

CLIENT:

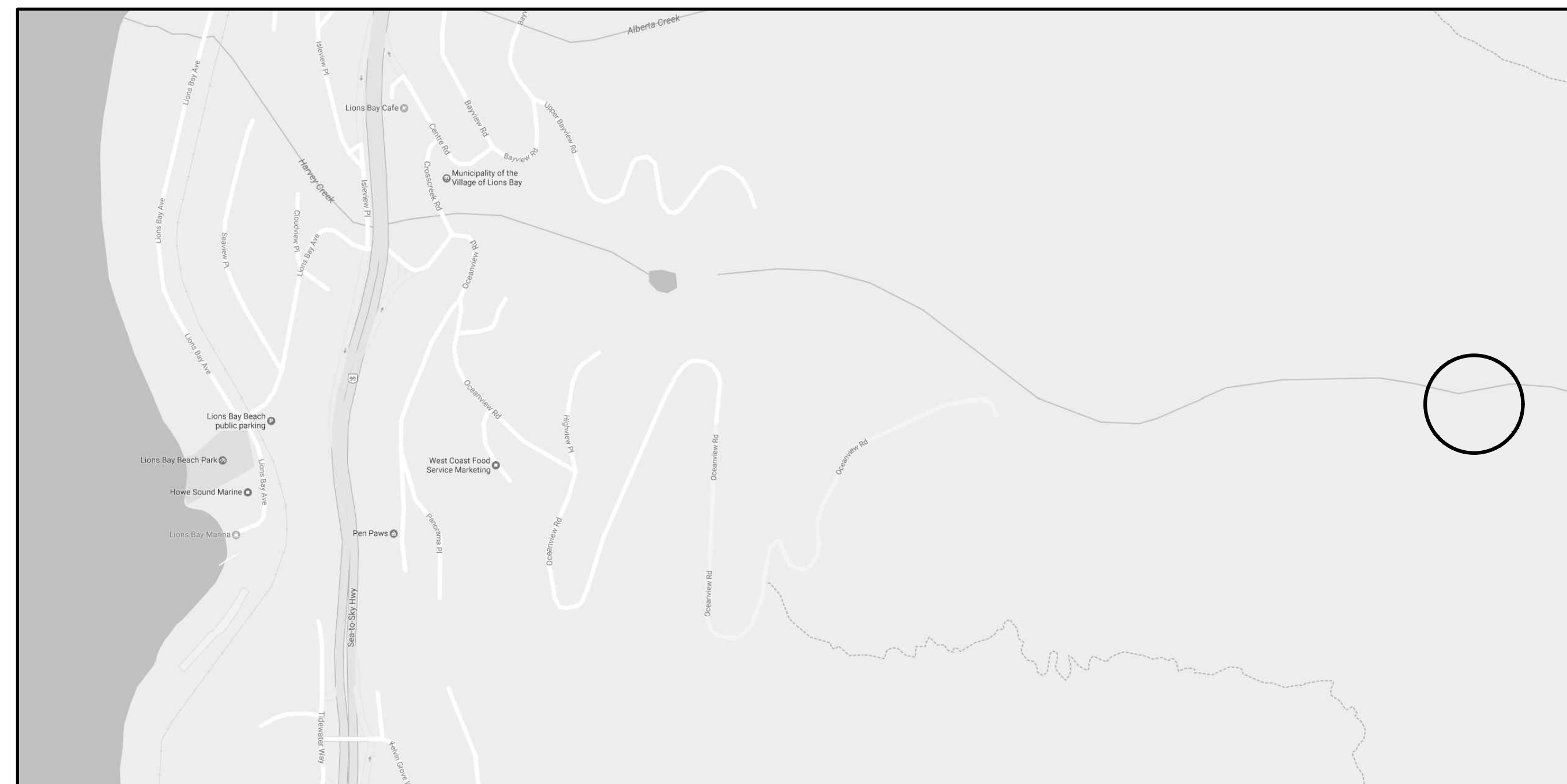
VILLAGE OF LIONS BAY

PROJECT:

HARVEY CREEK INTAKE WEIR UPGRADE LIONS BAY, BC

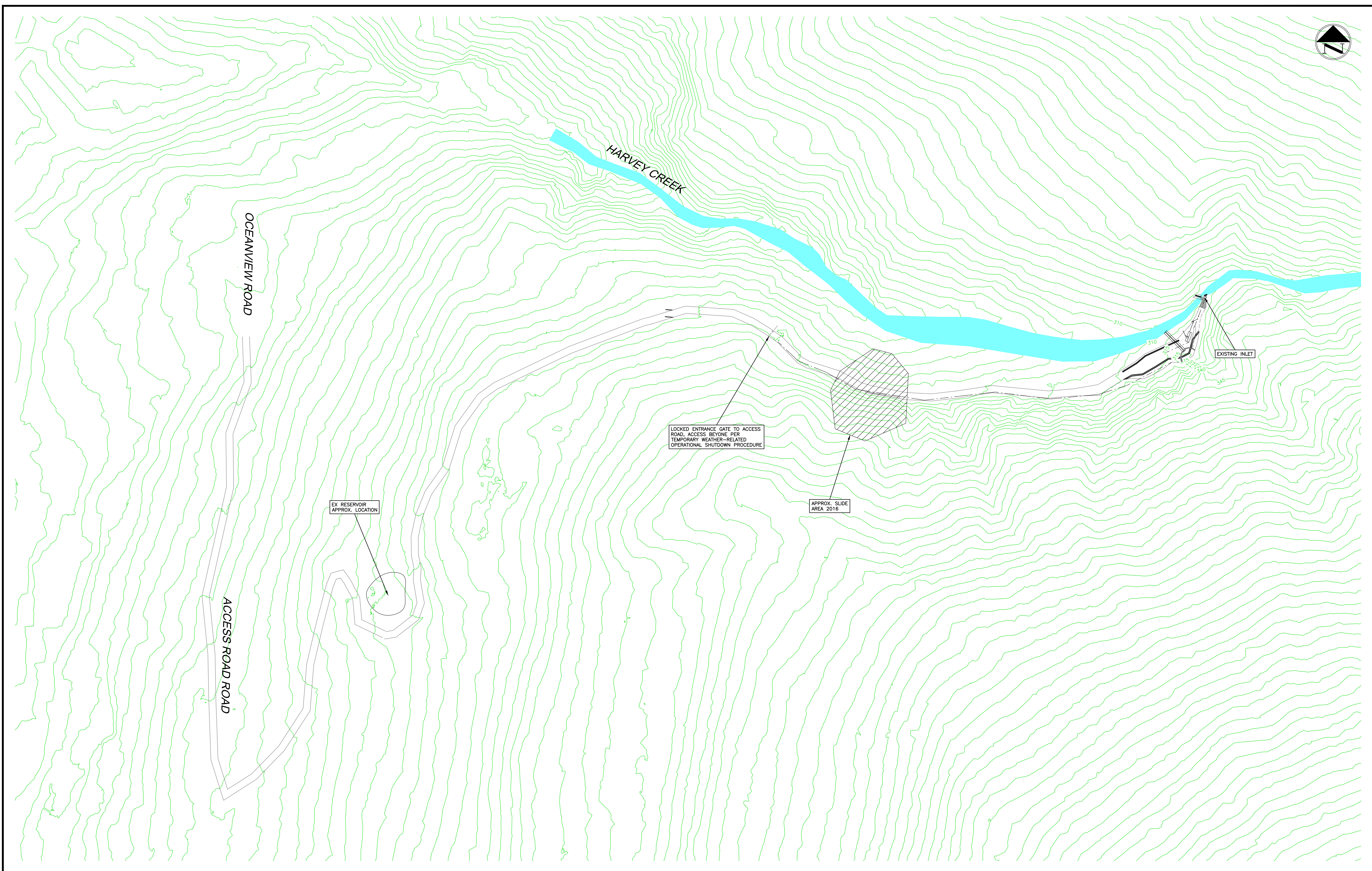
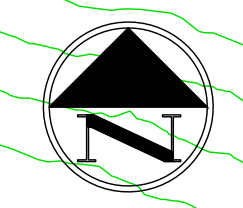
DRAWING LIST

KEY -1	KEY PLAN - CONTEXT
KEY-2	KEY PLAN - INTAKE
XS S-1	SITE SECTIONS - INTAKE: A, C, D, SETTLING CHAMBER
XS S-2	SITE SECTIONS - INTAKE: B
XS S-3	SITE SECTIONS - INTAKE: E, DAM FACE REMEDIATION
DET-1	STANDARD DETAILS
R1-149-131	MOTH HARVEY CREEK INTAKE DETAILS 1985



CREUS Engineering Ltd.

ISSUED FOR TENDER PHASE 1



4	MAR.15.17	FUNDING APPROVAL SET	ZM			
3	FEB.15.17	GENERAL REVISION	AGC	7	JUL.05.17	REVISED PER VOLB COMMENTS
2	FEB.15.16	ISSUED FOR CONSTRUCTION	NGB	6	JUN-16-17	CLIENT REVIEW
1	FEB.03.16	ISSUED FOR HARVEY ROAD SLIDE	NGB	5	MAR-17-17	CLIENT REVIEW
no.	date	revision	chk'd	no.	date	revision

client
VILLAGE OF LIONS BAY

project
**HARVEY CREEK INTAKE ACCESS ROAD
 LIONS BAY, BC**

www.creus.ca

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Civil Engineers

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approved

designed by K.B.H.
 drawn by N.G.B.
 checked by F.M.C.
 date NOV.04.14

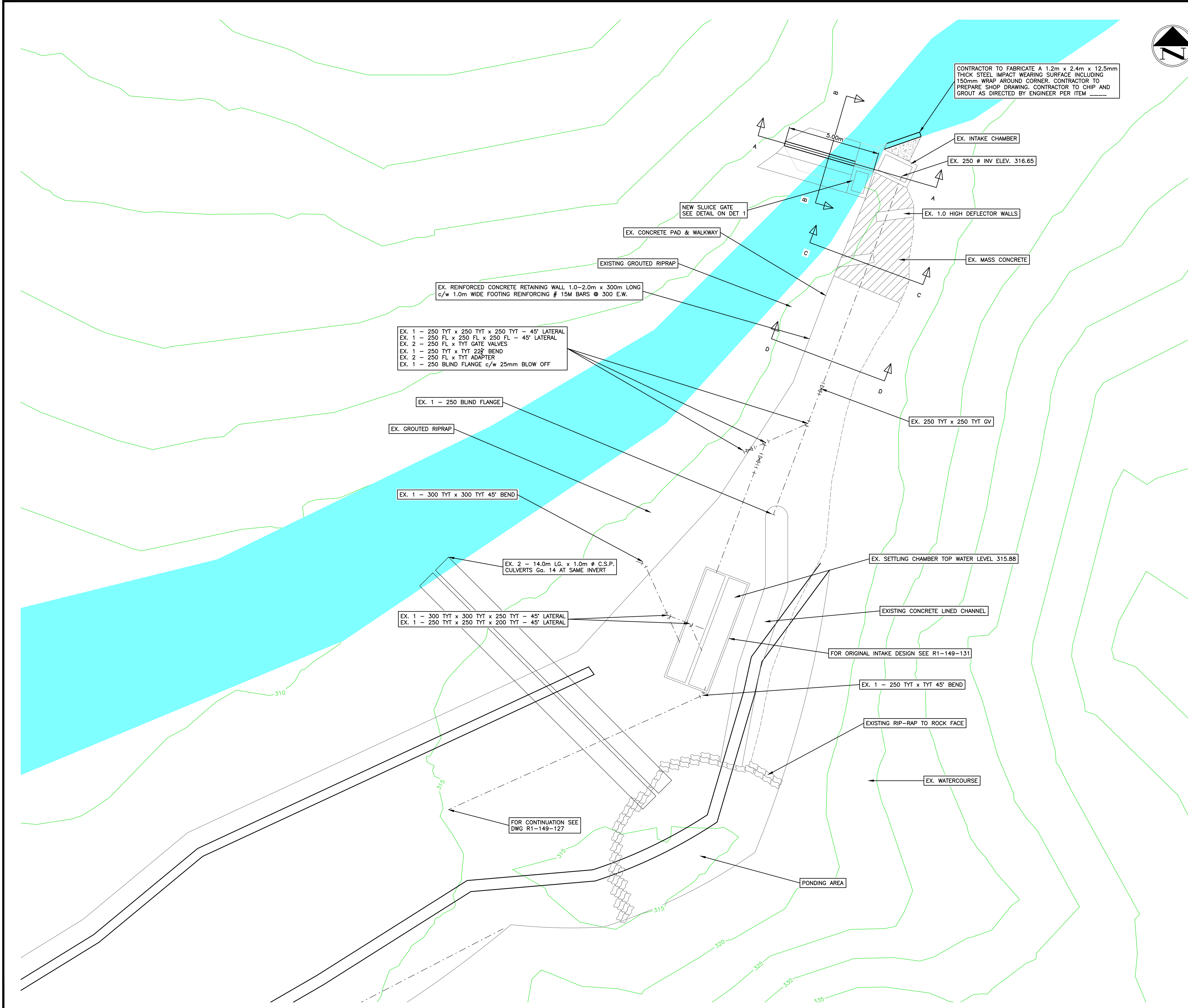
title
**KEY PLAN
 CONTEXT**

scales
 hor: 1:1000 vert: -

file no.
13160

drawing no.
KEY-1

rev.
7



GENERAL NOTES

1. CONTRACTOR TO REVIEW EXISTING DRAWINGS AND REVIEW OPERATIONS IN FIELD WITH VOLB STAFF PRIOR TO COMMENCING WORKS.
2. CONTRACTOR TO MAINTAIN A VALVE KEY IN THE VALE BELOW THE WORKS AT ALL TIMES DURING WORKS.
3. CONTRACTOR TO ARRANGE WITH VOLB STAFF TO CLOSE WATERLINE WHEN WORKING IMMEDIATELY ABOVE IT.
4. CONTRACTOR SHALL NOTIFY CREUS WHENEVER WORKS ARE SCHEDULED.
5. CONTRACTOR TO DO ALL WORKS PER MUNICIPAL STANDARDS, MASTER MUNICIPAL SPECIFICATIONS, CURRENT B.C. BUILDING CODE, & B.C. PLUMBING CODE.
6. CONTRACTOR TO MARK OUT DETERIORATED CONCRETE FOR REMOVAL AND GET APPROVAL FROM ENGINEER PRIOR TO REMOVAL.
7. CONTRACTOR TO NOT OPERATE WATER SYSTEM ELEMENTS WITHOUT DIRECTION FROM VOLB STAFF.

SEDIMENT AND EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING AN EROSION AND SEDIMENT CONTROL SYSTEM AS WELL AS ANY ADDITIONAL TEMPORARY WORKS NECESSARY TO PREVENT SILT DISCHARGES TO THE CREEK.
2. THE CONTRACTOR SHALL CONSTRUCT ALL NECESSARY EROSION AND SEDIMENT CONTROL WORKS BEFORE COMMENCING ANY OTHER ON-SITE CONSTRUCTION OTHER THAN FALLING TREES.
3. THE CONTRACTOR SHALL CONSTRUCT ALL NECESSARY EROSION AND SEDIMENT CONTROL WORKS BEFORE COMMENCING ANY OTHER ON-SITE CONSTRUCTION OTHER THAN FALLING TREES.
4. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THAT NO SILT IS DISCHARGED TO THE CREEK DURING THE COURSE OF CONSTRUCTION.
5. THE CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENT CONTROL WORKS PRIOR TO AND DURING RAINFALL EVENTS AND AS REQUIRED AND UNDERTAKE ANY REMEDIAL WORK REQUIRED FOR FUNCTIONAL OPERATION.
6. THE CONTRACTOR SHALL CLEAN OUT THE SEDIMENT TRAP ON A REGULAR BASIS TO ENSURE DEPTH OF SEDIMENT ACCUMULATION DOES NOT EXCEED 25%.
7. SILT SACS MUST BE INSTALLED, MONITORED, AND MAINTAINED IN ALL CATCHBASINS AFFECTED BY CONSTRUCTION.
8. ALL ON SITE SURFACE RUN-OFF IS TO BE DIRECTED TO THE SEDIMENT CONTROL SYSTEM PRIOR TO DISCHARGE TO THE RECEIVING ENVIRONMENT. NO SURFACE RUN-OFF IS TO EXIT THE SITE BOUNDARIES UNLESS ROUTED THROUGH THE SEDIMENT CONTROL SYSTEM.
9. ALL EXPOSED CUTS/SLOPES ARE TO BE COVERED WITH POLYETHYLENE LINING. ALL STOCKPILED MATERIALS LEFT ON SITE FOR GREATER THAN 24 HOURS TO BE COVERED WITH POLYETHYLENE SHEETING AND SURROUNDED WITH A SILT FENCE. SHEETING MUST BE INSPECTED ON A REGULAR BASIS AND ANY SEPARATION OR TEARS REPAIRED IMMEDIATELY. STORE EXCAVATED SOILS AWAY FROM STORM DRAINS OR OTHER POTENTIAL OFFSITE TRANSPORT PATHWAYS.
10. NO SEDIMENT SHALL BE TRACKED ONTO PUBLIC PROPERTY (INCLUDING STREETS) OR OTHER PRIVATE PROPERTY. EMPLOY STREET SWEEPERS AS REQUIRED. NO FLUSHING ON ROADS IS PERMITTED, IN DRY PERIODS, OR AS DIRECTED BY THE ENGINEER. APPROPRIATE DUST SUPPRESSION MEASURES MUST BE UNDERTAKEN.
11. THE CONTRACTOR WILL NOT PERMIT THE DIRECT OR INDIRECT DISCHARGE, FROM ANY PROPERTY, OF WATER THAT DOES NOT AT ALL TIMES MEET OR EXCEED THESE REQUIREMENTS.
12. THE CONTRACTOR SHALL PLACE, STORE, TRANSPORT, OR DISPOSE OF ANY "PROHIBITED SUBSTANCE" IN SUCH A MANNER SO AS TO PREVENT THE LIKELY ESCAPE OF THE MATERIALS INTO THE RECEIVING ENVIRONMENT.
13. CONSTRUCTION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL SYSTEM SHALL BE IN ACCORDANCE WITH THE VILLAGE OF LIONS BAY BYLAWS, THE LATEST EDITION OF THE MoE's "STANDARDS AND BEST PRACTICES FOR INSTREAM WORKS" AND "DEVELOP WITH CARE: ENVIRONMENTAL GUIDELINES FOR URBAN AND RURAL LAND DEVELOPMENT IN BC", AND SECTION 01 57 01 OF THE MNCID SPECIFICATIONS.
14. THE DISCHARGE CRITERIA FROM THE SEDIMENT CONTROL SYSTEM INCLUDES: A PH OF BETWEEN 6.5-8.0 AND A TOTAL SUSPENDED SOLIDS (TSS) CONTENT OF LESS THAN OR EQUAL TO 75mg/l (OCTOBER TO APRIL) ABOVE BACKGROUND OR LESS THAN OR EQUAL TO 25mg/l (MAY TO SEPTEMBER) ABOVE BACKGROUND CONTENT. NO DISCHARGE OF PETROLEUM HYDROCARBONS, SOLVENTS, HEAVY METAL PARTICULATE, CEMENT, ETC. OR ANY MATERIAL THAT COULD BE DEEMED "DELETERIOUS" UNDER THE FISHERIES ACT OR BOWEN ISLAND MUNICIPALITY BYLAWS IS PERMITTED. IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT NO DELETERIOUS SUBSTANCES ARE DISCHARGED.
15. ALL CONCRETE SUPPLY TRUCKS SHALL BE EQUIPPED WITH WASH BUCKET SYSTEM FOR FLUSHING OF FLUME. UNDER NO CIRCUMSTANCES SHALL EXCESS CONCRETE FROM FLUME AND/OR TRUCK BE FLUSHED ONTO ROADS OR INTO THE SEWER SYSTEMS.
16. AS CONSTRUCTION PROGRESSES AND INTERCEPTED FLOWS ARE REDUCED, THE SEDIMENT AND EROSION CONTROL PLAN BE ADJUSTED ACCORDINGLY AT THE DISCRETION OF THE ENGINEER. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
17. DECOMMISSION ALL EROSION AND SEDIMENT CONTROL SYSTEMS ONLY AFTER HARD SURFACES ARE IN PLACE AND SURFACE WATER SUITABLY DIRECTED TO THE STORM WATER SYSTEM. ALL SEDIMENT TO BE REMOVED AND DISPOSED OF OFF SITE.
18. "PROHIBITED SUBSTANCE" MEANS: PESTICIDES, HERBICIDES, FERTILIZERS, SOAPS, DETERGENTS, HOUSEHOLD AND COMMERCIAL GRADE CLEANING COMPOUNDS, PAINTS, SOLVENTS, CHEMICALS, CHLORINATED WATER, WASTE OIL OR ANY MATERIAL OR SUBSTANCE WHICH IS A "HAZARDOUS PRODUCT", "CONTAMINANT", "TOXIC SUBSTANCE", "DELETERIOUS SUBSTANCE", "SPECIAL WASTE", "DANGEROUS GOOD" OR "REPORTABLE SUBSTANCE" THAT IS IDENTIFIED OR DESCRIBED IN OR DEFINED BY ANY APPLICABLE STATUTE, REGULATION OR LAW, INCLUDING ANY SUBSTANCE THAT VIOLATES THE FISHERIES ACT R.S.C. 1985 OR THE WASTE MANAGEMENT ACT R.S.B.C. 1996, C-482 WHICH, IF INTRODUCED TO THE "DRAINAGE WORKS", WOULD FOUL IT, OR
19. ANY SEDIMENT, ROCK, GRAVEL, SAND, CLAY, SILT, SEDIMENT, EARTH, CONSTRUCTION OR EXCAVATION WASTES, CEMENT, CONCRETE, EXPOSED AGGREGATE WASH WATER OR OTHER SUBSTANCES WHICH, WHEN INTRODUCED INTO A DRAINAGE SYSTEM, WILL AT THE POINT OF DEPOSITION, RESULT IN AN "EXCESSIVE SUSPENDED SOLIDS DISCHARGE" OR A PH VALUE OUTSIDE OF THE RANGE 6.5 - 8.0, OR TEMPERATURE INCREASE OF 2 DEGREES CELSIUS OR MORE.

4	JUN-16-17	CLIENT REVIEW	AGC						
3	MAR-17-17	CLIENT REVIEW	KBH						
2	MAR-15-17	FUNDING APPROVAL SET	ZM						
1	FEB-15-17	GENERAL REVISION	AGC	5	JUL-05-17	REVISED PER VOLB COMMENTS	AGC		
no.	date	revision	chk'd	no.	date	revision	chk'd		

client
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project
HARVEY CREEK INTAKE ACCESS ROAD
LIONS BAY, BC

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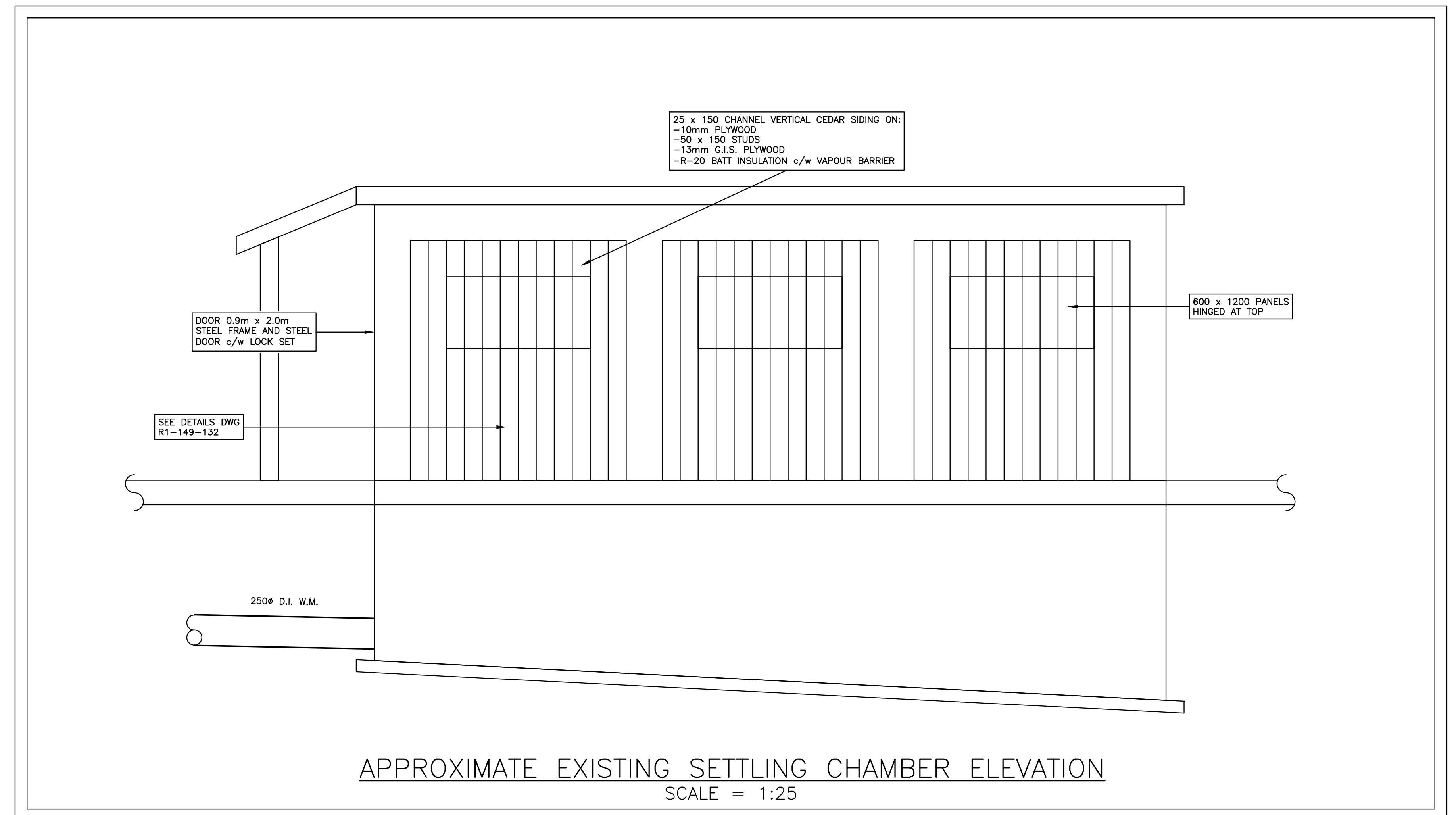
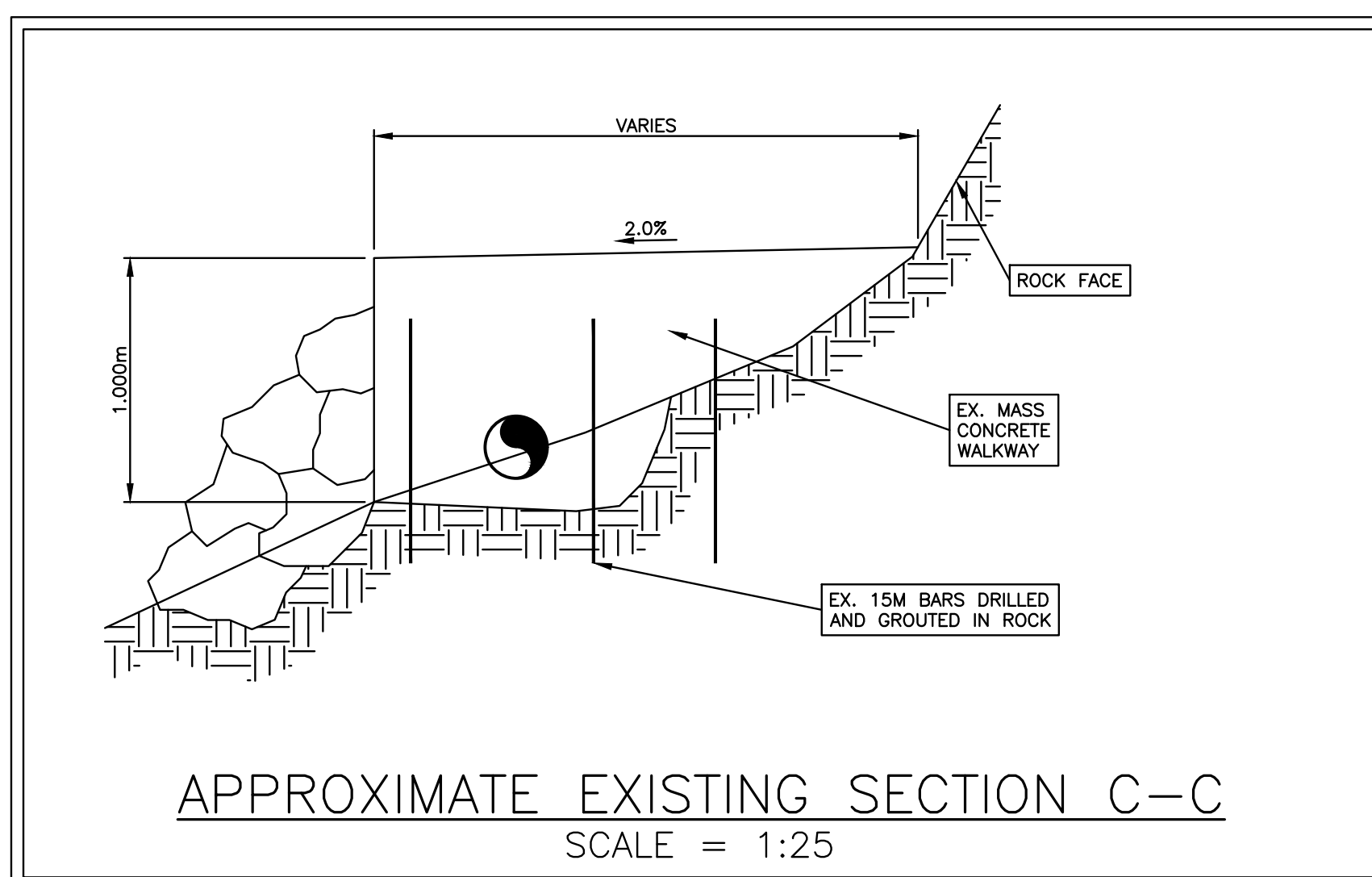
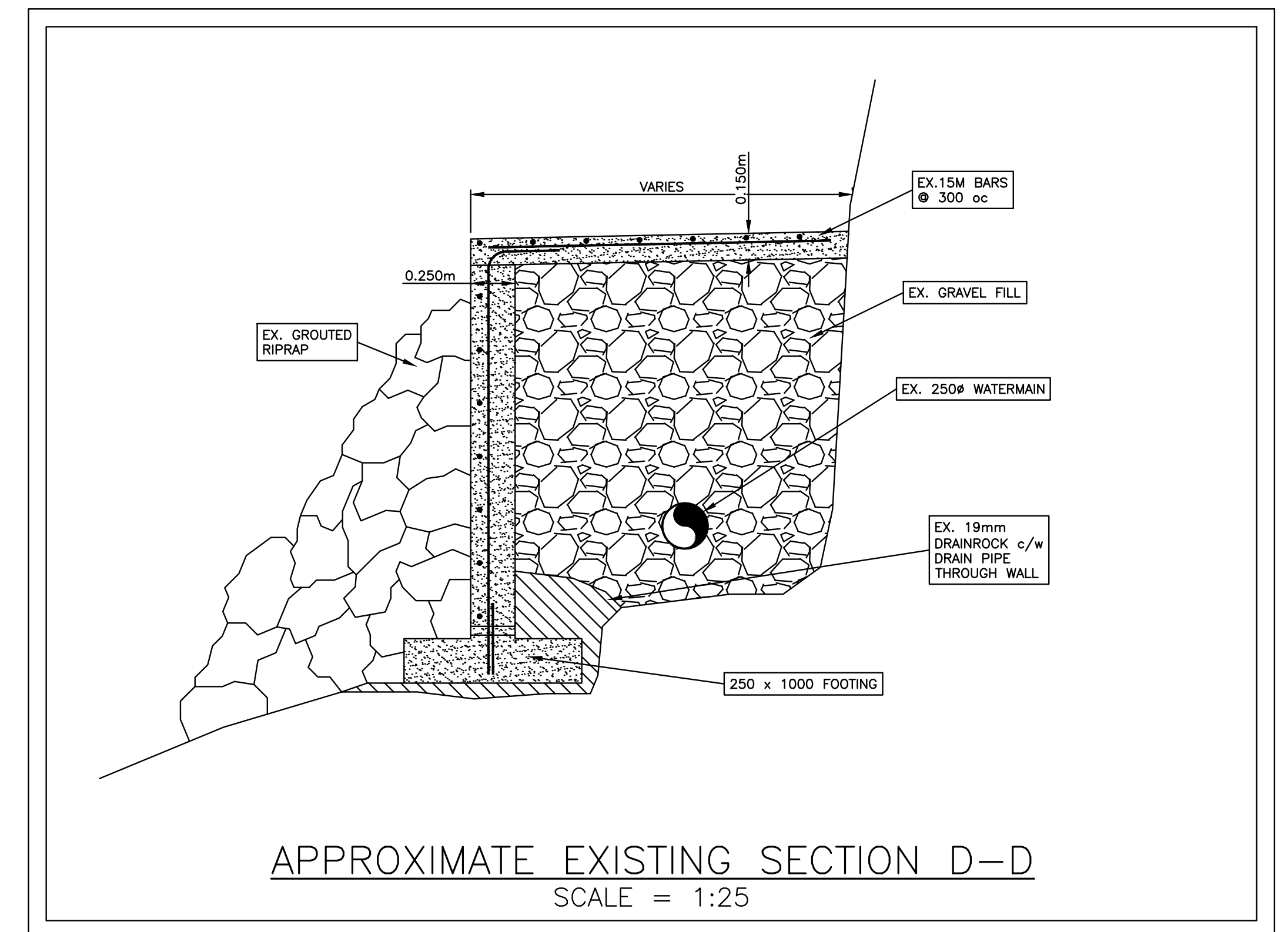
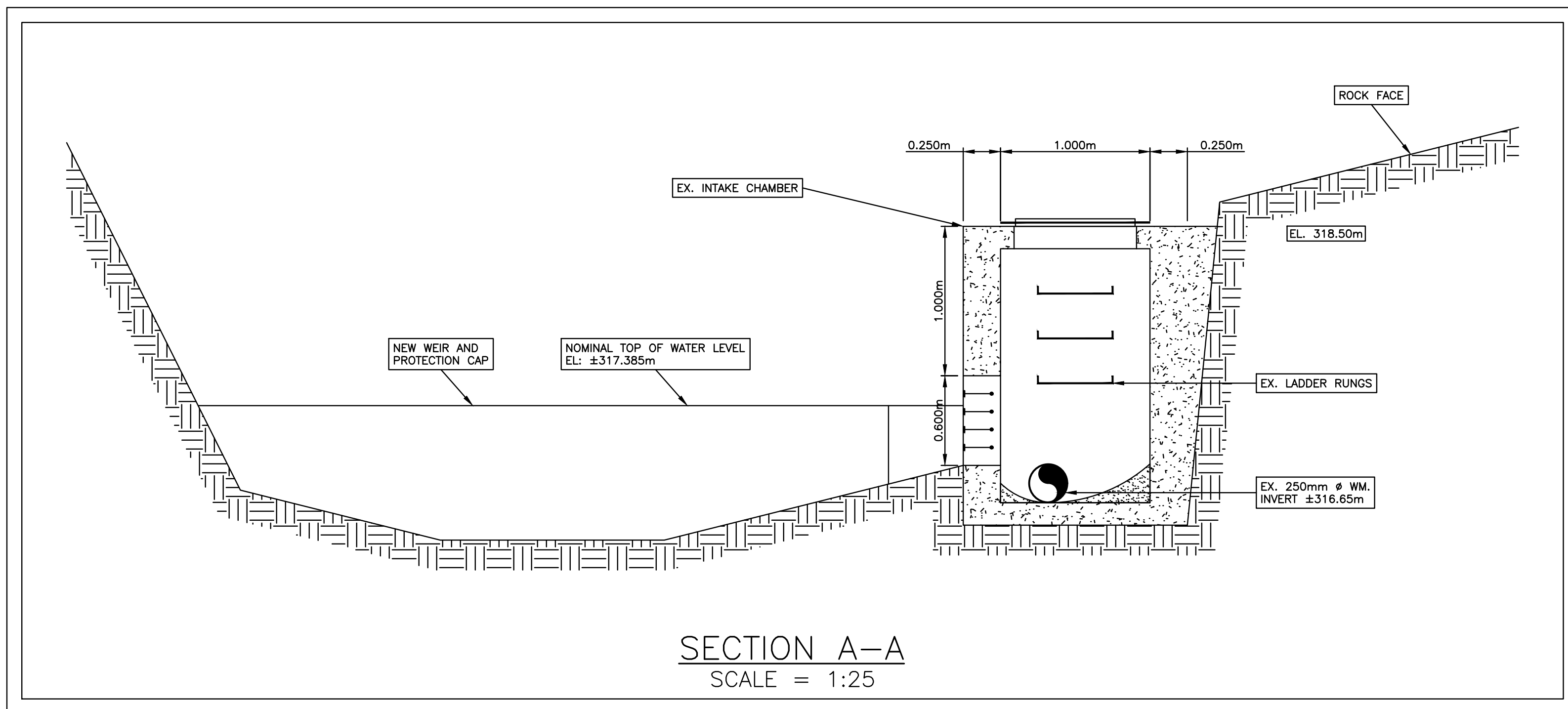
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drawn by	N.G.B.
checked by	F.M.C.
date	NOV.04.14

KEY PLAN
INTAKE

scales	hor: 1:100	vert: -
file no.	13160	
drawing no.	KEY-2	rev. 5



no.	date	revision	chk'd	no.	date	revision	chk'd
4	JUL.05.17	REVISED PER VOLB COMMENTS	AGC				
3	JUN.16.17	CLIENT REVIEW	AGC				
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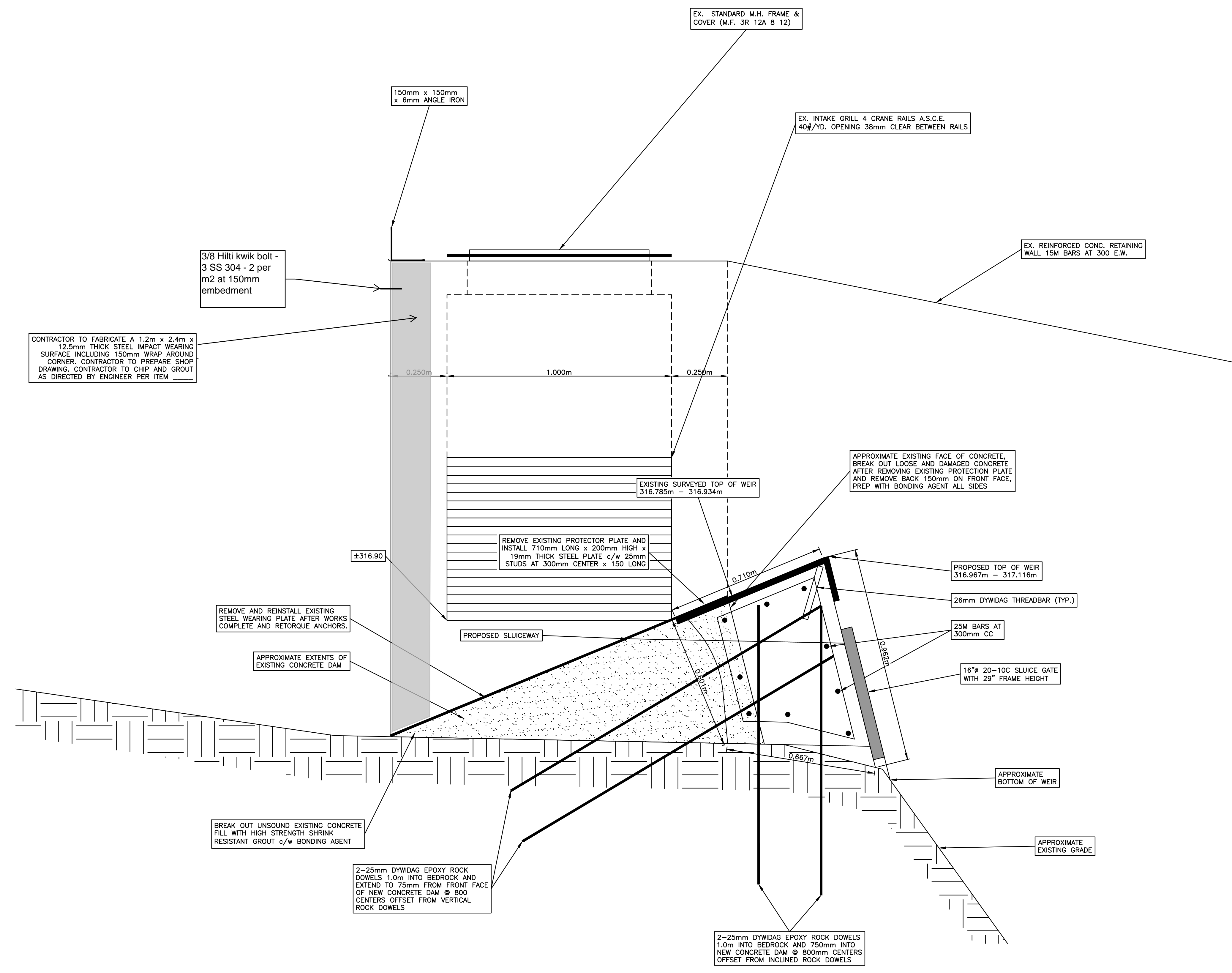
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SITE SECTIONS
INTAKE: A, C, D, & SETTLING CHAMBER

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file no.
13160

drawing no.
XS S-1

rev.
4



SECTION B-B
SCALE = 1:10

4	JUL.05.17	REVISED PER VOLB COMMENTS	AGC				
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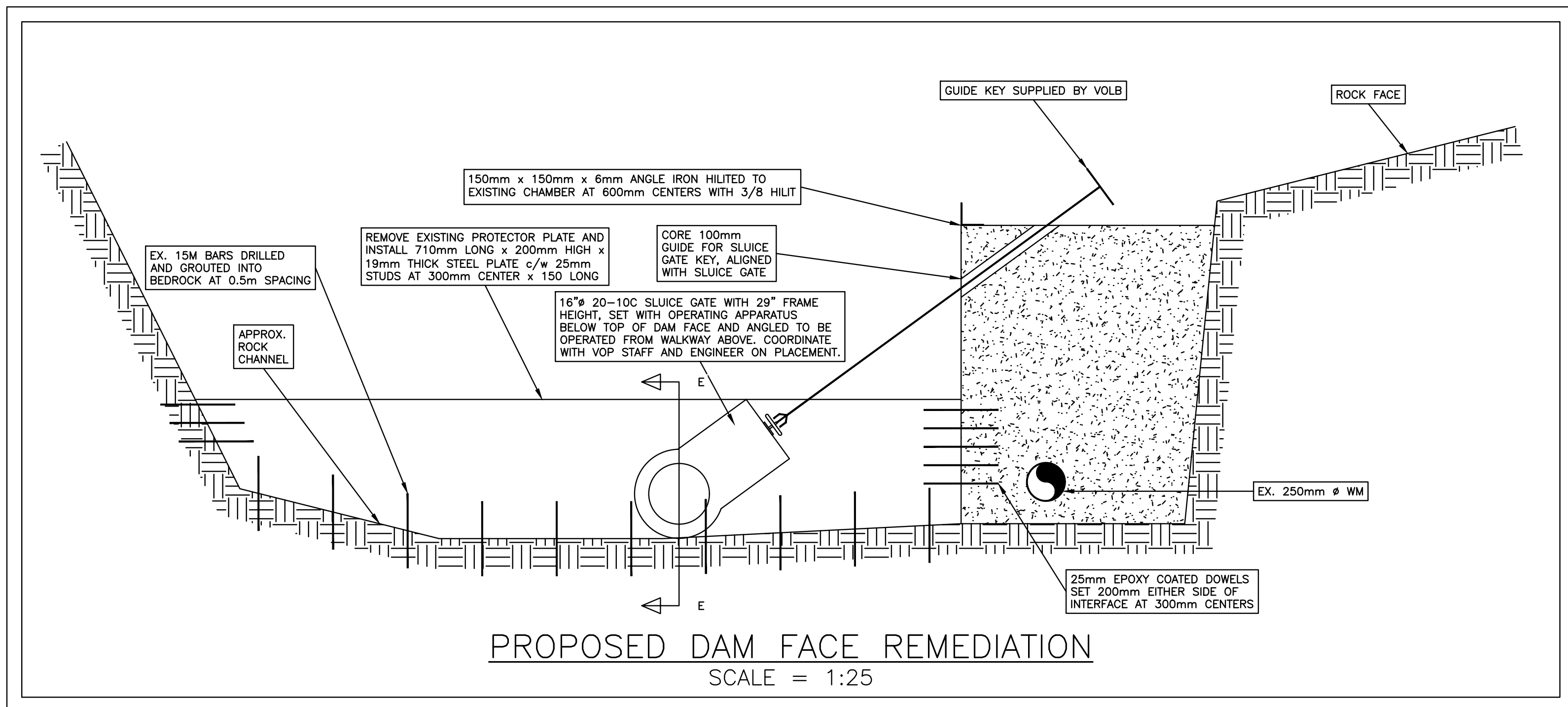
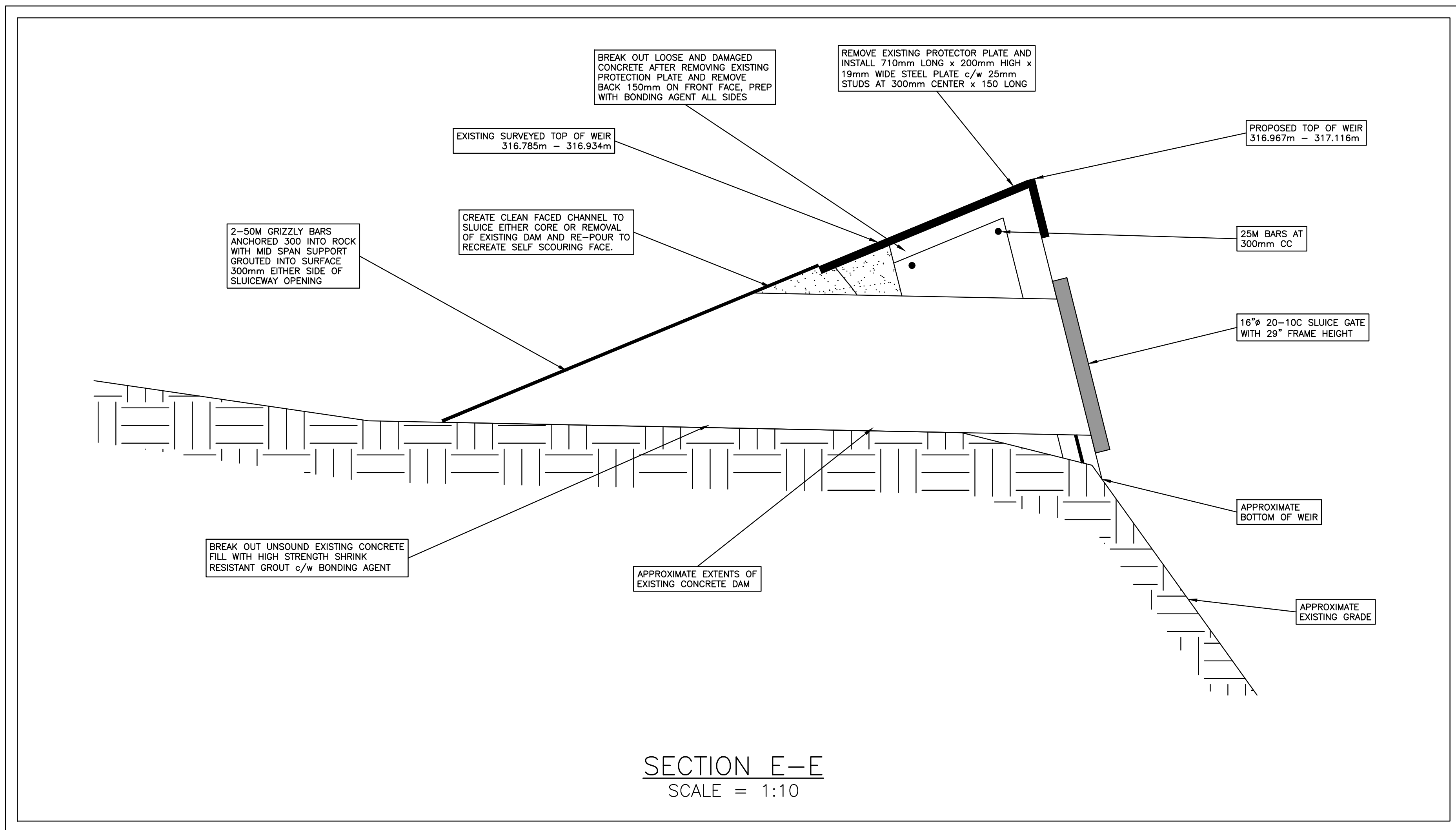
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13160

drawing no.
XS S-2

rev.
4



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LIONS BAY, BC**

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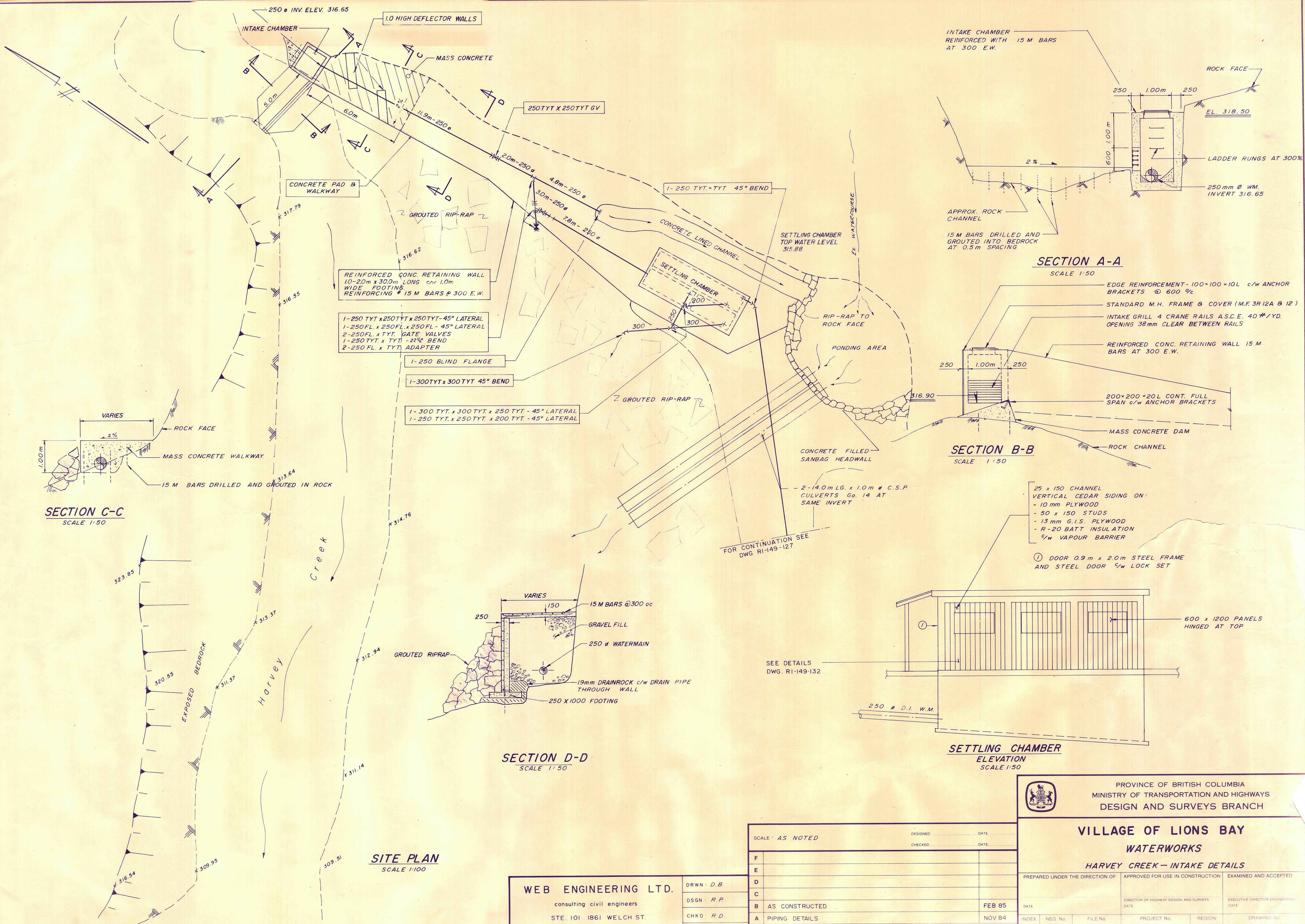
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	checked by	F.M.C.	
	date	NOV.04.14	

**SITE SECTIONS
INTAKE: B**

scales	hor: 1:25	vert: -
file no.	13160	
drawing no.	XS S-3	rev. 4



PROVINCE OF BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION AND HIGHWAYS
DESIGN AND SURVEYS BRANCH

VILLAGE OF LIONS BAY
WATERWORKS
HARVEY CREEK - INTAKE DETAILS

PREPARED UNDER THE DIRECTION OF	APPROVED FOR USE IN CONSTRUCTION	EXAMINED AND ACCEPTED
DATE	DIRECTOR OF HIGHWAY DESIGN AND SURVEYS DATE	EXECUTIVE DIRECTOR ENGINEERING DATE
INDEX	NEG No.	FILE No.
	PROJECT No.	REGION
		DRAWING No.
		RI-149-131

SCALE: AS NOTED	DESIGNED	DATE
	CHECKED	DATE
F		
E		
D		
C		
B	AS CONSTRUCTED	FEB 85
A	PIPING DETAILS	NOV 84
DATE: APR 84	WEB No. 425 - 31	REVISIONS

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STE. 101 1861 WELCH ST.
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DRWN: D.B.
DSGN: R.P.
CHKD: R.D.
DATE: APR 84