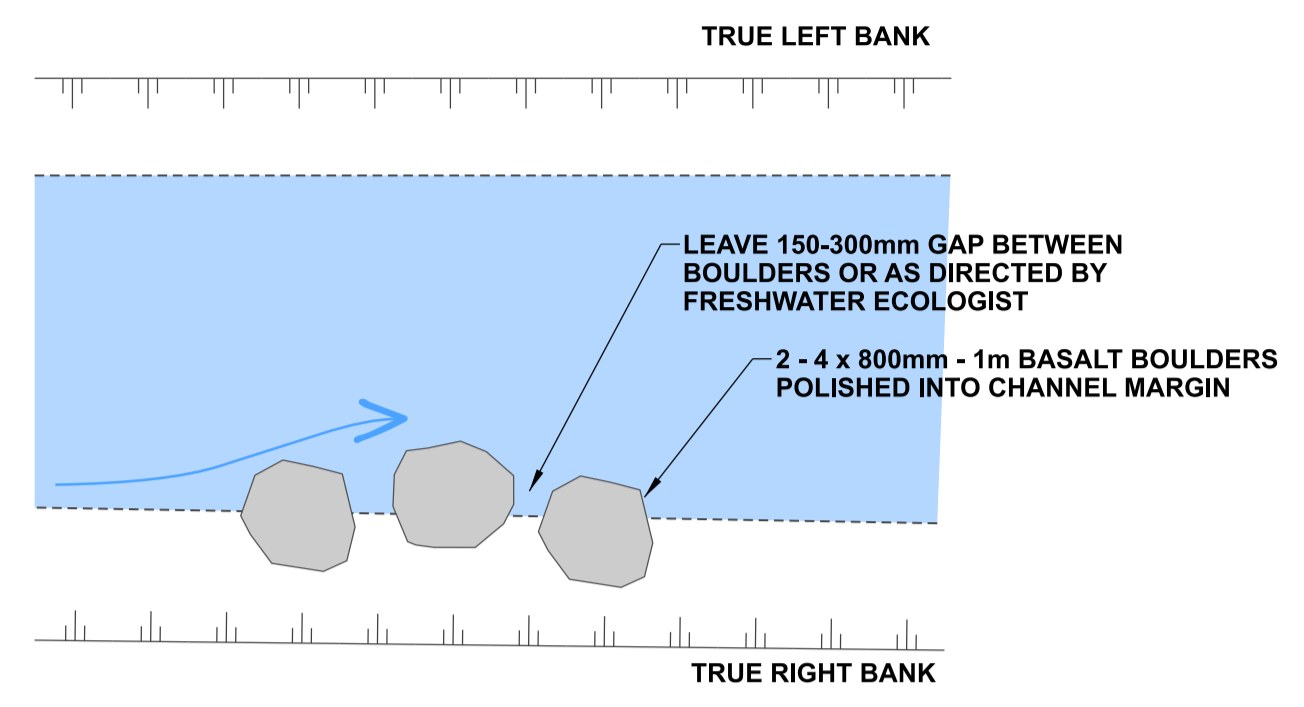
DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	1:100 A1 1:200 A3
CAD DRAWING FILE REF.	TSD PROJECT FILE NUMBER	SHEET
DD135001.DGN	CP503560	D10 OF 21

A	FOR PRICING	SIGNED	11/2022
ISSUE	AMENDMENTS	DATE	

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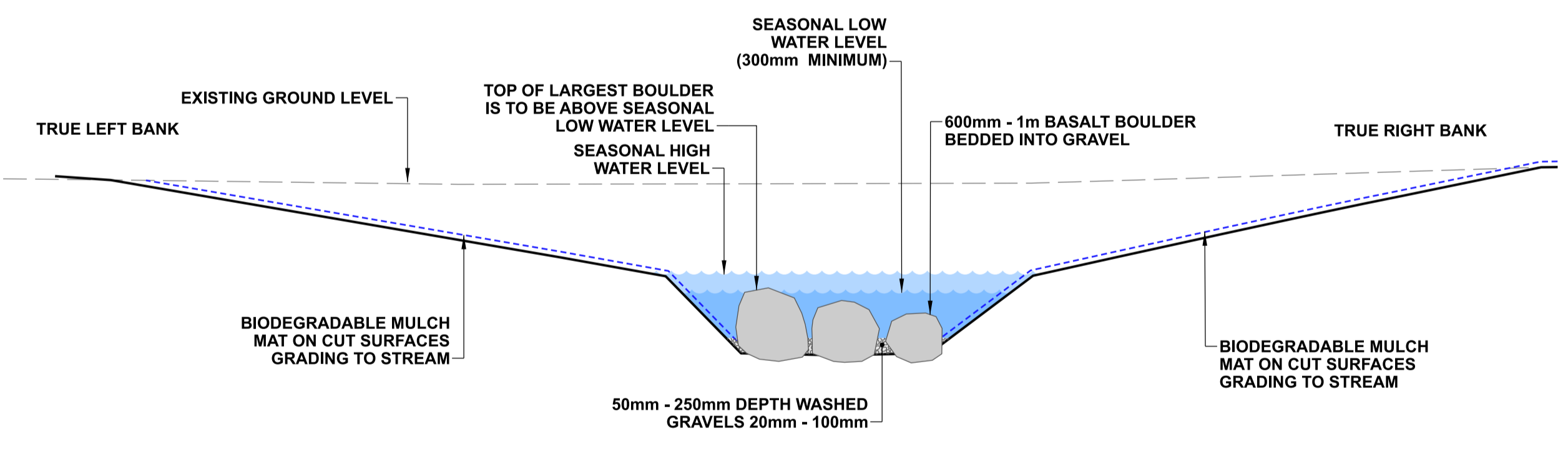
A TYPICAL DETAIL - ROCK EDGE
 1:50 @ A1
 1:100 @ A3



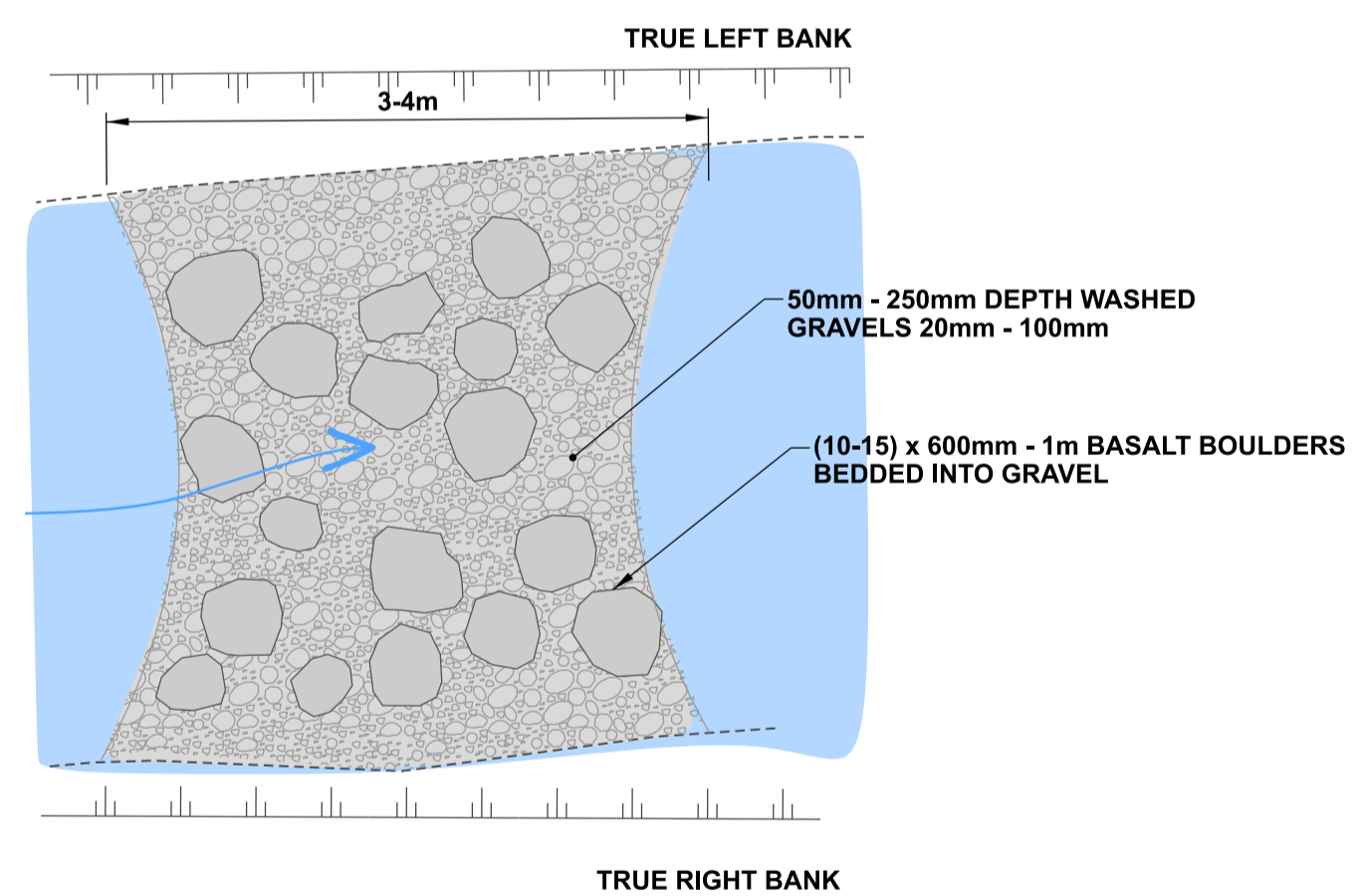
PLAN VIEW OF ROCK EDGE

DETAIL AIM:

- Spaces are left between the boulders to provide refuge for smaller aquatic species and access to soft substrate.
- Emergent boulders provide egg laying sites for insects.
- Provides flow variation in stream.
- Use in locations where there are bank stability concerns.



B TYPICAL DETAIL - RIFFLE
 1:50 @ A1
 1:100 @ A3



PLAN VIEW OF ROCK RIFFLE

DETAIL AIM:

- Gravels and boulders in the invert change the velocity of the stream flow providing habitat for aquatic species.
- The largest basalt boulders may be emergent to provide egg laying sites for insects.

NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
2. Any deviation is not to be carried out until written instruction is received from the CCC Contracts Engineer.
3. The contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the CCC Contracts Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
8. Exact numbers of boulders for each location to be determined on site.

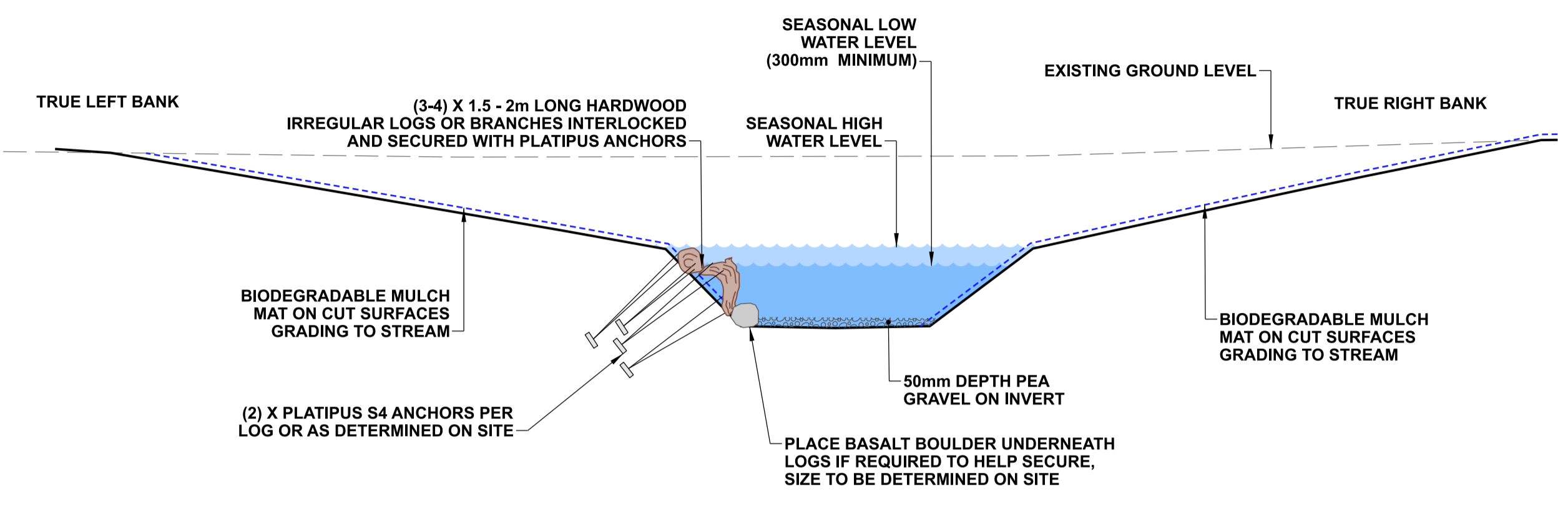
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A	FOR PRICING			11/2022
ISSUE	AMENDMENTS	SIGNED	DATE	

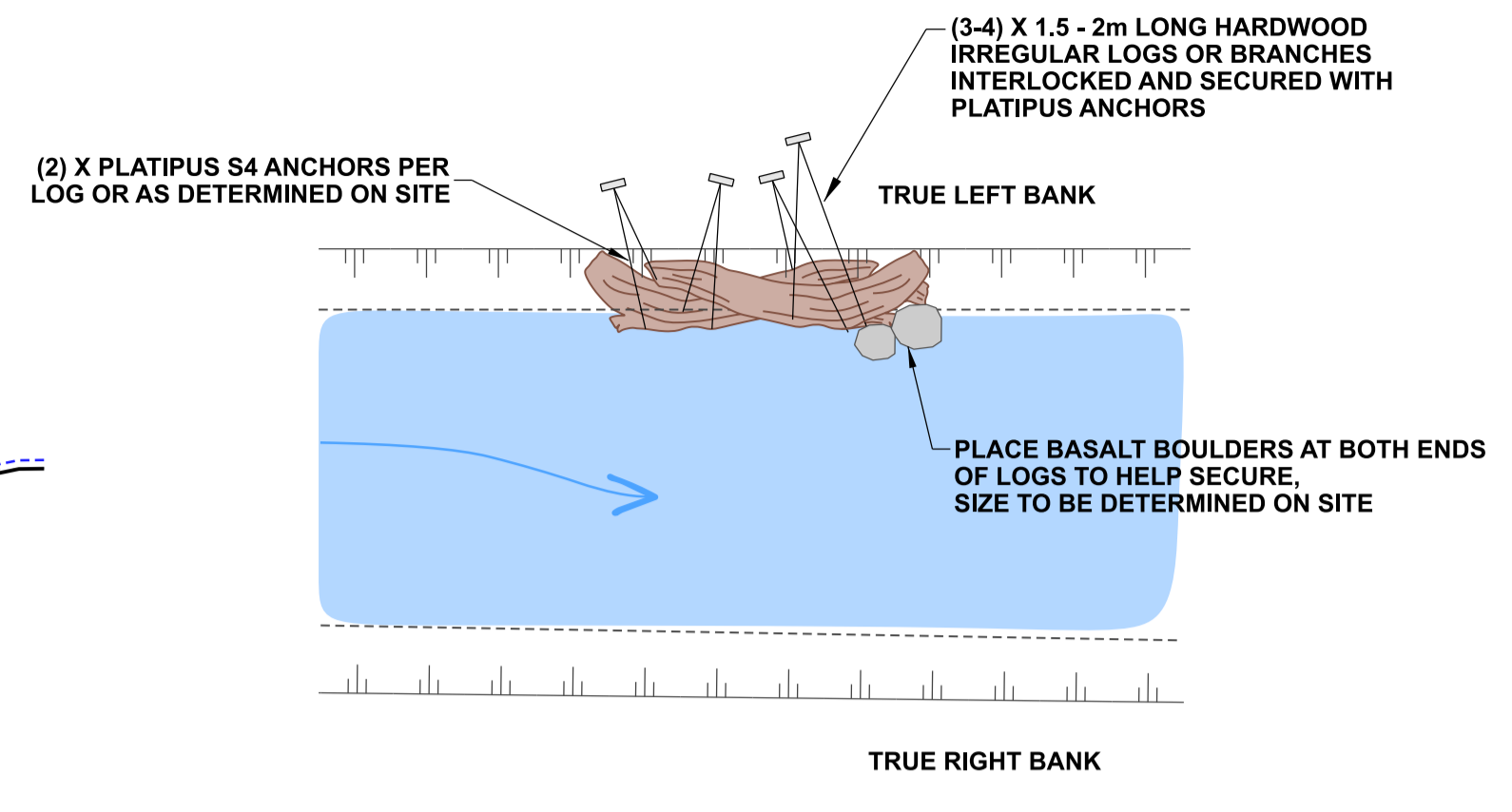
DATUM	C.D.D.	DESIGNED	NAME	SIGNED	DATE
BENCH MK.	Bench Mark		A SMITH		08/2022
RL	Bench Mark RL	DES. REVIEW	M PENTECOST		11/2022
SURVEY	Survey	DRAWN	C JORDAAN		08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
FILE LOCATION					
DRAIN REF.	16717	FILENAME\$			
SAP WBS	562/3873	PRINTED ON \$DATE\$	BY \$USER\$		

APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

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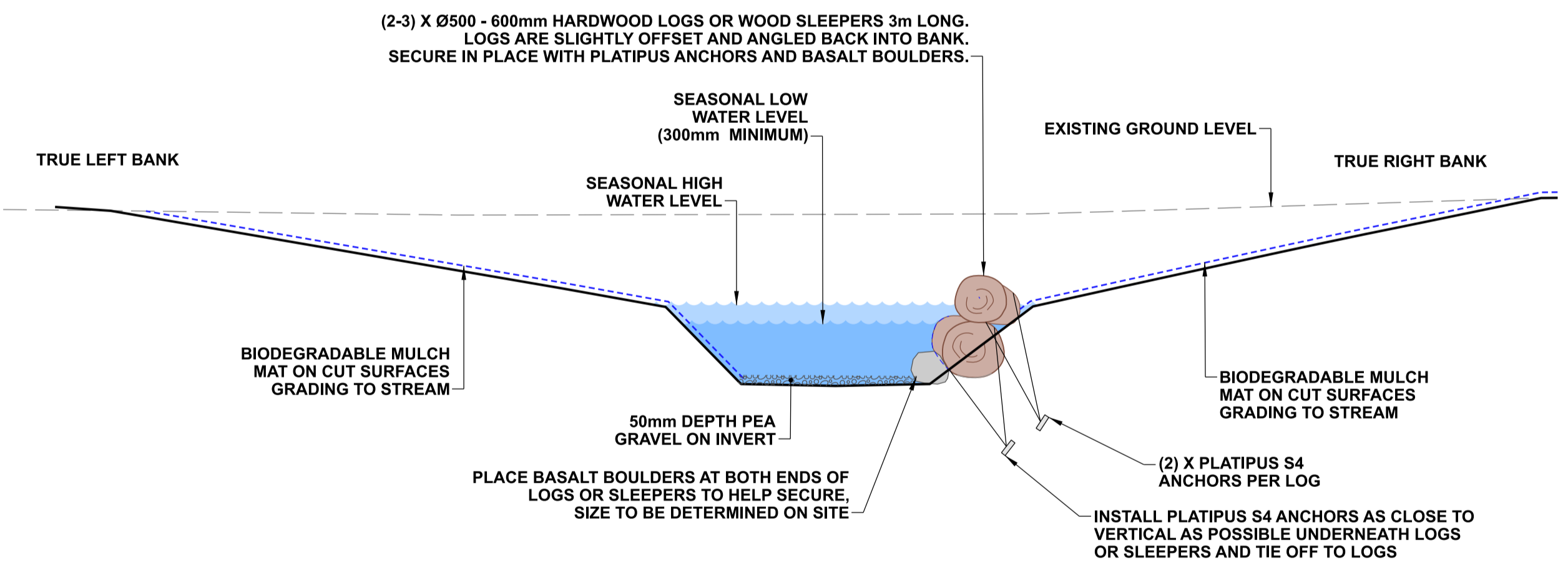
C TYPICAL DETAIL - TIMBER EDGE
 1:50 @ A1
 1:100 @ A3



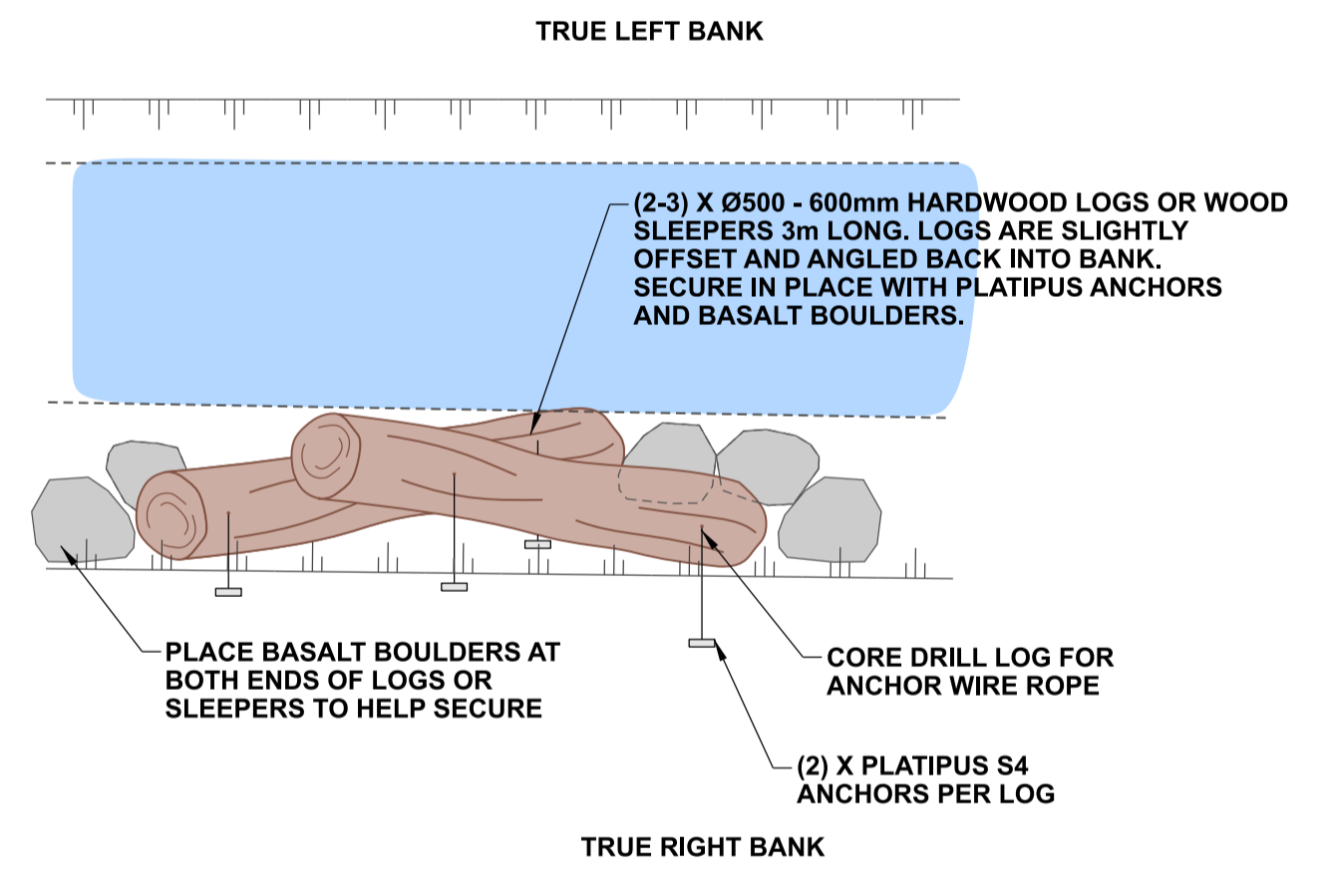
PLAN VIEW OF TIMBER EDGE

DETAIL AIM:

- Weathered hardwood timber (branches or irregular logs) are secured to bank to form an overhang and fish refuge.
- Timber is to be interlocked to secure and provide spaces for refuge and access to soft substrate of the bank.
- Provides flow variation in stream.
- Use in locations where there are bank stability concerns.



D TYPICAL DETAIL - LOG EDGE
 1:50 @ A1
 1:100 @ A3



PLAN VIEW OF LOG EDGE

DETAIL AIM:

- Logs or sleepers are secured to bank to form an overhang and fish refuge.
- Timber to provide spaces for refuge and access to soft substrate of the bank.
- Use in locations where there are bank stability concerns.

NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
2. Any deviation is not to be carried out until written instruction is received from the CCC Contracts Engineer.
3. The contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the CCC Contracts Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist.
8. Location and placement of timber and logs to be under the direction of the CCC's Freshwater Ecologist to ensure site specific outcome is achieved.
9. Platipus anchors are to be installed so there is no slack in the stainless steel wire around the timber.

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DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE	APPROVED	
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		08/2022	FOR TENDER	
RL	Bench Mark RL				11/2022	DATE	SIGNED
SURVEY	Survey	DRAWN	C JORDAAN		08/2022	Tender Date	
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022	FOR CONSTRUCTION	
		FILE LOCATION				DATE	SIGNED
DRAIN. REF.	16717	\$FILENAME\$				Constn Date	
SAP WBS	562/3873	PRINTED ON \$DATE\$	BY \$USER\$			CONSULTANT PROJECT REF.	CONSULTANT FILE REF.

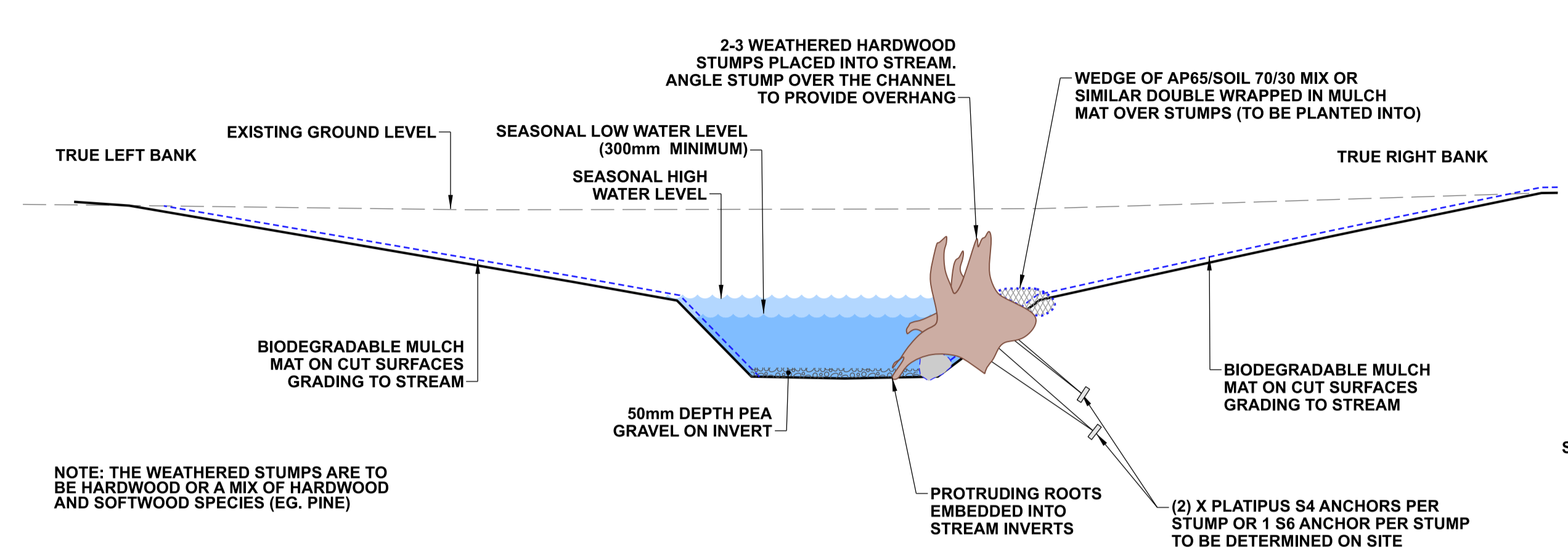
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PROJECT TITLE	CASHMERE STREAM REALIGNMENT STAGE 4
DRAWING TITLE	TYPICAL IN-STREAM FEATURES: DETAILS C-D

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	AS SHOWN
CAD DRAWING FILE REF.	DD135001.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D12	OF	21

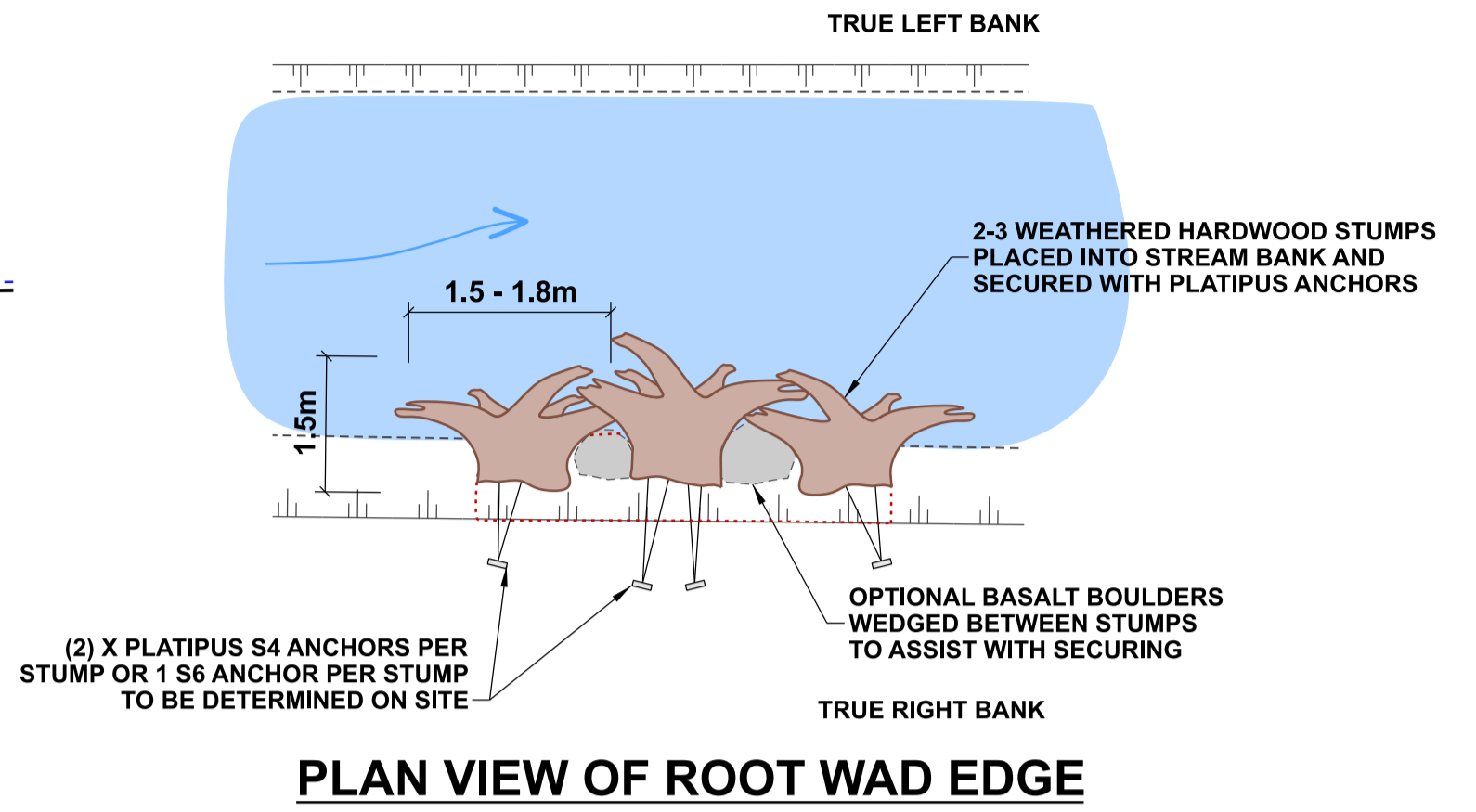
A	FOR PRICING		11/2022
ISSUE	AMENDMENTS	SIGNED	DATE

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- NOTES**
1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
 2. Any deviation is not to be carried out until written instruction is received from the CCC Contracts Engineer.
 3. The contractor is to check all services with the appropriate authorities prior to commencement of work.
 4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
 5. Refer to sheet D02 for general notes.
 6. The exact extent and location of these details is subject to on-site approval by the CCC Contracts Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
 7. The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist.
 8. Location and placement of the stumps and posts is to be under the direction of the CCC's Freshwater Ecologist to ensure site specific outcome is achieved.
 9. Platipus anchors are to be installed so there is no slack in the stainless steel wire around the timber.

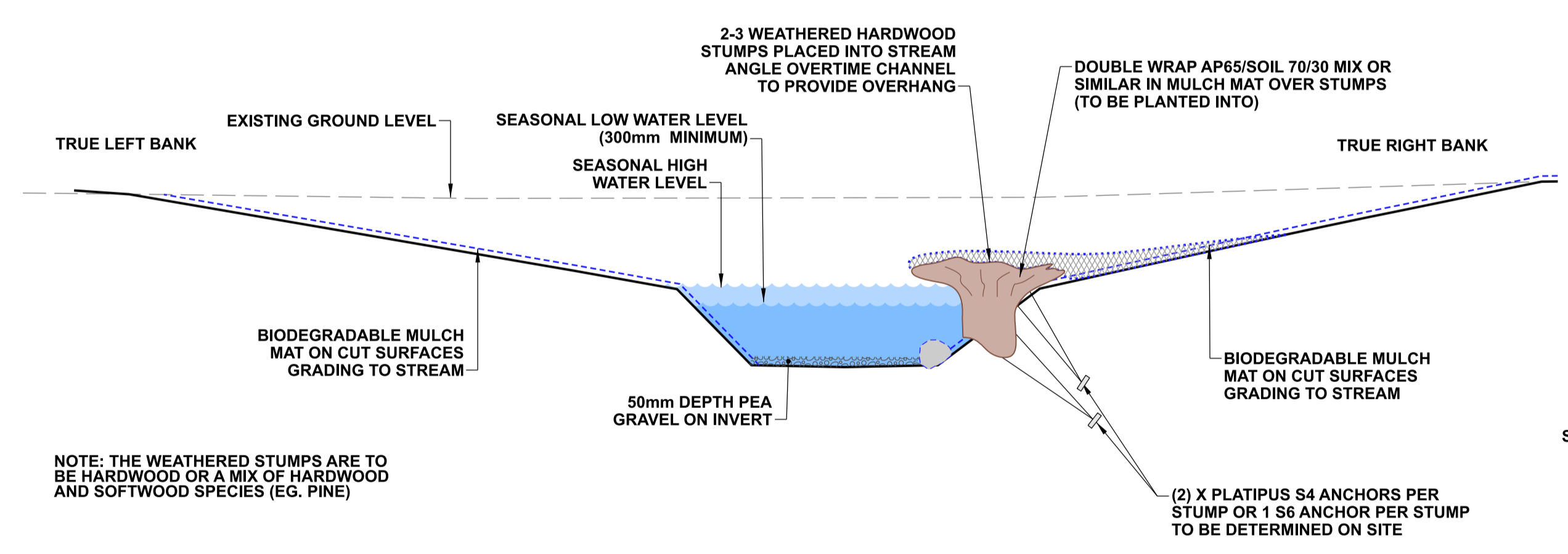


E D13 TYPICAL DETAIL - ROOT WAD EDGE - OPTION 1: IN BANK
1:50 @ A1
1:100 @ A3

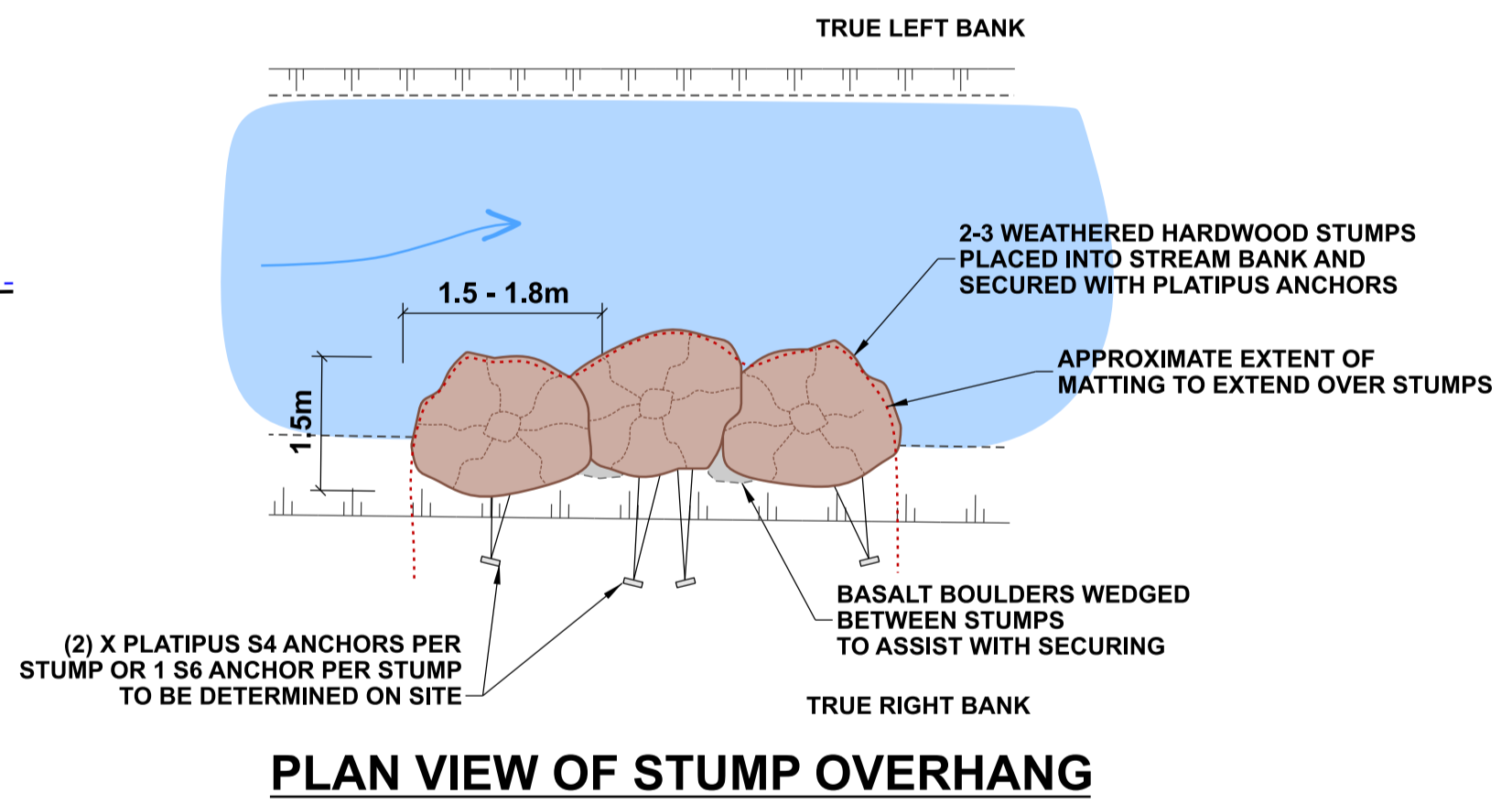


PLAN VIEW OF ROOT WAD EDGE

- DETAIL AIM:**
- A fish refuge is created by the tangled roots of weathered tree stumps firmly secured to the side of the bank.
 - The root wad edge provides variable stream velocity and habitat for aquatic species.
 - Use in locations where there are bank stability concerns.



E D13 TYPICAL DETAIL - ROOT WAD EDGE - OPTION 2: STUMP OVERHANG
1:50 @ A1
1:100 @ A3



PLAN VIEW OF STUMP OVERHANG

- DETAIL AIM:**
- A fish refuge is created by the tangled roots of weathered tree stumps firmly secured to the side of the bank.
 - The root wad edge provides variable stream velocity and habitat for aquatic species.
 - Use in locations where there are bank stability concerns.

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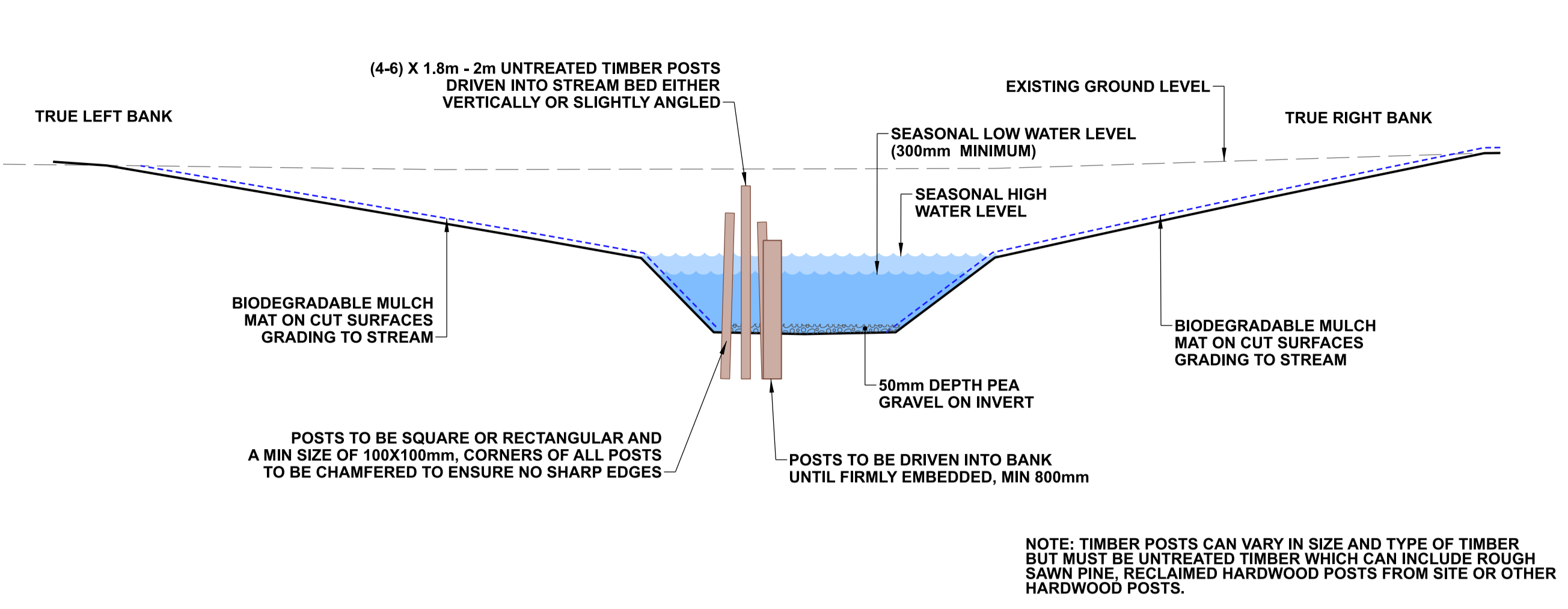
A	FOR PRICING		11/2022
ISSUE	AMENDMENTS	SIGNED	DATE

DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		08/2022
RL	Bench Mark RL	DRAWN	C JORDAAN		08/2022
SURVEY	Survey	DRW. CHECK	J POWICK		11/2022
SURVEY LB	Level Book	FILE LOCATION			
DRAIN REF.	16717	FILENAME\$			
SAP WBS	562/3873	PRINTED ON \$DATE\$	BY \$USER\$		

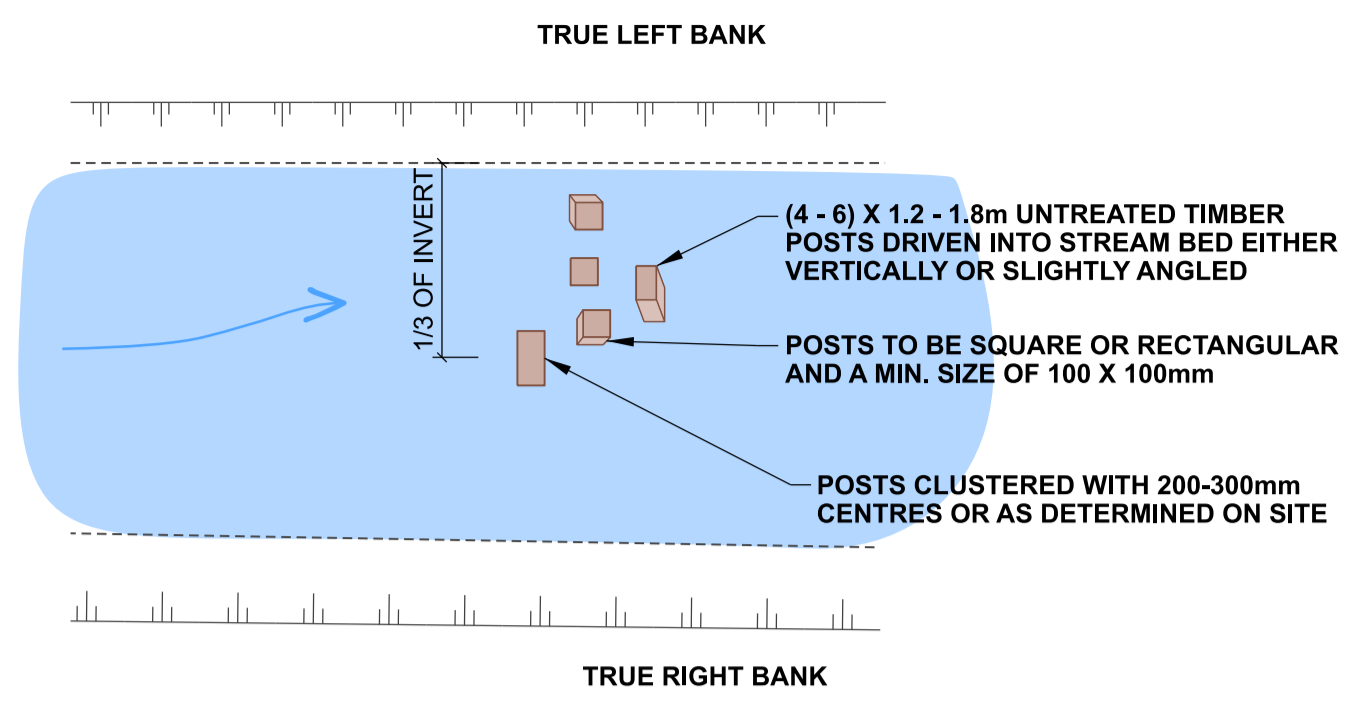
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	AS SHOWN
CAD DRAWING FILE REF.	DD135001.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D13	OF 21	

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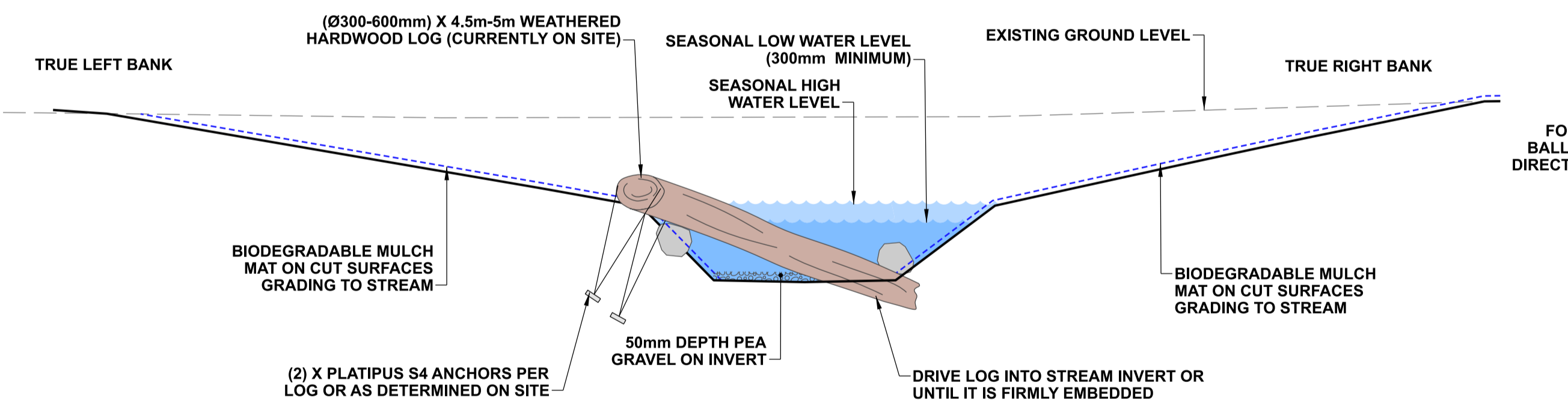
F TYPICAL DETAIL - POST SNAG
 1:50 @ A1
 1:100 @ A3



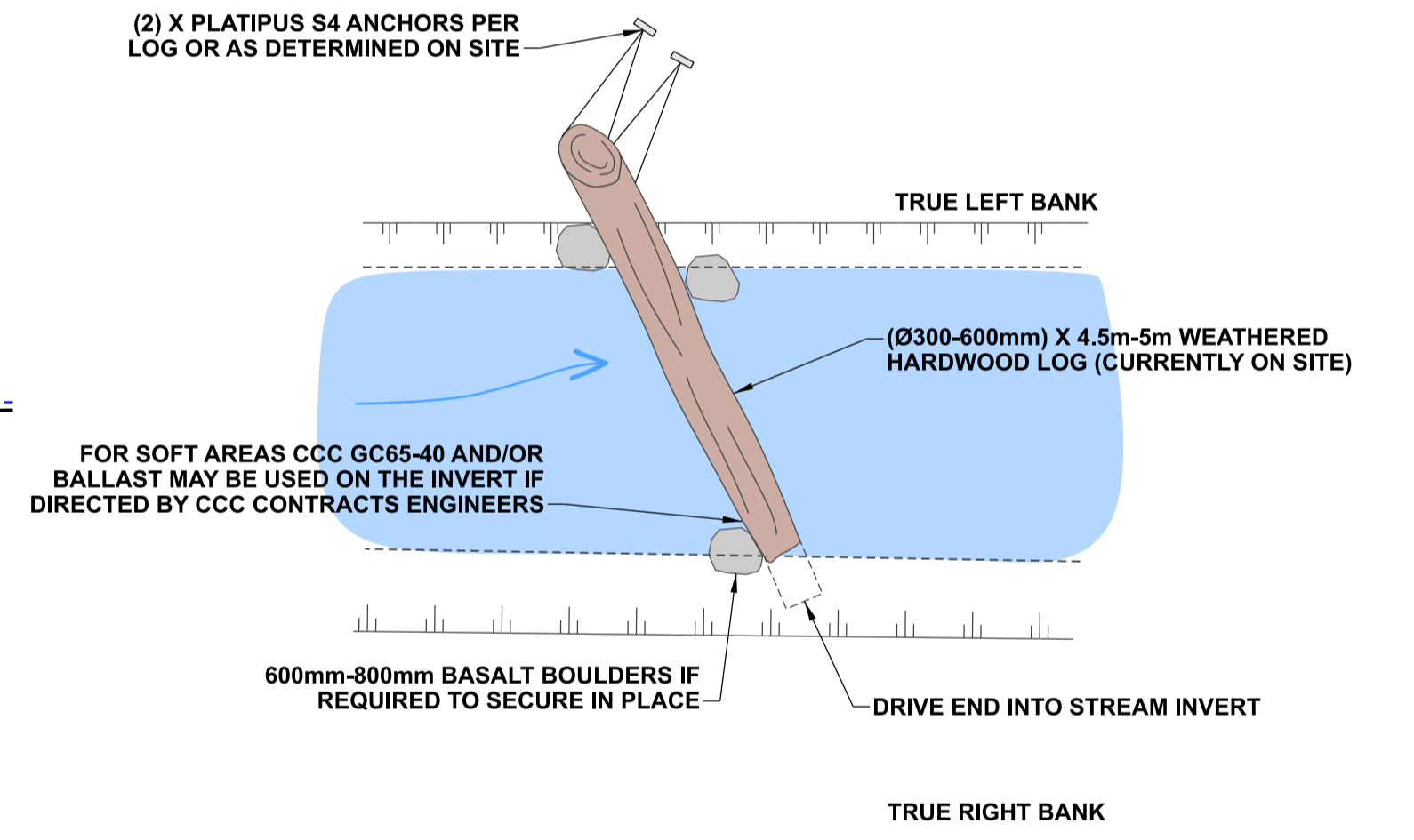
PLAN VIEW OF POST SNAG

DETAIL AIM

- Untreated timber posts are driven into the stream bed in a cluster to trap fine woody debris entering the stream.
- The woody debris snag provides variable stream velocity and habitat for aquatic species.
- Use in locations where there are bank stability concerns.



G TYPICAL DETAIL - LOG SNAG
 1:50 @ A1
 1:100 @ A3



PLAN VIEW OF ROOT WAD EDGE

DETAIL AIM:

- A hardwood log is wedged across the stream profile providing an informal weir and fish refuge.
- The log provides variable stream velocity and habitat for aquatic species.
- Use in locations where there are bank stability concerns.

NOTES

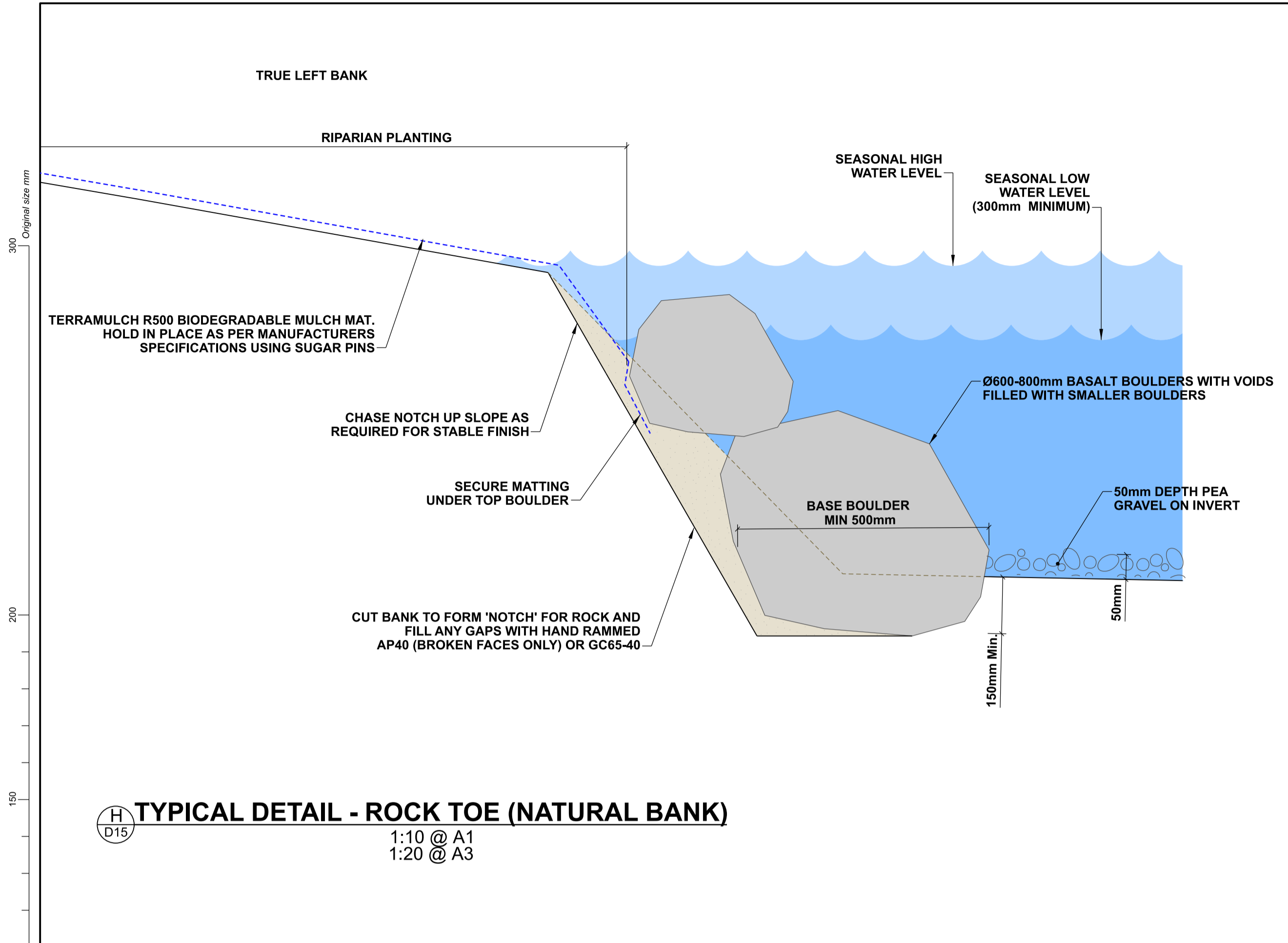
1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
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5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the CCC Contracts Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist.
8. Location and placement of timber and logs is to be under the direction of the CCC's Freshwater Ecologist to ensure site specific outcome is achieved.
9. Platipus anchors are to be installed so there is no slack in the stainless steel wire around the timber.

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CONSTRUCTION

A	FOR PRICING		11/2022
ISSUE	AMENDMENTS	SIGNED	DATE

DATUM	C.D.D.	DESIGNED	NAME	SIGNED	DATE
BENCH MK.	Bench Mark	DESIGNED	A SMITH		08/2022
RL	Bench Mark RL	DES. REVIEW	M PENTECOST		11/2022
SURVEY	Survey	DRAWN	C JORDAAN		08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
FILE LOCATION					
DRAIN. REF.	16717	FILENAME\$			
SAP WBS	562/3873	PRINTED ON \$DATE\$	BY \$USER\$		

APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	



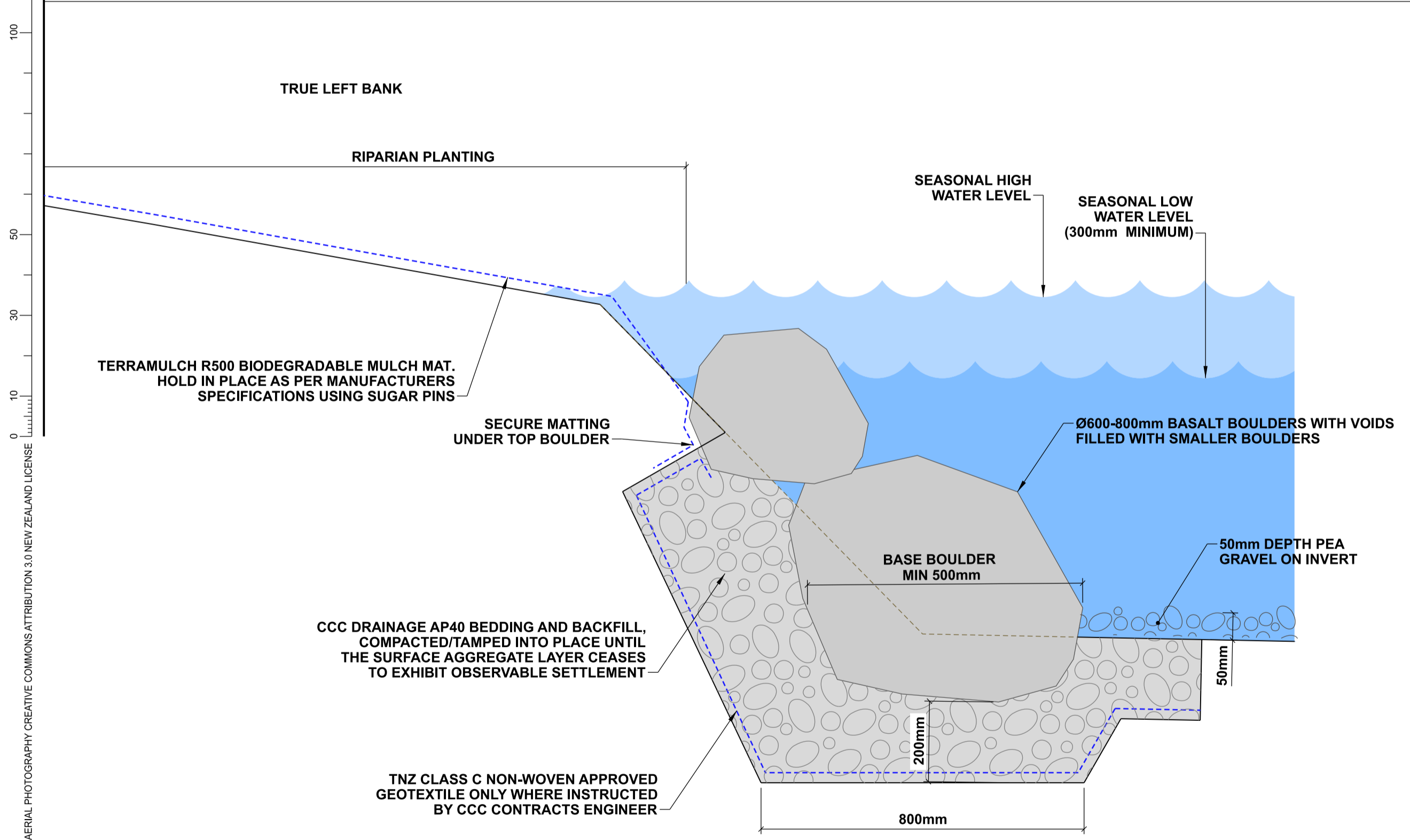
H
D15
TYPICAL DETAIL - ROCK TOE (NATURAL BANK)
1:10 @ A1
1:20 @ A3

DETAIL AIM:

- For use where bank stability is required or is a concern.
- To provide scour protection at the bank margin.

NOTE:

- Detail to be used only when other features won't provide sufficient bank stability.



I
D15
TYPICAL DETAIL - ROCK TOE
1:10 @ A1
1:20 @ A3

DETAIL AIM:

- For use where bank stability is required or is a concern.
- To provide scour protection at the bank margin.

NOTE:

- Detail to be used only when other features won't provide sufficient bank stability.

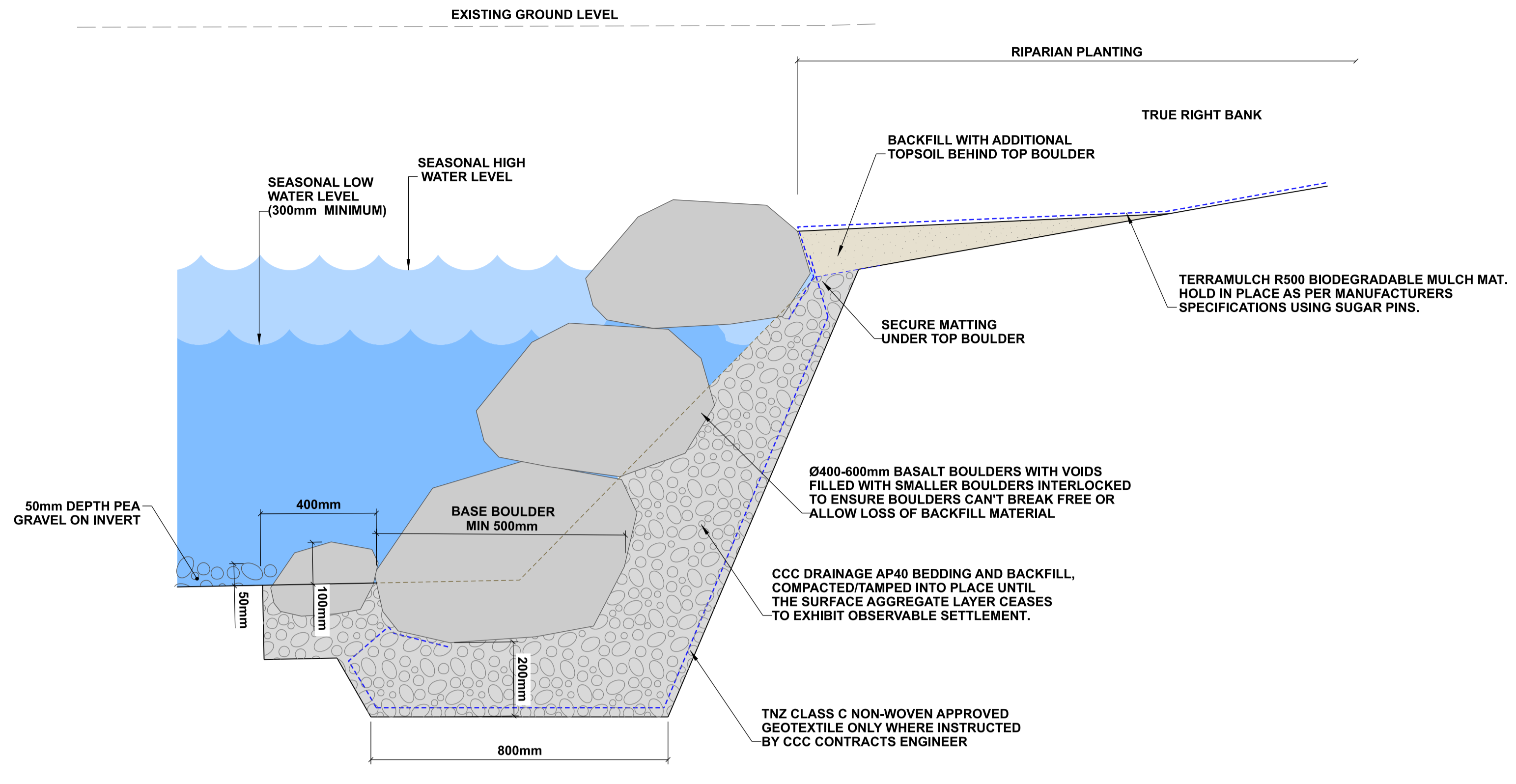
- NOTES**
- All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
 - Any deviation is not to be carried out until written instruction is received from the CCC Contracts Engineer.
 - The contractor is to check all services with the appropriate authorities prior to commencement of work.
 - Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
 - Refer to sheet D02 for general notes.
 - The exact extent and location of these details is subject to on-site approval by the CCC Contracts Engineer and Freshwater Ecologist, including detail type, placement of basalt boulders.
 - The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
 - Exact numbers of boulders for each location to be determined on site.

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CONSTRUCTION

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DATUM	C.D.D.	DESIGNED	NAME	SIGNED	DATE	APPROVED		CONSULTANT
BENCH MK.	Bench Mark		A SMITH		08/2022	FOR TENDER		
RL	Bench Mark RL	DES. REVIEW	M PENTECOST		11/2022	DATE	SIGNED	
SURVEY	Survey	DRAWN	C JORDAAN		08/2022	Tender Date		
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022	FOR CONSTRUCTION		
		FILE LOCATION				DATE	SIGNED	
DRAIN. REF.	16717	FILENAME\$				Cons'n Date		
SAP WBS	562/3973	PRINTED ON \$DATE\$	BY \$USER\$			CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

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J TYPICAL DETAIL - ROCK TOE

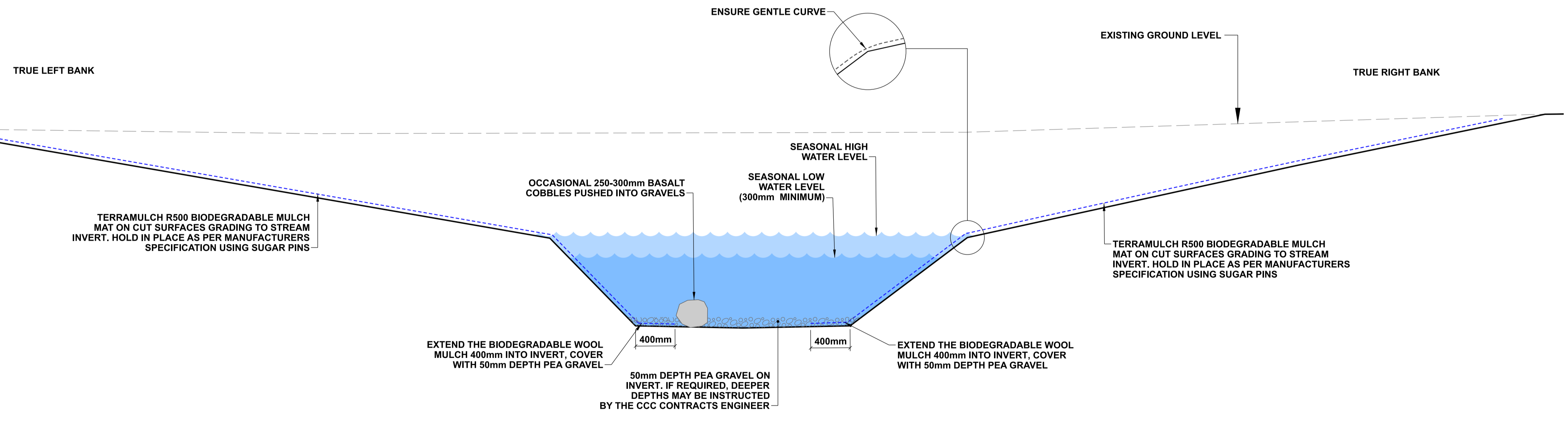
1:10 @ A1
1:20 @ A3

DETAIL AIM:

- For use where bank stability is required or is a concern.
- To provide scour protection at the bank margin.

NOTE:

- Detail to be used only when other features won't provide sufficient bank stability.



K TYPICAL DETAIL - SLOPE AND INVERT DETAIL

1:25 @ A1
1:50 @ A3

NOTES

- All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
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- The contractor is to check all services with the appropriate authorities prior to commencement of work.
- Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
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- The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
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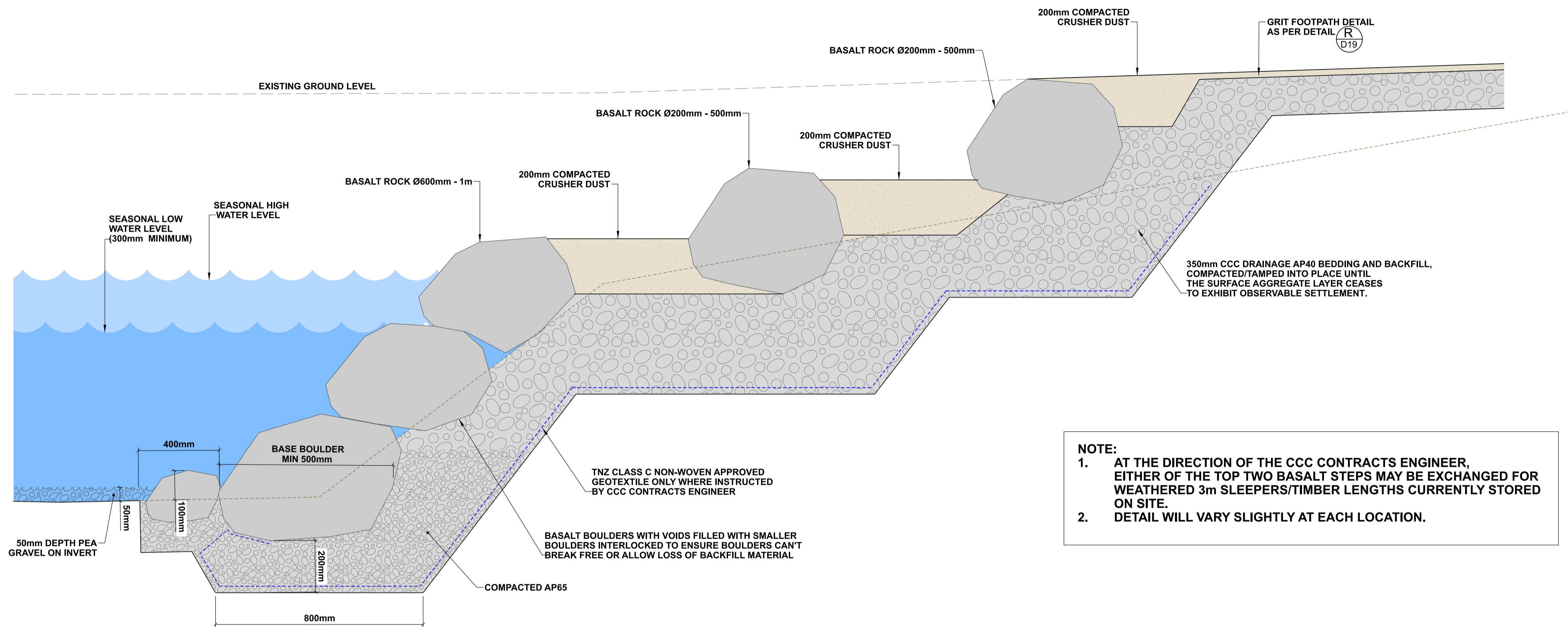
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CONSTRUCTION

DATUM	C.D.D.	DESIGNED	NAME	SIGNED	DATE
BENCH MK.	Bench Mark	DESIGNED	A SMITH		08/2022
RL	Bench Mark RL	DES. REVIEW	M PENTECOST		11/2022
SURVEY	Survey	DRAWN	C JORDAAN		08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
FILE LOCATION					
DRAIN. REF.	16717	FILENAMES			
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES		

APPROVED		FOR TENDER		FOR CONSTRUCTION	
DATE	SIGNED	DATE	SIGNED	DATE	SIGNED
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.			

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	AS SHOWN
CAD DRAWING FILE REF. DD135001.DGN		
TSD PROJECT FILE NUMBER CP503560		SHEET D16 OF 21

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NOTE:

1. AT THE DIRECTION OF THE CCC CONTRACTS ENGINEER, EITHER OF THE TOP TWO BASALT STEPS MAY BE EXCHANGED FOR WEATHERED 3m SLEEPERS/TIMBER LENGTHS CURRENTLY STORED ON SITE.
2. DETAIL WILL VARY SLIGHTLY AT EACH LOCATION.

- NOTES**
1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
 2. Any deviation is not to be carried out until written instruction is received from the CCC Contracts Engineer.
 3. The contractor is to check all services with the appropriate authorities prior to commencement of work.
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 5. Refer to sheet D02 for general notes.
 6. The exact extent and location of these details is subject to on-site approval by the CCC Contracts Engineer and Freshwater Ecologist, including detail type, placement of basalt boulders.
 7. The contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
 8. Exact numbers of boulders for each location to be determined on site.

L TYPICAL DETAIL - BASALT ROCK STEPS
 1:10 @ A1
 1:20 @ A3

DETAIL AIM:

- For use where pedestrian access to the stream is to be provided, and bank stability is required.

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A	FOR PRICING		11/2022
ISSUE	AMENDMENTS	SIGNED	DATE



DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		08/2022
RL	Bench Mark RL	DRAWN	C JORDAAN		08/2022
SURVEY	Survey	DRW. CHECK	J POWICK		11/2022
SURVEY LB	Level Book	FILE LOCATION			
DRAIN. REF.	16717	FILENAMES			
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES		

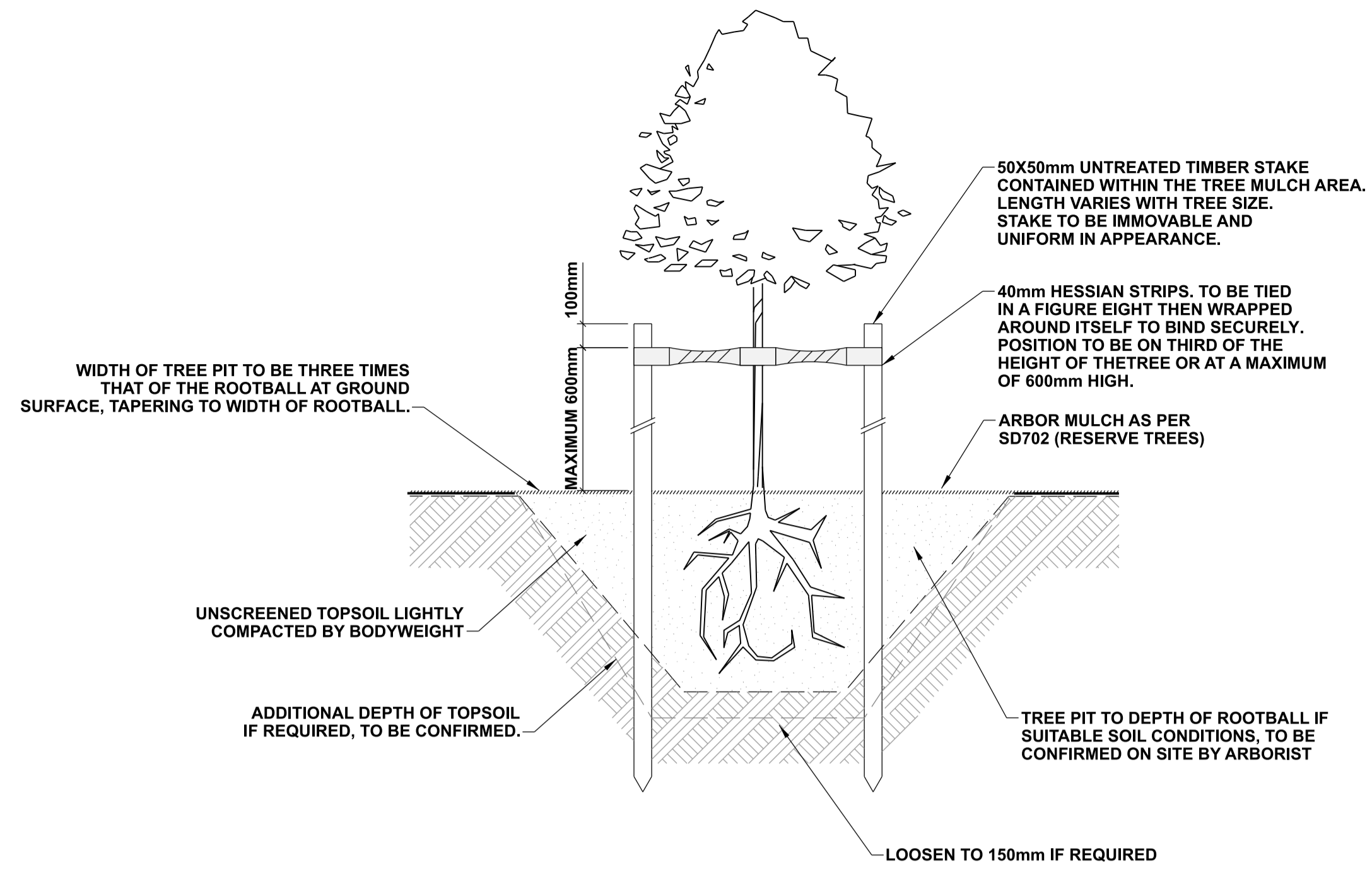
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
 STAGE 4**

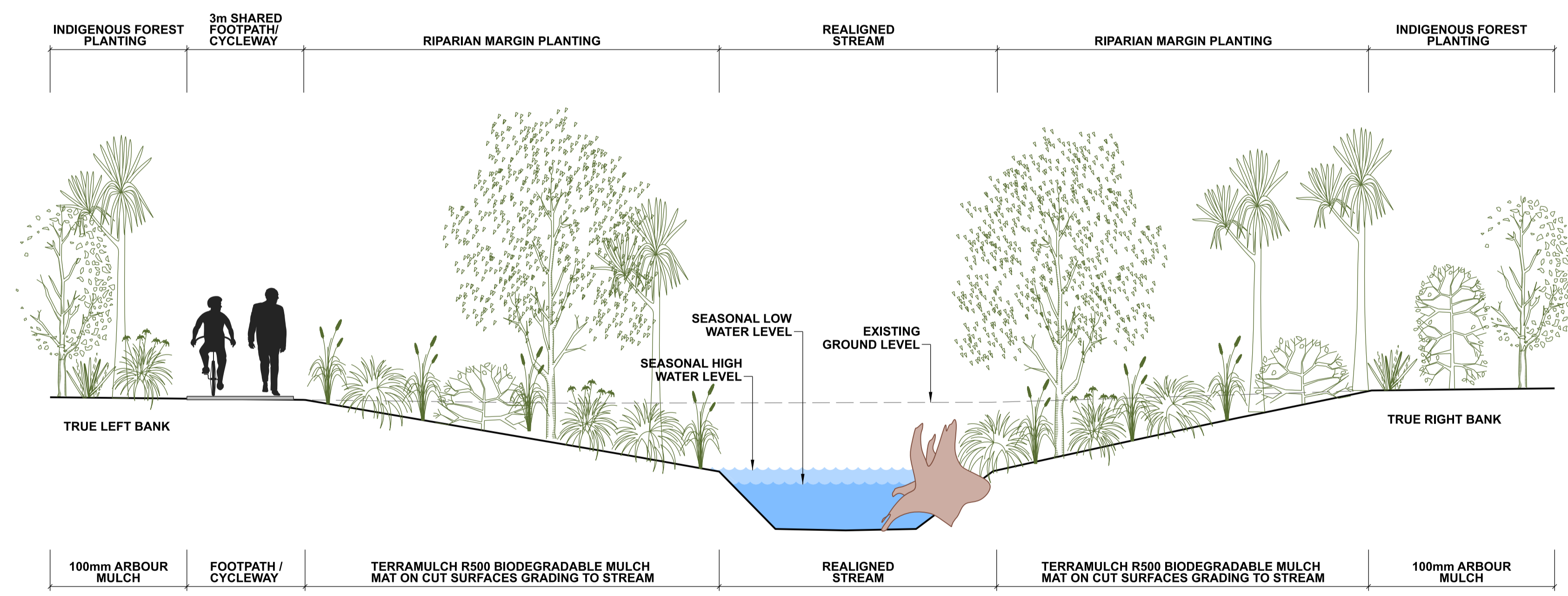
DRAWING TITLE
**TYPICAL DETAILS:
 DETAIL L**

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	AS SHOWN
CAD DRAWING FILE REF.	DD135001.DGN	TSD PROJECT FILE NUMBER	CP503560	SHEET	D17 OF 21

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M
D18 **TYPICAL DETAIL - TREE PIT**
1:20 @ A1
1:40 @ A3



N
D18 **TYPICAL DETAIL - PLANTING CROSS-SECTION**
1:50 @ A1
1:100 @ A3

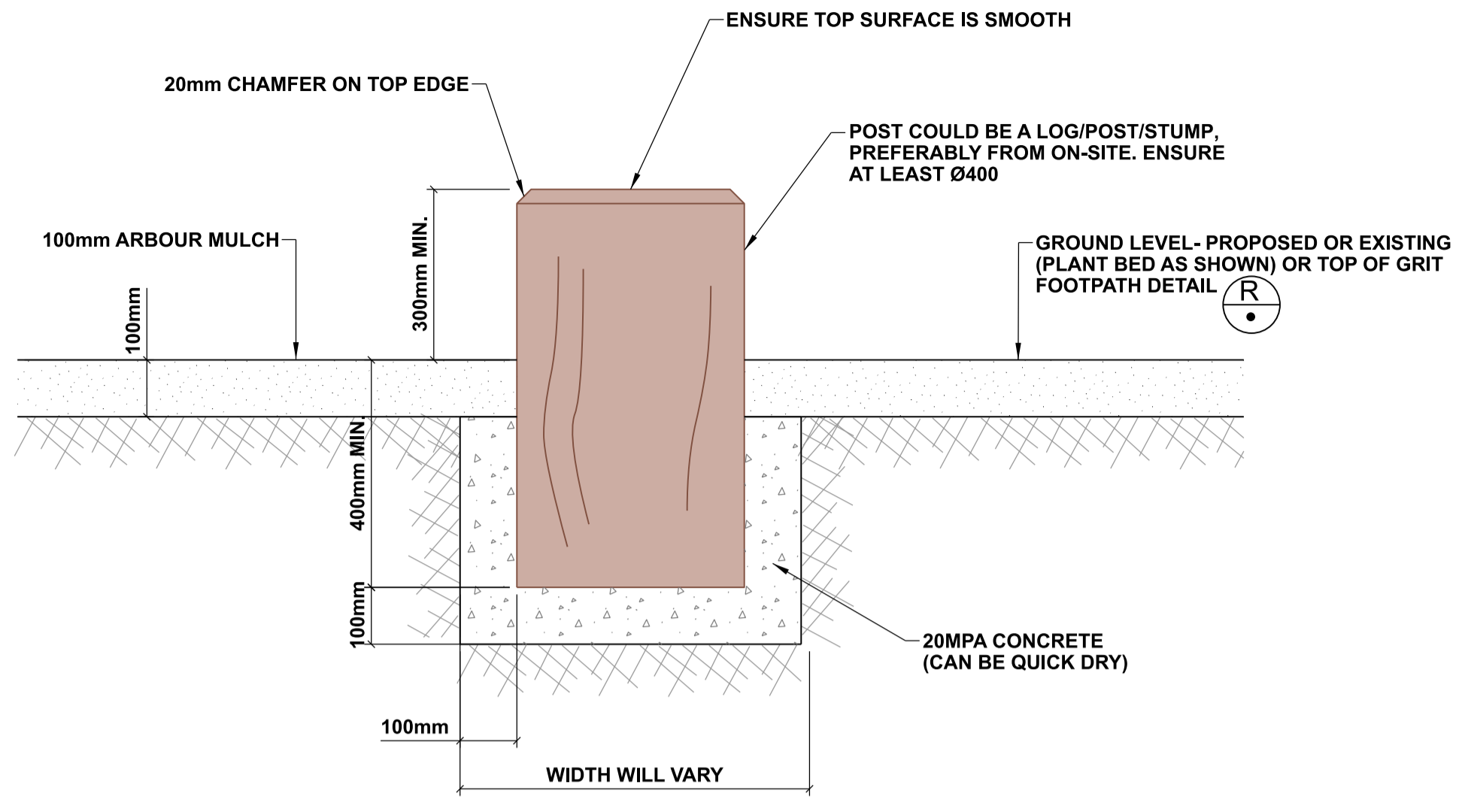
- NOTES**
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 2. Any deviation is not to be carried out until written instruction is received from the CCC Contracts Engineer.
 3. The contractor is to check all services with the appropriate authorities prior to commencement of work.
 4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
 5. Refer to sheet D02 for general notes.
 6. Refer to sheets L01-L05 for planting plans.

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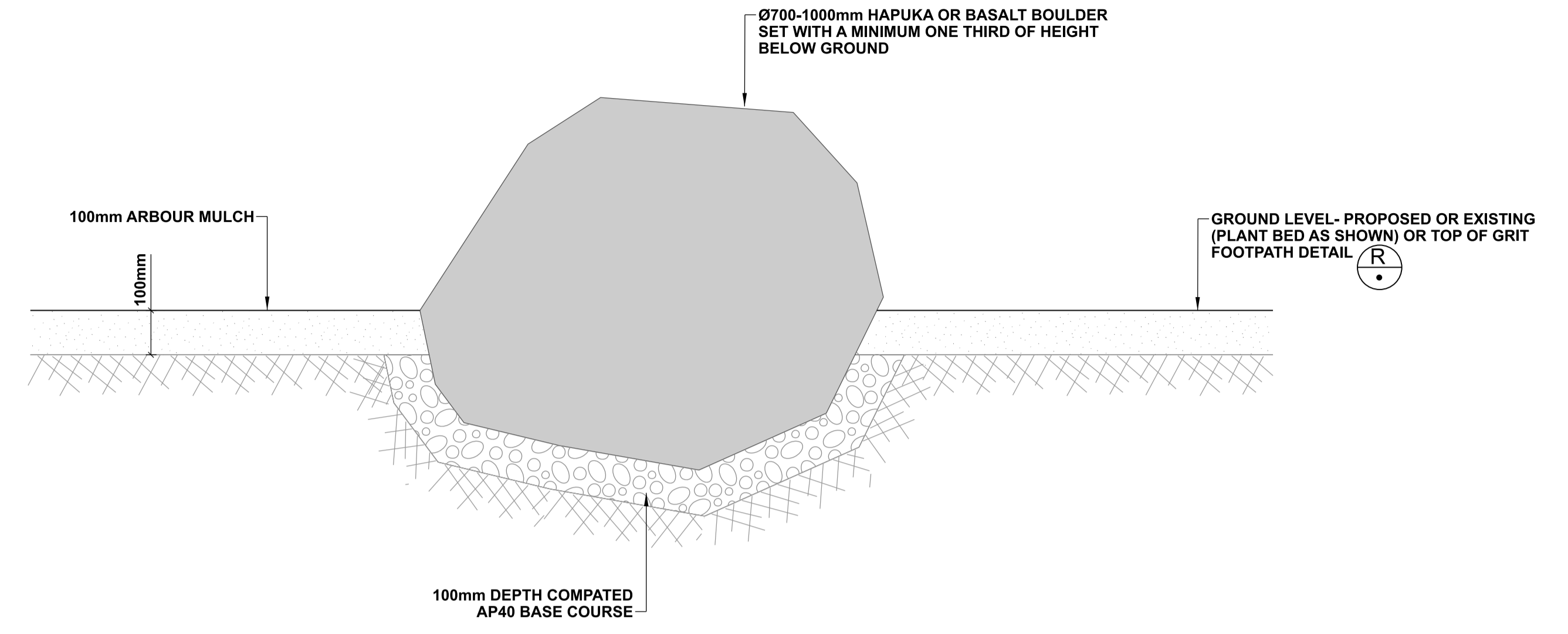
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ISSUE	AMENDMENTS	SIGNED	DATE

DATUM	C.D.D.	DESIGNED	NAME	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	A SMITH		08/2022
RL	Bench Mark RL	FOR TENDER	M PENTECOST		11/2022
SURVEY	Survey	DRAWN	C JORDAAN		08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
FILE LOCATION		FOR CONSTRUCTION			
DATE	SIGNED	CONSULTANT PROJECT REF.			
DATE	SIGNED	CONSULTANT FILE REF.			

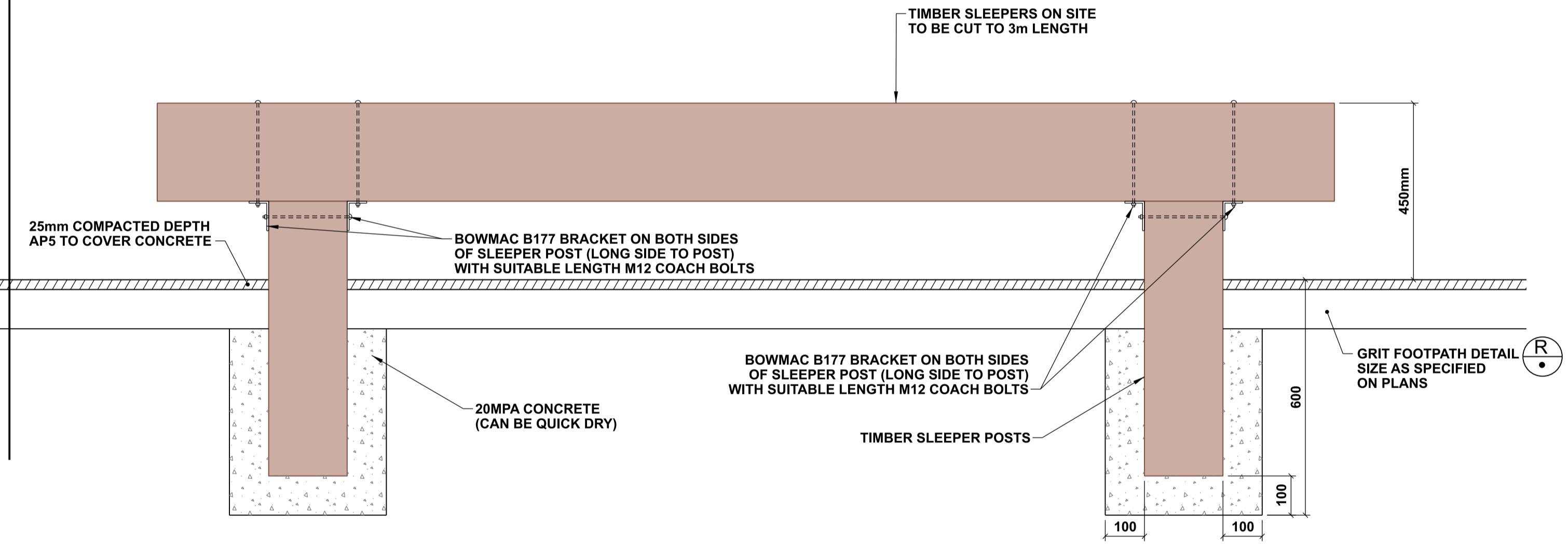
APPROVED	
DATE	SIGNED
DATE	SIGNED



O **TYPICAL DETAIL - POST IN PLANT BED (INFORMAL SEAT)**
 1:10 @ A1
 1:20 @ A3

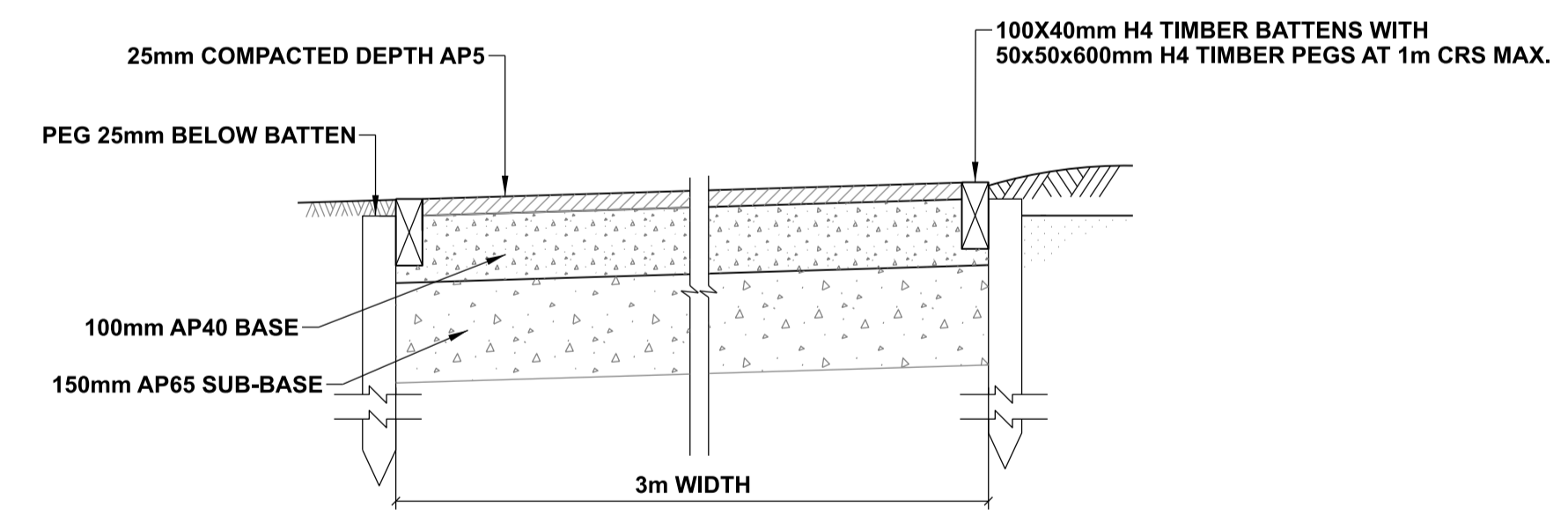


Q **TYPICAL DETAIL - ROCK IN PLANT BED (INFORMAL SEAT)**
 1:10 @ A1
 1:20 @ A3



P **SLEEPER SEATS**
 1:10 @ A1
 1:20 @ A3

NOTE: DETAIL TO BE USED IF SLEEPERS ON SITE ARE DEEMED SUITABLE FOR USE BY CCC CONTRACTS ENGINEER



R **TYPICAL DETAIL - 3m WIDE GRIT FOOTPATH**
 1:10 @ A1
 1:20 @ A3

NOTES

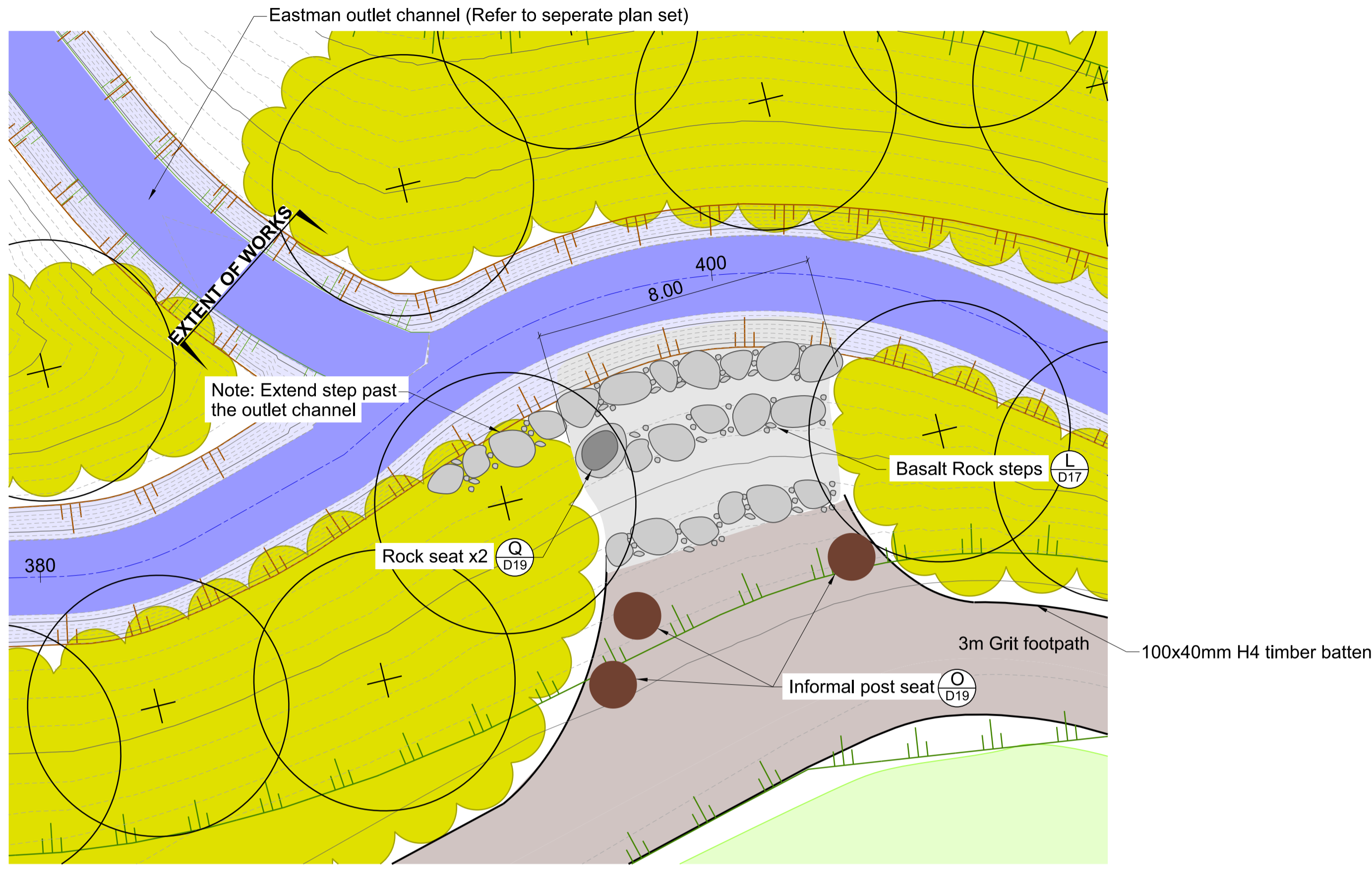
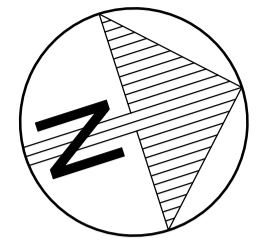
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3. The contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.

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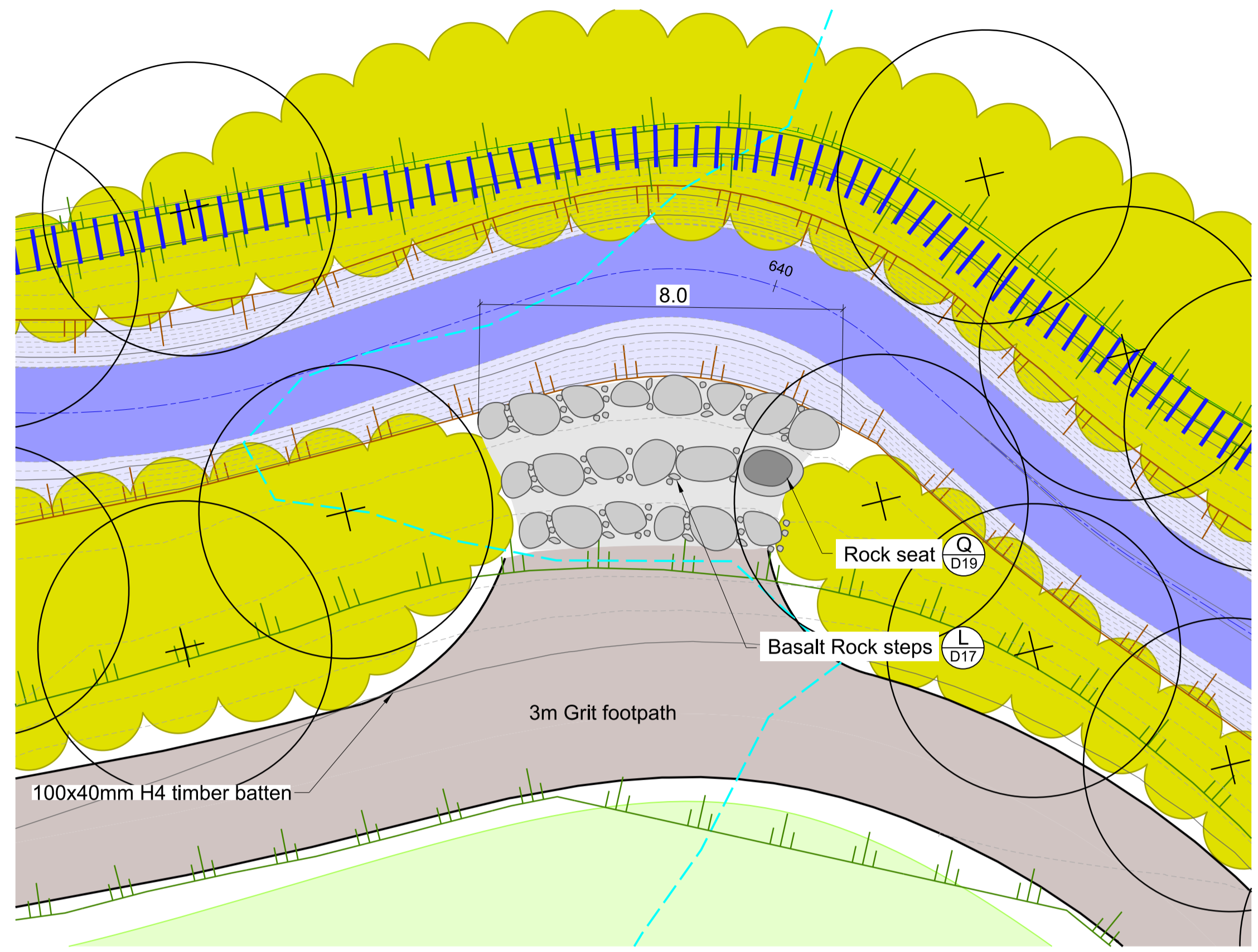
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DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	Bench Mark	DES. REVIEW	M PENTECOST		08/2022
RL	Bench Mark RL	DRAWN	C JORDAAN		08/2022
SURVEY	Survey	DRW. CHECK	J POWICK		11/2022
SURVEY LB	Level Book	FILE LOCATION			
DRAIN. REF.	16717	\$FILENAME\$			
SAP WBS	562/3873	PRINTED ON \$DATE\$	BY \$USER\$		

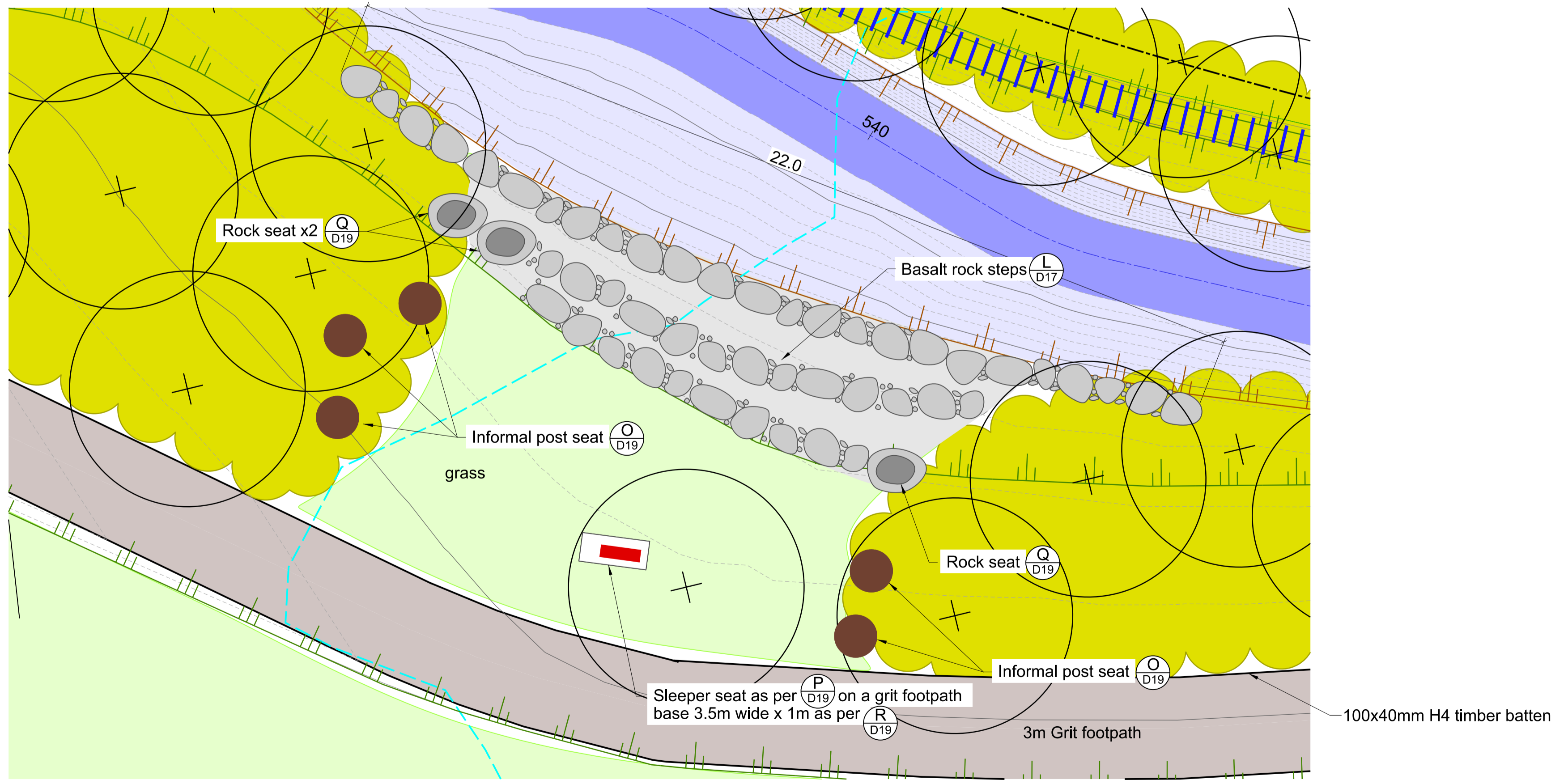
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	



6
D04 PLAN
SCALE 1:100 A1
1:200 A3



8
D06 PLAN
SCALE 1:100 A1
1:200 A3



7
D05 PLAN
SCALE 1:100 A1
1:200 A3

NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. Any deviation from the CSS is not to be carried out until written instruction is received from the Contracts Engineer.
3. The contractor is to check all services with the appropriate authorities prior to the commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to the commencement of work.
5. Refer to Sheet D02 for General Notes.
6. Refer to sheets L01-L05 for planting plans.
7. Location of all informal seats to be confirmed on site with the CCC Contracts Engineer and Landscape Architect.

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SURVEY	Survey	DRAWN	G WILLIAMS		08/2022
SURVEY LB	Level Book	DRW. CHECK	J POWICK		11/2022
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SAP WBS	562/3873	PRINTED ON 3/11/2022 BY Jordaanc			

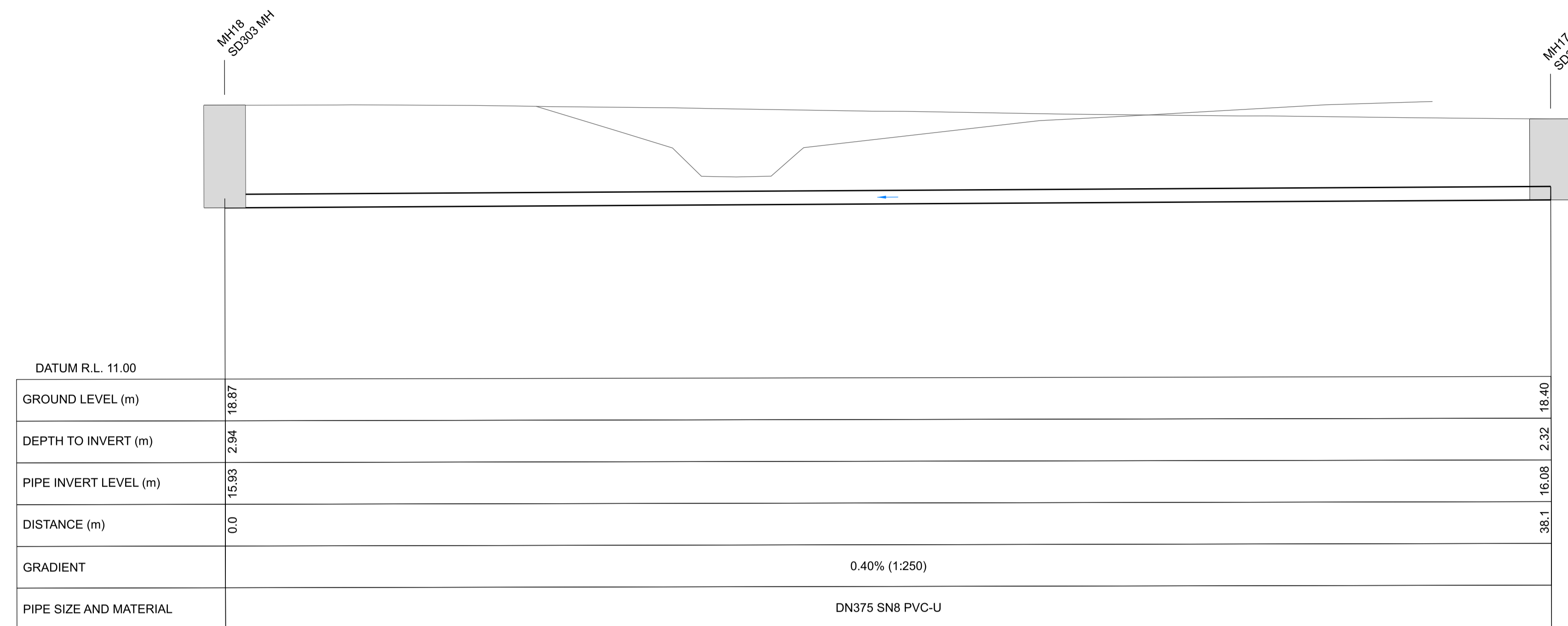
APPROVED FOR TENDER		FOR CONSTRUCTION	
DATE	SIGNED	DATE	SIGNED
Tender Date		Constn Date	

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	1:100 A1 1:200 A3
CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D20	OF 21

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PIPE STRUCTURES			
ID	TYPE	DETAILS	CO-ORD (CENTROID)
HW01	DN225 ROCK HEADWALL	CL = 19.090 SW1.01 INV OUT = 18.852	E: 388443.82 N: 800540.00
HW02	DN225 ROCK HEADWALL	CL = 18.960 SW1.01 INV IN = 18.722	E: 388444.02 N: 800544.79
HW09	DN225 ROCK HEADWALL	CL = 18.933 SW1.05 INV OUT = 18.571	E: 389047.42 N: 800526.82
HW10	DN225 ROCK HEADWALL	CL = 18.791 SW1.05 INV IN = 18.553	E: 389048.29 N: 800522.48
HW14	DN225 ROCK HEADWALL	CL = 18.681 SW1.03 INV IN = 18.140	E: 389141.82 N: 800595.48
HW03	DN225 ROCK HEADWALL	CL = 18.679 SW1.02 INV OUT = 18.441	E: 388587.58 N: 800541.31
HW04	DN225 ROCK HEADWALL	CL = 18.628 SW1.02 INV IN = 18.390	E: 388586.73 N: 800546.36
HW07	DN225 ROCK HEADWALL	CL = 18.536 SW1.04 INV OUT = 18.247	E: 389140.89 N: 800607.52
HW13	DN225 ROCK HEADWALL	CL = 18.510 SW1.03 INV OUT = 18.180	E: 389138.19 N: 800596.11
HW08	DN225 ROCK HEADWALL	CL = 18.461 SW1.04 INV IN = 18.224	E: 389145.51 N: 800607.46
HW15	DN225 ROCK HEADWALL	CL = 18.194 SW1.08 INV OUT = 17.956	E: 389158.87 N: 800804.94
HW16	DN225 ROCK HEADWALL	CL = 18.105 SW1.08 INV IN = 17.867	E: 389167.47 N: 800803.38

PIPE STRUCTURES			
ID	TYPE	DETAILS	CO-ORD (CENTROID)
MH18	SD303 MH	CL = 18.872 SW01.09 INV IN = 15.928	E: 389125.78 N: 800975.49
MH17	SD303 MH	CL = 18.400 SW01.09 INV OUT = 16.081	E: 389162.62 N: 800965.66
MH20	NULL STRUCTURE	CL = 17.916 SW01.10 INV IN = 17.060	E: 389150.77 N: 800960.27
MH19	NULL STRUCTURE	CL = 16.786	E: 389164.59 N: 800956.67

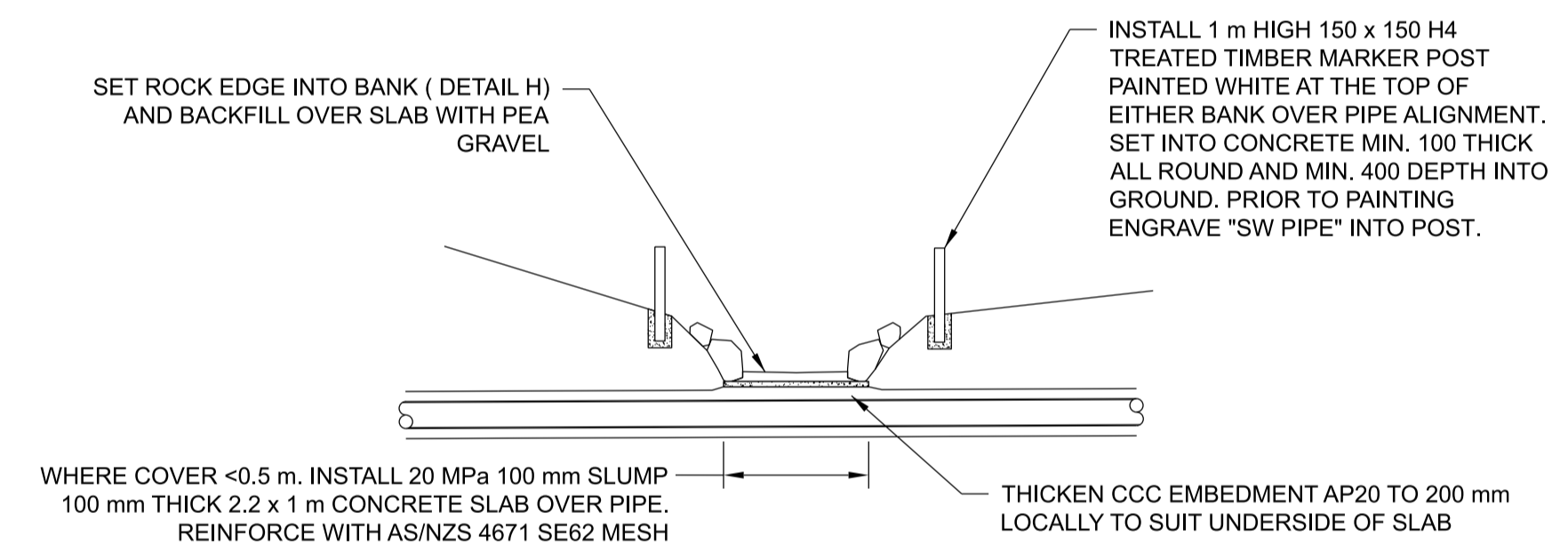


LONGITUDINAL PROFILE 0.0 m TO 38.1 m (SW01.09)

HORIZONTAL SCALE 1:100 @ A1
VERTICAL SCALE 1:100 @ A1

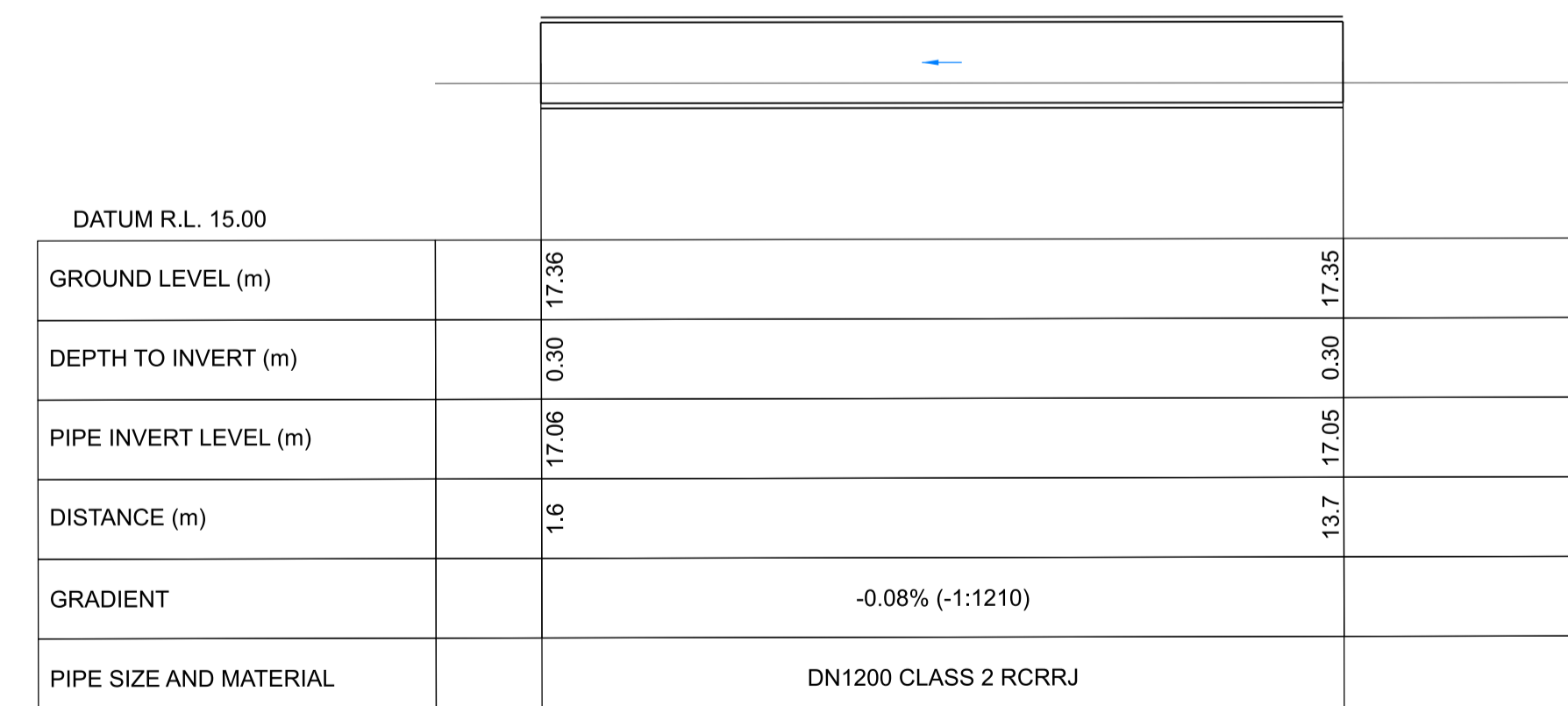
PIPE DATA - NETWORK SW1							
PIPE ID	TYPE	2D LENGTH	3D LENGTH	GRADE	US IL	DS IL	MAX. DEPTH
SW1.01	DN225 SN8 PVC-U	4.8	4.8	2.71%	18.85	18.72	0.5
SW1.02	DN225 SN8 PVC-U	5.1	5.1	1.00%	18.44	18.39	0.7
SW1.04	DN225 SN8 PVC-U	4.6	4.6	0.50%	18.25	18.22	0.5
SW1.05	DN225 SN8 PVC-U	4.4	4.4	0.40%	18.57	18.55	0.6
SW1.03	DN150 SN8 PVC-U	3.7	3.7	1.09%	18.18	18.14	0.6
SW1.08	DN225 SN8 PVC-U	8.7	8.7	1.02%	17.96	17.87	0.2

PIPE DATA - NETWORK SW01							
PIPE ID	TYPE	2D LENGTH	3D LENGTH	GRADE	US IL	DS IL	MAX. DEPTH
SW01.09	DN375 SN8 PVC-U	38.1	38.1	0.40%	16.08	15.93	2.9
SW01.10	DN1200 CLASS 2 RCRRJ	12.1	12.1	-0.08%	17.05	17.06	0.2



SIPHON CROSSING DETAIL (SW01.09)

SCALE 1:100 @ A1
1:200 @ A3



LONGITUDINAL PROFILE 0.0 m TO 17.8 m (SW01.10)

HORIZONTAL SCALE 1:100 @ A1
VERTICAL SCALE 1:100 @ A1

NOTES

- All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
- Refer to sheet D02 for general notes.

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<p>Christchurch City Council</p> <p>TECHNICAL SERVICES & DESIGN</p>	<table border="1" style="font-size: 8px;"> <tr><th>DATUM</th><td>C.D.D.</td></tr> <tr><th>BENCH MK.</th><td>Bench Mark</td></tr> <tr><th>RL</th><td>Bench Mark RL</td></tr> <tr><th>SURVEY</th><td>Survey</td></tr> <tr><th>SURVEY LB</th><td>Level Book</td></tr> <tr><th>DRAIN REF.</th><td>16717</td></tr> <tr><th>SAP WBS</th><td>562/3973</td></tr> </table>	DATUM	C.D.D.	BENCH MK.	Bench Mark	RL	Bench Mark RL	SURVEY	Survey	SURVEY LB	Level Book	DRAIN REF.	16717	SAP WBS	562/3973	<table border="1" style="font-size: 8px;"> <tr><th>DESIGNED</th><td>A SMITH</td></tr> <tr><th>DES. REVIEW</th><td>M PENTECOST</td></tr> <tr><th>DRAWN</th><td>G WILLIAMS</td></tr> <tr><th>DRW. CHECK</th><td>J POWICK</td></tr> <tr><th>FILE LOCATION</th><td></td></tr> <tr><th>PRINTED ON</th><td>\$DATES\$ BY \$USERNAMES\$</td></tr> </table>	DESIGNED	A SMITH	DES. REVIEW	M PENTECOST	DRAWN	G WILLIAMS	DRW. CHECK	J POWICK	FILE LOCATION		PRINTED ON	\$DATES\$ BY \$USERNAMES\$	<table border="1" style="font-size: 8px;"> <tr><th>APPROVED FOR TENDER</th><td></td></tr> <tr><th>DATE</th><td>SIGNED</td></tr> <tr><td colspan="2">Tender Date</td></tr> <tr><th>APPROVED FOR CONSTRUCTION</th><td></td></tr> <tr><th>DATE</th><td>SIGNED</td></tr> <tr><td colspan="2">Constn Date</td></tr> </table>	APPROVED FOR TENDER		DATE	SIGNED	Tender Date		APPROVED FOR CONSTRUCTION		DATE	SIGNED	Constn Date		<table border="1" style="font-size: 8px;"> <tr><th>CONSULTANT PROJECT REF.</th><td></td></tr> <tr><th>CONSULTANT FILE REF.</th><td></td></tr> </table>	CONSULTANT PROJECT REF.		CONSULTANT FILE REF.		<p>CASHMERE STREAM REALIGNMENT STAGE 4</p>	<p>PIPEWORK LONGITUDINAL PROFILES AND DETAIL</p>	<table border="1" style="font-size: 8px;"> <tr><th>DOCUMENT NUMBER</th><td>TD</td></tr> <tr><th>CAD DRAWING FILE REF.</th><td>DD135002.DGN</td></tr> <tr><th>TSD PROJECT FILE NUMBER</th><td>CP503560</td></tr> </table>	DOCUMENT NUMBER	TD	CAD DRAWING FILE REF.	DD135002.DGN	TSD PROJECT FILE NUMBER	CP503560	<table border="1" style="font-size: 8px;"> <tr><th>ORIGINAL SHEET SIZE</th><td>A1</td></tr> <tr><th>SCALES</th><td>1:100 A1 1:200 A3</td></tr> <tr><th>SHEET</th><td>D21 OF 21</td></tr> </table>	ORIGINAL SHEET SIZE	A1	SCALES	1:100 A1 1:200 A3	SHEET	D21 OF 21
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