



REGIONAL DISTRICT OF NANAIMO DRIFTWOOD ROAD FOOTPATH UPGRADE

DRAWING LIST

<u>DRAWING NUMBER</u>	<u>DESCRIPTION</u>
0837-045-S00	COVER SHEET AND DRAWING LIST
0837-045-S01	GENERAL NOTES
0837-045-S02	GENERAL ARRANGEMENT AND CULVERT
0837-045-S03	STAIRS

GENERAL NOTES:

1.0 GENERAL

1.1 DESIGN LOADS

LIVE LOAD: 4.8 KPa PER BCBC

SNOW LOAD: S_s = 2.3 KPa
S_r = 0.4 KPa

1.2 READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND DOCUMENTS. REPORT ANY CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.

1.3 VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.

1.4 NOTIFY ENGINEER 48 HOURS IN ADVANCE FOR INSPECTION OF STRUCTURAL CONNECTIONS BEFORE COVERING UP.

1.5 CONTRACTOR'S RESPONSIBILITY: THESE DRAWINGS SHOW COMPLETED STRUCTURAL COMPONENTS OF THE STAIRS. THE REQUIRED TEMPORARY BRACING AND SHORING TO PERFORM THE WORK SAFELY IS THE RESPONSIBILITY OF THE CONTRACTOR.

1.6 ENVIRONMENTAL WORK PROCEDURES, TIMING, AND SPECIAL PRECAUTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS AND LIMITATIONS OF THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS, AND THE PROVINCIAL MINISTRY OF WATER, LAND AND AIR PROTECTION.

1.7 SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

1.8 ELEVATIONS ARE IN METRES AND DIMENSIONS ARE IN MILLIMETRES.

1.9 UNDER NO CIRCUMSTANCES ARE DRAWINGS TO BE SCALED.

1.10 QUALITY ASSURANCE QUALIFICATION OF CONTRACTOR AND SUPERINTENDENT: THE CONTRACTOR SHALL BE FULLY CONVERSANT WITH ALL SAFETY PROCEDURES AND REGULATIONS RELATING TO CONSTRUCTION, AND SHALL EMPLOY STAGING AND OTHER SAFETY PROVISIONS AS SPECIFIED ELSEWHERE AND REQUIRED BY THE WORKERS COMPENSATION BOARD REGULATIONS.

2.0 ENVIRONMENTAL CONSTRUCTION REQUIREMENTS

2.1 ALL TREES AND ROOTS TO BE PRESERVED WHERE POSSIBLE. ALL DISTURBED AREAS TO BE RESEED WITH NATIVE GRASS MIX. ANY SHRUBS OR TREES REMOVED MUST BE REPLACED AND THE AREA IS TO BE COVERED IN STRAW MULCH UPON COMPLETION.

3.0 CAST-IN-PLACE CONCRETE

3.1 CONCRETE TO BE READY-MIX.

3.2 REINFORCING STEEL TO CONFORM TO CSA SPECIFICATION G30.18M, GRADE 400, UNLESS NOTED OTHERWISE.

3.3 LAP OF BARS FOR SPLICES TO BE 40 x BAR DIAMETER, UNLESS NOTED OTHERWISE.

3.4 PROVIDE A 20mm CHAMFER ON ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE.

3.5 MINIMUM CONCRETE COVER TO REINFORCING SHALL BE 50mm, UNLESS NOTED OTHERWISE.

4.0 GROUT

4.1 GROUT TO BE NON SHRINK, 50MPa.

5.0 ALUMINUM

5.1 ALL STAIR AND PLATFORM MATERIAL TO BE ALUMINUM UNLESS NOTED OTHERWISE. ALUMINUM SHALL BE 6061-T6.

5.2 STRUCTURES TO BE DESIGNED AND FABRICATED IN ACCORDANCE WITH CAN3-S157-M83.

5.3 WELDING SHALL BE IN ACCORDANCE WITH CSA W59.2-M 1991.

5.4 PROVIDE A MINIMUM 6mm FILLET WELD OR EQUIVALENT FOR CONNECTIONS, UNLESS NOTED OTHERWISE.

5.5 PROVIDE A COMPLETE PENETRATION WELD TO CONNECT CRANKED CHANNEL STRINGERS.

5.6 GRIND SMOOTH ALL SHARP EDGES.

5.7 FOR CORROSION PROTECTION: WHERE ALUMINUM IS IN CONTACT WITH CONCRETE, A TEFLON PAD SHALL BE INSTALLED AS A BARRIER BETWEEN THE DISSIMILAR ITEMS.

5.8 BOLTED CONNECTIONS SHALL BE USED FOR ALL FIELD CONNECTIONS. CONTRACTOR TO DETERMINE LOCATIONS OF BOLTED CONNECTIONS SO AS TRANSPORTATION OF THE MEMBERS TO THE SITE IS AS EASY AS POSSIBLE. CONNECTIONS SHALL BE DESIGNED BY THE CONTRACTOR AND SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. A MINIMUM OF 2-19# BOLTS, IS REQUIRED.

6.0 WELDING INSPECTIONS

6.1 ALL INSPECTIONS SHALL BE PERFORMED BY A CERTIFIED ENGINEER REGISTERED IN THE PROVINCE OF B.C. AND PAID FOR BY THE CONTRACTOR. INSPECTION PROCEDURES SHALL BE AS OUTLINED BELOW.

6.2 ALL WELDS ARE TO BE VISUALLY INSPECTED BEFORE GALVANIZING. CONTRACTOR SHALL BE RESPONSIBLE FOR CO-ORDINATING INSPECTIONS AND PROVIDING SUITABLE AND SAFE ACCESS TO THE WORK BEING INSPECTED.

6.3 ALL FAILURES IDENTIFIED BY THE TESTING AND INSPECTIONS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COST OF ADDITIONAL TESTING TO CONFIRM CONFORMANCE WITH SPECIFICATIONS SHALL BE BORNE BY THE CONTRACTOR.

6.4 SUBMIT ALL TEST REPORTS TO HEROLD ENGINEERING FOR REVIEW. DO NOT COVER MEMBERS AND THEIR CONNECTIONS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

7.0 MISCELLANEOUS STEEL CONNECTIONS

7.1 BOLTED CONNECTIONS SHALL UTILIZE ASTM F593 GROUP 1 BOLTS COMPLETE WITH ASTM F594 GROUP 1 NUTS AND WASHERS. STAINLESS STEEL TYPICAL. AND RUBBER WASHERS (TO SEPARATE STAINLESS STEEL FROM ALUMINUM), UNLESS OTHERWISE SHOWN ON DRAWINGS.

7.2 PROVIDE TAPERED WASHERS WHERE CHANNELS HAVE TAPERED FLANGES.

8.0 ADHESIVE ANCHORS

8.1 ALL ANCHORS ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

8.2 UNLESS NOTED OTHERWISE ADHESIVE ANCHORS SHALL BE HILTI 'HAS' ROD. REFER TO DRAWINGS FOR ANCHOR LOCATIONS, SIZES, CENTRES AND EMBEDMENT LENGTH. USE HILTI HY200 MAX OR HILTI HIT RE500 ADHESIVE AS NOTED BELOW.

USE HILTI HIT HY200 MAX WHEN:
A QUICK CURE IS REQUIRED,
CONDITIONS ARE DRY,
HOLES ARE HAMMER DRILLED,
HOLES ARE NOT OVER-SIZED,
BASE MATERIAL TEMPERATURE IS ABOVE 5° CELSIUS.

USE HILTI HIT RE500 WHEN:
EXTENDED WORKING TIME IS REQUIRED AND CURE TIME IS NOT CRITICAL,
HOLES ARE DRILLED USING DIAMOND CORE, PNEUMATIC OR HAMMER DRILLS,
DEEP EMBEDMENT IS SPECIFIED,
THE APPLICATION IS UNDERWATER, OR HOLES ARE OVERSIZED.

9.3 HOLES FOR ADHESIVE ANCHORS SHALL BE CLEANED OUT WITH HIGH PRESSURE AIR AND THEN A BRUSH PRIOR TO ANCHOR INSTALLATION.

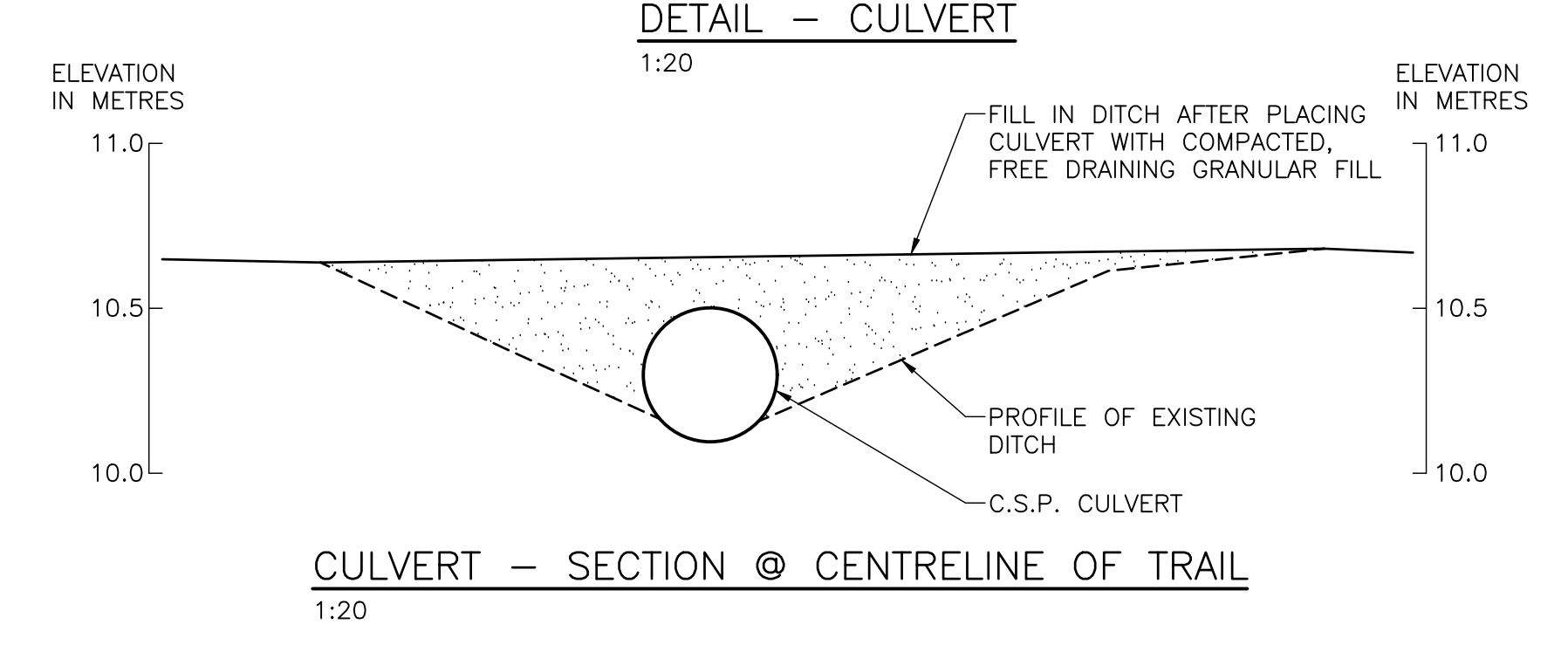
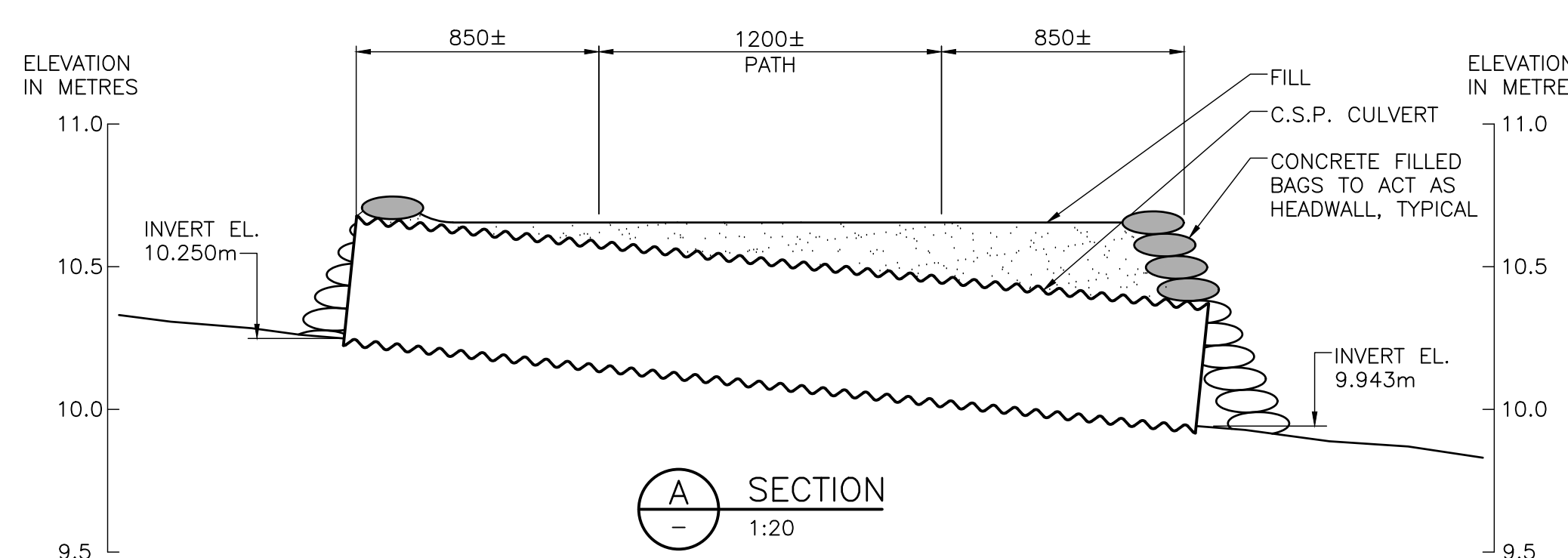
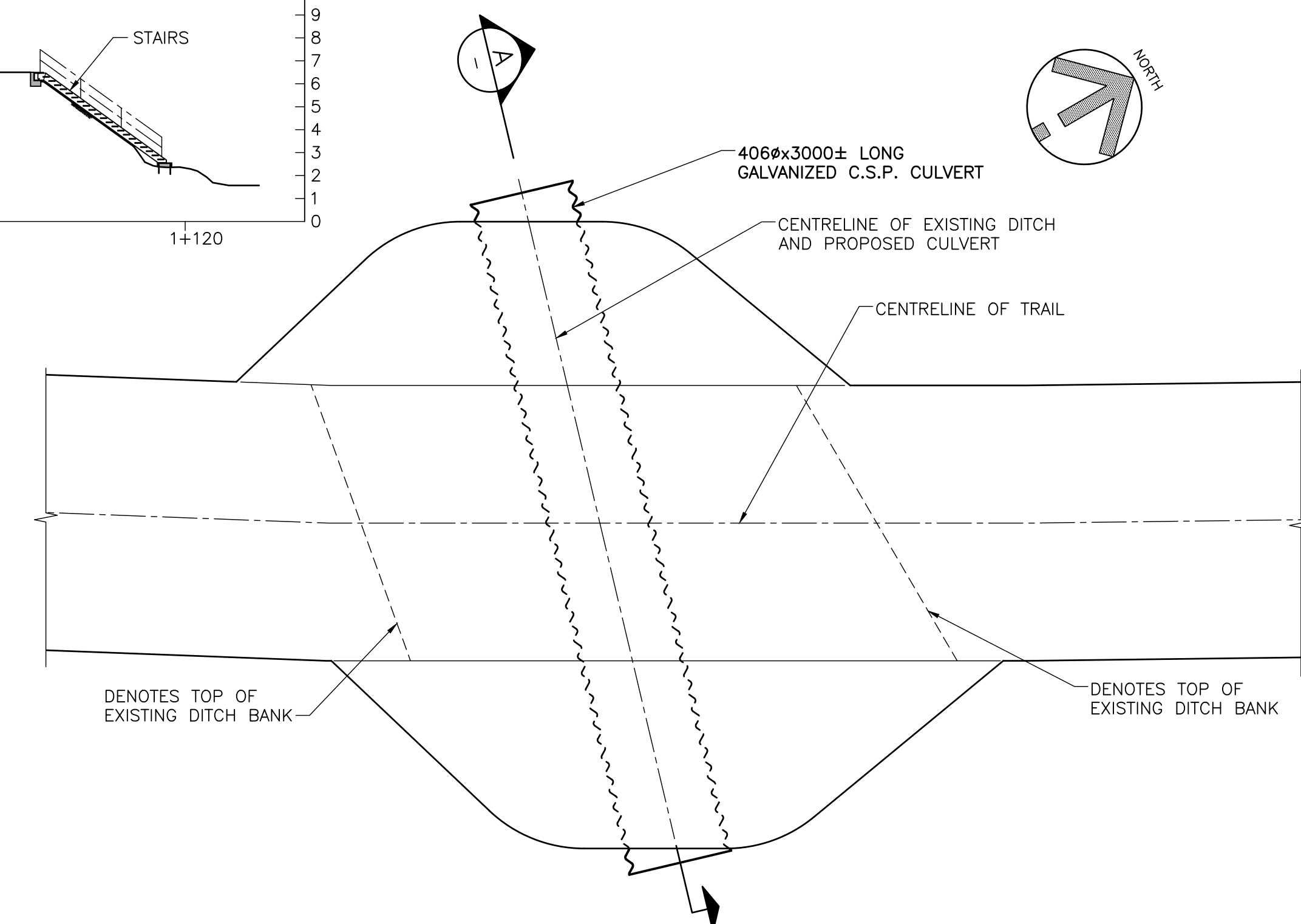
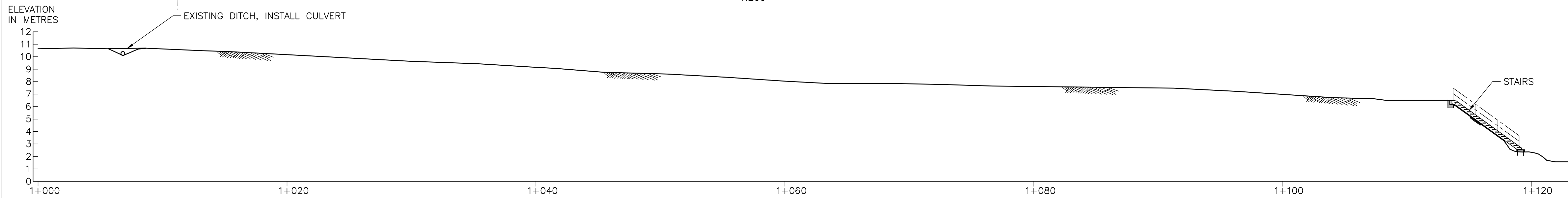
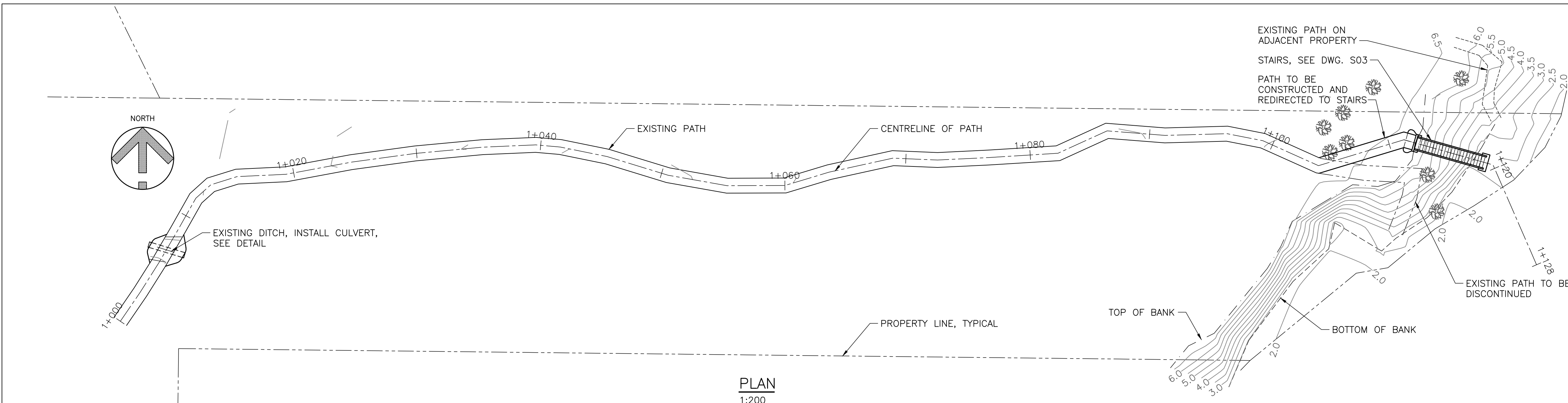
9.4 INSTALLERS OF HILTI PRODUCTS SHALL HAVE RECEIVED TRAINING BY HILTI (CANADA) CORP. IN THE USE OF THE SPECIFIED PRODUCTS. THE GENERAL CONTRACTOR SHALL PROVIDE THE DESIGN ENGINEER WITH A LETTER STATING THAT THIS TRAINING HAS BEEN COMPLETED.

9.0 ABBREVIATIONS

- CL. - CLEAR
- C - CENTRELINE
- C.S.P. - CORRUGATED STEEL PIPE
- CP. - COMPLETE PENETRATION
- C/W - COMPLETE WITH
- DWG. - DRAWING
- EL. - ELEVATION
- I.D. - INSIDE DIAMETER
- LLH - LONG LEG HORIZONTAL
- LLV - LONG LEG VERTICAL
- MAX. - MAXIMUM
- MIN. - MINIMUM
- N.T.S. - NOT TO SCALE
- OPP. - OPPOSITE
- PL - PLATE
- R - RADIUS
- SIM. - SIMILAR
- S.S. - STAINLESS STEEL
- T.O. - TOP OF
- TYP. - TYPICAL
- U/S - UNDERSIDE
- U.N.O. - UNLESS NOTED OTHERWISE
- WP - WORK POINT

**NOT FOR
CONSTRUCTION**

ISSUES						SUB CONSULTANT	DRAFTED JJMC		ENGINEERS SEAL	GENERAL NOTES	DRIFTWOOD ROAD FOOTPATH UPGRADE	HEL PROJECT No.	CLIENT DWG. No.
No.	DATE	ISSUED FOR	No.	DATE	ISSUED FOR							0837-045	N/A
A	2016.10.14	CLIENT REVIEW										SCALE	PERMIT No.
B	2016.11.07	CLIENT REVIEW										NONE	N/A
											HEL DRAWING No.	REVISION	
											S01	B	
											RECREATION & PARKS PARKSVILLE BC V9P 2X4 REGIONAL DISTRICT OF NANAIMO		



NOT FOR CONSTRUCTION

NOTES:
1. FOR GENERAL NOTES, SEE DWG. S01.

ISSUES						SUB CONSULTANT	
No.	DATE	ISSUED FOR	No.	DATE	ISSUED FOR	No.	DATE
A	2016.10.14	CLIENT REVIEW					
B	2016.11.07	CLIENT REVIEW					

DRAFTED JJMC	 3701 Shenton Rd, Nanaimo, BC V9T 2H1 Tel: 250-751-8558 Fax: 250-751-8559 Email: mail@heroldengineering.com	ENGINEERS SEAL
DRAFTING REVIEW -		GENERAL ARRANGEMENT AND CULVERT
DESIGNED MGCS		
DESIGN REVIEW -		

HEROLD ENGINEERING

3701 Shenton Rd, Nanaimo, BC V9T 2H1
Tel: 250-751-8558 Fax: 250-751-8559
Email: mail@heroldengineering.com

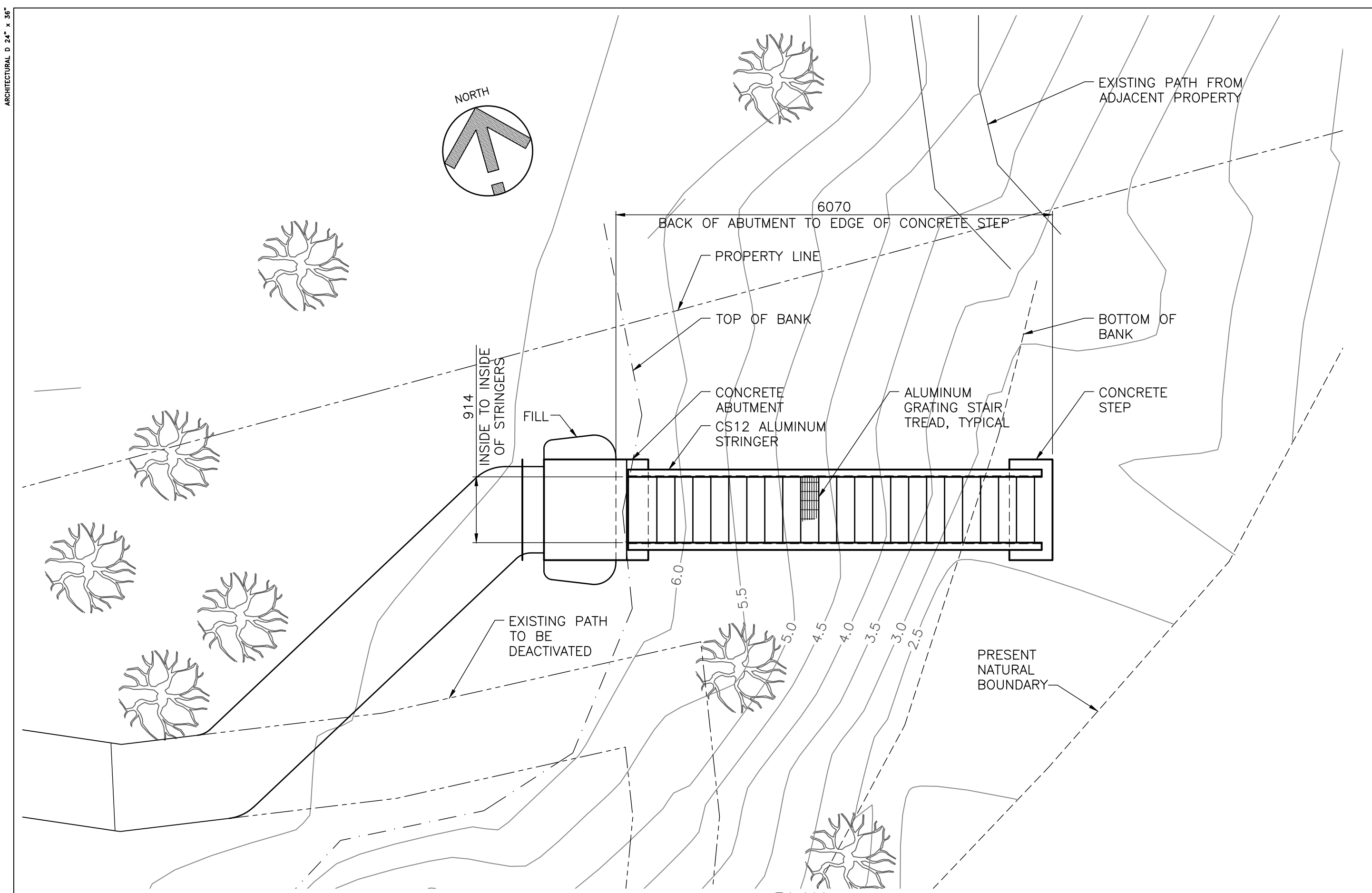
ENGINEERS SEAL

GENERAL ARRANGEMENT AND CULVERT

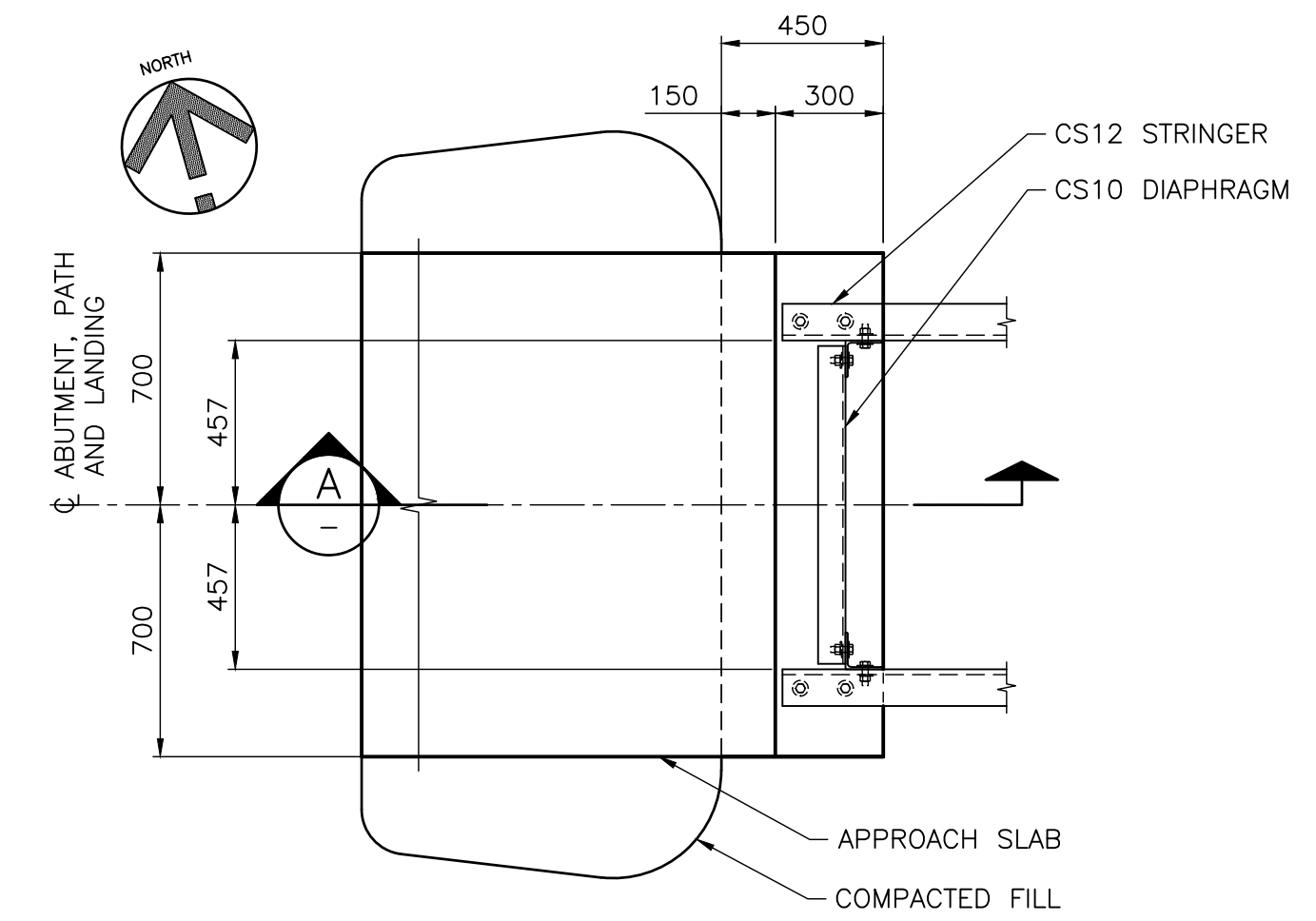
DRIFTWOOD ROAD FOOTPATH UPGRADE

RECREATION & PARKS PARKSVILLE BC V9P 2X4
REGIONAL DISTRICT OF NANAIMO

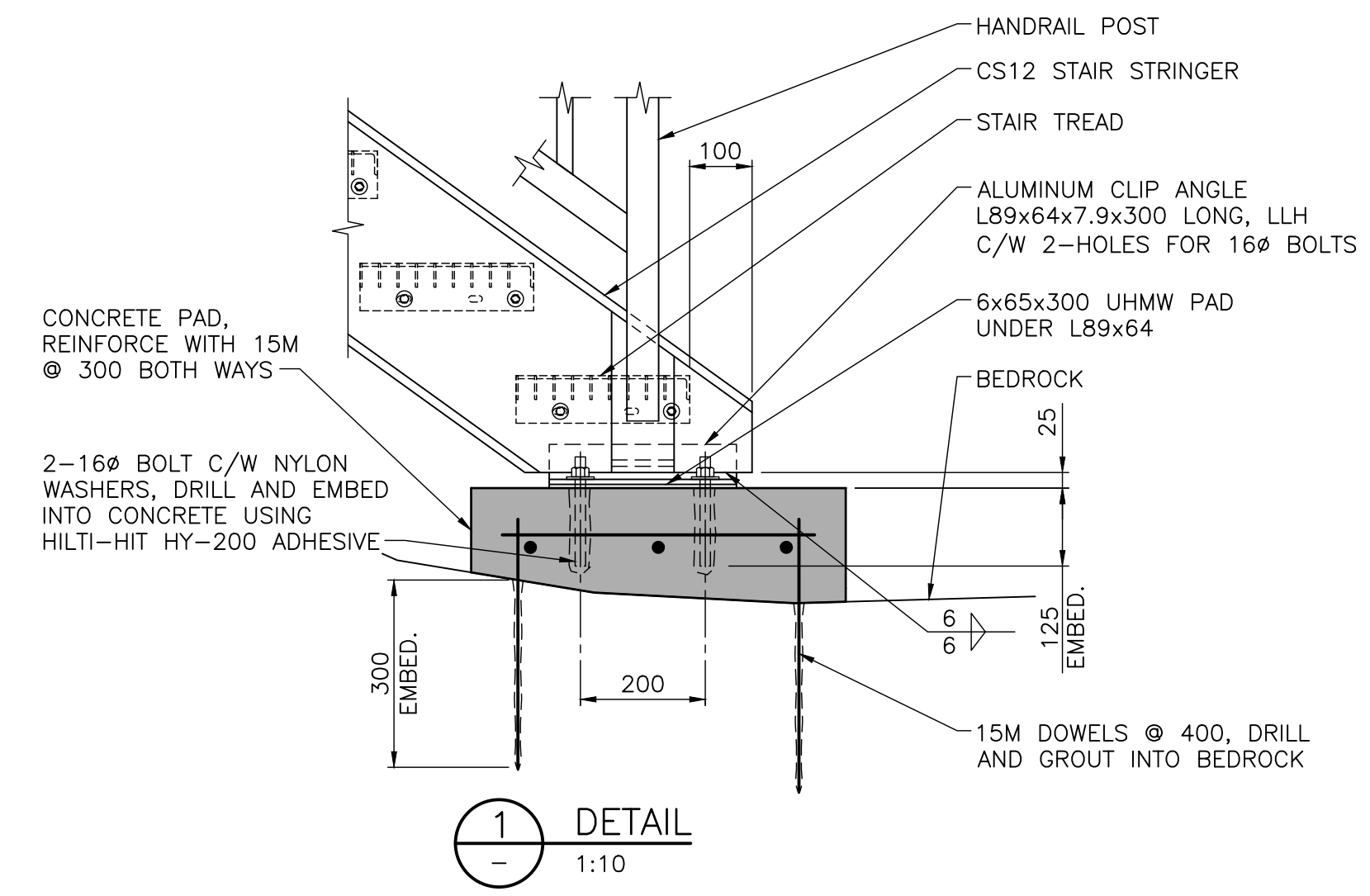
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SCALE AS SHOWN	PERMIT No. N/A
HEL DRAWING No. S02	REVISION B



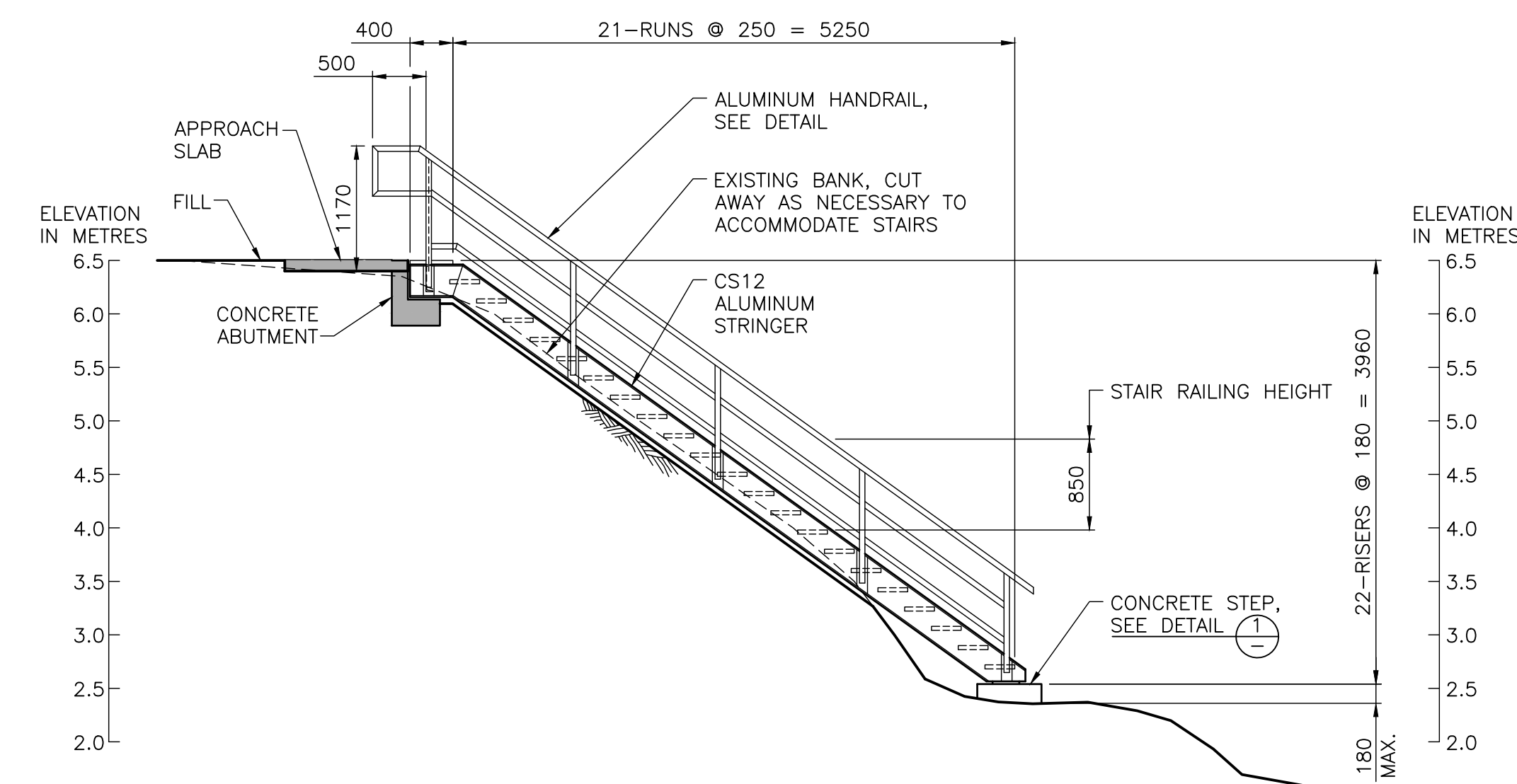
PLAN
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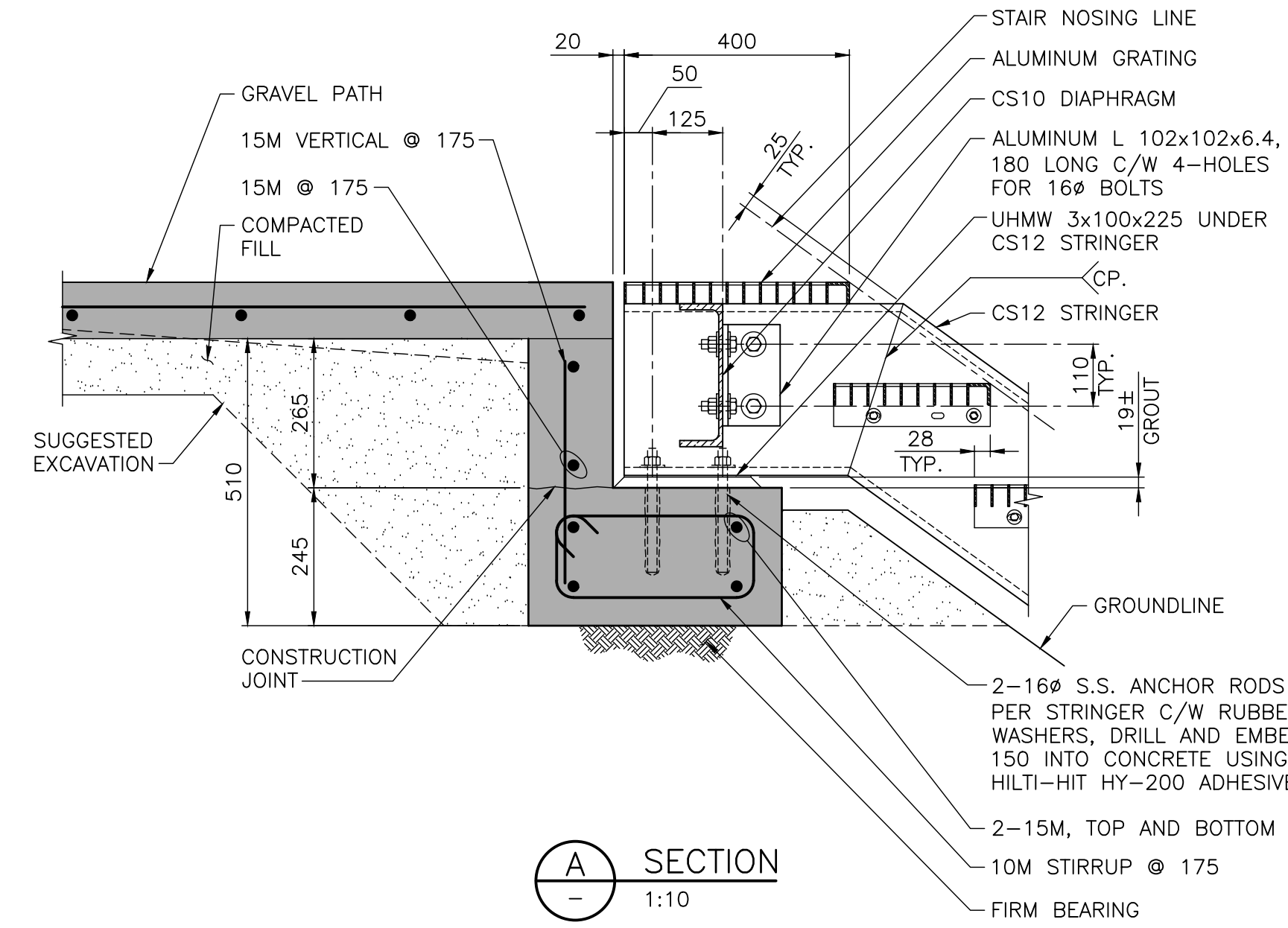
PLAN - ABUTMENT
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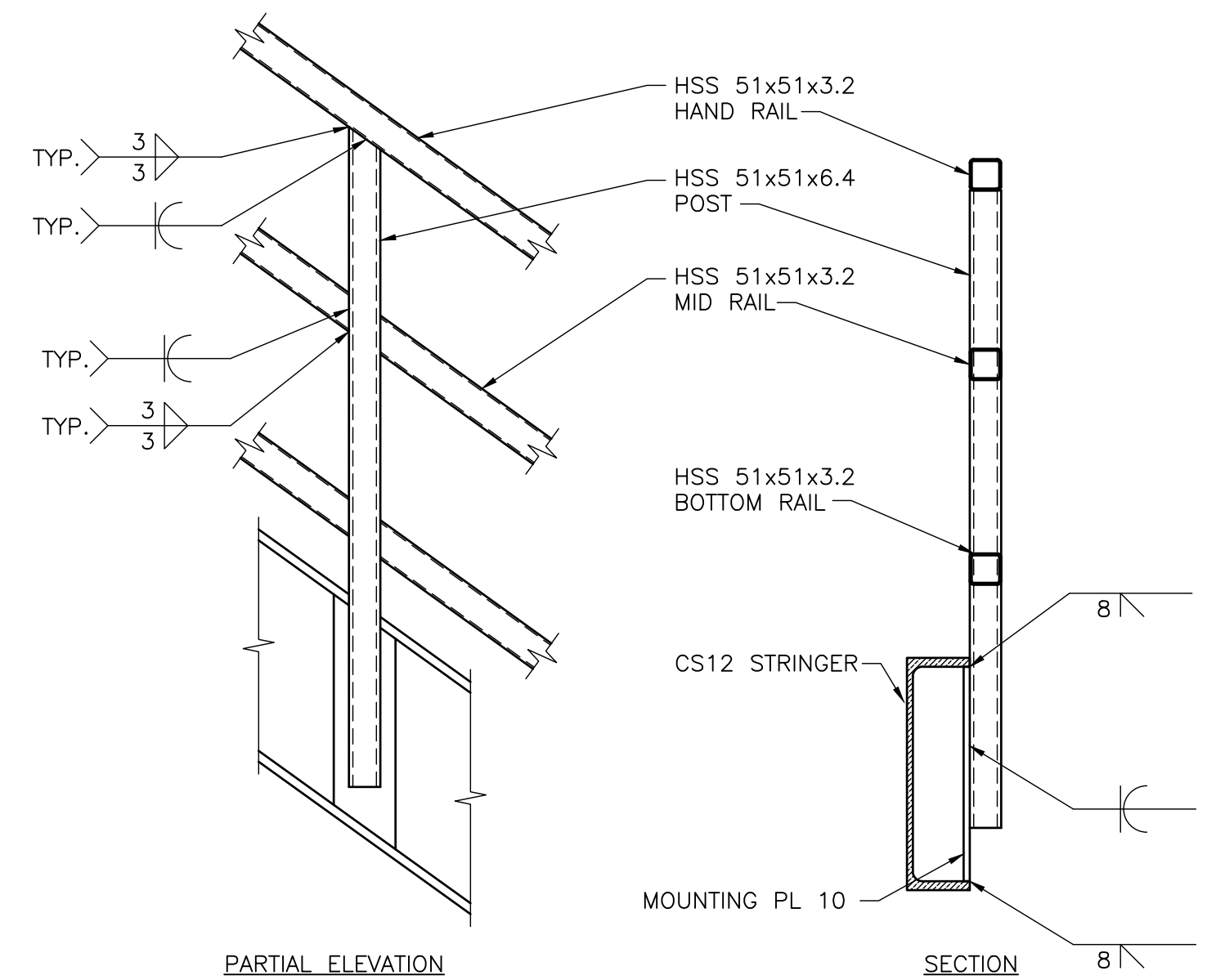
1
1:10



SECTION AT CENTRELINE OF STAIRS
1:50



A
1:10



PARTIAL ELEVATION

SECTION

DETAIL - ALUMINUM HANDRAIL
1:10

NOT FOR CONSTRUCTION

NOTES:
1. FOR GENERAL NOTES, SEE DWG. S01.

ISSUES					
No.	DATE	ISSUED FOR	No.	DATE	ISSUED FOR
A	2016.10.14	CLIENT REVIEW			
B	2016.11.07	CLIENT REVIEW			
C	2016.11.16	CLIENT REVIEW			

SUB CONSULTANT	

DRAFTED JUMC
DRAFTING REVIEW -
DESIGNED MGCS
DESIGN REVIEW -

HEROLD ENGINEERING

3701 Shenton Rd, Nanaimo, BC V9T 2H1
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ENGINEERS SEAL
STAIRS

DRIFTWOOD ROAD FOOTPATH UPGRADE

RECREATION & PARKS PARKSVILLE BC V9P 2X4
REGIONAL DISTRICT OF NANAIMO

HEL PROJECT No. 0837-045	CLIENT DWG. No. N/A
SCALE AS SHOWN	PERMIT No. N/A
HEL DRAWING No. S03	REVISION C