

SURVEY

- SURVEY COMPANY NAME, DATE

BENCH MARK

- BM#1, IRON PIN, STA 1+443.00, 50.00 m LT, EL 193.00

HYDROTECHNICAL DATA

- EFFECTIVE DRAINAGE AREA = 40 km²
- DESIGN DISCHARGE = 6.00 m³/s (INSTANTANEOUS DISCHARGE)
- MEAN STREAMBED SLOPE = 0.0008 m/m
- MEAN OUTLET VELOCITY AT PROPOSED CULVERT FOR DESIGN DISCHARGE = 1.60 m/s

PROPOSED STRUCTURE

- 1 - 1829 mm ϕ WSP (WELDED STEEL PIPE) x 16.0 m LONG WITH 2000 mm ϕ CSP x 10.3 m END SECTIONS (TOTAL INVERT LENGTH 36.0 m) AT 13° LHF SKEW TO ROAD CENTRELINE AT STA 1+425.00, TO BE INSTALLED BY JACKING AND DRILLING.
- 1 - 1372 mm ϕ WSP LINER x 16.0 m LONG WITH 1600 mm ϕ CSP x 10.3 m END SECTIONS TO BE INSTALLED AS SHOWN BY GROUTING INSIDE EXISTING 1829 mm ϕ CSP
- CSP SHALL HAVE 76 X 25 mm OR 125 X 26 mm CORRUGATION PROFILE WITH 2.8 mm WALL THICKNESS. ALL CSP MATERIAL SHALL BE DOUBLE GALVANIZED OR ALUMINIZED. ALL WSP SHALL HAVE 12.7 mm WALL THICKNESS AND SHALL BE UNCOATED

GENERAL NOTES

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
- ROADWAY DESIGN STANDARD RAU 210-110
- CULVERT INSTALLATION TO BE IN ACCORDANCE WITH DRAWING No. S-1418-03
- DESIGN SPECIFICATION CAN / CSA-S6-00
- DESIGN LIVE LOAD: CL 800
- ADDITIONAL RIGHT OF WAY AS SHOWN ON THE PLAN IS REQUIRED AND SHALL BE OBTAINED BY ALBERTA INFRASTRUCTURE AND TRANSPORTATION
- REFER TO THE CURRENT VERSION OF SECTION 10 "HEAVY ROCK RIPRAP" OF THE SPECIFICATIONS FOR BRIDGE CONSTRUCTION FOR ADDITIONAL DETAILS

Alberta INFRASTRUCTURE AND TRANSPORTATION

SAMPLE CREEK CULVERT

ON HWY 99, 10 km N OF FLATVIEW

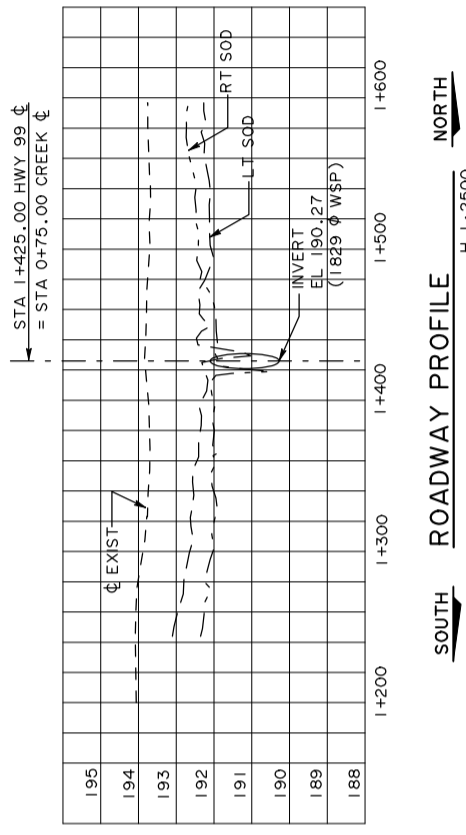
GENERAL LAYOUT

CHECKER: [Signature] DATE: []

DESIGNER: [Signature] DATE: []

PERMIT TO PRACTICE
THE XYZ ENGINEERING LIMITED
Signature: []
Date: []
PERMIT NUMBER: P 123
The Alberta Association of Professional Engineers and Geoscientists of Alberta

DEPARTMENT BAR CODE: 2007-10-03
STREAM: SAMPLE CREEK
LOCATION: ISE10-55-8-4
HIGHWAY: 99:02
FILE: 12345
SHEET: 1 of 3
DRAWING: 12345-P

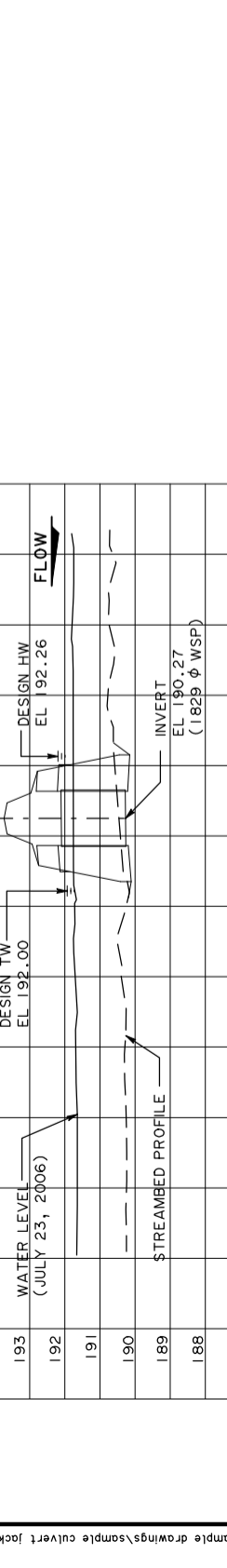
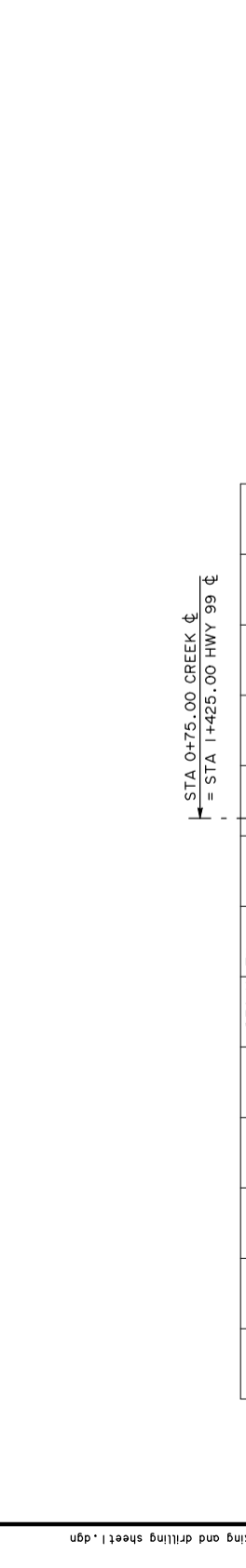
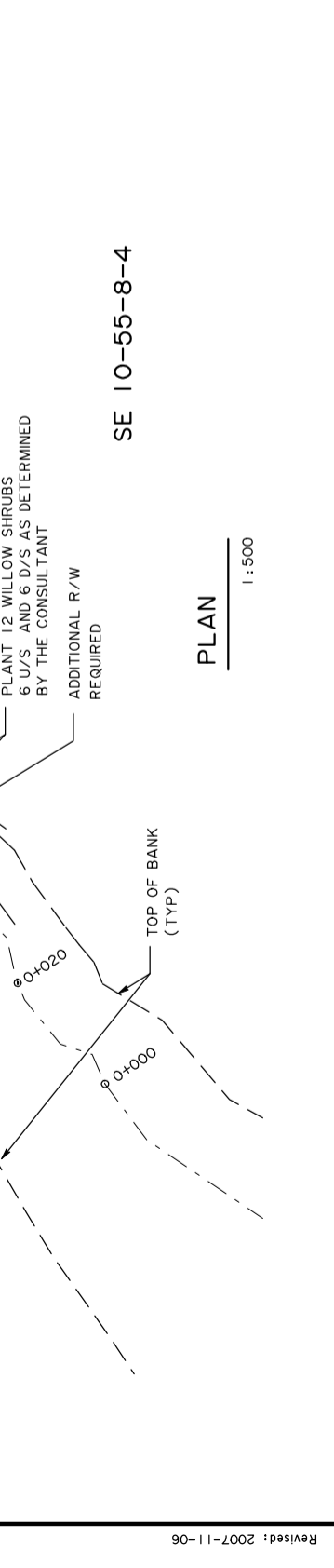
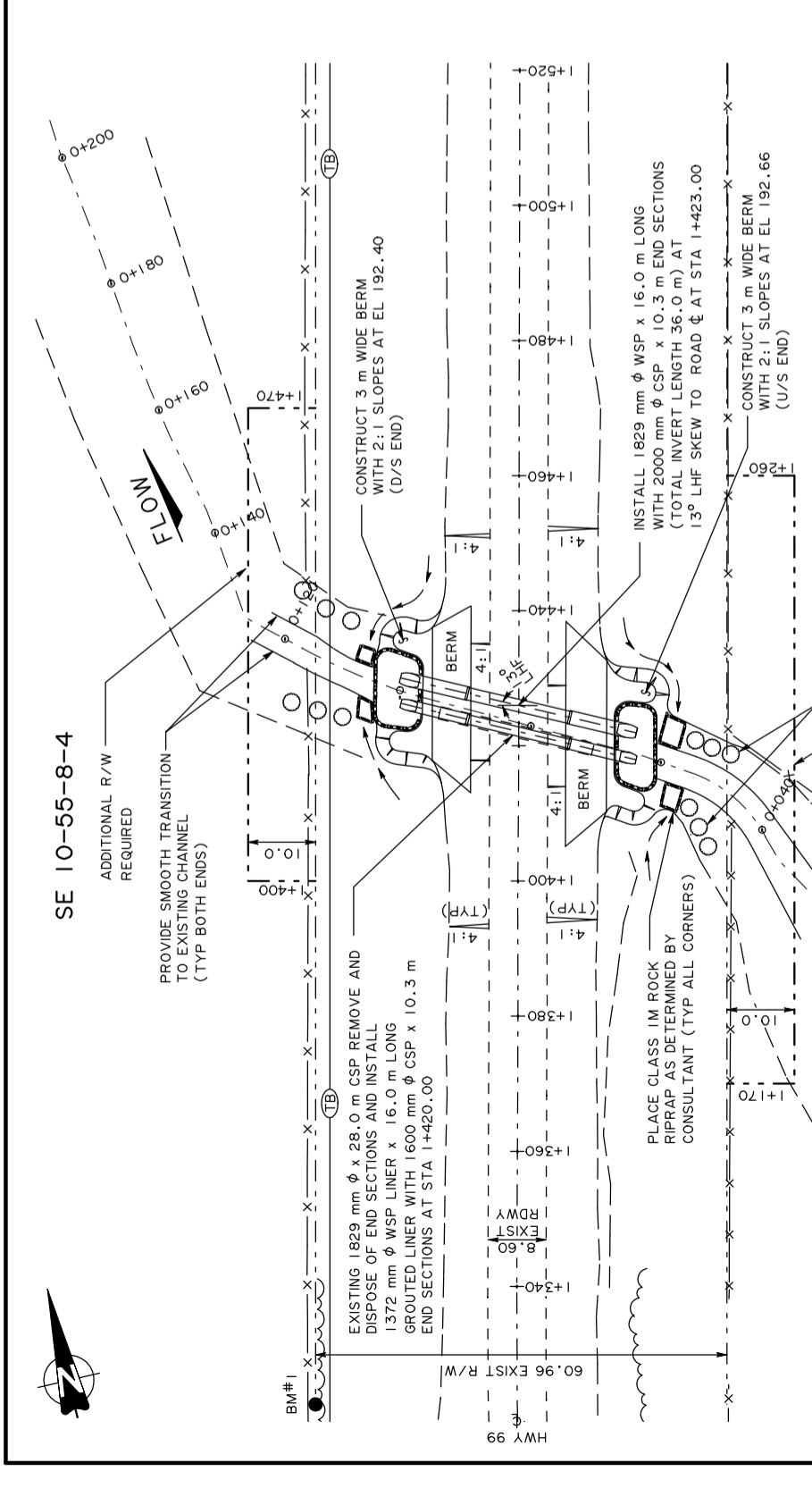


QUANTITY ESTIMATE

ITEM	UNIT	ESTIMATE	AS CONST
SUPPLY AND INSTALLATION OF 2000 mm ϕ CSP	m		
SUPPLY AND INSTALLATION OF 1829 mm ϕ WSP	m		
SUPPLY AND INSTALLATION OF 1600 mm ϕ CSP	m		
SUPPLY AND INSTALLATION OF 1372 mm ϕ WSP	m		
EXCAVATION - STRUCTURAL AND CHANNEL	m ³		
CRUSHED GRANULAR BACKFILL - DES 2 CL 25 OR 40	m ³		
GROUTING OF CULVERTS	m ³		
COMMON OR BORROW EXCAVATION	m ³		
CLASS 1 HEAVY ROCK RIPRAP	m ³		
CLASS 1M HEAVY ROCK RIPRAP	m ³		
SILT FENCE	m		

INDEX

SHEET	DESCRIPTION	DATE
3	INSTALLATION OF LARGE METAL PIPES	S1418-03
2	INFORMATION SHEET 1	12346-P
1	GENERAL LAYOUT	12345-P



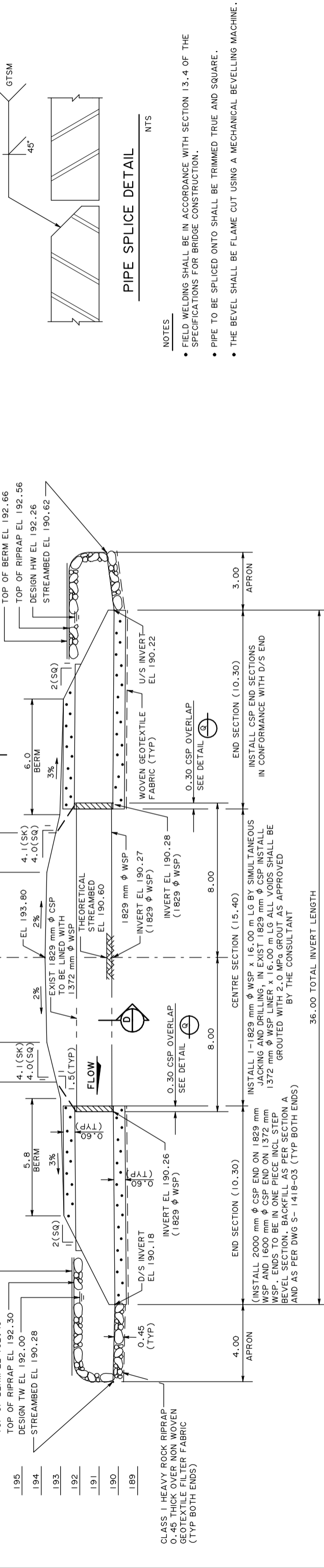
COMPANY LOGO AND NAME

XYZ Engineering Limited

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EXCAVATE FACE FOR WSP INSTALLATION. CONTRACTOR TO MONITOR EXCAVATION FOR SLOPE STABILITY AND ADD SHORING AT CULVERT ENDS IF REQUIRED. REMOVE AND DISPOSE CSP ENDS (TYP BOTH SIDES)



EXCAVATE FACE FOR WSP INSTALLATION. CONTRACTOR TO MONITOR EXCAVATION FOR SLOPE STABILITY AND ADD SHORING AT CULVERT ENDS IF REQUIRED. REMOVE AND DISPOSE CSP ENDS (TYP BOTH SIDES)

TOP OF BERM EL 192.40
TOP OF RIPRAP EL 192.30
DESIGN TW EL 192.00
STREAMBED EL 190.28

5.8 BERM 3%
2(SQ)
D/S INVERT EL 190.18
0.45 (TYP)

4.1(SK) 4.0(SQ)
4.1(SK) 4.0(SQ)
4.1(SK) 4.0(SQ)
4.1(SK) 4.0(SQ)

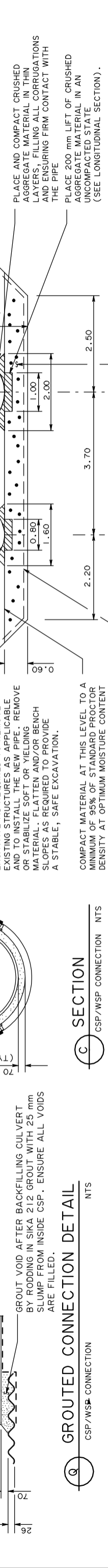
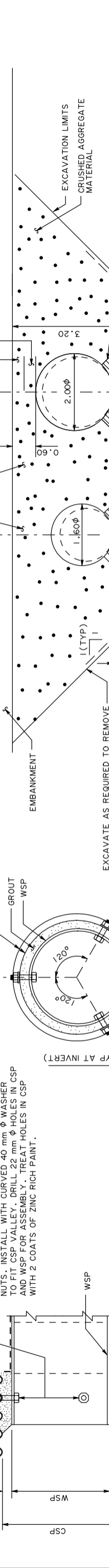
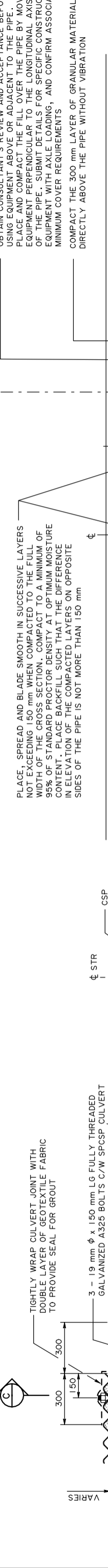
2.05 2.00 4.41 4.30 4.41 4.30 2.05 2.00

6.0 BERM 3%

2(SQ)
U/S INVERT EL 190.22
WOVEN GEOTEXTILE FABRIC (TYP)
0.30 CSP OVERLAP SEE DETAIL

3.00 APRON
INSTALL CSP END SECTIONS IN CONFORMANCE WITH D/S END

END SECTION (10.30)
CENTRE SECTION (15.40)
END SECTION (10.30)



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The Alberta Professional Engineers and Geoscientists of Alberta

DESIGNER: PROFESSIONAL ENGINEER (ALBERTA) [Signature]

CHECKER: PROFESSIONAL ENGINEER (ALBERTA) [Signature]

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SHEET: 2 OF 3

DRAWING: 12346-P

DEPARTMENT BAR CODE

DATE

REV

DATE

REVISIONS

BY

FILLER GROUT DETAIL
NTS

SPACER RODS FOR GROUTING WSP LINER

3 - 19 mm ϕ FULLY THREADED ROD WITH NUT WELDED ON INSIDE END. INSTALL BY DRILLING 22 mm ϕ HOLE IN WSP AND WELD 19 mm ϕ SECURING NUT OVER HOLE. INSTALL SPACER RODS AT 5 m LONGITUDINAL SPACING. AFTER GROUTING LINER REMOVE INSIDE PORTION OF ROD.

GROUT LINER WITH 2.0 MPa GROUT