

CONSTRUCTION DRAWINGS

for

Fisheries and Oceans Canada

Inch Creek Hatchery – Well #5 Water Supply and Drainage Upgrade

July 2018

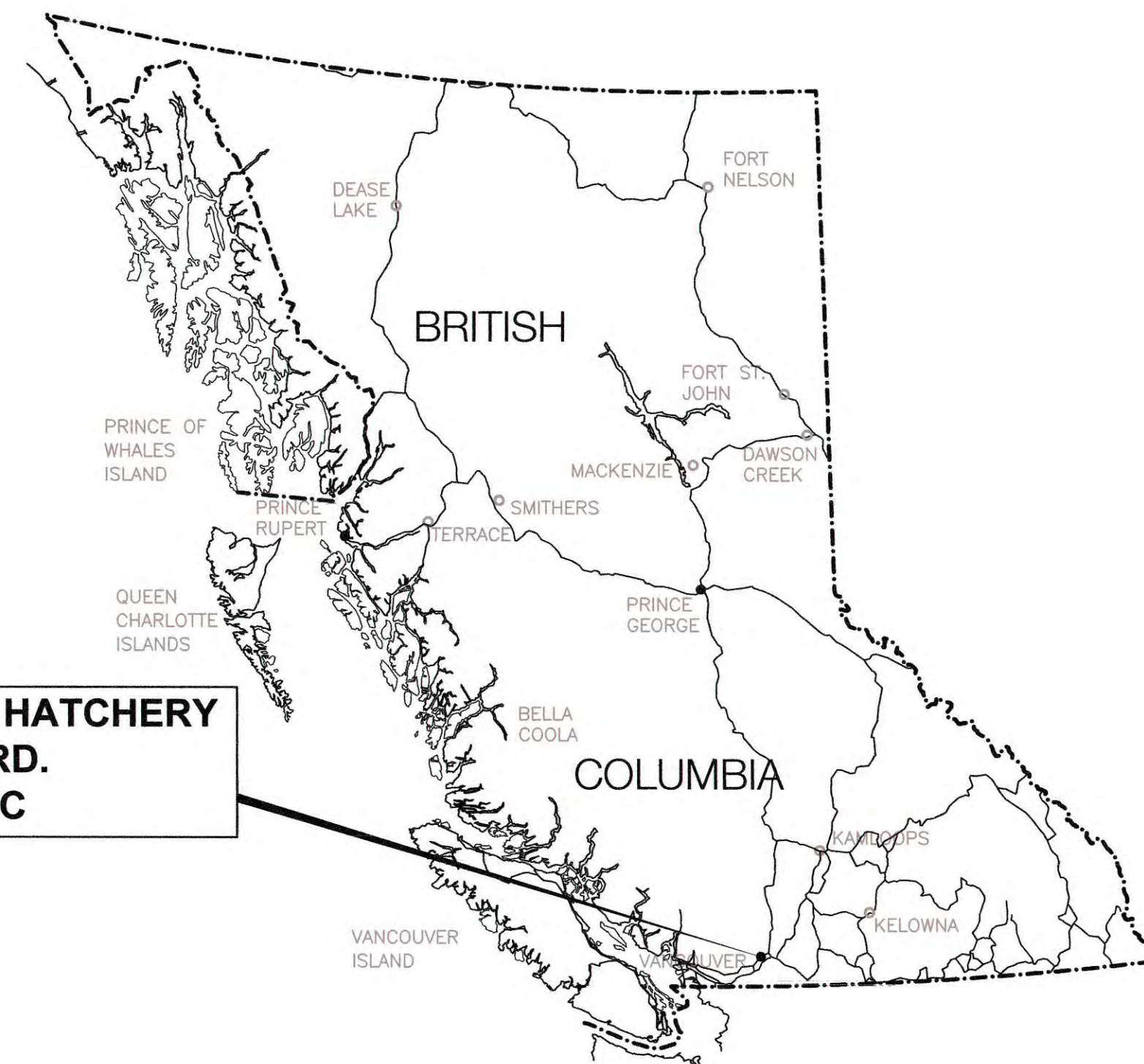


FISHERIES AND OCEANS CANADA

INCH CREEK HATCHERY WELL #5 WATER SUPPLY AND DRAINAGE UPGRADES

LEGEND

	EXISTING	PROPOSED
WELL		
IRON PIN		
EDGE GRAVEL ROAD		
EDGE PAVED ROAD		
SANITARY MANHOLE & SEWER		
WATERMAIN		
HYDRANT ASSEMBLY		
GATE VALVE		
AIR RELEASE VALVE		
DITCH		
CULVERT		
POWER POLE		
FENCE		
TEMPORARY FENCE		



DRAWING LIST

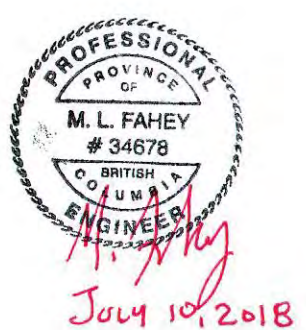
CIVIL

COVER	DRAWING LIST, LOCATION MAP AND LEGEND
11-31-427	SITE PLAN
11-31-428	PROPOSED DRAIN PLAN
11-31-429	PROPOSED WATER SUPPLY LINE
11-31-430	WELL No. 5 DETAILS
11-31-431	MISCELLANEOUS DETAILS

DNA

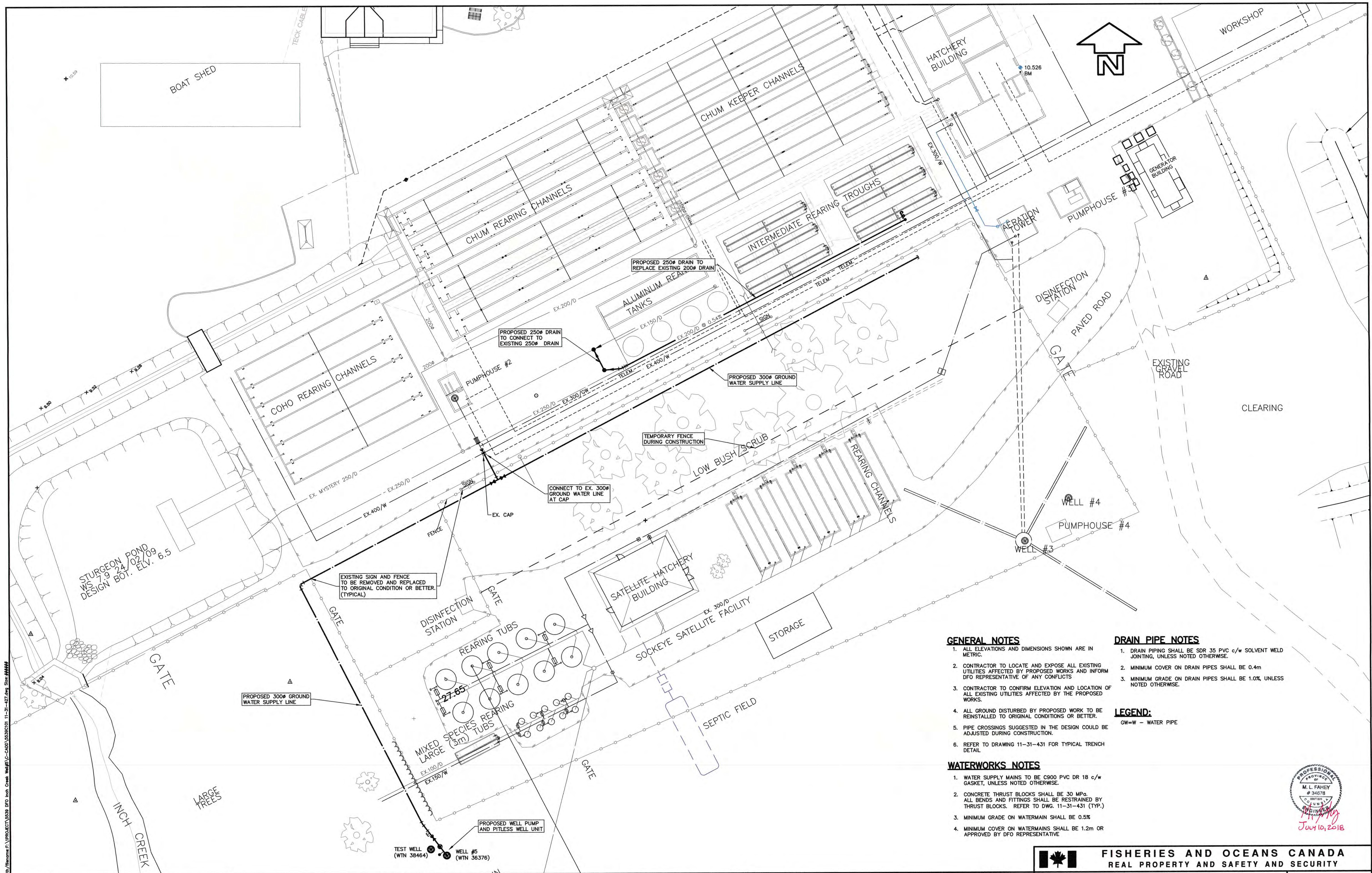
project managers
planners
engineers
architects

David Nairne + Associates Ltd



5539

RE-ISSUED FOR TENDER
JULY 10, 2018



GENERAL NOTES

1. ALL ELEVATIONS AND DIMENSIONS SHOWN ARE IN METRIC.
2. CONTRACTOR TO LOCATE AND EXPOSE ALL EXISTING UTILITIES AFFECTED BY PROPOSED WORKS AND INFORM DFO REPRESENTATIVE OF ANY CONFLICTS
3. CONTRACTOR TO CONFIRM ELEVATION AND LOCATION OF ALL EXISTING UTILITIES AFFECTED BY THE PROPOSED WORKS.
4. ALL GROUND DISTURBED BY PROPOSED WORK TO BE REINSTALLED TO ORIGINAL CONDITIONS OR BETTER.
5. PIPE CROSSINGS SUGGESTED IN THE DESIGN COULD BE ADJUSTED DURING CONSTRUCTION.
6. REFER TO DRAWING 11-31-431 FOR TYPICAL TRENCH DETAIL.

DRAIN PIPE NOTES

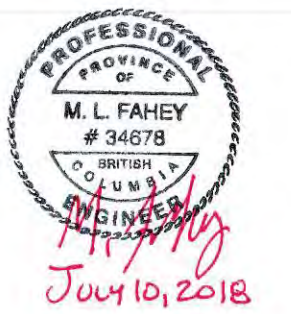
1. DRAIN PIPING SHALL BE SDR 35 PVC c/w SOLVENT WELD JOINTING, UNLESS NOTED OTHERWISE.
2. MINIMUM COVER ON DRAIN PIPES SHALL BE 0.4m
3. MINIMUM GRADE ON DRAIN PIPES SHALL BE 1.0%, UNLESS NOTED OTHERWISE.

LEGEND:

GW=W - WATER PIPE

WATERWORKS NOTES

1. WATER SUPPLY MAINS TO BE C900 PVC DR 18 c/w GASKET, UNLESS NOTED OTHERWISE.
2. CONCRETE THRUST BLOCKS SHALL BE 30 MPa. ALL BENDS AND FITTINGS SHALL BE RESTRAINED BY THRUST BLOCKS. REFER TO DWG. 11-31-431 (TYP.)
3. MINIMUM GRADE ON WATERMAIN SHALL BE 0.5%
4. MINIMUM COVER ON WATERMANS SHALL BE 1.2m OR APPROVED BY DFO REPRESENTATIVE



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

INCH CREEK HATCHERY
WELL #5 WATER SUPPLY AND
DRAINAGE UPGRADES

SITE PLAN

SCALE	1:250
START DATE	2016-NOV-24
DRAWING NUMBER	11-31-427
REVISION	3

1. INVERTS ON THESE DRAWINGS USE HATCHERY DATUM. HATCHERY DATUM RELATES TO AERATION TOWER SLAB AT 27.95m IN REFERENCE DRAWING #11-31-349. HATCHERY DATUM = GEODETIC DATUM (UTM NAD83) + 17.80m

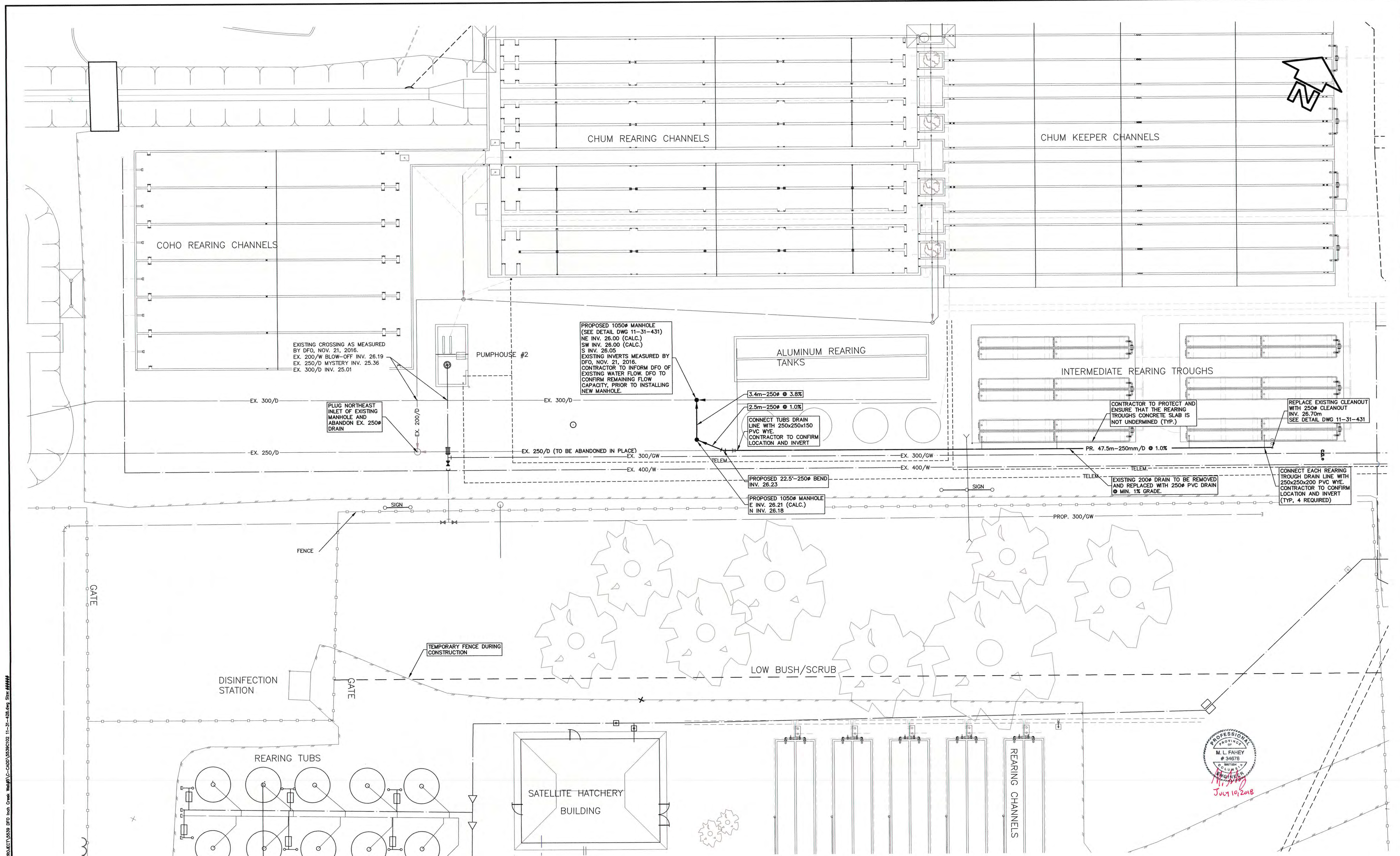
DNA
project managers
planners
engineers
architects
David Nairne + Associates Ltd

DWG. NO.	DRAWING REFERENCES

NO.	DATE	REVISIONS
3	2018-JUL-10	RE-ISSUED FOR TENDER
2	2018-MAR-01	ISSUED FOR TENDER
1	2016-DEC-21	ISSUED FOR DFO REVIEW

DESIGNED	SD
DRAWN	JW
CHECKED	MF
RECOMMENDED	
APPROVED	

Plotted by: Neil Courtney Plot date: 10-Jul-18 Path: \\naime\c:\projects\11-31-427.dwg Scale: 1:250



Printed by: Neil Courchay, Plot date: 10-Jul-18 Path: \\ms01\cadd\5349102_11-31-428.dwg Size: 44444
 V:\PROJECTS\5339 BFO Inch Creek Hatchery\Drawings\11-31-428.dwg

1. INVERTS ON THESE DRAWINGS USE HATCHERY DATUM. HATCHERY DATUM RELATES TO AERATION TOWER SLAB AT 27.95m IN REFERENCE DRAWING #11-31-349. HATCHERY DATUM = GEODETIC DATUM (UTM NAD83) + 17.80m



NO.	DATE	REVISIONS
3	2018-JUL-10	RE-ISSUED FOR TENDER
2	2018-MAR-01	ISSUED FOR TENDER
1	2014-JUL-29	ISSUED FOR DFO REVIEW

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

INCH CREEK HATCHERY
WELL #5 WATER SUPPLY AND
DRAINAGE UPGRADES

PROPOSED DRAIN PLAN

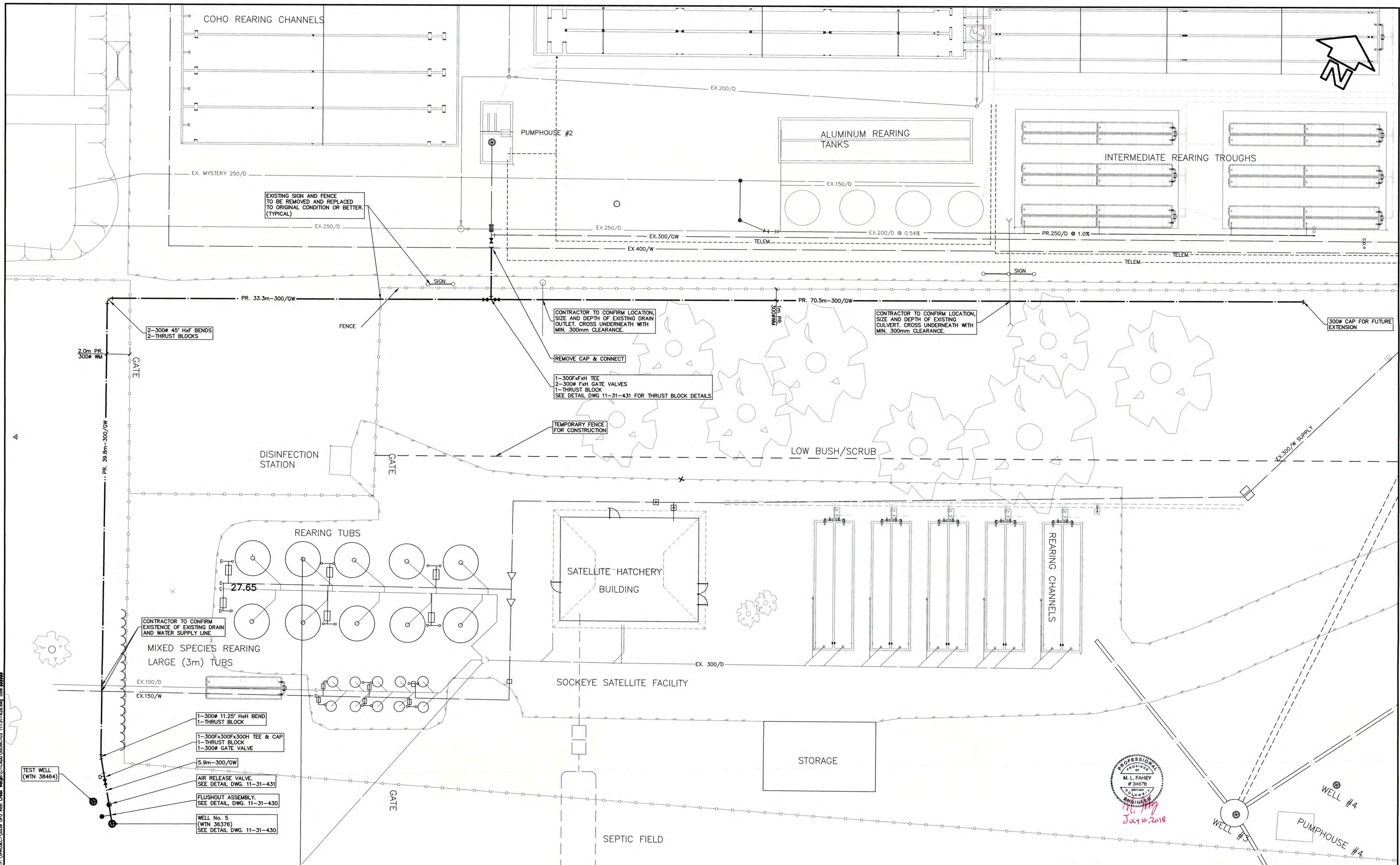
SCALE	1:150
START DATE	2016-DEC-20
DRAWING NUMBER	11-31-428
REVISION	3



DWG. NO. DRAWING REFERENCES

NOTES

REVISIONS



EXISTING SIGN AND FENCE TO BE REMOVED AND REPLACED TO ORIGINAL CONDITION OR BETTER. (TYPICAL)

CONTRACTOR TO CONFIRM LOCATION, SIZE AND DEPTH OF EXISTING DRAIN OUTLET, CROSS UNDERNEATH WITH MIN. 300mm CLEARANCE.

CONTRACTOR TO CONFIRM LOCATION, SIZE AND DEPTH OF EXISTING CULVERT, CROSS UNDERNEATH WITH MIN. 300mm CLEARANCE.

REMOVE CAP & CONNECT
1-300FxFH TEE
2-300F FxH GATE VALVES
1-THRUST BLOCK
SEE DETAIL DWG 11-31-431 FOR THRUST BLOCK DETAILS

TEMPORARY FENCE FOR CONSTRUCTION

CONTRACTOR TO CONFIRM EXISTENCE OF EXISTING DRAIN AND WATER SUPPLY LINE

MIXED SPECIES REARING LARGE (3m) TUBS

1-300# 11.25" HxH BEND
1-THRUST BLOCK
1-300Fx300FxFH TEE & CAP
1-THRUST BLOCK
1-300# GATE VALVE

5.9m-300/GW

AIR RELEASE VALVE. SEE DETAIL DWG. 11-31-431

FLUSHOUT ASSEMBLY. SEE DETAIL DWG. 11-31-430

WELL No. 5 (WTN 36376) SEE DETAIL DWG. 11-31-430

TEST WELL (WTN 36464)

PROFESSIONAL ENGINEER
M. L. FAHEY
54678
July 10, 2018

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

INCH CREEK HATCHERY
WELL #5 WATER SUPPLY AND DRAINAGE UPGRADES

PROPOSED WATER SUPPLY LINE

SCALE: 1:150
START DATE: 2016-DEC-21
DRAWING NUMBER: 11-31-429
REVISION: 3

1. INVERTS ON THESE DRAWINGS USE HATCHERY DATUM. HATCHERY DATUM RELATES TO AERATION TOWER SLAB AT 27.95m IN REFERENCE DRAWING #11-31-349. HATCHERY DATUM = GEODETTIC DATUM (UTM NAD83) + 17.80m

NO.	DATE	REVISIONS
3	2018-JUL-10	RE-ISSUED FOR TENDER
2	2018-MAR-01	ISSUED FOR TENDER
1	2016-DEC-21	ISSUED FOR DFO REVIEW

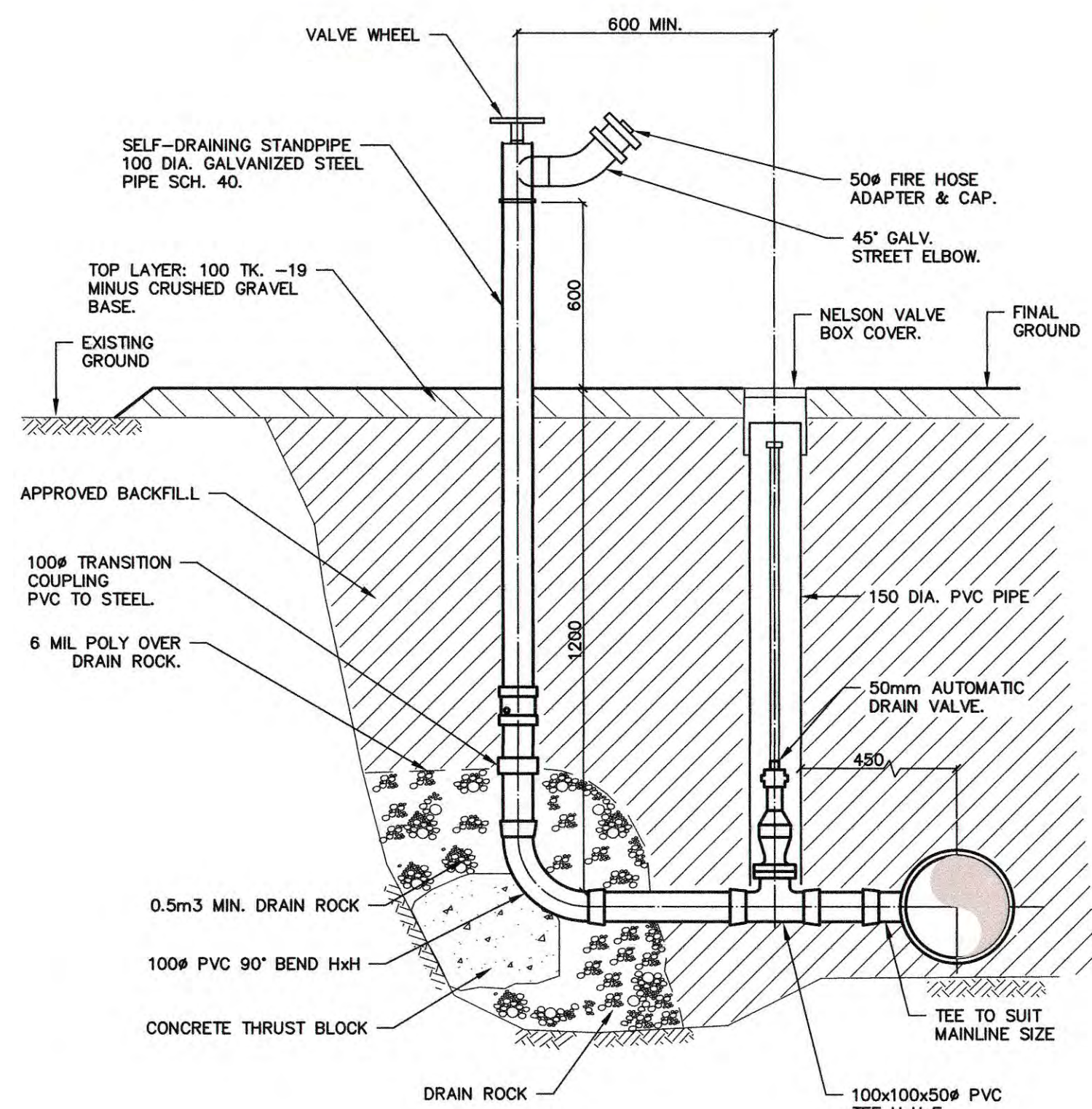
DESIGNED	SD
DRAWN	JW
CHECKED	MF
RECOMMENDED	
APPROVED	

DWG. NO.	DRAWING REFERENCES

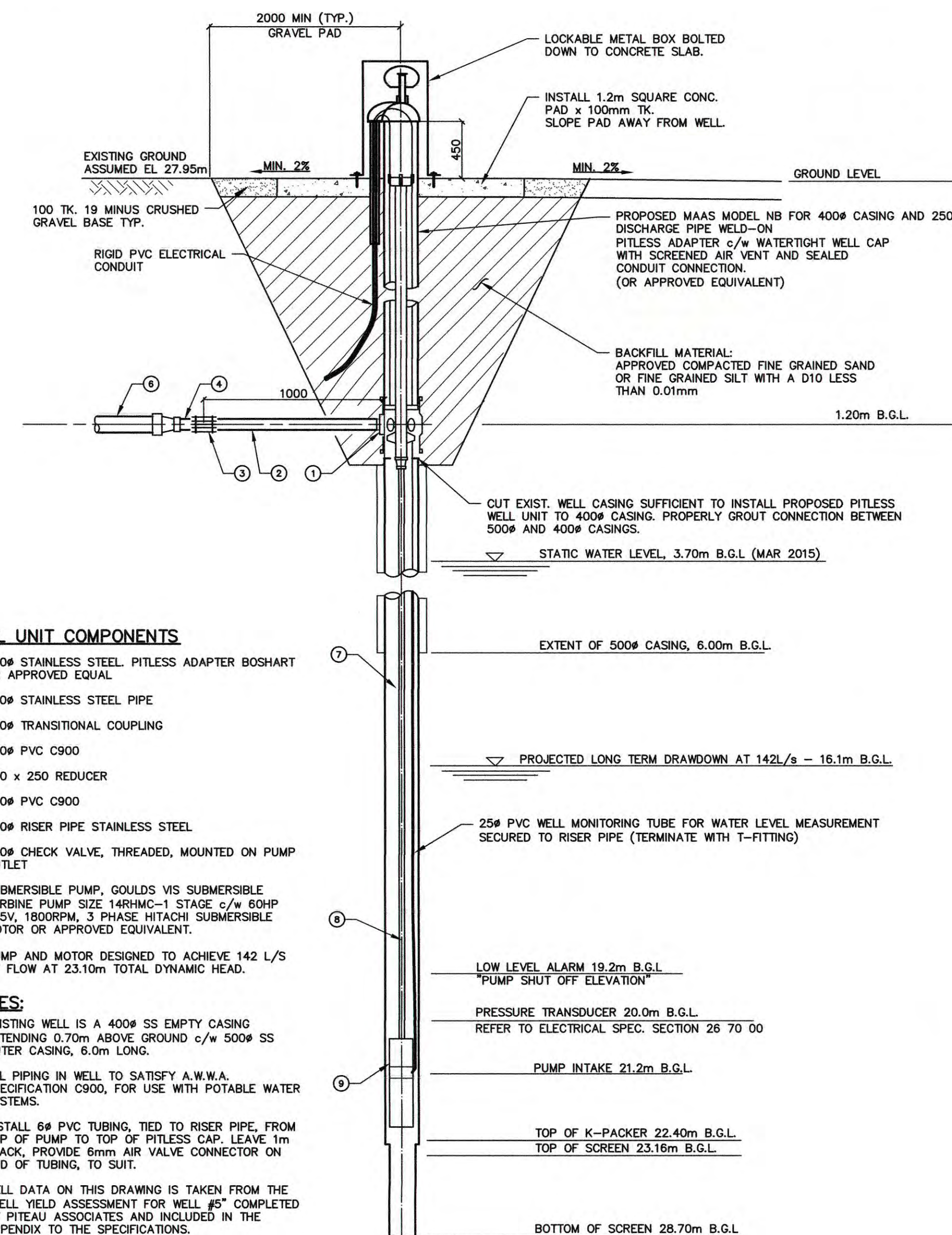
DNA
project managers
planners
engineers
architects
David Nairne - Associates Ltd

NOTES

Plotted by: M.L. Fahey, File Date: 10-Jul-18 Path: \\msn01\proj\11-31-429\11-31-429.dwg Size: 44444
 Project: 11-31-429 Job: 11-31-429 Date: 11-31-429



WELL FLUSHOUT AND SELF-DRAINING VALVE
N.T.S.



WELL UNIT COMPONENTS

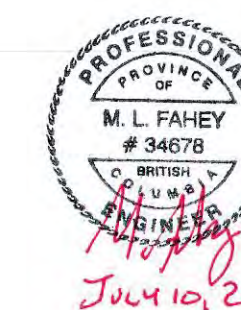
- 250# STAINLESS STEEL PITLESS ADAPTER BOSHAUT OR APPROVED EQUAL
- 250# STAINLESS STEEL PIPE
- 250# TRANSITIONAL COUPLING
- 250# PVC C900
- 300 x 250 REDUCER
- 300# PVC C900
- 250# RISER PIPE STAINLESS STEEL
- 250# CHECK VALVE, THREADED, MOUNTED ON PUMP OUTLET
- SUBMERSIBLE PUMP, GOULDS VIS SUBMERSIBLE TURBINE PUMP SIZE 14R1M0-1 STAGE c/w 80HP 575V, 1800RPM, 3 PHASE HITACHI SUBMERSIBLE MOTOR OR APPROVED EQUIVALENT.
- PUMP AND MOTOR DESIGNED TO ACHIEVE 142 L/S OF FLOW AT 23.10m TOTAL DYNAMIC HEAD.

NOTES:

- EXISTING WELL IS A 400# SS EMPTY CASING EXTENDING 0.70m ABOVE GROUND c/w 500# SS OUTER CASING, 8.0m LONG.
- ALL PIPING IN WELL TO SATISFY A.W.W.A. SPECIFICATION C900, FOR USE WITH POTABLE WATER SYSTEMS.
- INSTALL 6# PVC TUBING, TIED TO RISER PIPE, FROM TOP OF PUMP TO TOP OF PITLESS CAP. LEAVE 1m SLACK, PROVIDE 6mm AIR VALVE CONNECTOR ON END OF TUBING, TO SUIT.
- WELL DATA ON THIS DRAWING IS TAKEN FROM THE "WELL YIELD ASSESSMENT FOR WELL #5" COMPLETED BY PITEAU ASSOCIATES AND INCLUDED IN THE APPENDIX TO THE SPECIFICATIONS.
- ALL PUMP EQUIPMENT AND MATERIALS TO BE CLEANED AND FREE FROM DIRT, GREASE, GRIME AND ANY OTHER DELETERIOUS OR HAZARDOUS MATERIAL PRIOR TO INSTALLATION.

TYPICAL WELL #5 DETAIL
N.T.S.

NOTE: B.G.L. = BELOW GROUND LEVEL.

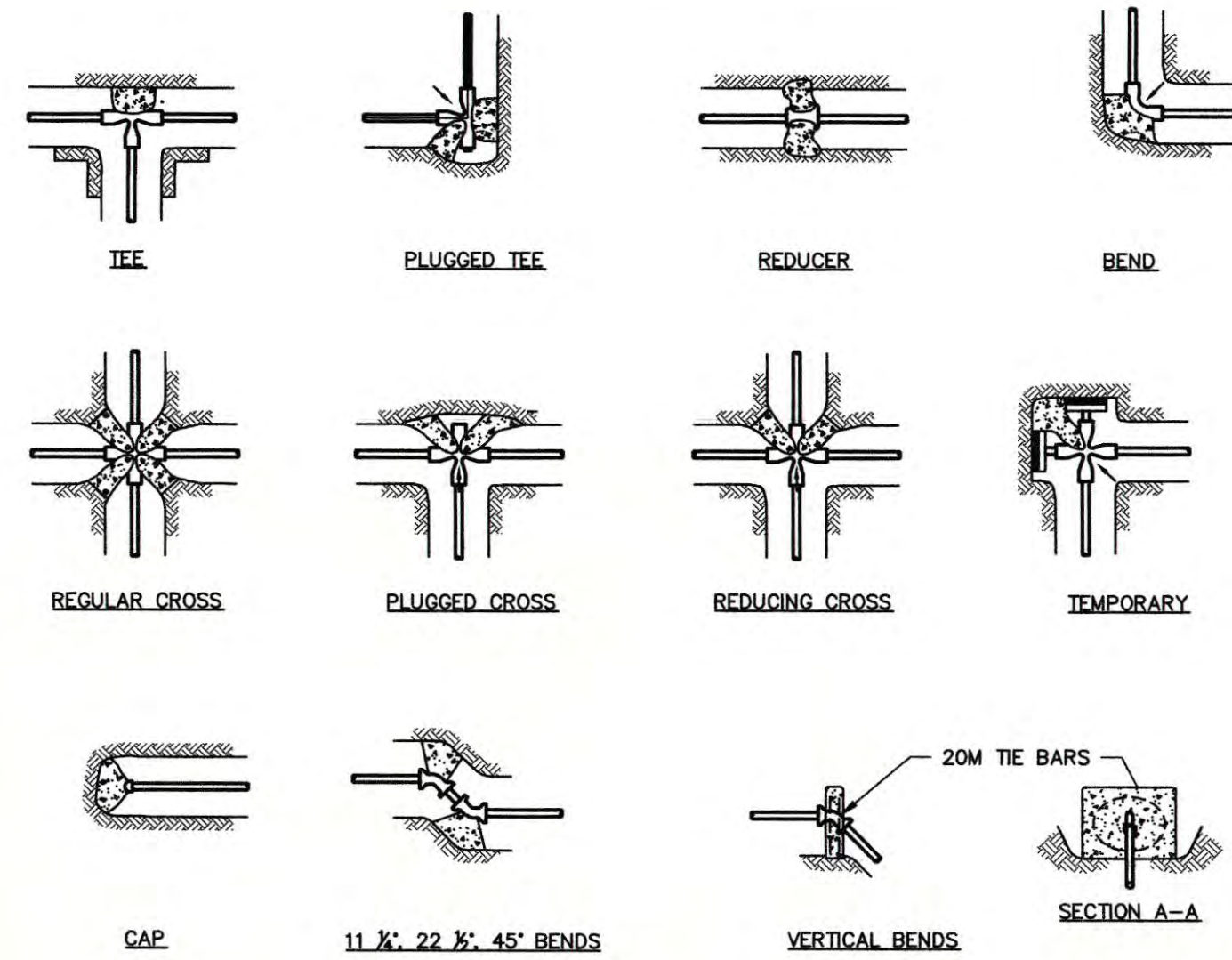


Plotted by: Neil Courtney Plot Date: 10-Jul-18 Path: \\na\projects\1803\1803-001\1803-001.dwg Sheet: 11-31-430 of 11-31-430



1. INVERTS ON THESE DRAWINGS USE HATCHERY DATUM. HATCHERY DATUM RELATES TO AERATION TOWER SLAB AT 27.95m IN REFERENCE DRAWING #11-31-349. HATCHERY DATUM = GEODETIC DATUM (UTM NAD83) + 17.80m

DWG. NO.		DRAWING REFERENCES		NOTES		NO.		DATE		REVISIONS		FISHERIES AND OCEANS CANADA REAL PROPERTY AND SAFETY AND SECURITY INCH CREEK HATCHERY WELL #5 WATER SUPPLY AND DRAINAGE UPGRADES WELL #5 DETAILS		SCALE N.T.S. START DATE 2016-NOV-25 DRAWING NUMBER 11-31-430 REVISION 3	
										DESIGNED SD DRAWN JW CHECKED MF RECOMMENDED APPROVED					
						3		2018-JUL-10		RE-ISSUED FOR TENDER					
						2		2018-MAR-01		ISSUED FOR TENDER					
						1		2016-DEC-21		ISSUED FOR DFO REVIEW					



THRUST BLOCK DETAILS

THRUST (kg) 690 kPa WATER PRESSURE
TABLE No.1

SIZE OF PIPE	TEE	90°	BENDS 45°	22 1/2°
100	840	1184	644	327
150	1724	2436	1320	667
200	2985	4218	2286	1157
250	4876	6895	3738	1892
300	6945	9816	5316	2694

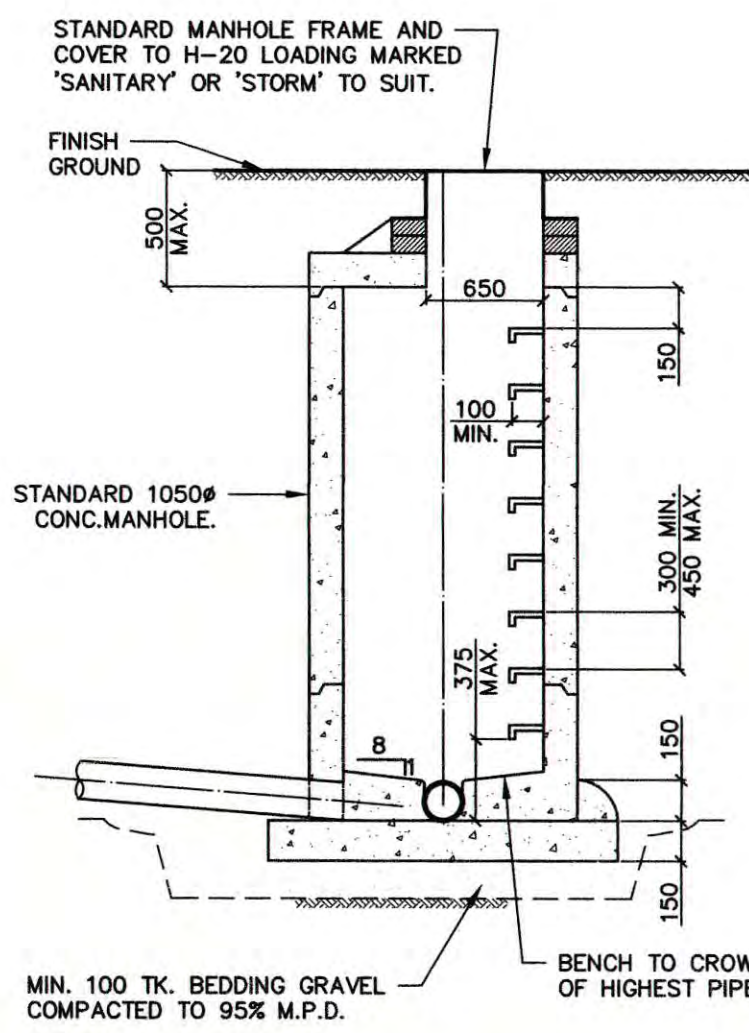
SAFE BEARING LOAD OF SOIL
TABLE No.2

SOIL TYPE	LOAD (kg/m ²)
MUCK PEAT ETC.	0
SOFT CLAY	2450
SAND	4900
SAND & GRAVEL	7350
SAND & GRAVEL WITH CLAY	9800
SHALE	24,500

IF TEST PRESSURE IS 1034 kPa THEN ALL FIG. IN TABLE No.1 ARE MULTIPLIED BY 1.5.
IF TEST PRESSURE IS 1379 kPa THEN ALL FIG. IN TABLE No.1 ARE MULTIPLIED BY 2.0.

NOTE:

1. ALL THRUST BLOCKS TO EXTEND TO SOLID BEARING
2. ALL LOCATIONS AND SIZES OF THRUST BLOCKS TO BE TO THE APPROVAL OF THE ENGINEER.
3. PLACE 6mm POLYETHYLENE ON INTERFACE BETWEEN CONCRETE & FITTING.
4. PLACE 20 MPa CONCRETE AGAINST UNDISTURBED GROUND; KEEP CONCRETE CLEAR OF FITTING JOINTS.
5. CONCRETE TO BE IN ACCORDANCE WITH CURRENT C.S.A. A-23.



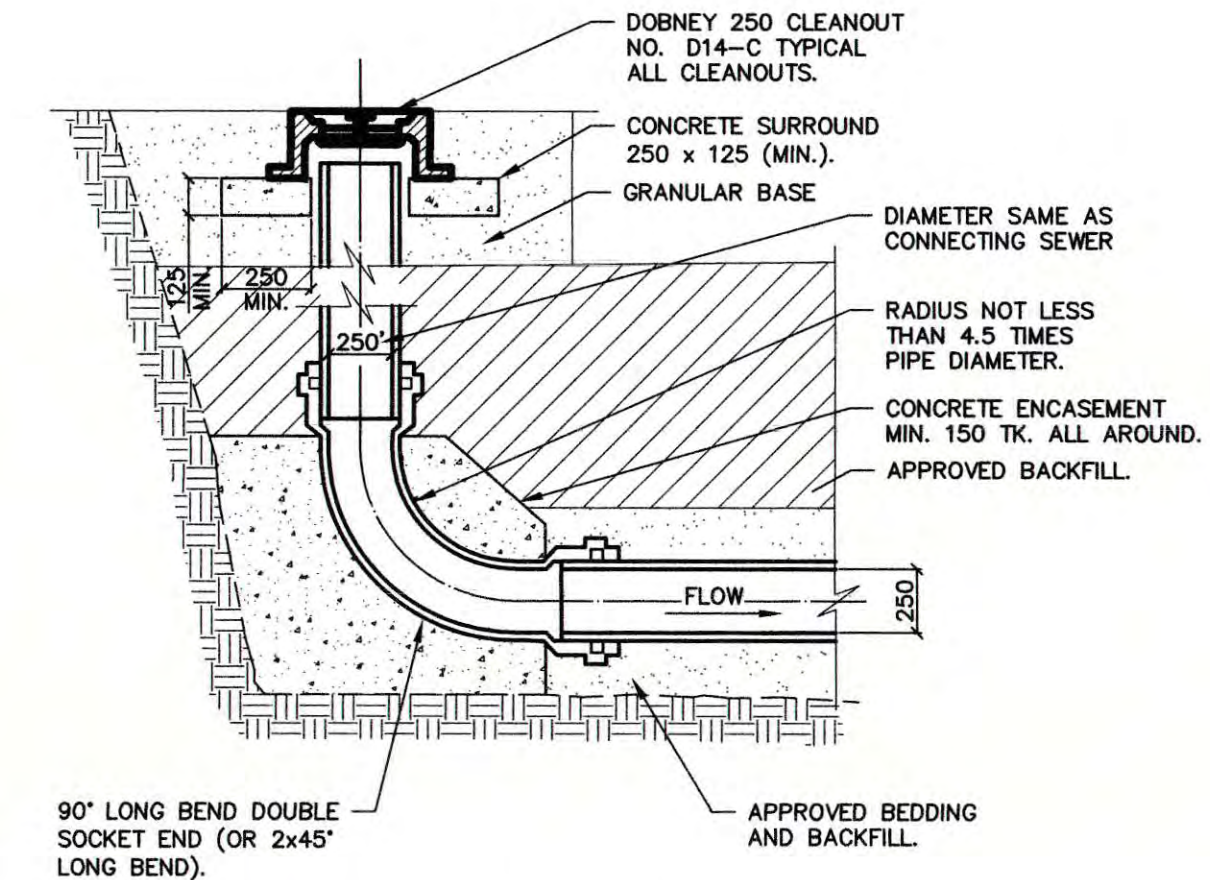
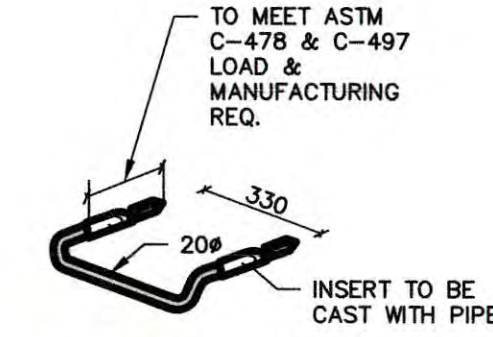
TYPICAL MANHOLE DETAIL

N.T.S.

NOTES:

1. DETAILS ARE DRAWN FOR PRECAST RISERS ON CAST IN PLACE BASE. PRECAST BASES APPROVED BY ENGINEER ARE ACCEPTABLE.
2. MAXIMUM DEPTH TO FIRST RUNG IS 500mm. WHEN HANDHOLD IS INSTALLED BETWEEN TOP AND FIRST RUNG, MAXIMUM DEPTH MAY BE INCREASED TO 650mm.
3. FOR MANHOLES OVER 1200# BASE THICKNESS TO BE 200.
4. CONCRETE COVER SLAB OR CONE TO BE REINFORCED TO MEET H20 LOADING REQUIREMENTS.
5. ALL JOINTS TO BE WATERTIGHT MORTAR THROUGHOUT.

INSIDE PIPE DIA.	INSIDE MANHOLE DIA.
450# AND LESS	1050#
525# AND 600#	1200#
675# AND 750#	1350#
900# AND 1050#	1500#
1200# AND OVER	RISER MANHOLE

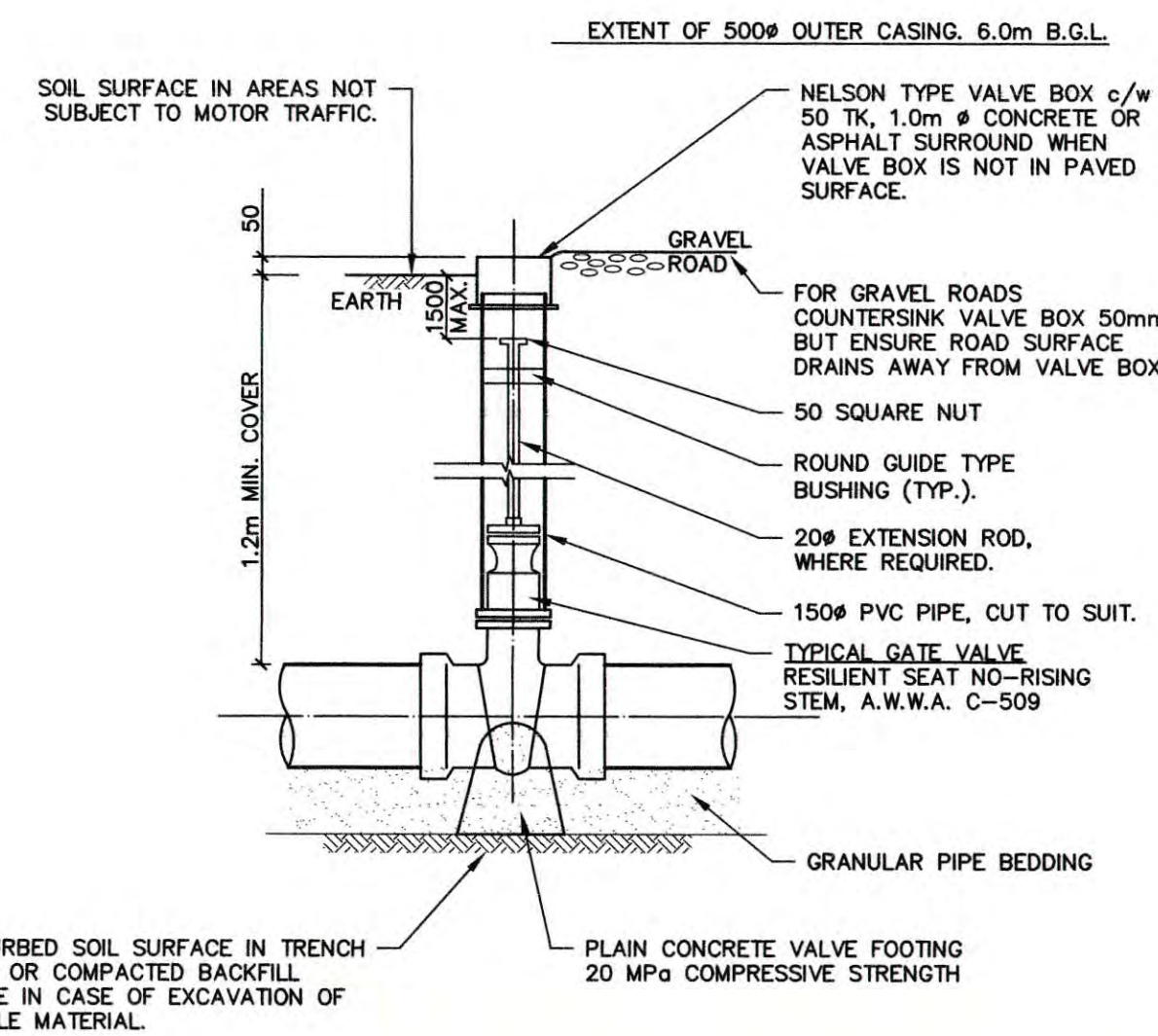


CLEANOUT DETAIL

N.T.S.

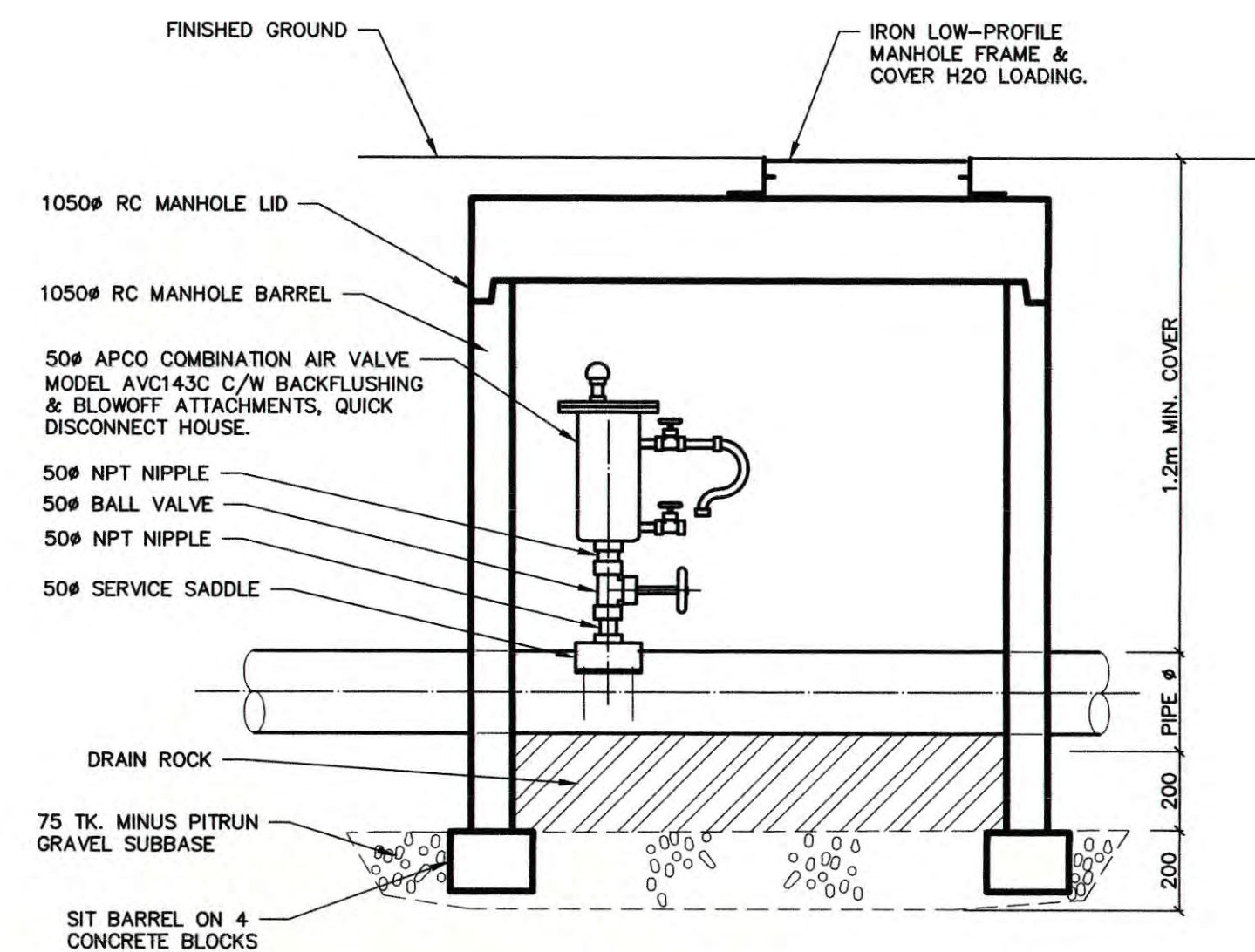
NOTE:

1. ALL PIPE FITTINGS PVC DR28 c/w GASKETS.



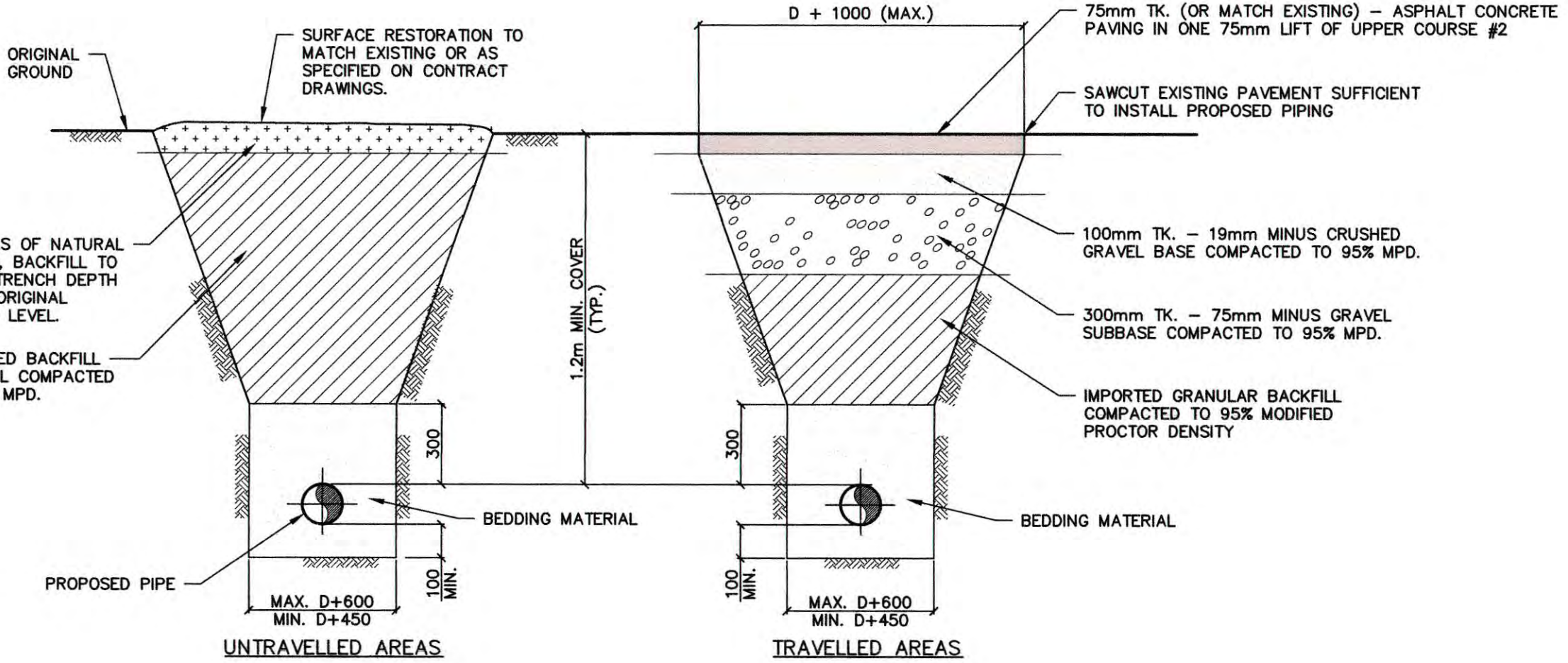
GATE VALVE DETAIL

N.T.S.



AIR VALVE CHAMBER

N.T.S.



TYPICAL TRENCH DETAILS

N.T.S.

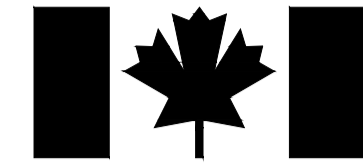
NOTES:

1. ALL BACKFILL SHALL BE WELL COMPACTED.
2. ALL TRENCHES SHALL BE EXCAVATED IN ACCORDANCE WITH W.C.B. REGULATIONS.



Plotted by: Neil Courtney, Plot date: [D:\j\18 Proj\Finance\1\PROJECT\1039 DFO Inch Creek Well\10-C-001\10390204_11-31-431-431.dwg Size: 444KB]

	<p>DNA project managers planners engineers architects David Nairne + Associates Ltd</p>	<p>1. INVERTS ON THESE DRAWINGS USE HATCHERY DATUM. HATCHERY DATUM RELATES TO AERATION TOWER SLAB AT 27.95m IN REFERENCE DRAWING #11-31-349. HATCHERY DATUM = GEODETIC DATUM (UTM NAD83) + 17.80m</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>DESIGNED</td><td>SD</td></tr> <tr><td>DRAWN</td><td>JW</td></tr> <tr><td>CHECKED</td><td>MF</td></tr> <tr><td>RECOMMENDED</td><td></td></tr> <tr><td>APPROVED</td><td></td></tr> </table>	DESIGNED	SD	DRAWN	JW	CHECKED	MF	RECOMMENDED		APPROVED		<p>FISHERIES AND OCEANS CANADA REAL PROPERTY AND SAFETY AND SECURITY</p> <p style="font-size: 1.2em; font-weight: bold;">INCH CREEK HATCHERY WELL #5 WATER SUPPLY AND DRAINAGE UPGRADES</p> <p style="font-size: 1.2em; font-weight: bold;">MISCELLANEOUS DETAILS</p>	<p>SCALE N.T.S.</p> <p>START DATE 2016-NOV-25</p> <p>DRAWING NUMBER 11-31-431</p> <p>REVISION 3</p>
DESIGNED	SD														
DRAWN	JW														
CHECKED	MF														
RECOMMENDED															
APPROVED															
DWG. NO.	DRAWING REFERENCES	NOTES	NO. DATE REVISIONS												

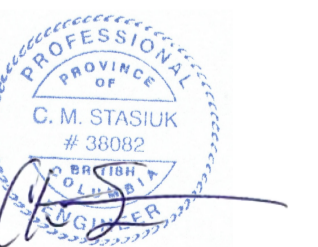


FISHERIES AND OCEANS CANADA

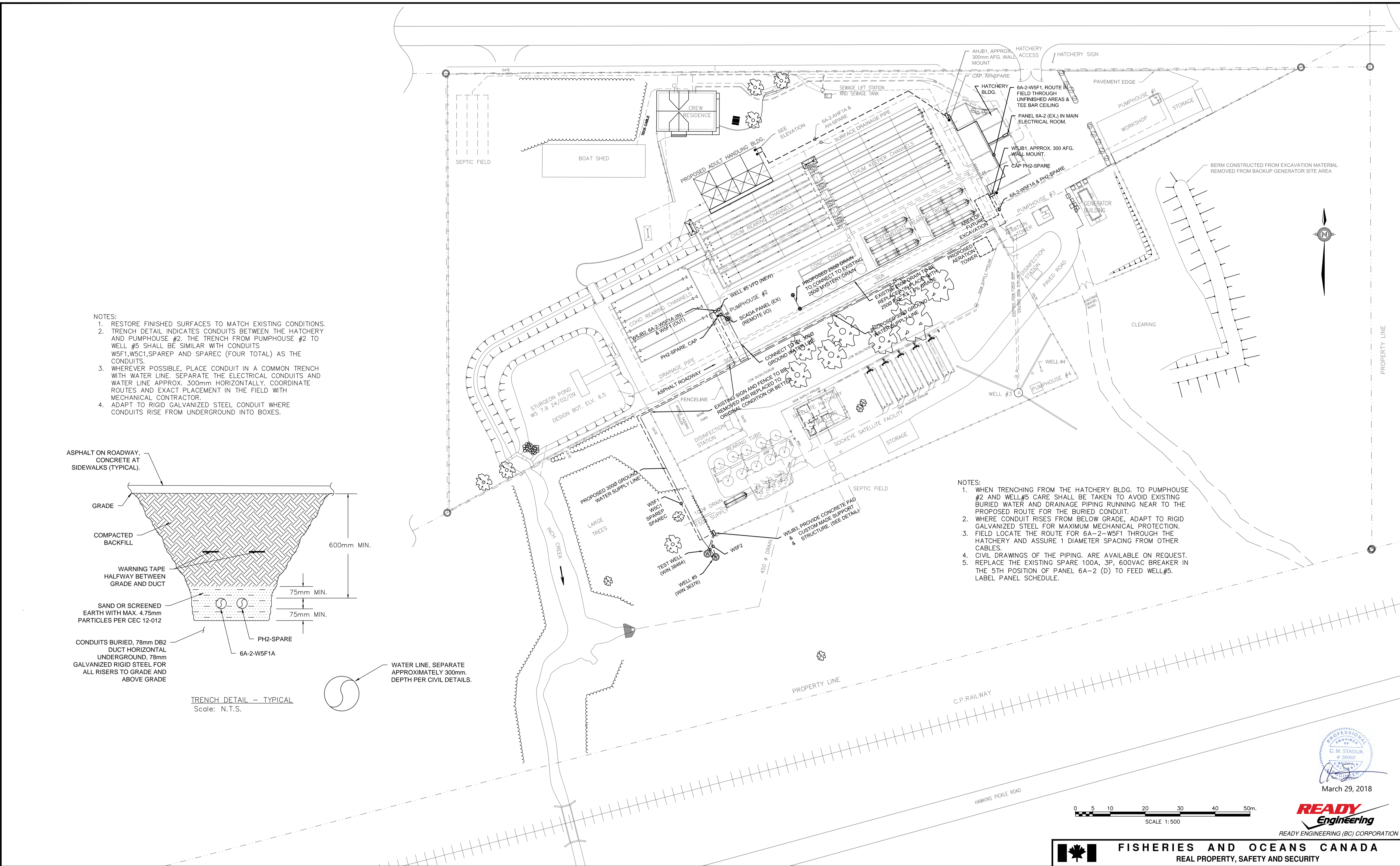
INCH CREEK HATCHERY-WELL #5 WATER SUPPLY & DRAINAGE UPGRADES

LIST OF ELECTRICAL AND CONTROL DRAWINGS

<u>DRAWING #</u>	<u>DRAWING TITLE</u>
11-31-471 REV 0	ELECTRICAL SITE PLAN
11-31-472 REV 0	SITE SINGLE LINE DIAGRAM
11-31-473 REV 0	PH2 LAYOUT & SYSTEM BLOCK DIAGRAM
11-31-474 REV 0	WELL #5 SCHEMATIC DIAGRAM

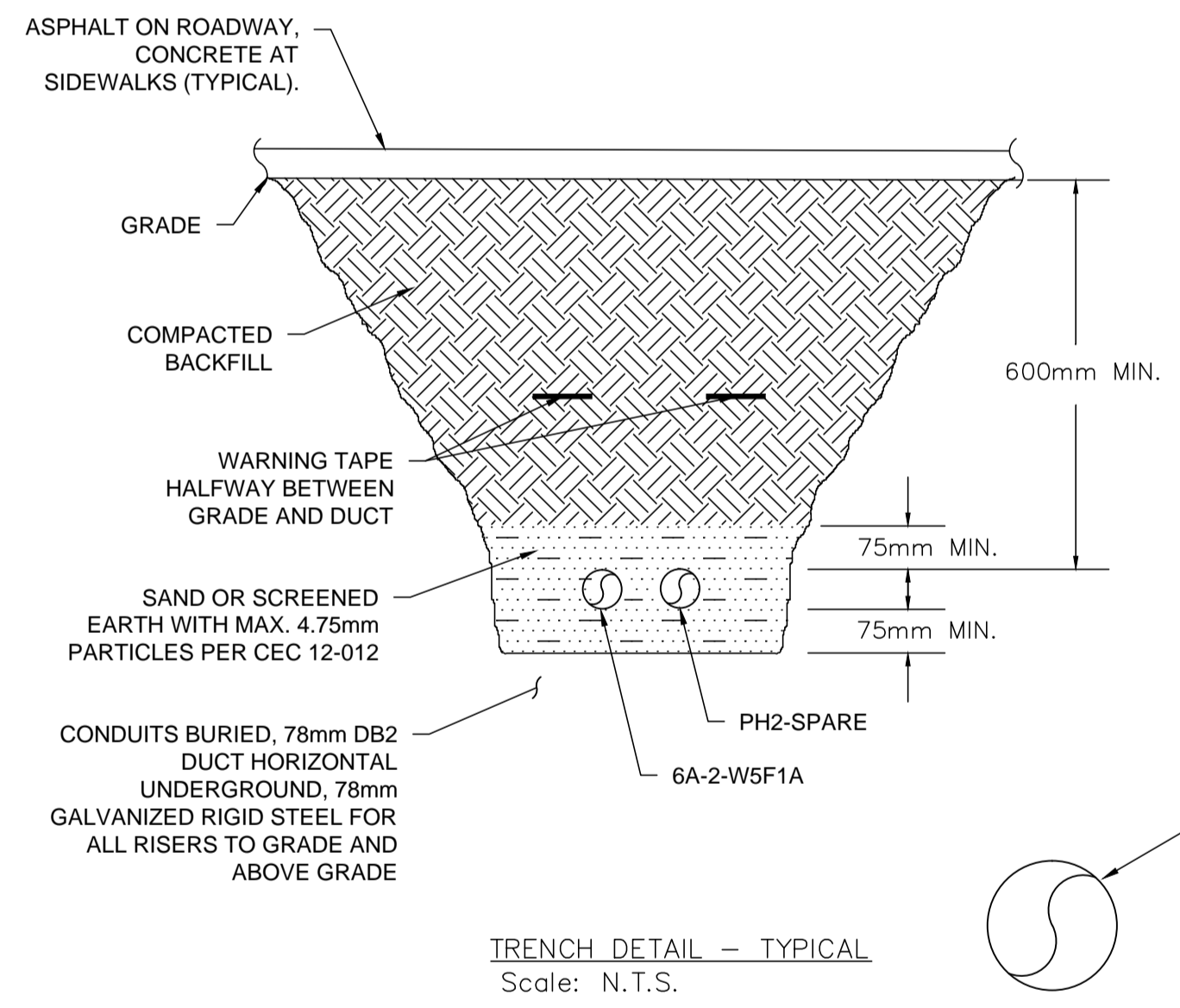


March 29, 2018



- NOTES:
1. RESTORE FINISHED SURFACES TO MATCH EXISTING CONDITIONS.
 2. TRENCH DETAIL INDICATES CONDUITS BETWEEN THE HATCHERY AND PUMPHOUSE #2. THE TRENCH FROM PUMPHOUSE #2 TO WELL #5 SHALL BE SIMILAR WITH CONDUITS WSF1, WSF1, SPAREP AND SPAREC (FOUR TOTAL) AS THE CONDUITS.
 3. WHEREVER POSSIBLE, PLACE CONDUIT IN A COMMON TRENCH WITH WATER LINE. SEPARATE THE ELECTRICAL CONDUITS AND WATER LINE APPROX. 300mm HORIZONTALLY. COORDINATE ROUTES AND EXACT PLACEMENT IN THE FIELD WITH MECHANICAL CONTRACTOR.
 4. ADAPT TO RIGID GALVANIZED STEEL CONDUIT WHERE CONDUITS RISE FROM UNDERGROUND INTO BOXES.

- NOTES:
1. WHEN TRENCHING FROM THE HATCHERY BLDG. TO PUMPHOUSE #2 AND WELL#5 CARE SHALL BE TAKEN TO AVOID EXISTING BURIED WATER AND DRAINAGE PIPING RUNNING NEAR TO THE PROPOSED ROUTE FOR THE BURIED CONDUIT.
 2. WHERE CONDUIT RISES FROM BELOW GRADE, ADAPT TO RIGID GALVANIZED STEEL FOR MAXIMUM MECHANICAL PROTECTION.
 3. FIELD LOCATE THE ROUTE FOR 6A-2-WSF1 THROUGH THE HATCHERY AND ASSURE 1 DIAMETER SPACING FROM OTHER CABLES.
 4. CIVIL DRAWINGS OF THE PIPING, ARE AVAILABLE ON REQUEST.
 5. REPLACE THE EXISTING SPARE 100A, 3P, 600VAC BREAKER IN THE 5TH POSITION OF PANEL 6A-2 (D) TO FEED WELL#5. LABEL PANEL SCHEDULE.

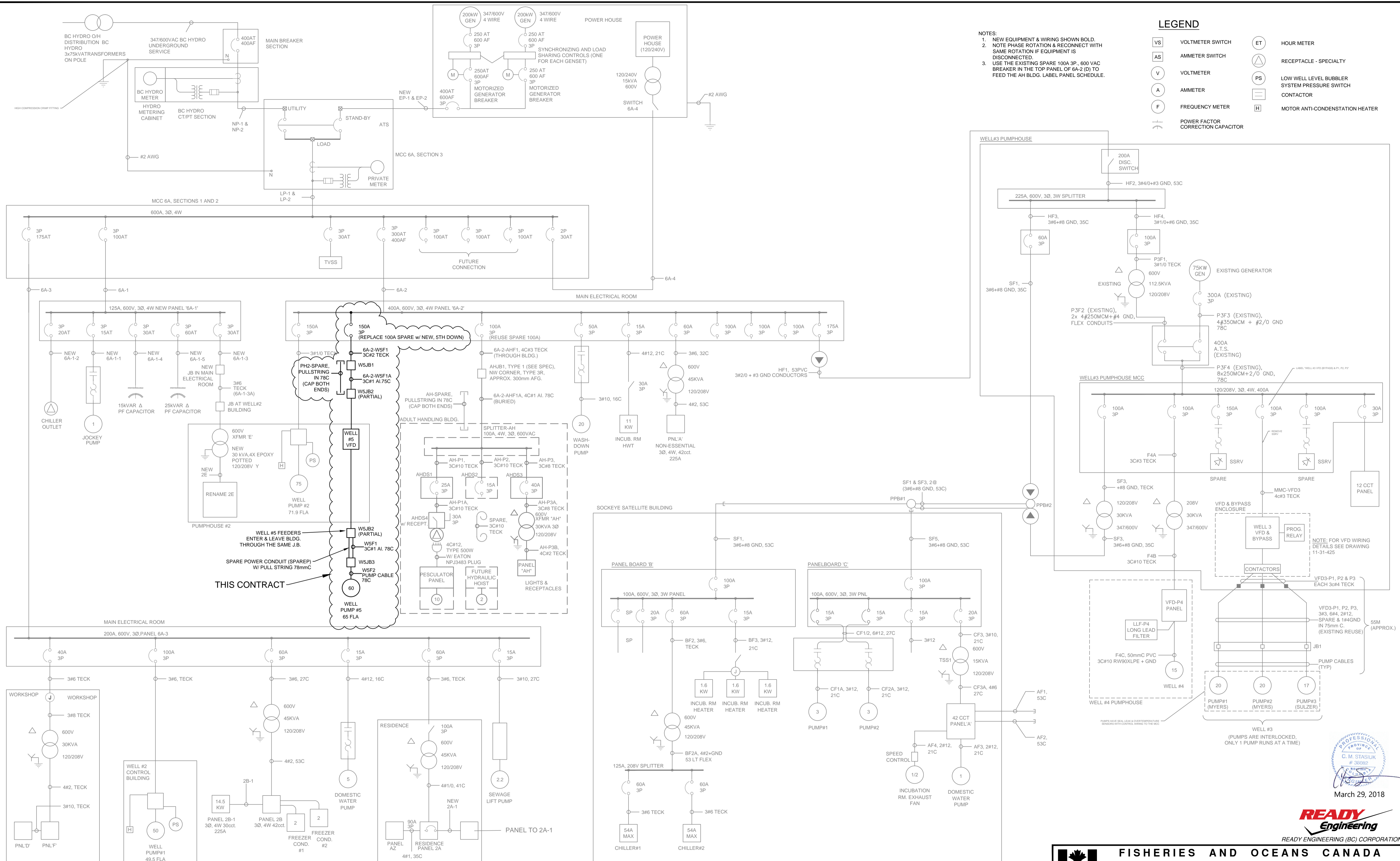


DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS
			0	29/03/18	Issued for Tender

March 29, 2018

READY ENGINEERING (BC) CORPORATION

<p>FISHERIES AND OCEANS CANADA REAL PROPERTY, SAFETY AND SECURITY</p>	<p>INCH CREEK HATCHERY WELL #5 WATER SUPPLY AND DRAINAGE UPGRADES</p>	SCALE 1:500
	<p>ELECTRICAL SITE PLAN</p>	DATE 29-MAR-18
		DRAWING NUMBER 11-31-471
		REVISION 0



NOTES:
 1. NEW EQUIPMENT & WIRING SHOWN BOLD.
 2. NOTE PHASE ROTATION & RECONNECT WITH SAME ROTATION IF EQUIPMENT IS DISCONNECTED.
 3. USE THE EXISTING SPARE 100A 3P, 600 VAC BREAKER IN THE TOP PANEL OF 6A-2 (D) TO FEED THE AH BLDG. LABEL PANEL SCHEDULE.

LEGEND

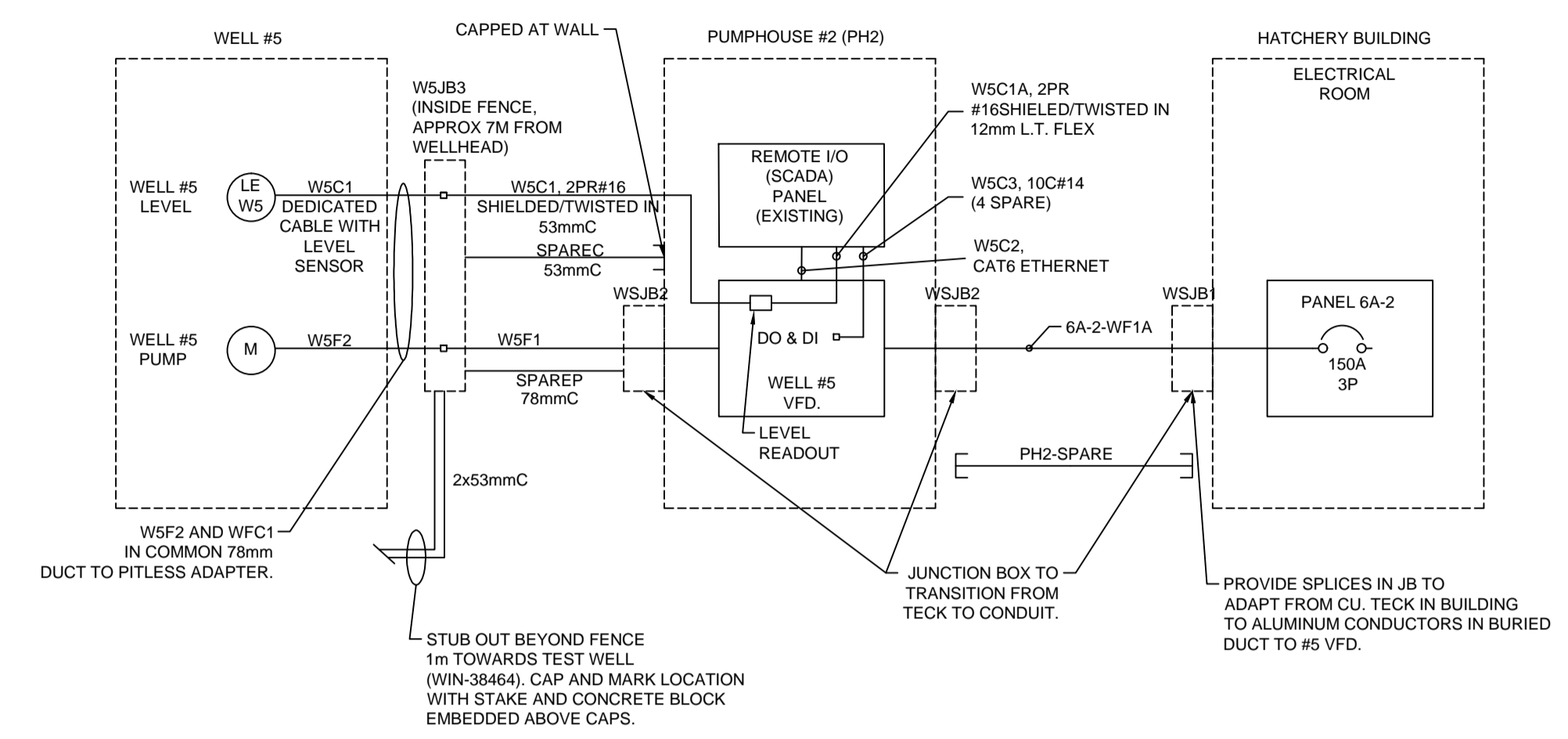
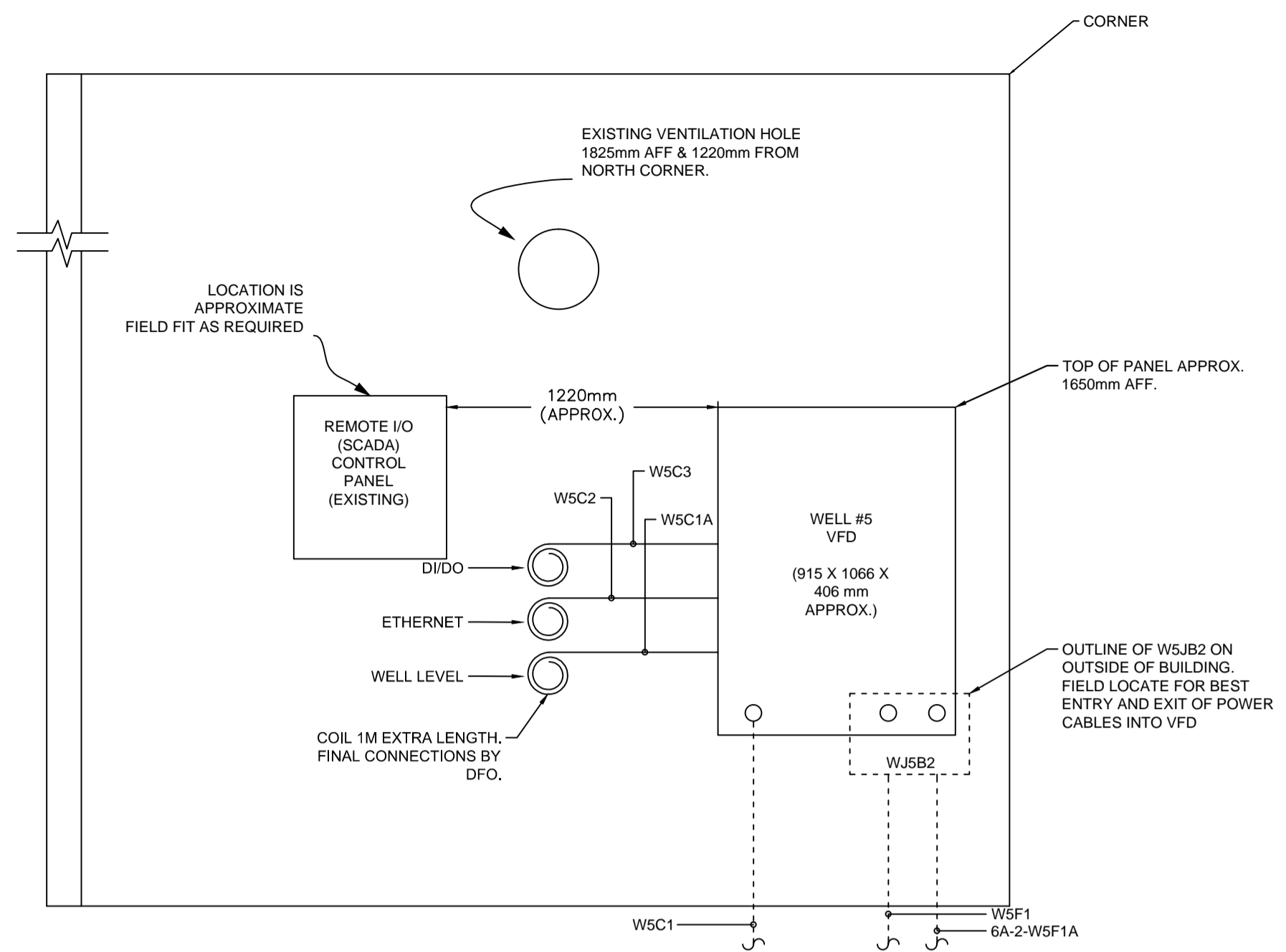
VS	VOLTMETER SWITCH	ET	HOUR METER
AS	AMMETER SWITCH	△	RECEPTACLE - SPECIALTY
V	VOLTMETER	PS	LOW WELL LEVEL BUBBLER SYSTEM PRESSURE SWITCH
A	AMMETER	□	CONTACTOR
F	FREQUENCY METER	H	MOTOR ANTI-CONDENSATION HEATER
⊥	POWER FACTOR CORRECTION CAPACITOR		

PROFESSIONAL ENGINEER
 C. M. STASIUK
 # 38082
 BC
 March 29, 2018

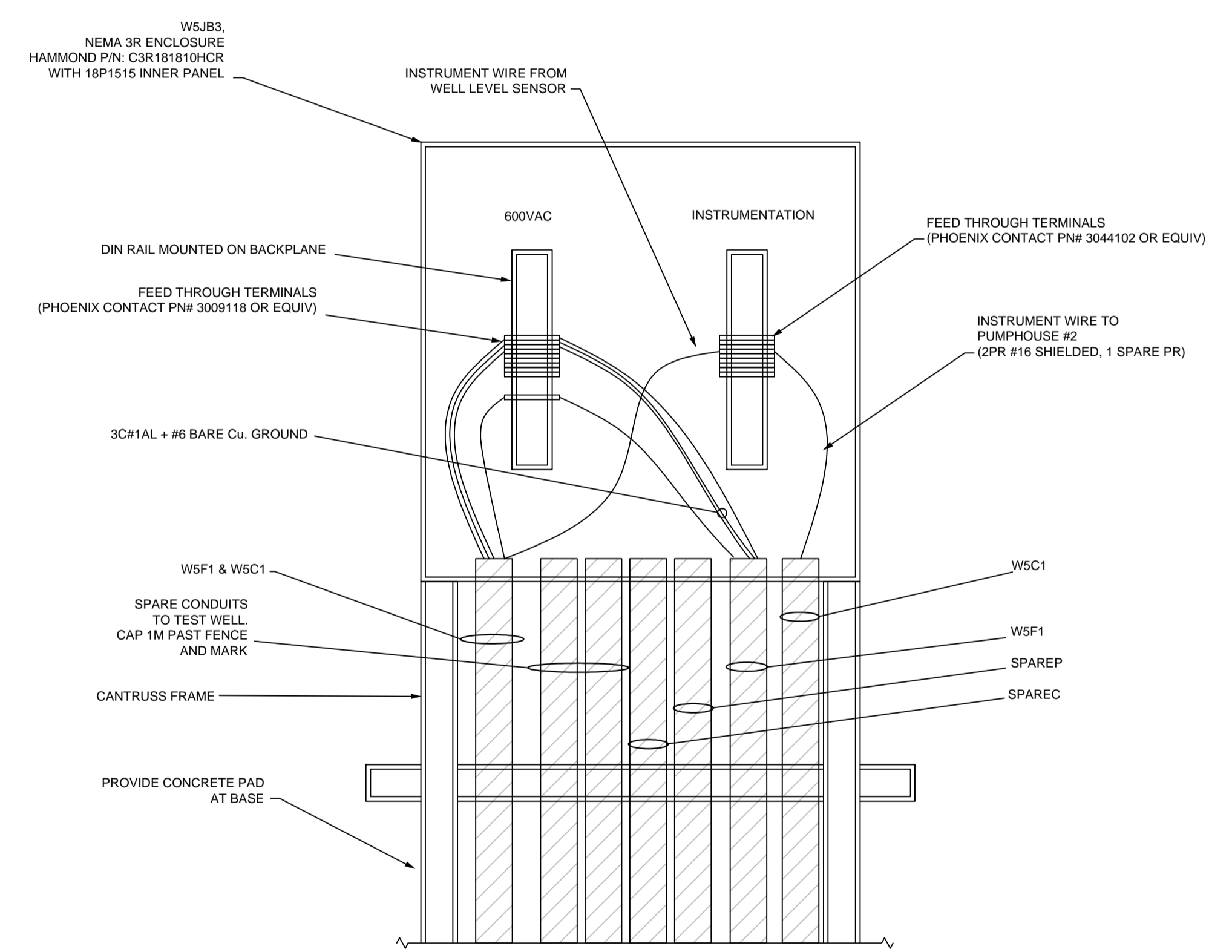
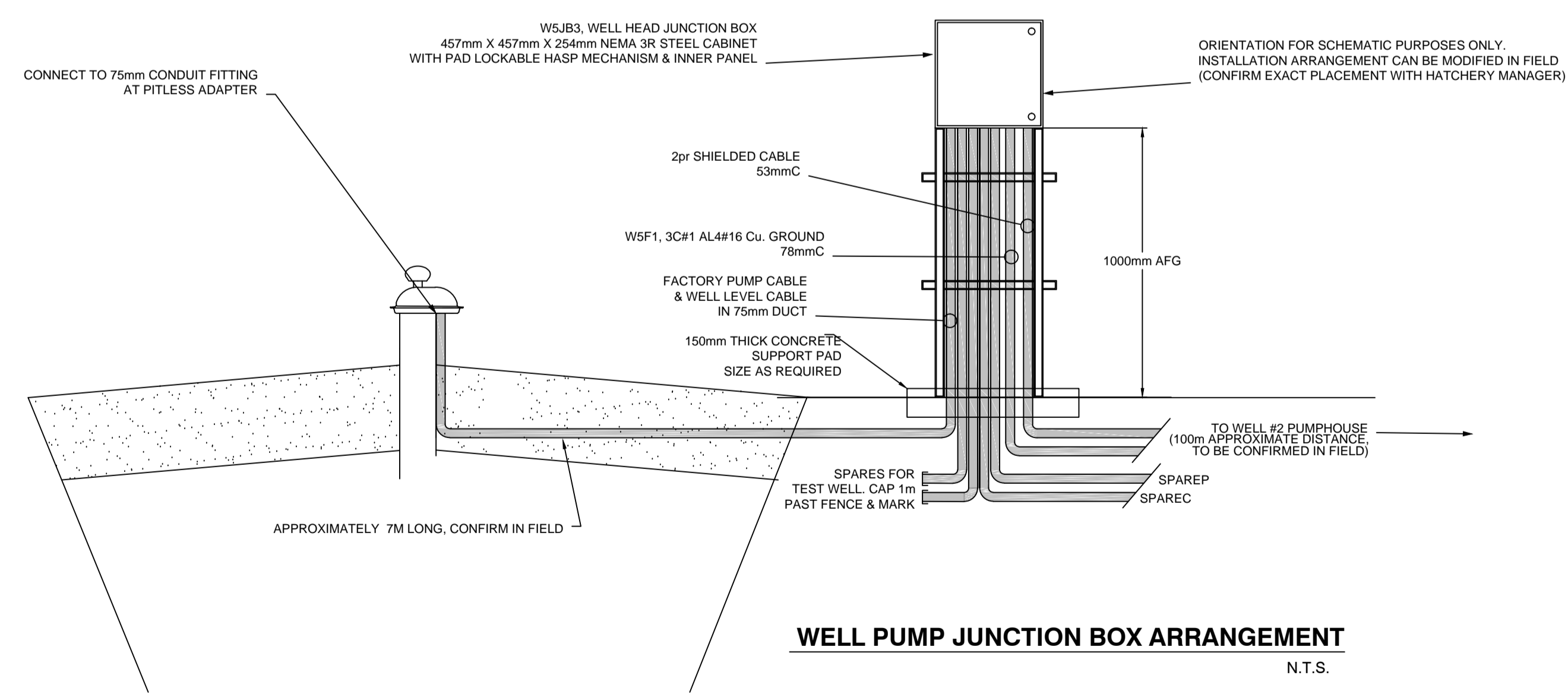
READY Engineering
 READY ENGINEERING (BC) CORPORATION
 REAL PROPERTY, SAFETY AND SECURITY

<p>FISHERIES AND OCEANS CANADA REAL PROPERTY, SAFETY AND SECURITY</p> <p>INCH CREEK HATCHERY WELL #5 WATER SUPPLY AND DRAINAGE UPGRADES</p> <p>SITE SINGLE LINE DIAGRAM</p>	SCALE	N.T.S.
	DATE	29-MAR-18
	DRAWING NUMBER	11-31-472
	REVISION	0

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS
			0	29/03/18	Issued for Tender



- NOTES:
- REFER TO SINGLE LINE DIAGRAM DRAWING 11-31-472 FOR POWER CABLE SIZES
 - COIL 1M SPARE LENGTH OF CABLES W5C1A, W5C2 & W5C3 AT REMOTE I/O (SCADA) PANEL. FINAL CONNECTIONS WILL BE BY DFO.



PROFESSIONAL ENGINEER
C. M. STASIUK
38092
March 29, 2018

READY Engineering
READY ENGINEERING (BC) CORPORATION

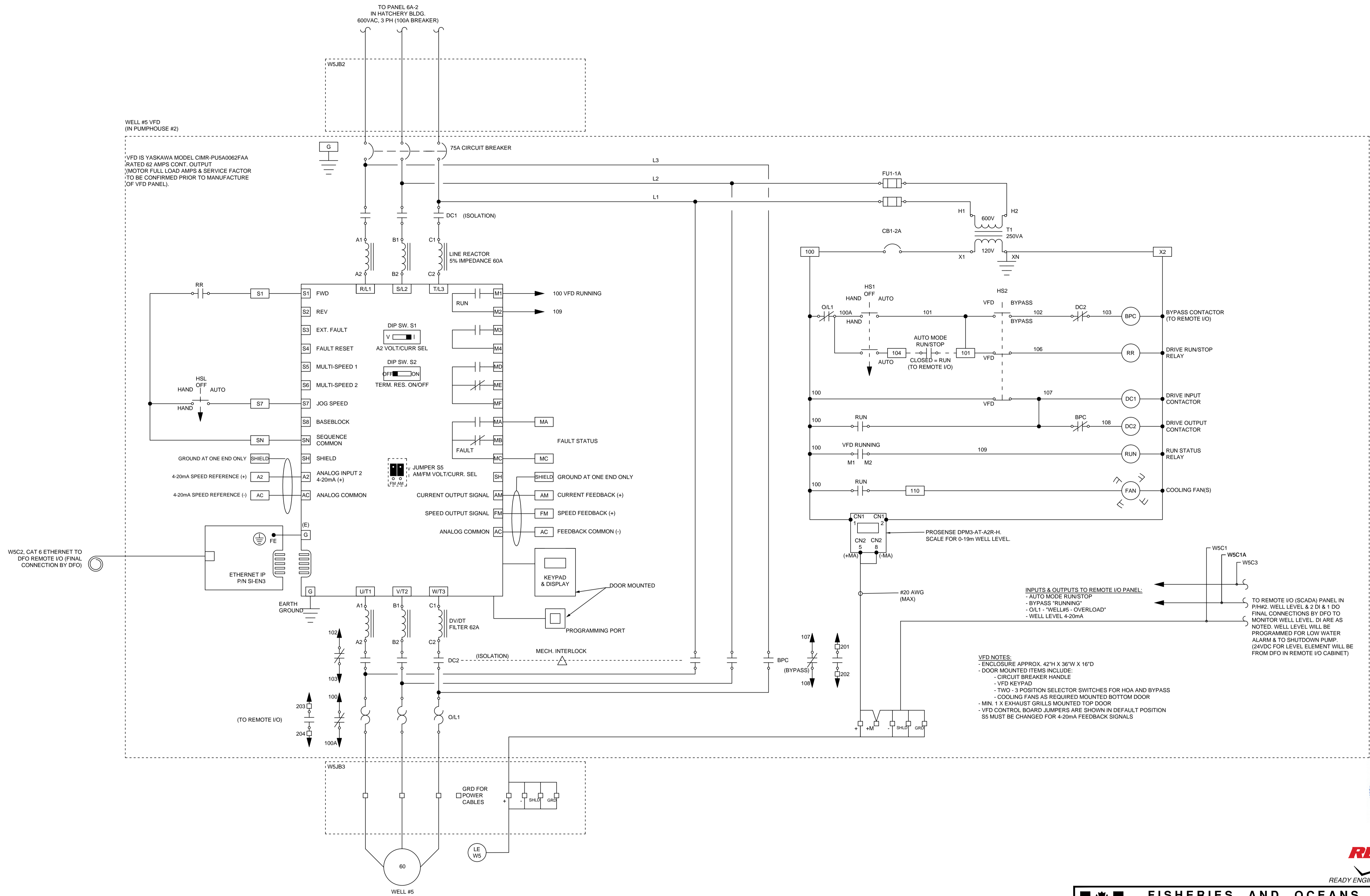
FISHERIES AND OCEANS CANADA
REAL PROPERTY, SAFETY AND SECURITY

INCH CREEK HATCHERY
WELL #5 WATER SUPPLY AND
DRAINAGE UPGRADES

SCALE
N.T.S.
DATE
29-MAR-18
DRAWING NUMBER
11-31-473
REVISION
0

PH2 LAYOUT & SYSTEM BLOCK DIAGRAM

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS
			0	29/03/18	Issued for Tender



INPUTS & OUTPUTS TO REMOTE I/O PANEL:

- AUTO MODE RUN/STOP
- BYPASS "RUNNING"
- O/L1 - "WELL#5 - OVERLOAD"
- WELL LEVEL 4-20mA

TO REMOTE I/O (SCADA) PANEL IN P#H2, WELL LEVEL & 2 DI & 1 DO
 FINAL CONNECTIONS BY DFO TO MONITOR WELL LEVEL. DI ARE AS NOTED. WELL LEVEL WILL BE PROGRAMMED FOR LOW WATER ALARM & TO SHUTDOWN PUMP. (24VDC FOR LEVEL ELEMENT WILL BE FROM DFO IN REMOTE I/O CABINET)

VFD NOTES:

- ENCLOSURE APPROX. 42"H X 36"W X 16"D
- DOOR MOUNTED ITEMS INCLUDE:
 - CIRCUIT BREAKER HANDLE
 - VFD KEYPAD
 - TWO - 3 POSITION SELECTOR SWITCHES FOR HOA AND BYPASS
- COOLING FANS AS REQUIRED MOUNTED BOTTOM DOOR
- MIN. 1" X EXHAUST GRILLS MOUNTED TOP DOOR
- VFD CONTROL BOARD JUMPERS ARE SHOWN IN DEFAULT POSITION
- SS MUST BE CHANGED FOR 4-20mA FEEDBACK SIGNALS

PROFESSIONAL ENGINEER
 C. M. STASLUK
 # 38082
 B.C. SOCIETY OF ENGINEERS
 March 29, 2018

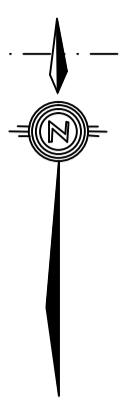


FISHERIES AND OCEANS CANADA
 REAL PROPERTY, SAFETY AND SECURITY

DESIGNED DJM	SCALE N.T.S.
DRAWN GBN	DATE 28-MAR-18
CHECKED DN/CMS	DRAWING NUMBER 11-31-474
RECOMMENDED	REVISION 0
APPROVED	
APPROVED	

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS
			0	29/03/18	Issued for Tender

REFERENCE DRAWINGS
for
Fisheries and Oceans Canada
Inch Creek Hatchery – Well #5 Water Supply and Drainage Upgrade
July 2018



140.968

19.771

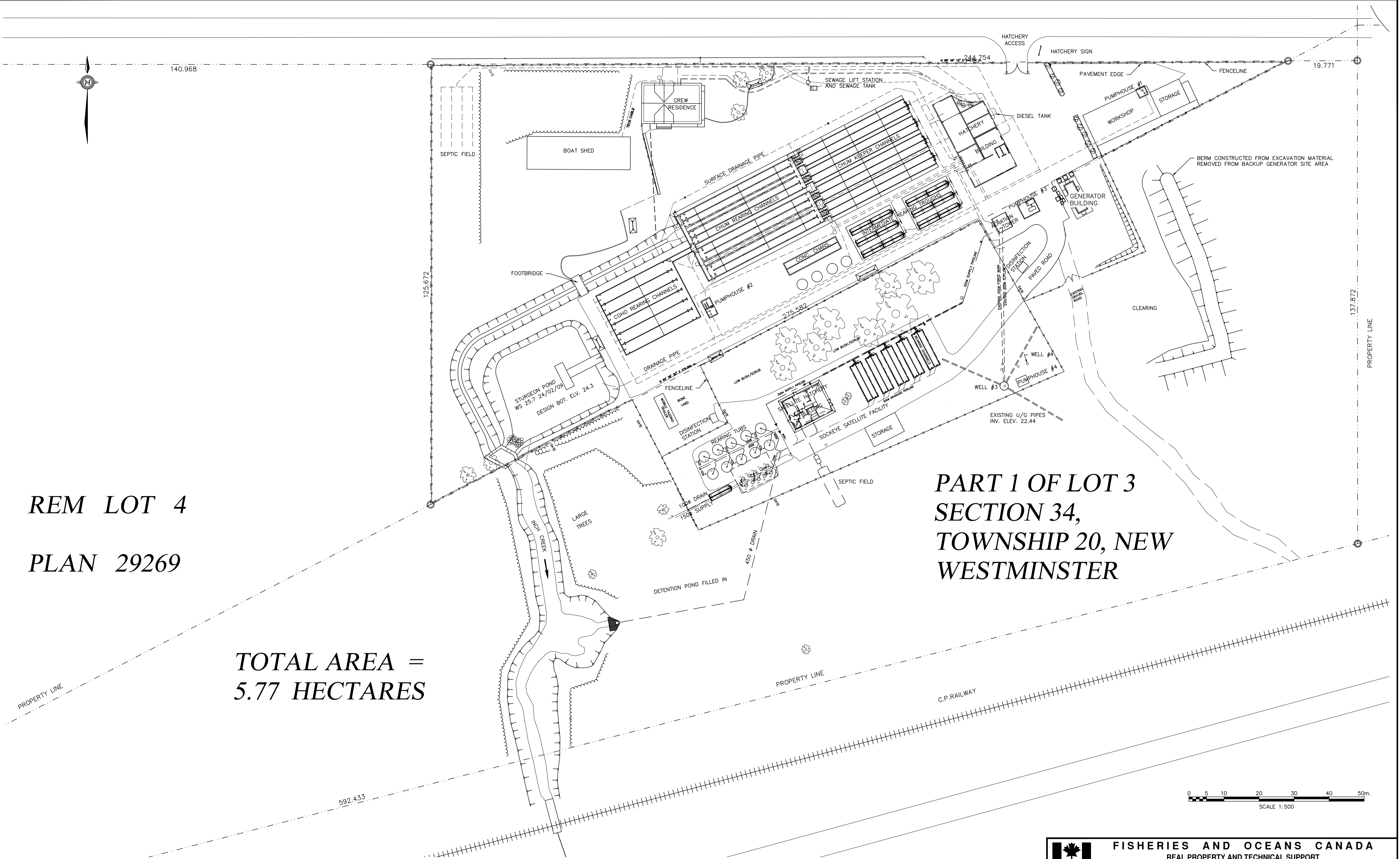
125.672

137.872

REM LOT 4
PLAN 29269

TOTAL AREA =
5.77 HECTARES

PART 1 OF LOT 3
SECTION 34,
TOWNSHIP 20, NEW
WESTMINSTER

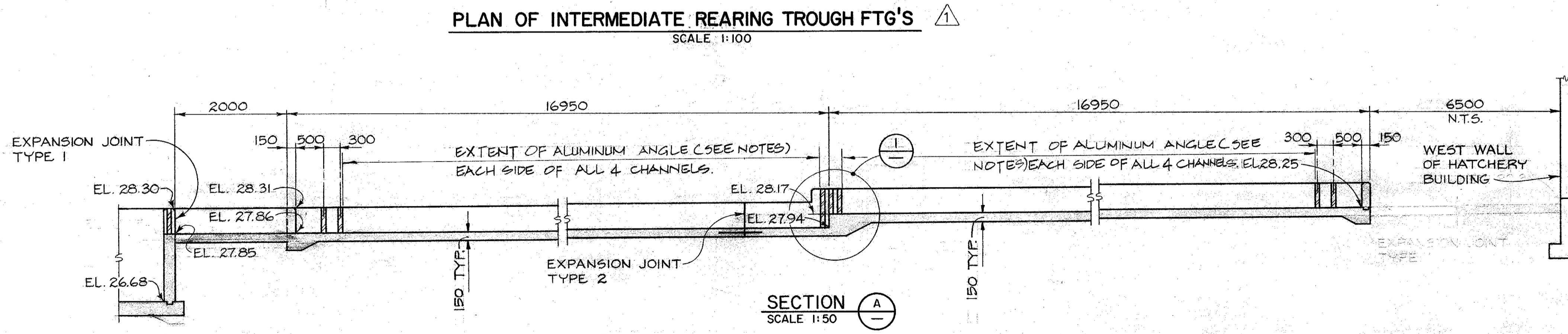
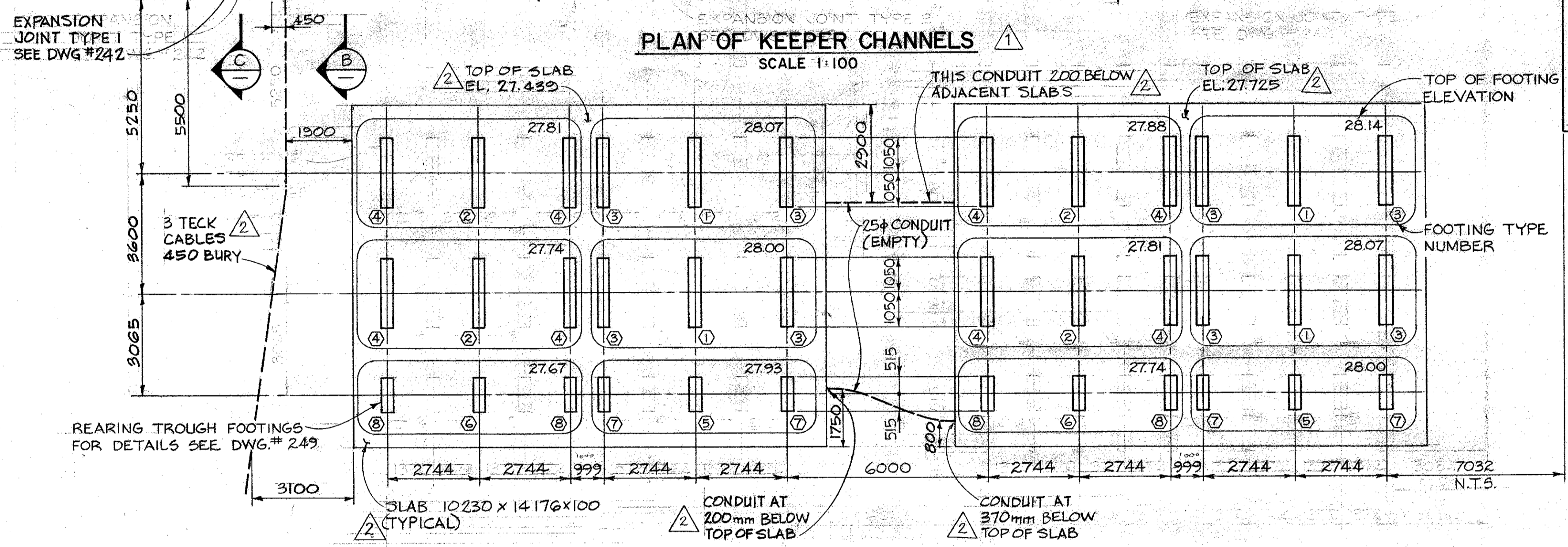
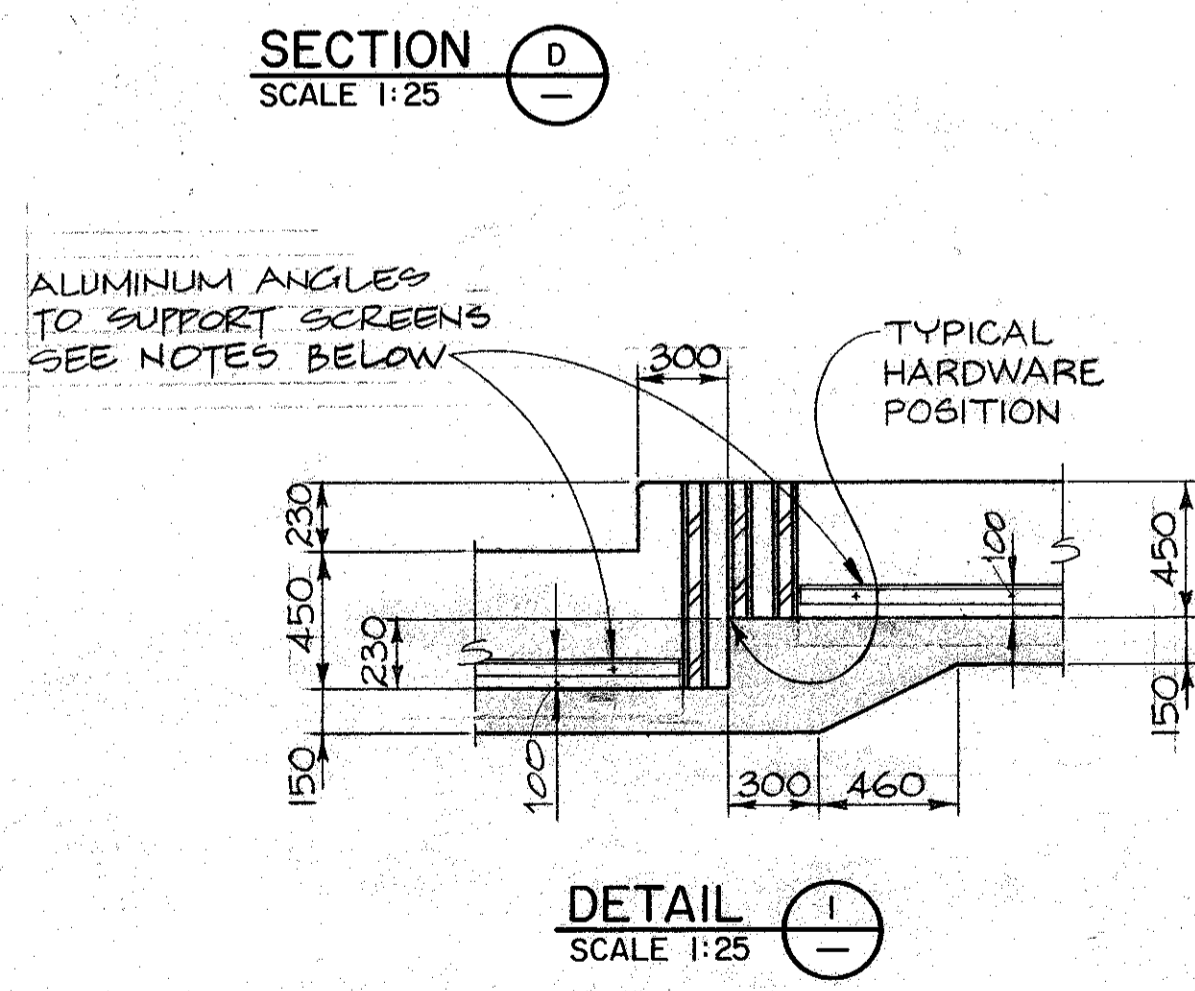
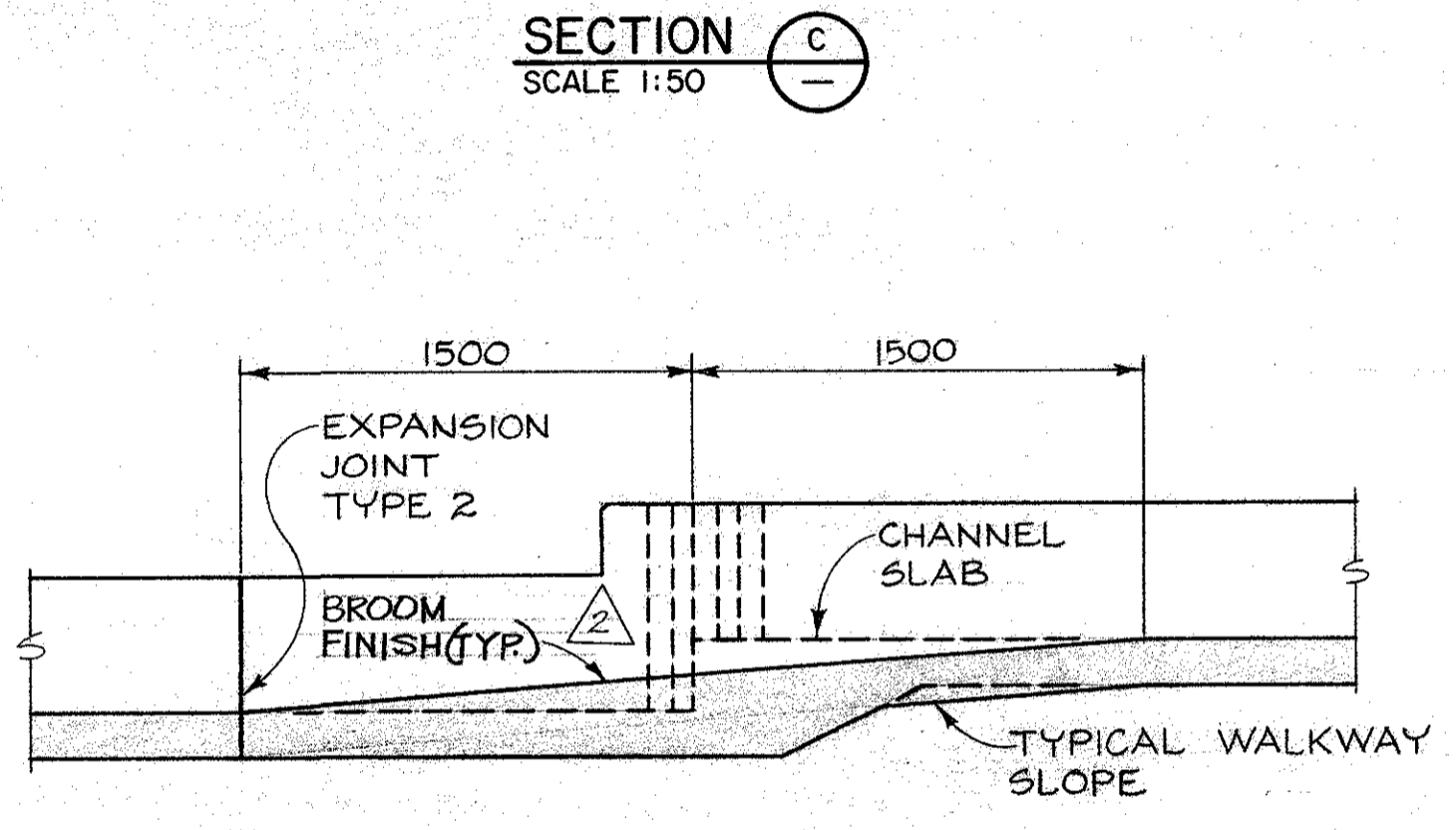
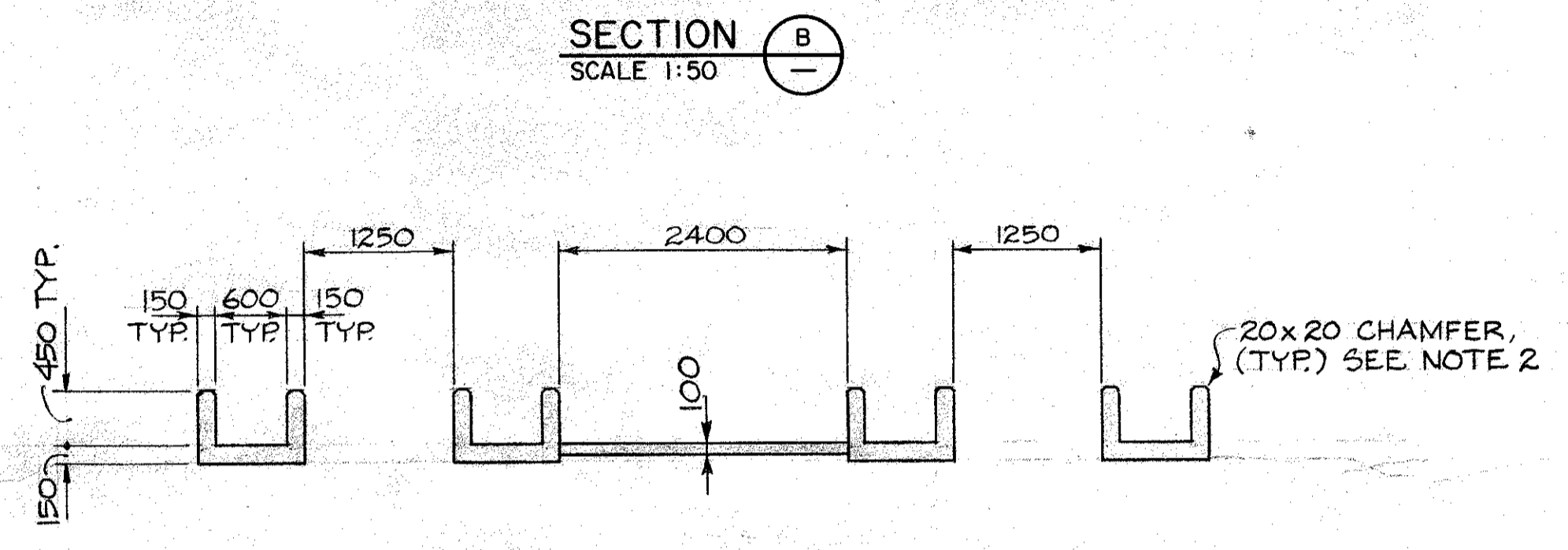
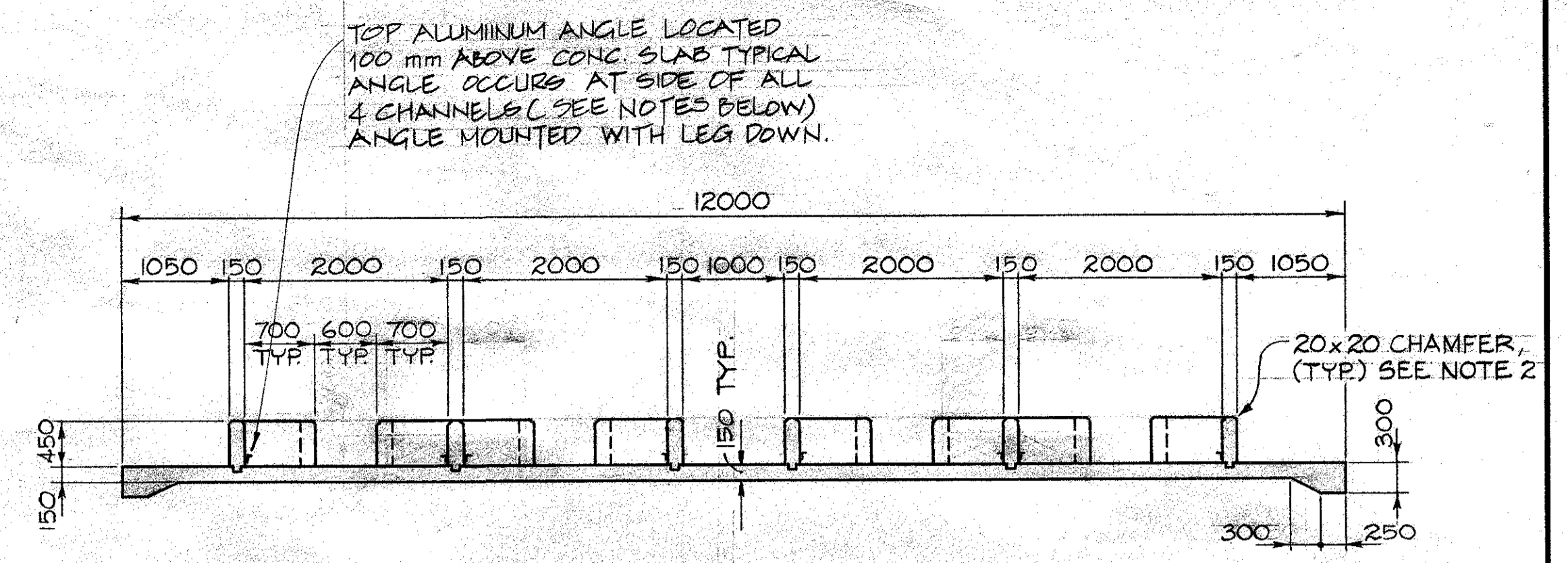
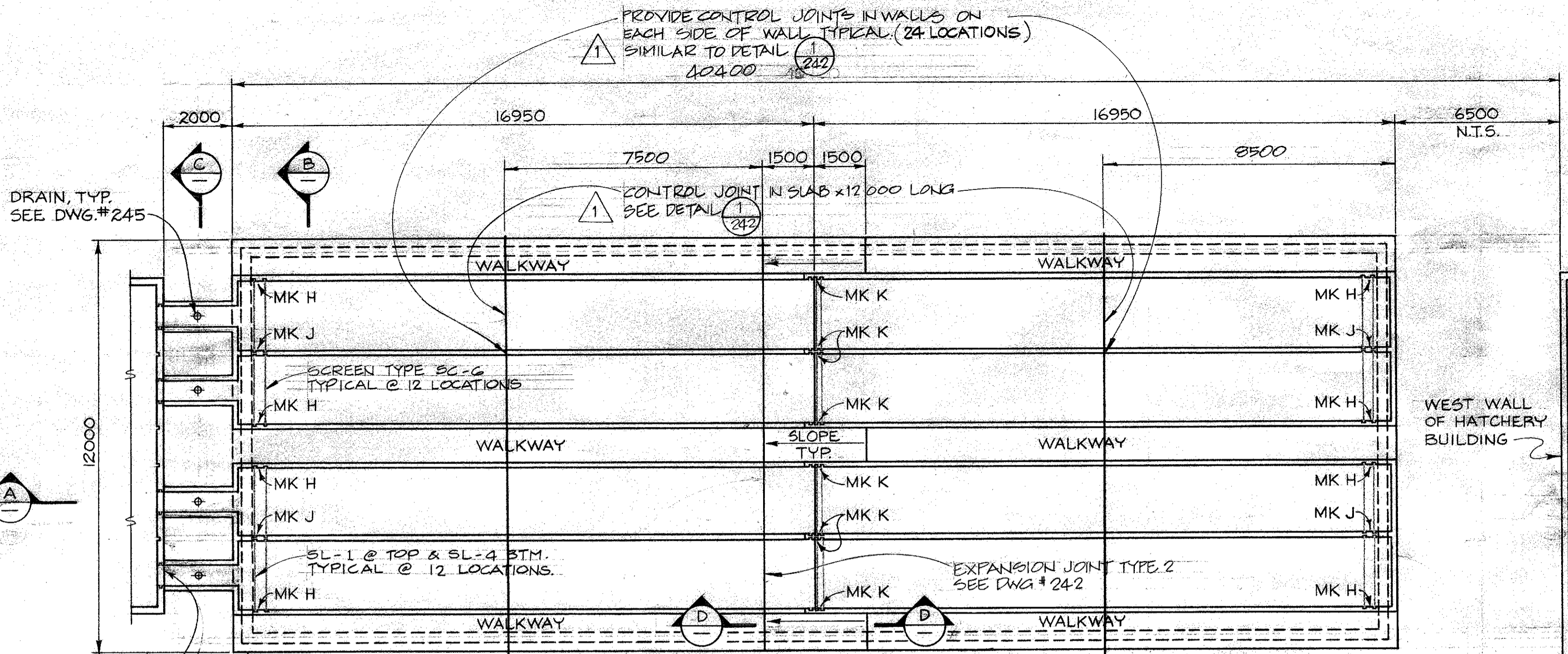


Printed by: JRM, Norcross Plot: 4447-02-02-12 Path: \\msrc01\c\Documents and Settings\jrm\My Documents\11-31-410\Drawings\11-31-410.dwg

1. ALL UNITS ARE METRIC UNLESS OTHERWISE INDICATED.
2. ALL HORIZONTAL COORDINATES ARE UTM NAD83 ZONE 10 AND ARE APPROXIMATE STARTING WITH MEASUREMENT BY HAND HELD GPS UNIT AND CONTINUANCE WITH TOTAL STATION MEASUREMENTS AND IN APPROXIMATE COMPLIANCE WITH A GOOGLE (TM) IMAGE OF THE SITE.
3. ELEVATION IS GEODETIC AND RELATED TO BM296-J SITUATED 400 m. EAST OF HATCHERY AT C.P.RAILWAY BRIDGE OVER NORISH CREEK MARKED BY TABLET SET IN VERTICAL FACE OF WESTERN CONCRETE ABUTMENT, 0.3 m. BELOW BRIDGE SEAT, ELEVATION 10.308 m.
4. HATCHERY DATUM OF UNKNOWN ORIGIN RELATES TO AERATION TOWER SLAB AT 27.95 m. IN DRAWING #11-31-349. THEREFORE, HATCHERY DATUM = GEODETIC DATUM PLUS 17.80 m. ELEVATIONS ON THIS DRAWING USE HATCHERY DATUM.
4. SITE PLAN SURVEYED BY N. HILL AND ROB MARSHALL FROM FEB. 23RD TO FEB 25TH, 2009.
5. GENERATOR PAD AREA SITE SURVEYED BY GORDON REICHHARDT AND GLEN DIXON ON FEB. 3, 2012.

DWG. NO.	DRAWING REFERENCES	NO.	DATE	REVISIONS
		1	FEB. 13, 2012.	GENERAL REVISION. POINT TABLE UPDATED. GENERATOR BUILDING PAD ADDED. SITE FENCING REVISED NEAR GENERATOR PAD AREA IN ADDITION TO EXCAVATION MATERIAL BERM LOCATION ADDED AT GENERATOR VICINITY.

FISHERIES AND OCEANS CANADA REAL PROPERTY AND TECHNICAL SUPPORT	
INCH CREEK HATCHERY SITE PLAN	SCALE 1:500 DATE 25-Oct-12 DRAWING NUMBER 11-31-410 REVISION 1



AS BUILT DRAWING

DATE: _____
RESIDENT ENGINEER: _____
PROJECT ENGINEER: _____

1 CONTRACTOR TO SUPPLY AND INSTALL ALUMINUM ANGLES TO SUPPORT EGG SCREENS IN CHUM KEEPER CHANNELS. ANGLES LOCATED ON EACH SIDE OF ALL 4 CHANNELS USE ALCAN SHAPE NO. 17017 OR EQUAL (L 50.8 x 50.8 x 3.2) SECURED WITH 0.5# (3/8") STAINLESS STEEL 'HILTI' CINCH ANCHOR @ 600 OC.
2 TOP OF ALL EXPOSED CONCRETE WALLS TO HAVE 20x20 CHAMFER.

DWG. NO. REFERENCE DRAWINGS

NOTES

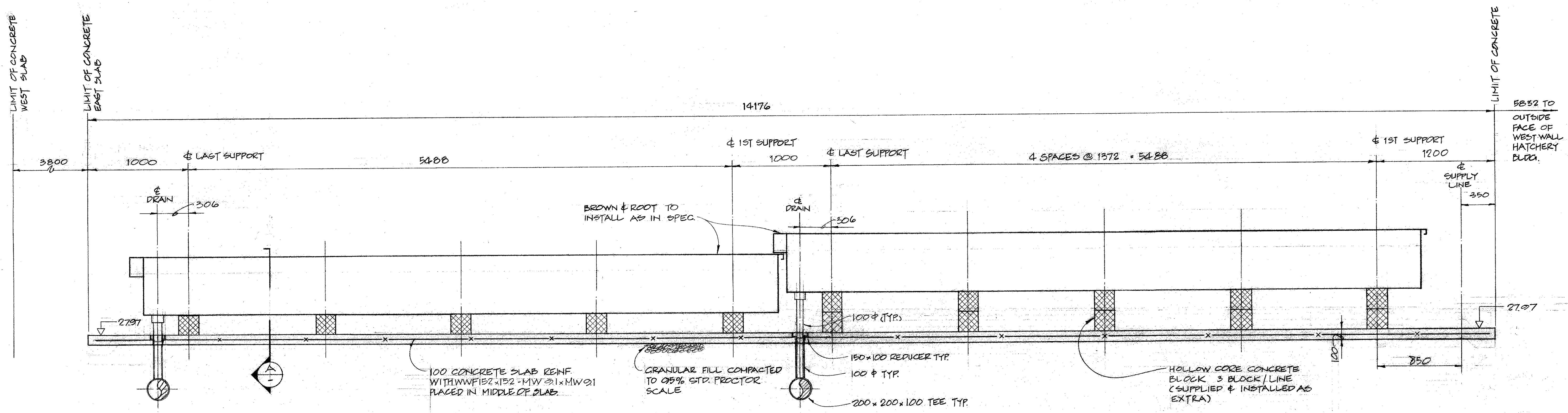
NO.	DATE	REVISIONS
1	JAN 16, 81	ADD TITLES & ADD CONTROL JOINTS
2	APR 13, 82	AS BUILT

DESIGNED AH
DRAWN JC
CHECKED CL
RECOMMENDED
APPROVED
APPROVED

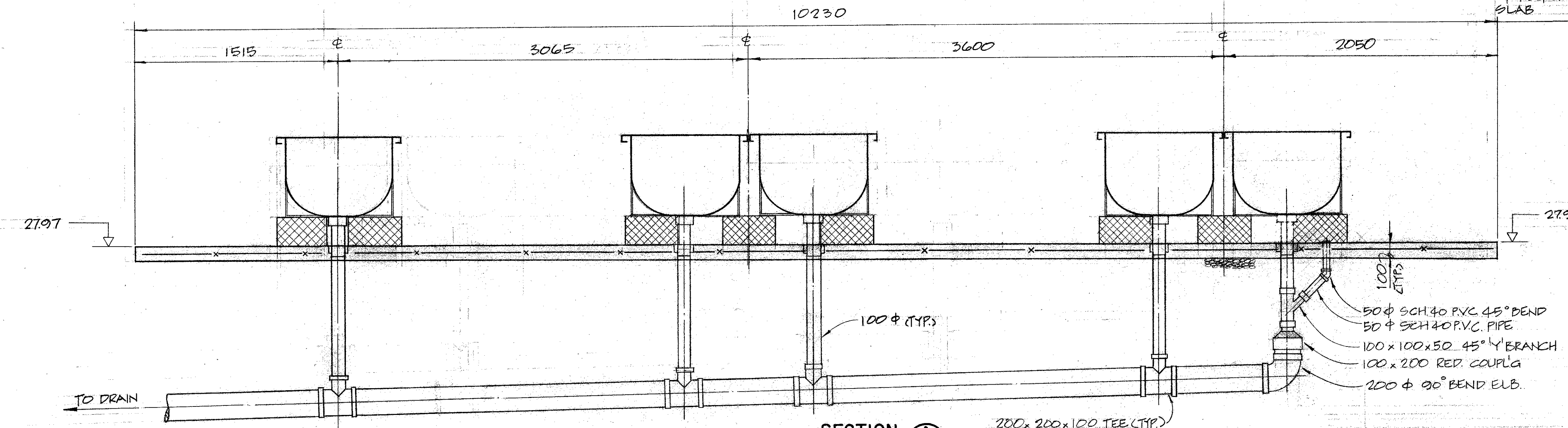
DEPARTMENT OF FISHERIES AND OCEANS
SALMONID ENHANCEMENT PROGRAM

INCHES CREEK HATCHERY
CONTRACT No. 2
KEEPER CHANNELS & INTERM.
REARING TROUGHS CONC. OUTLINE

SCALE	DATE	DRAWING NUMBER	REVISION
AS NOTED	OCT. 1980	11-31-240	2



SECTION EAST - WEST



SECTION A
SCALE 1:20

AS BUILT DRAWING
 DATE: _____
 RESIDENT ENGINEER: _____
 PROJECT ENGINEER: _____

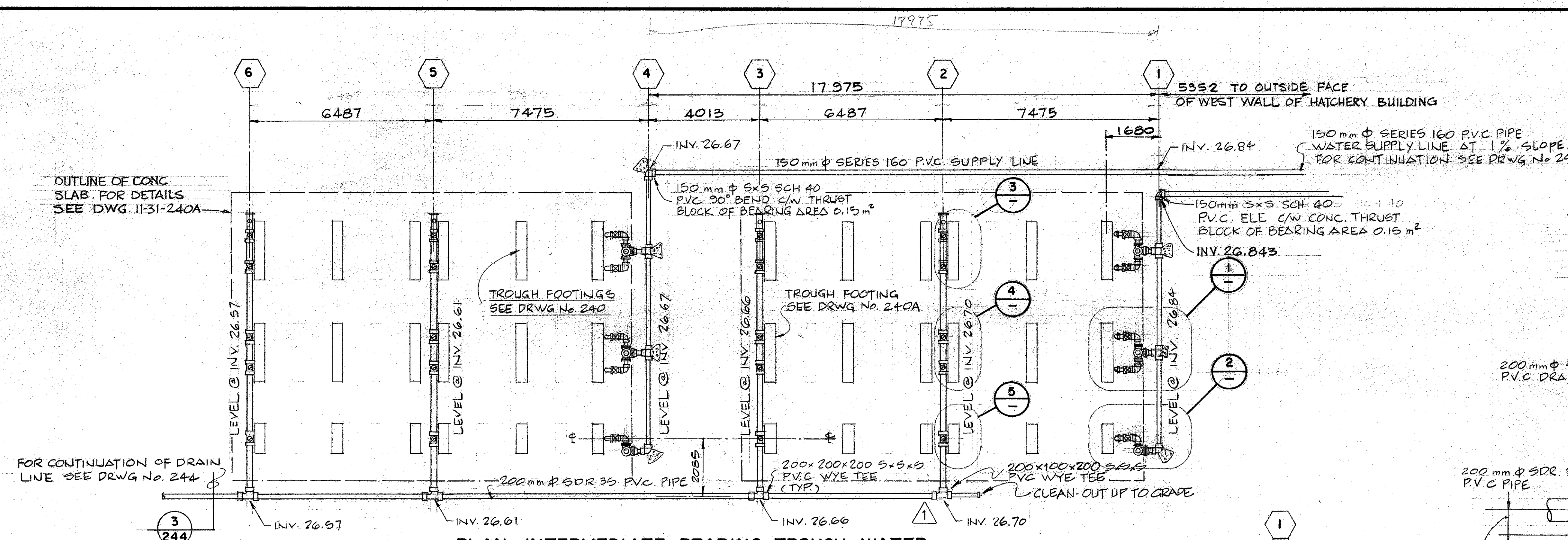
DEPARTMENT OF FISHERIES AND OCEANS
 SALMONID ENHANCEMENT PROGRAM

INCHES CREEK HATCHERY
 CONTRACT No. 2
 INTERMEDIATE REARING TROUGHS
 SUPPORTING SLABS

SCALE 1:20
 DATE APRIL 1981
 DRAWING NUMBER 11-31-240A
 REVISION

DWG. NO.	REFERENCE DRAWINGS	NOTES	NO.	DATE	REVISIONS

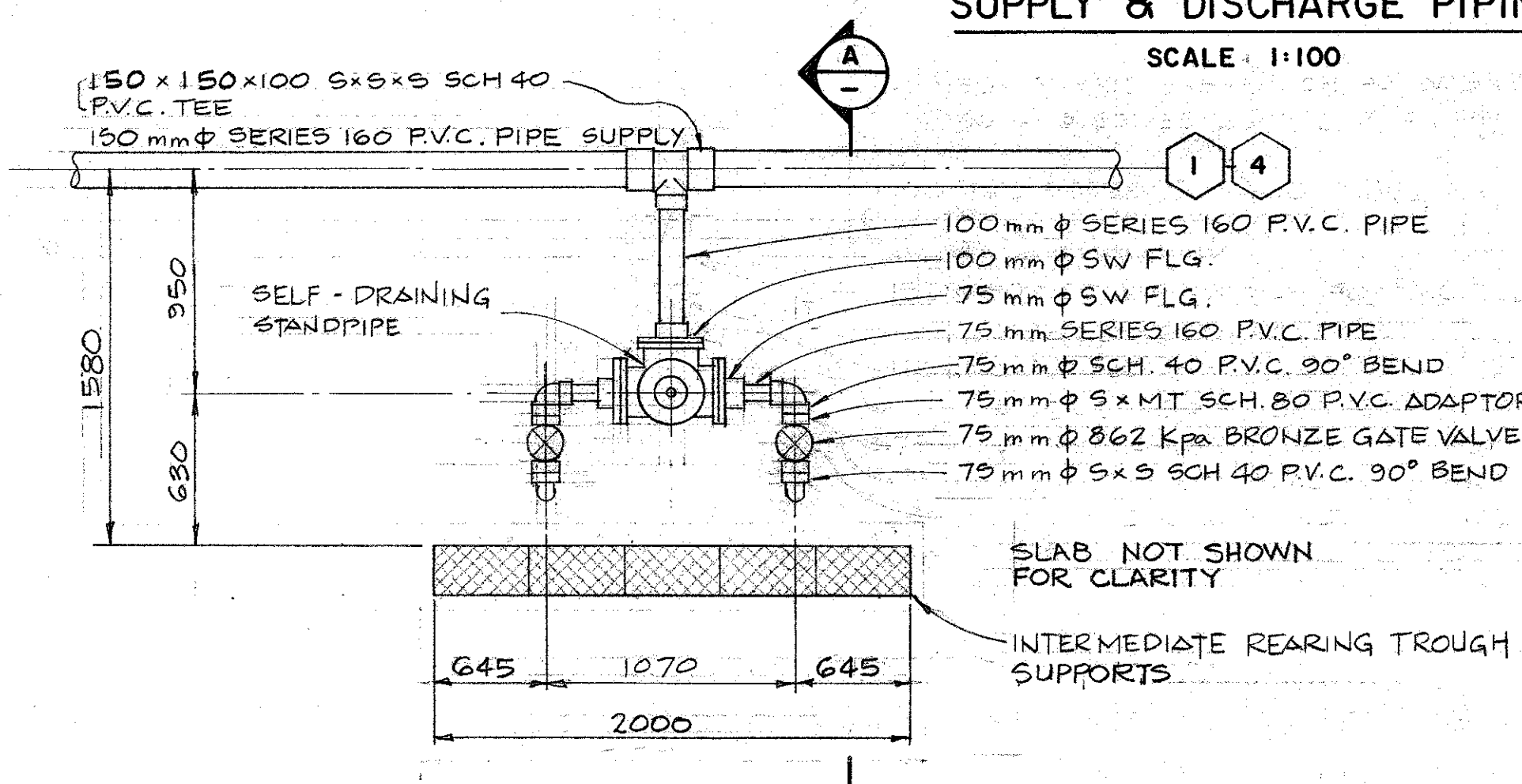
DESIGNED AH
 DRAWN GM
 CHECKED [Signature]
 RECOMMENDED [Signature]
 APPROVED [Signature]
 APPROVED [Signature]



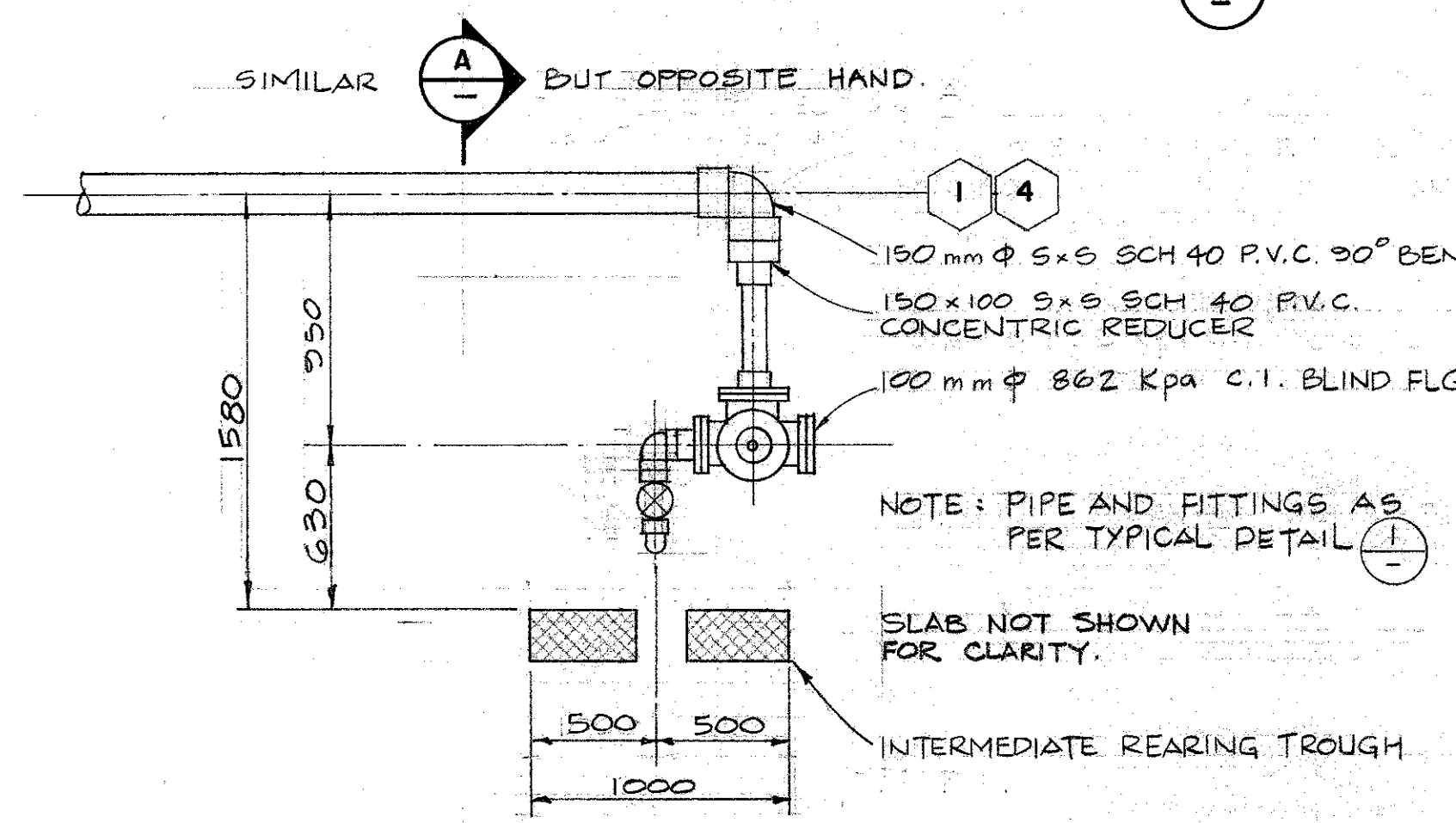
PLAN-INTERMEDIATE REARING TROUGH WATER

SUPPLY & DISCHARGE PIPING

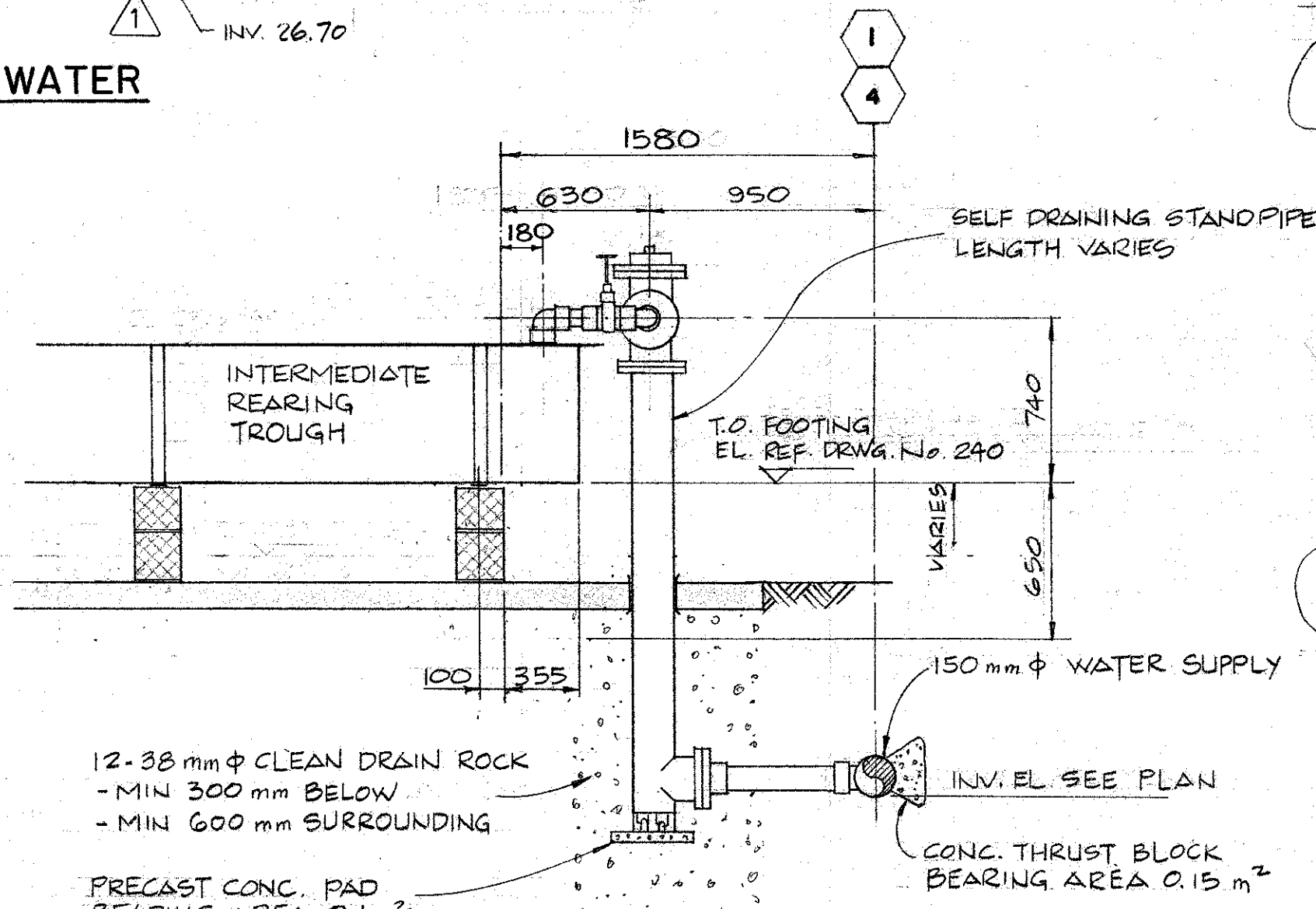
SCALE 1:100



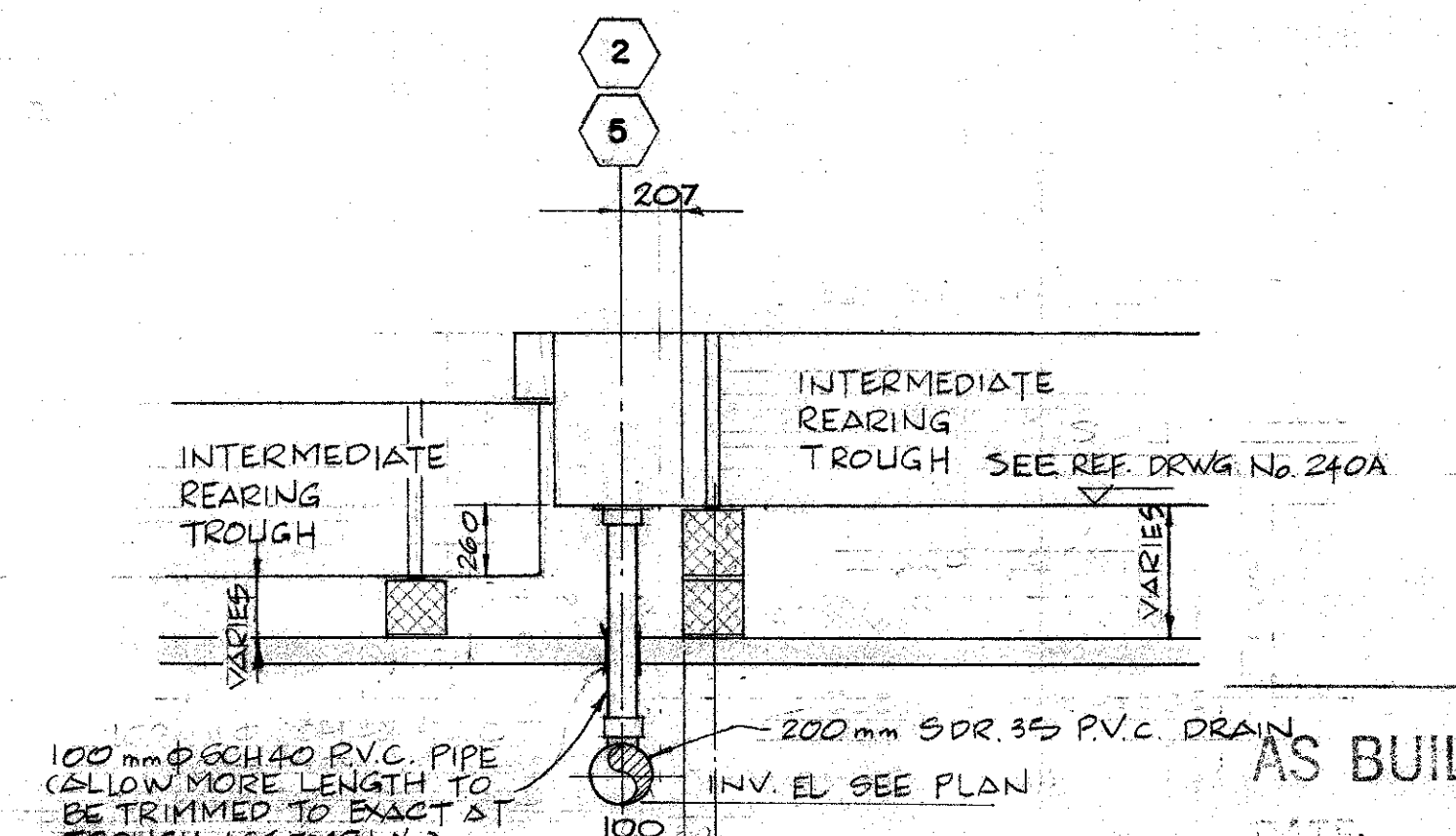
TYPICAL DETAIL - REARING TROUGH FEEDING (1)



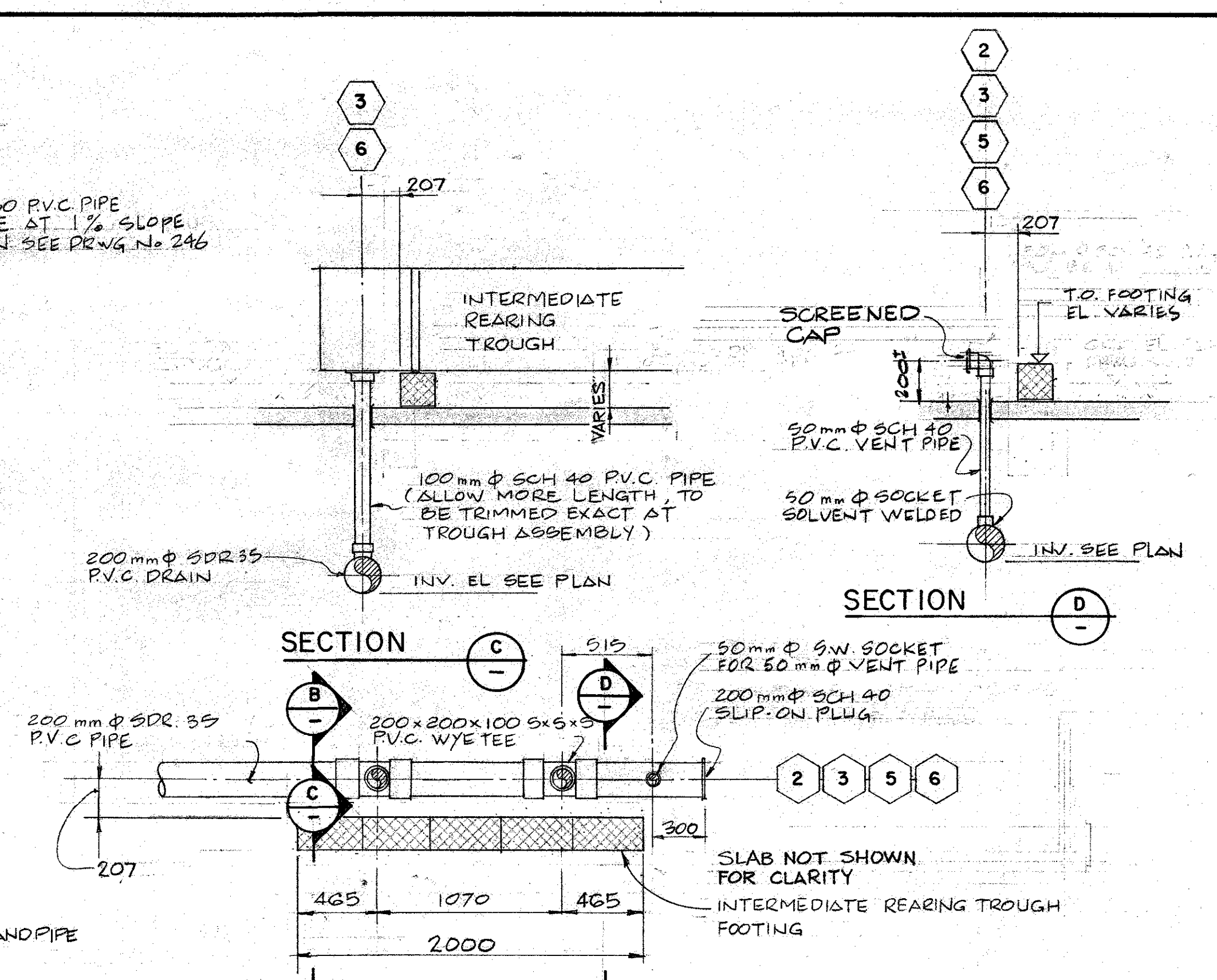
TYPICAL DETAIL - REARING TROUGH FEEDING (2)



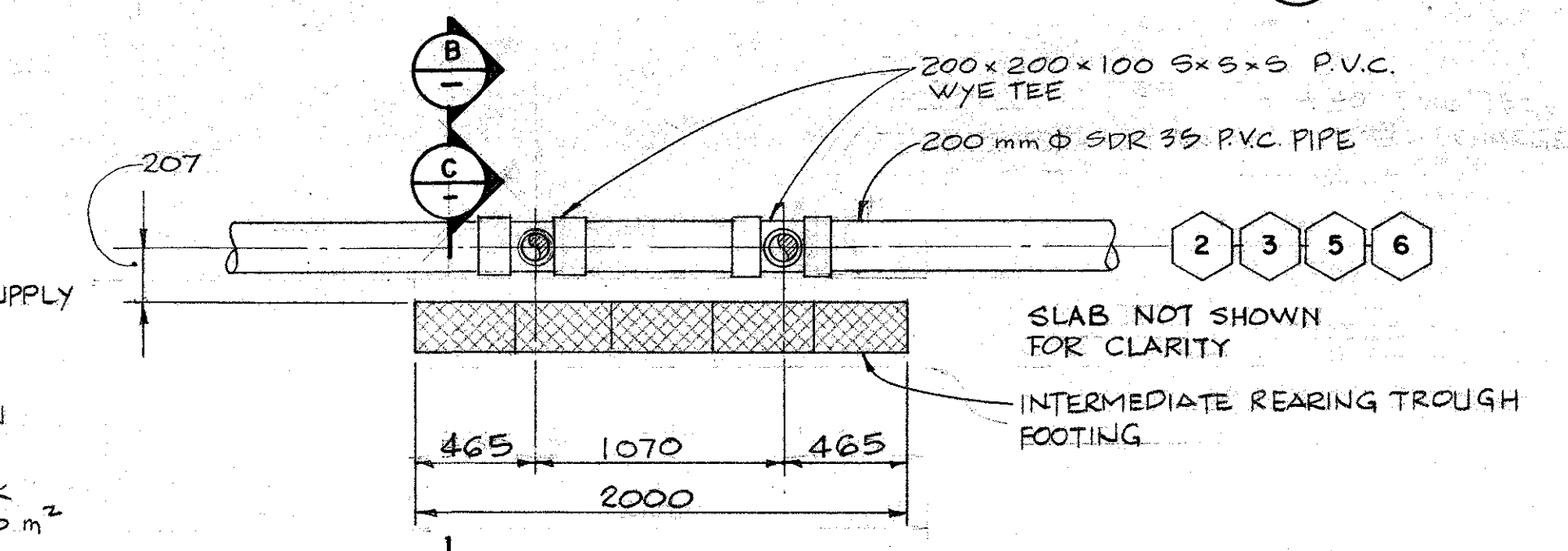
SECTION A



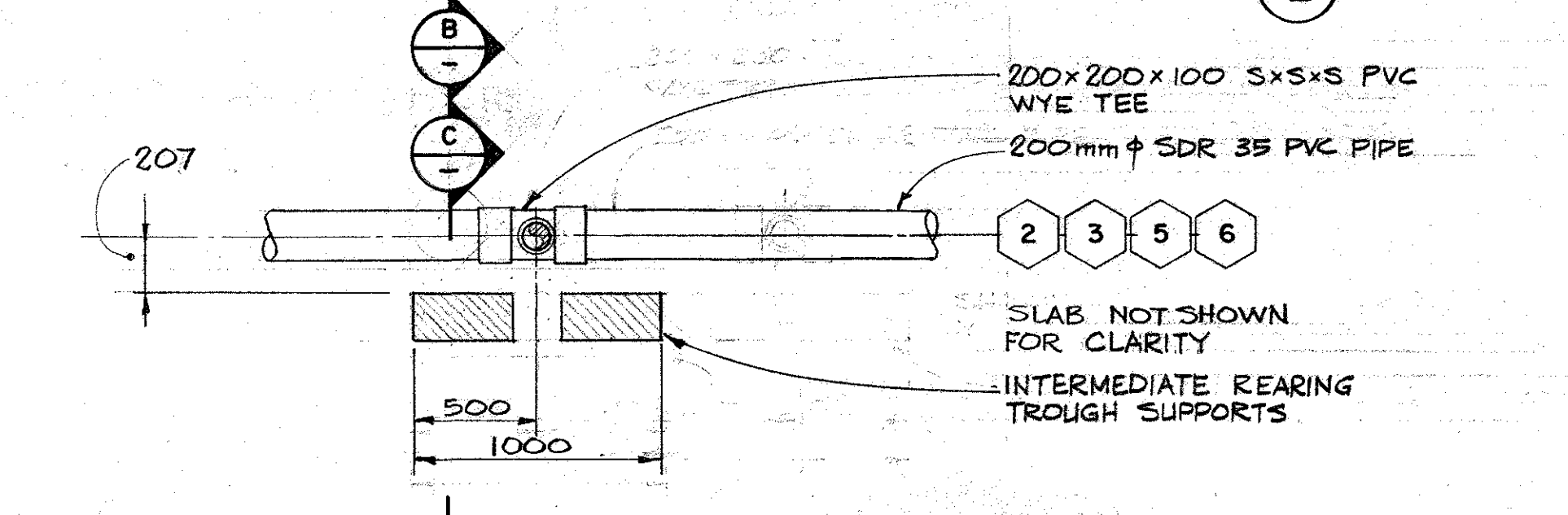
SECTION B



TYPICAL DETAIL - REARING TROUGH DISCHARGE (3)



TYPICAL DETAIL - REARING TROUGH DISCHARGE (4)



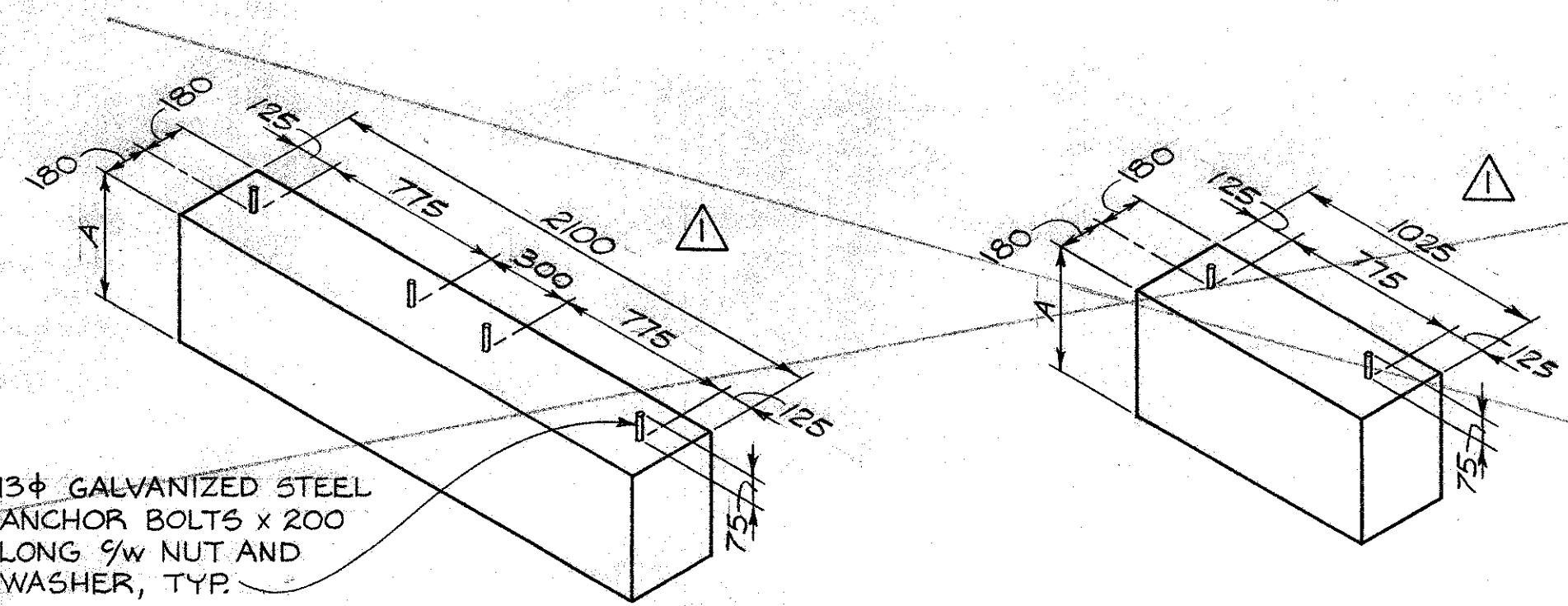
TYPICAL DETAIL - REARING TROUGH DISCHARGE (5)

AS BUILT DRAWING

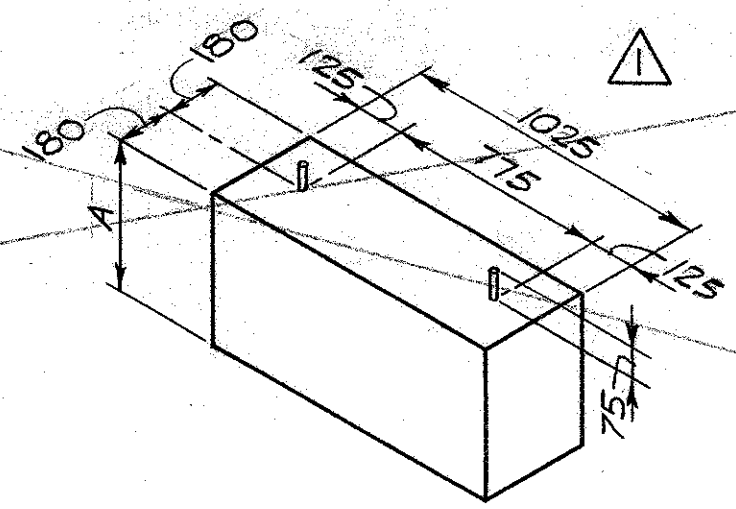
DATE: _____
 RESIDENT ENGINEER: _____
 PROJECT ENGINEER: _____

DEPARTMENT OF FISHERIES AND OCEANS SALMONID ENHANCEMENT PROGRAM		SCALE 1:25 OR AS SHOWN
INCHES CREEK HATCHERY CONTRACT No. 2		DATE OCT. 1980
INTERMEDIATE REARING TROUGHS WATER SUPPLY & DISCHARGE PIPING		DRAWING NUMBER 11-31-247
DESIGNED AH JS DRAWN JS CHECKED AM G. RECOMMENDED APPROVED 		REVISION 2

DWG. NO.	REFERENCE DRAWINGS	NOTES	NO.	DATE	REVISIONS
11-31-240A	INTERMEDIATE REARING TROUGHS SUPPORTING SLABS		1	JAN 16 81	CHANGE 90° BLOW TO WYE TEE, ADD CLEAN OUT.
11-31-219	SITE LAYOUT & DETAILS (ELECTRICAL)		2	APR. 13, 82	AS BUILT



FOOTING TYPE 1,2,3,4
N.T.S.

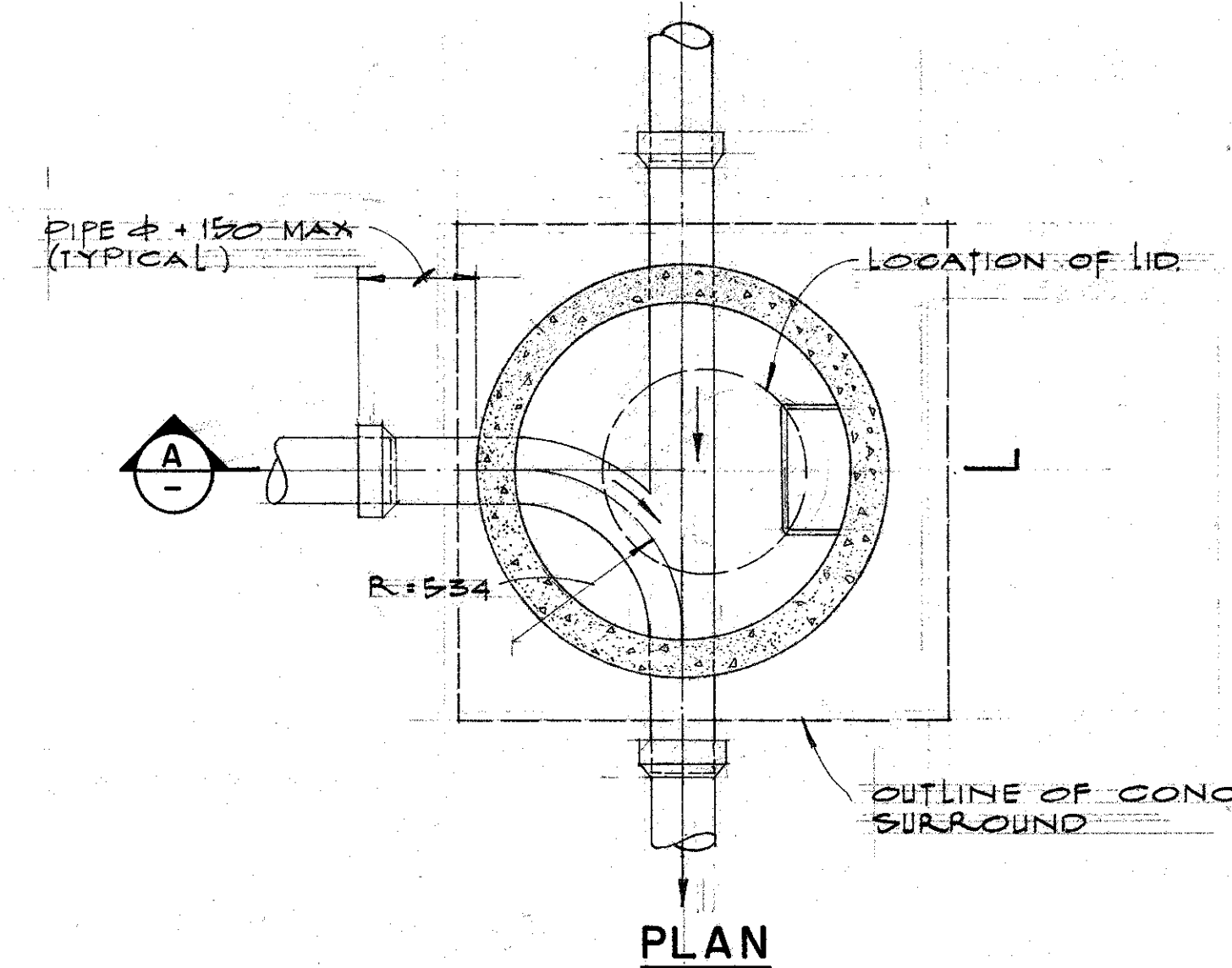


FOOTING TYPE 5,6,7,8
N.T.S.

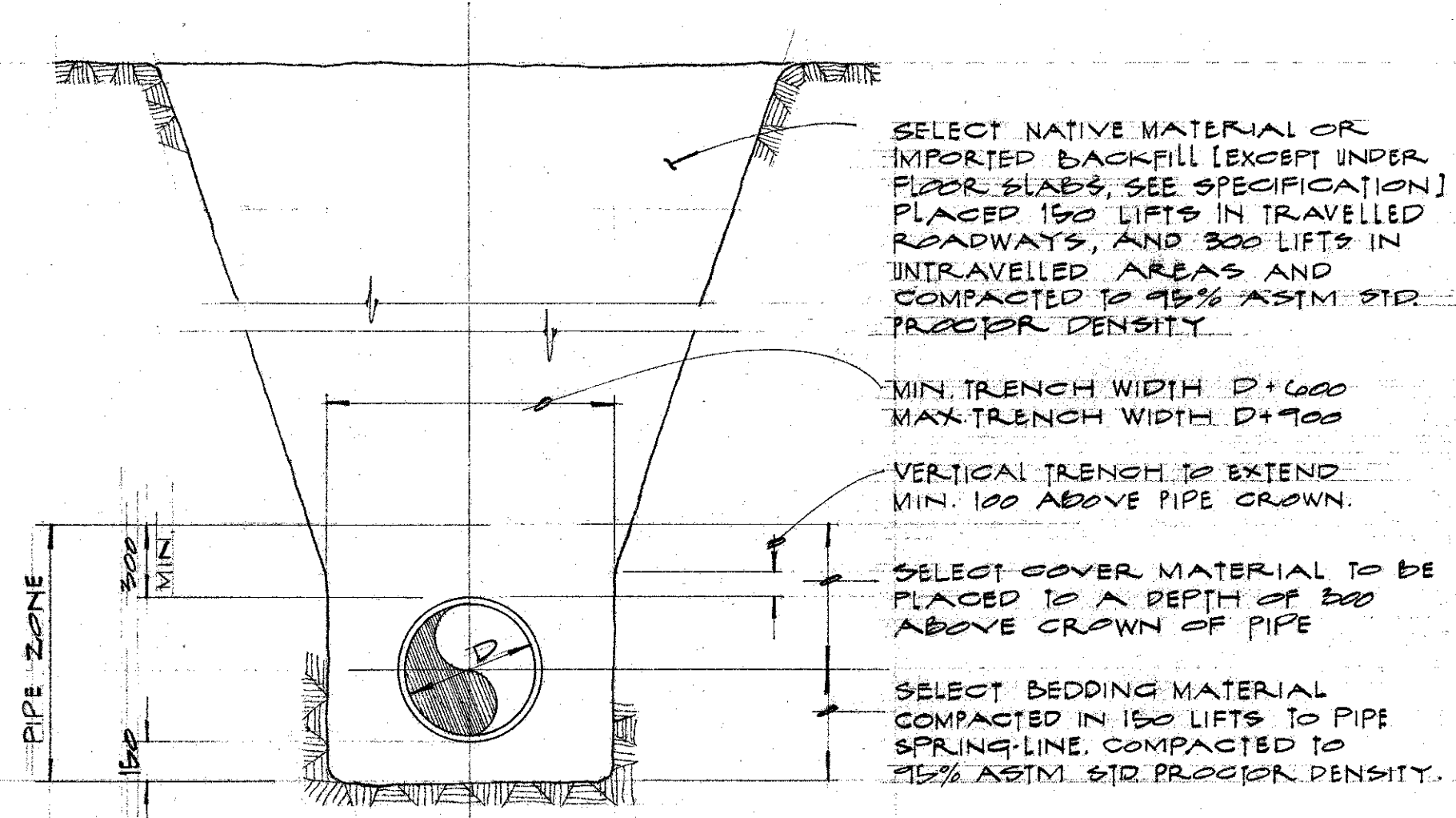
FOOTING SCHEDULE			
TYPE NO	NUMBER REQUIRED	DIMENSION 'A'	NUMBER OF BOLTS REQ'D
1	4	650	0
2	4	400	0
3	8	650	4
4	8	400	4
5	2	650	0
6	2	400	0
7	4	650	2
8	4	400	2

REARING TROUGH CONCRETE FOOTINGS

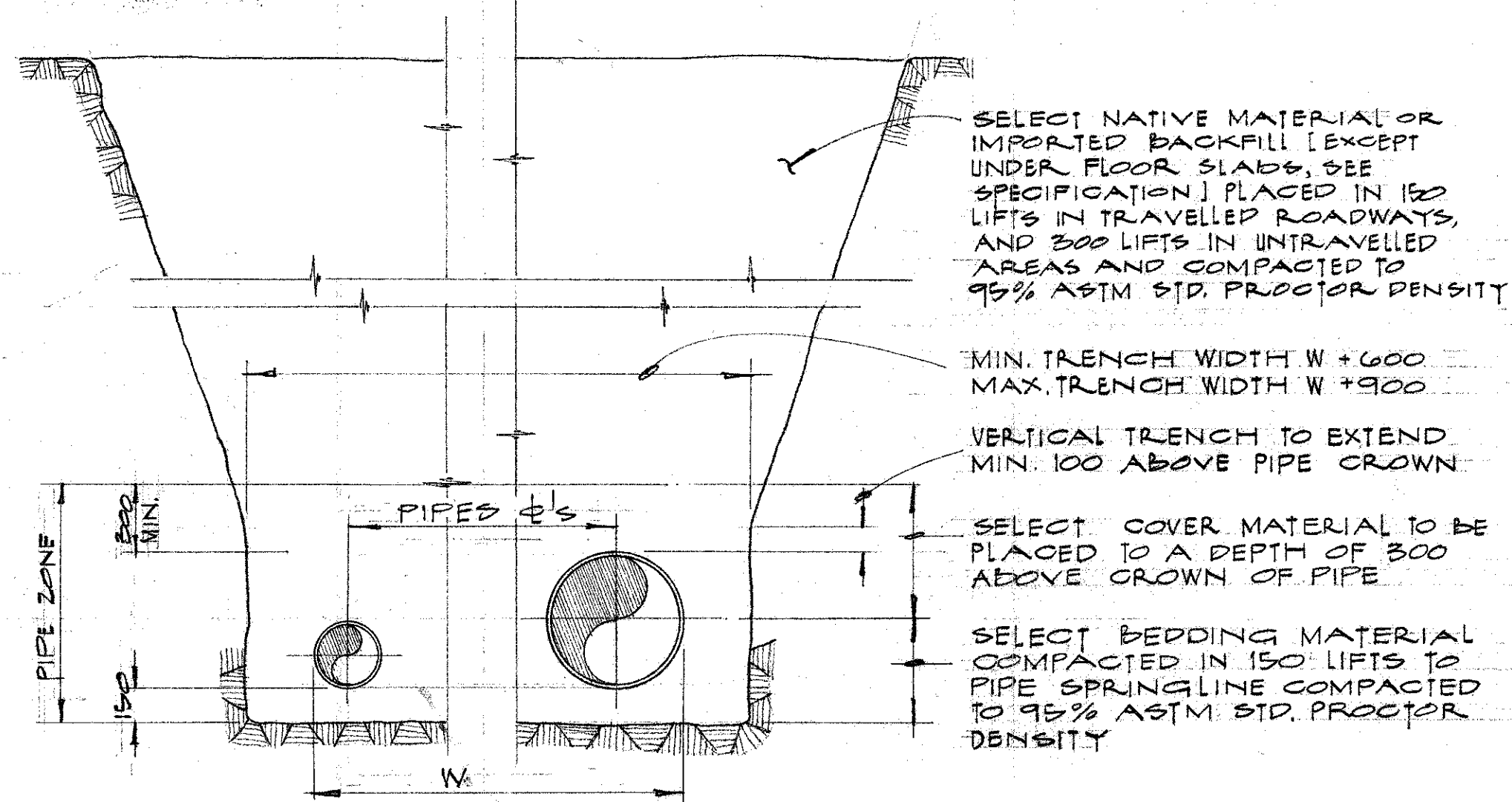
REVISED TO 100mm DEEP TOTAL AREA SLAB. 9W CONC. BLOCK SUPPORTS SEE DWG. 11-31-240A.



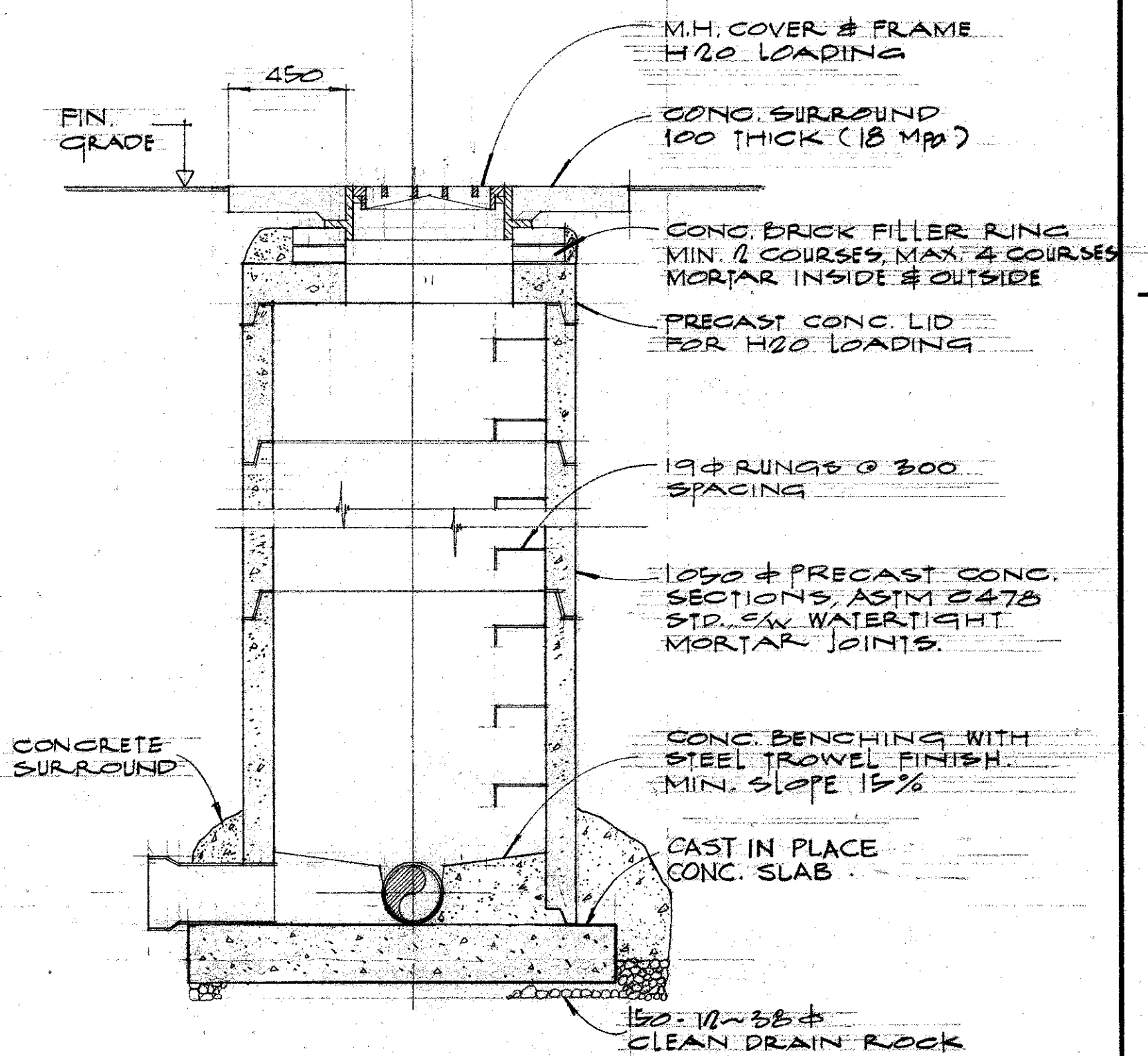
PLAN



SINGLE PIPE TRENCH
SCALE 1:25

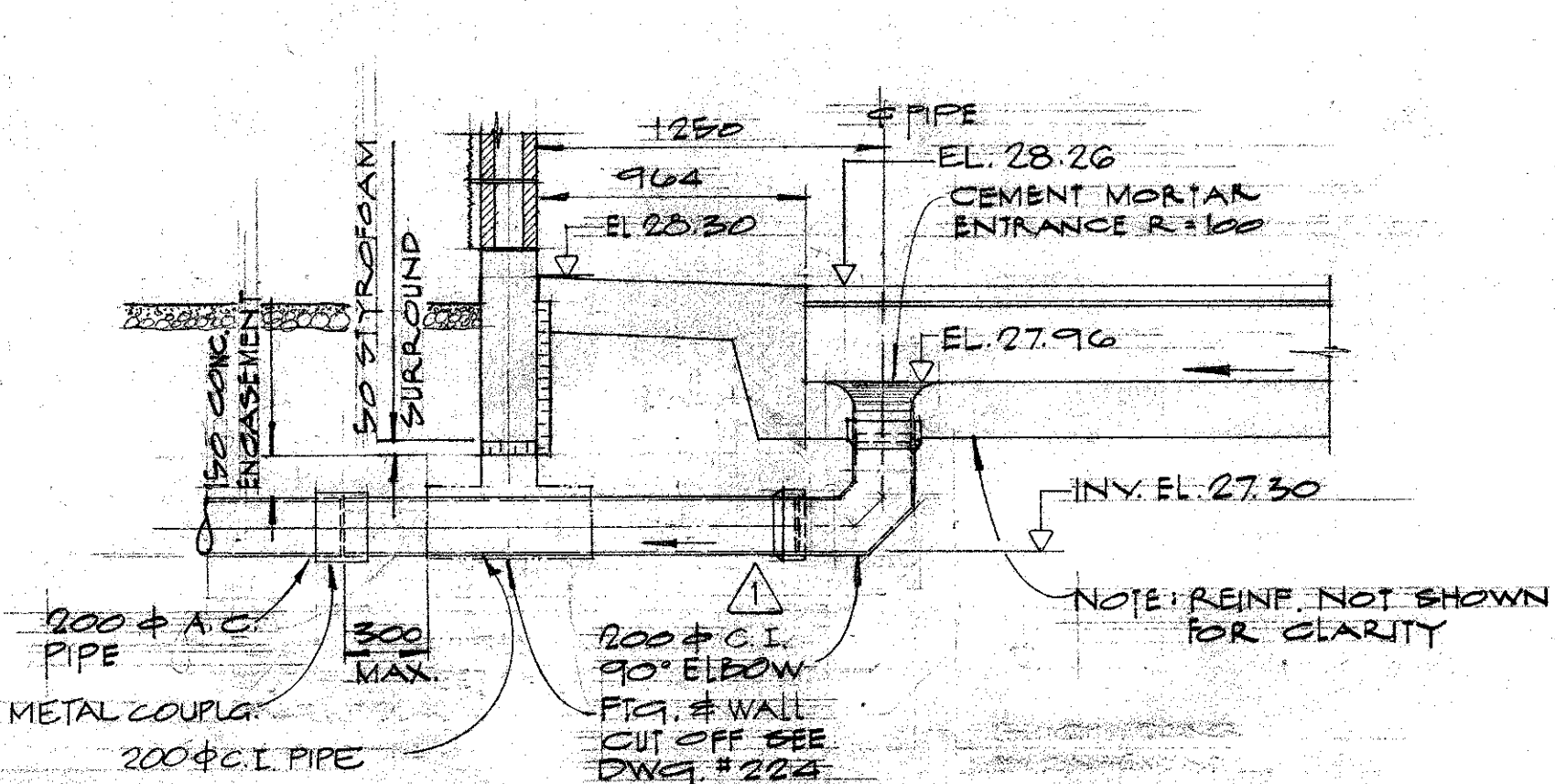


MULTIPLE PIPE TRENCH
SCALE 1:25

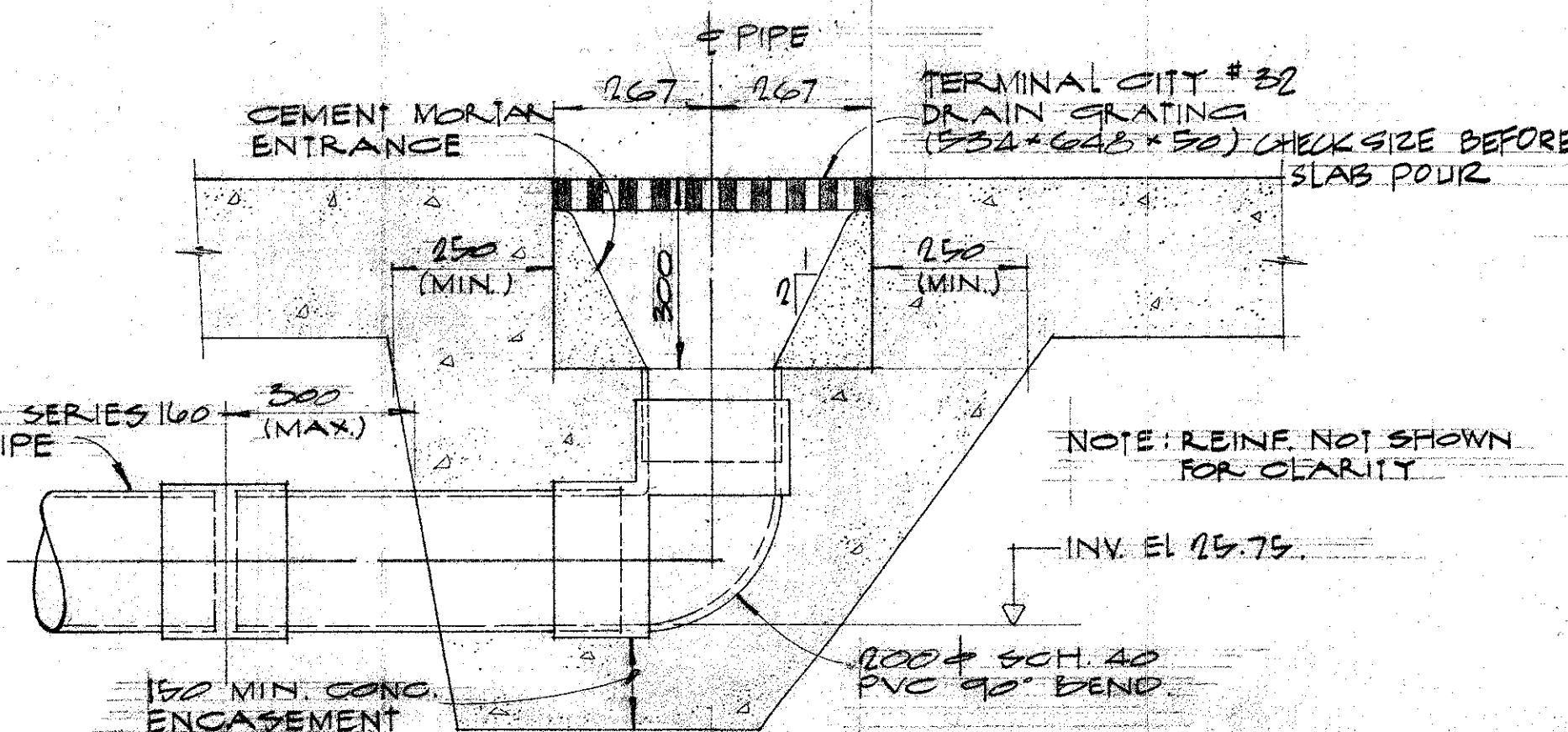


SECTION A

TYPICAL MANHOLE DETAILS
SCALE 1:20



SECTION J
SCALE 1:25



REARING CHANNEL DRAIN
SCALE 1:10

AS BUILT DRAWING

DATE: _____
RESIDENT ENGINEER: _____
PROJECT ENGINEER: _____

DWG. NO. _____ REFERENCE DRAWINGS _____

NOTES

▲ JAN 16, 81 CHANGE AG PIPE TO C.I. PIPE DIMENSIONS REVISED.
▲ APR. 13, 82 AS BUILT

DESIGNED A.M.

DRAWN J.C./L.Y.

CHECKED

RECOMMENDED

APPROVED

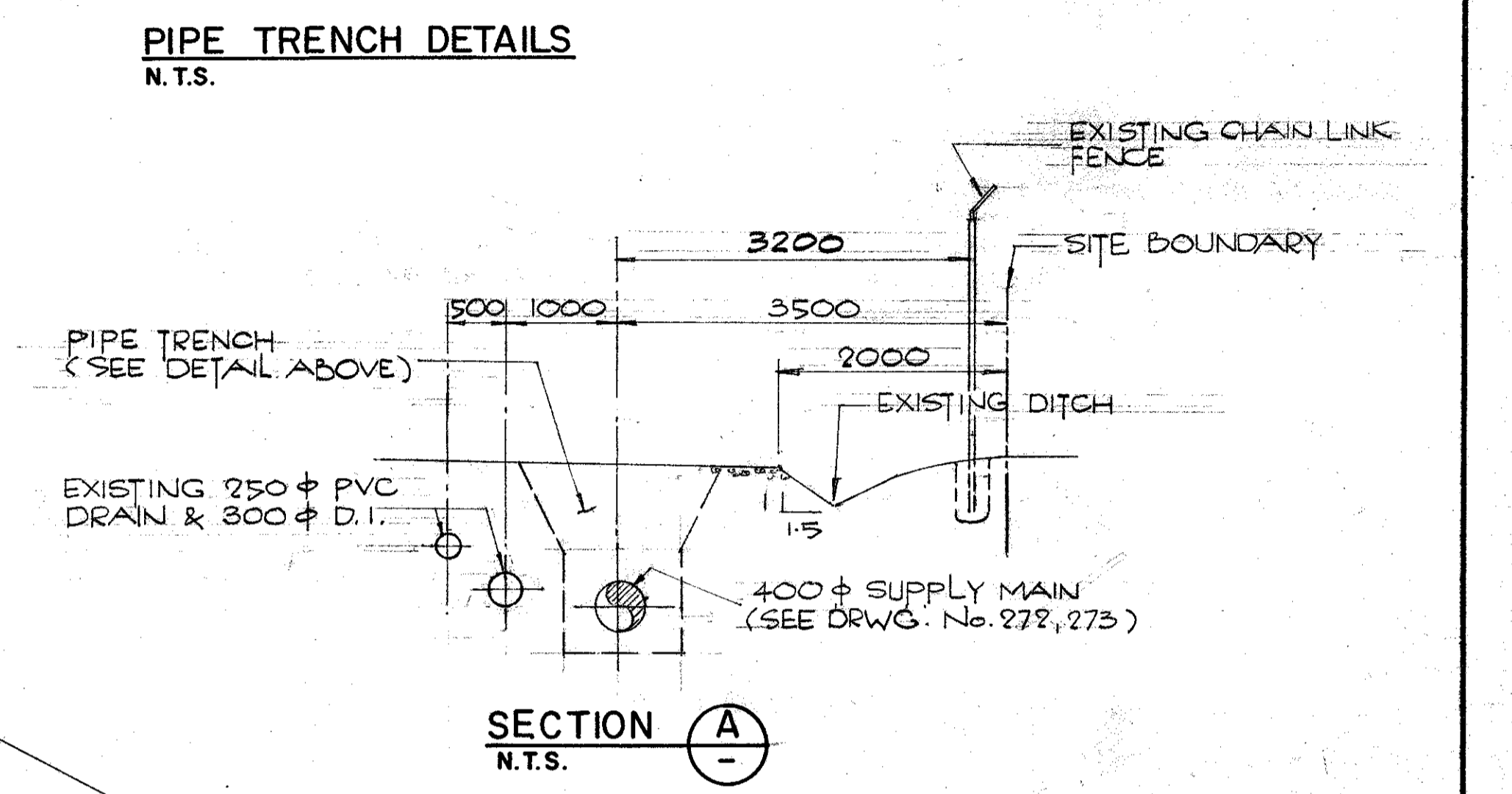
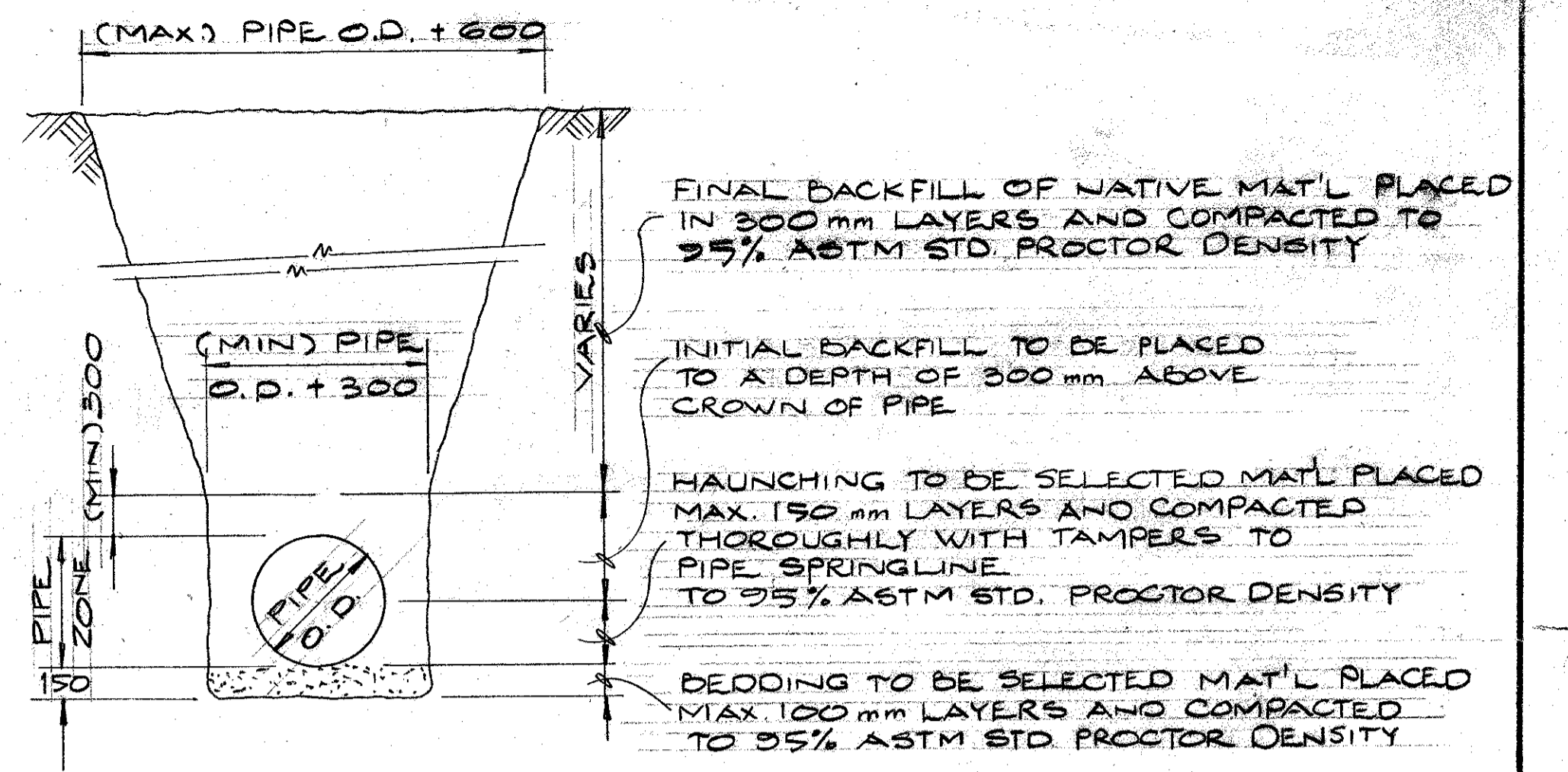
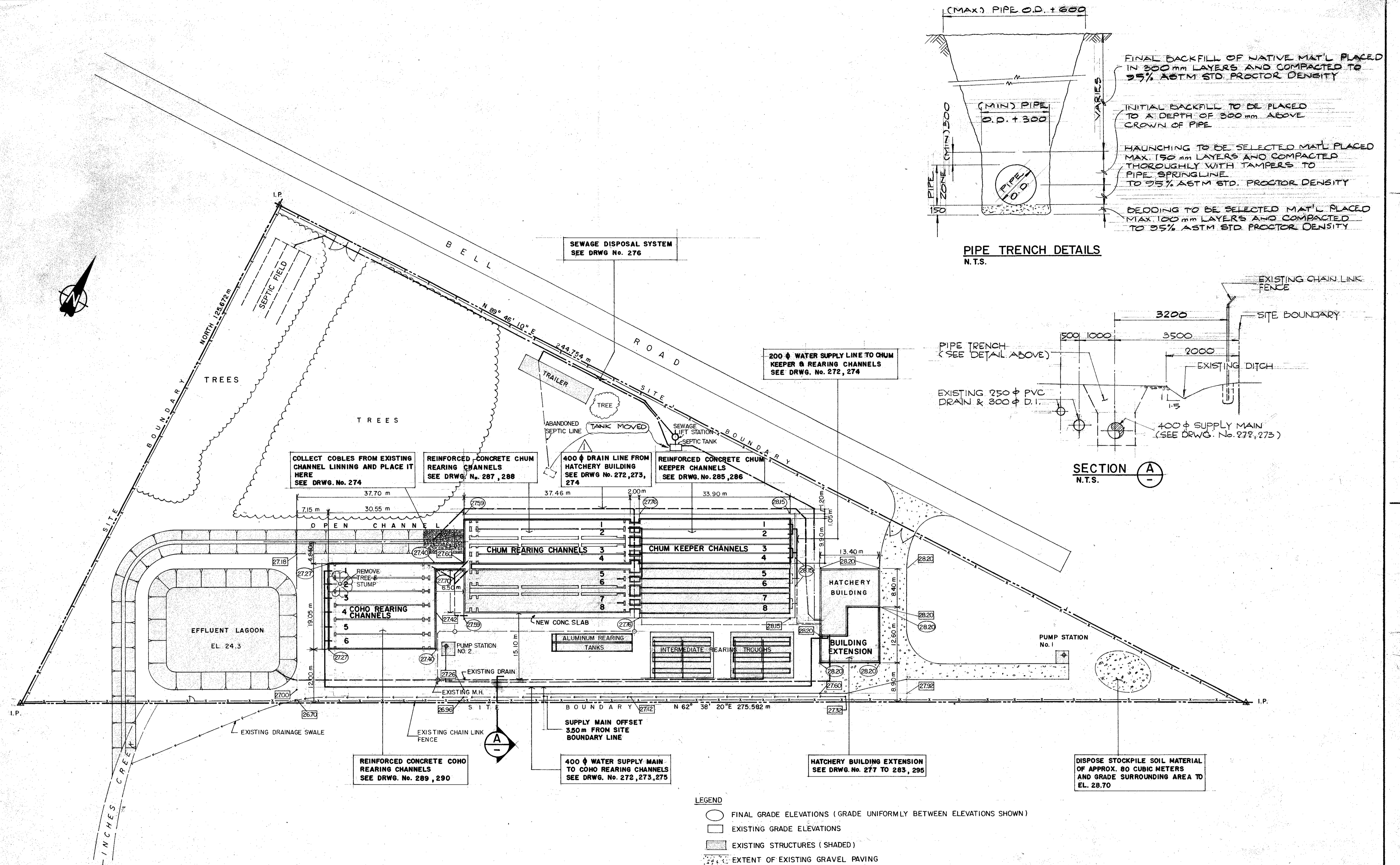
APPROVED

NO. DATE REVISIONS

DEPARTMENT OF FISHERIES AND OCEANS
SALMONID ENHANCEMENT PROGRAM

INCHES CREEK HATCHERY
CONTRACT No. 2
WATER SUPPLY & DRAINS
MISCELLANEOUS DETAILS

SCALE AS NOTED
DATE OCT. 1980
DRAWING NUMBER 11-31-249
REVISION 2



SITE LAYOUT & GRADING PLAN
SCALE 1:400

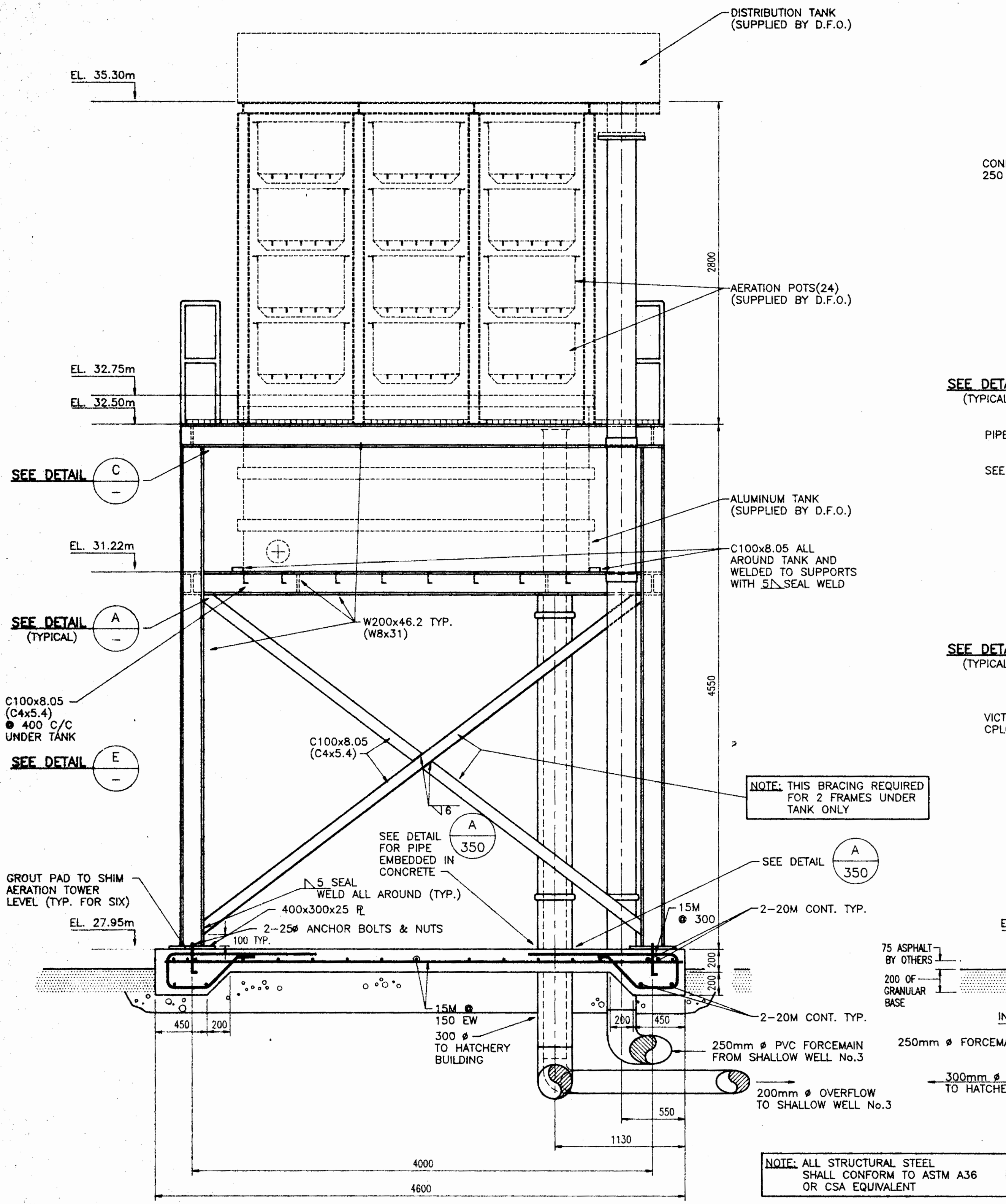
<p>DEPARTMENT OF FISHERIES AND OCEANS SALMONID ENHANCEMENT PROGRAM</p>		SCALE AS SHOWN
		DATE JUNE 1982
<p>INCH CREEK HATCHERY CONTRACT No. 4</p> <p>SITE LAYOUT & GRADING PLAN GENERAL ARRANGEMENT & DETAILS</p>		DRAWING NUMBER 11-31-271
		REVISION

NO.	DATE	REVISIONS
1	JUNE 82	200mm DRAIN TO 400mm
	FEB. 84	AS-BUILT

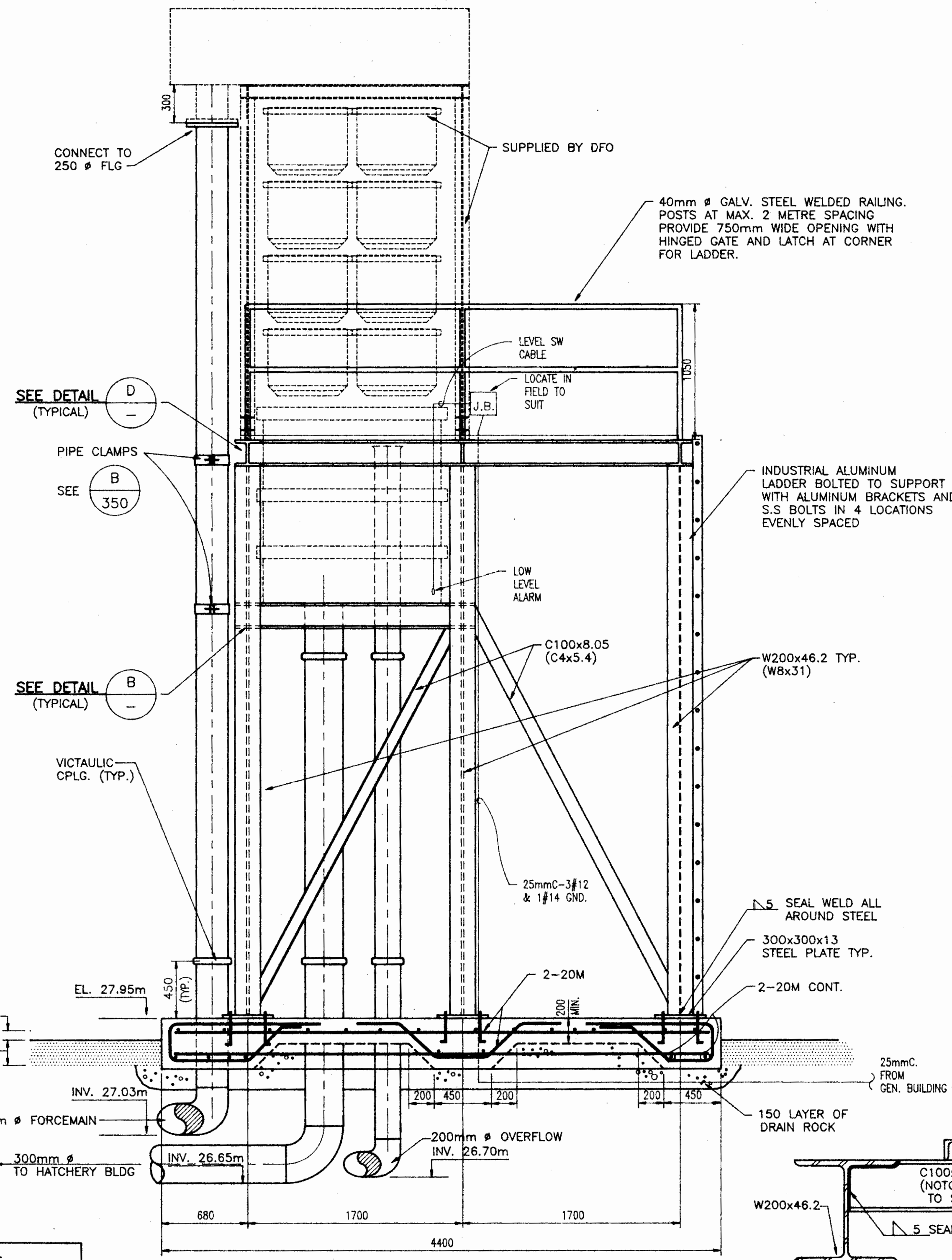
DWG. NO.	REFERENCE DRAWINGS	NOTES

DESIGNED
AH & JS
DRAWN
JS
CHECKED
AK-12
RECOMMENDED
[Signature]
APPROVED
[Signature]

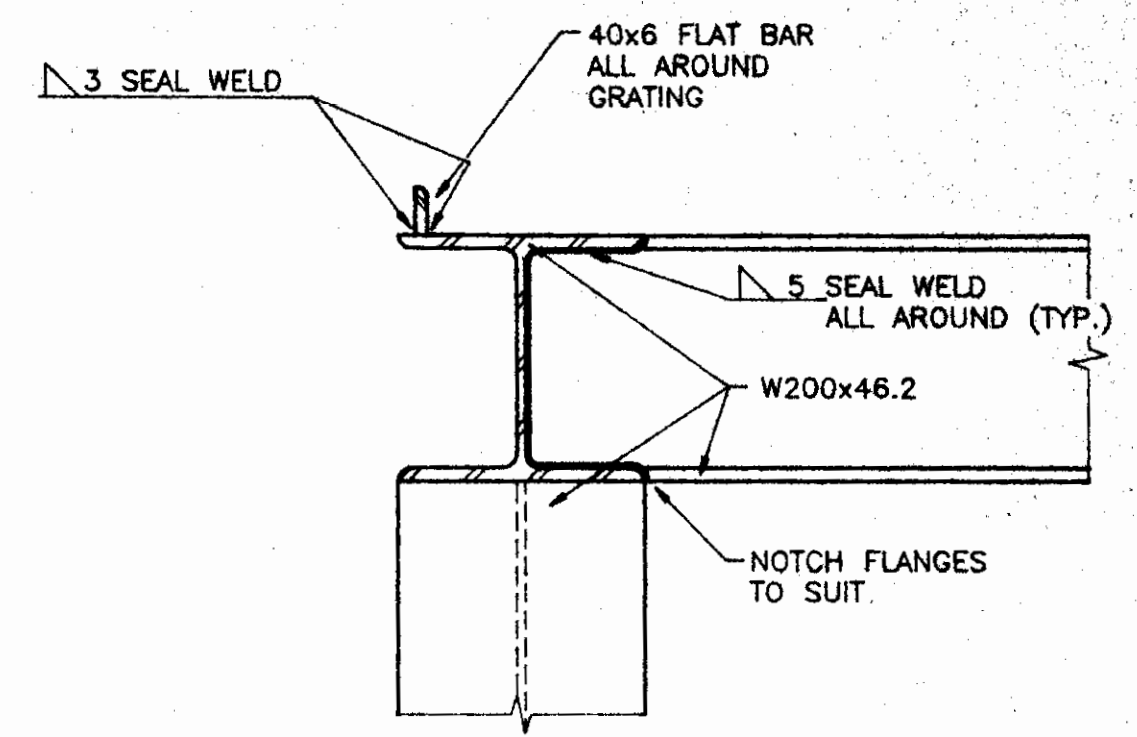
NOTE:
SEE DWG. 11-31-350 FOR
PLAN OF AERATION TOWER
UNDERGROUND PIPING.



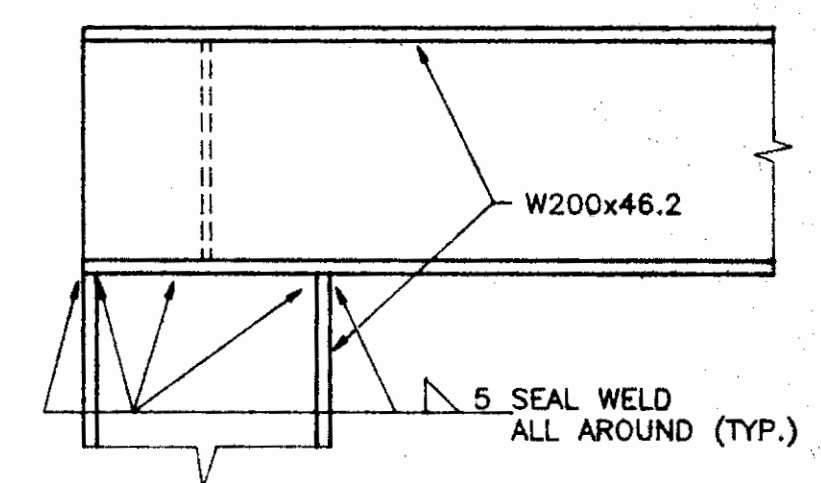
NORTHEAST VIEW
1:25



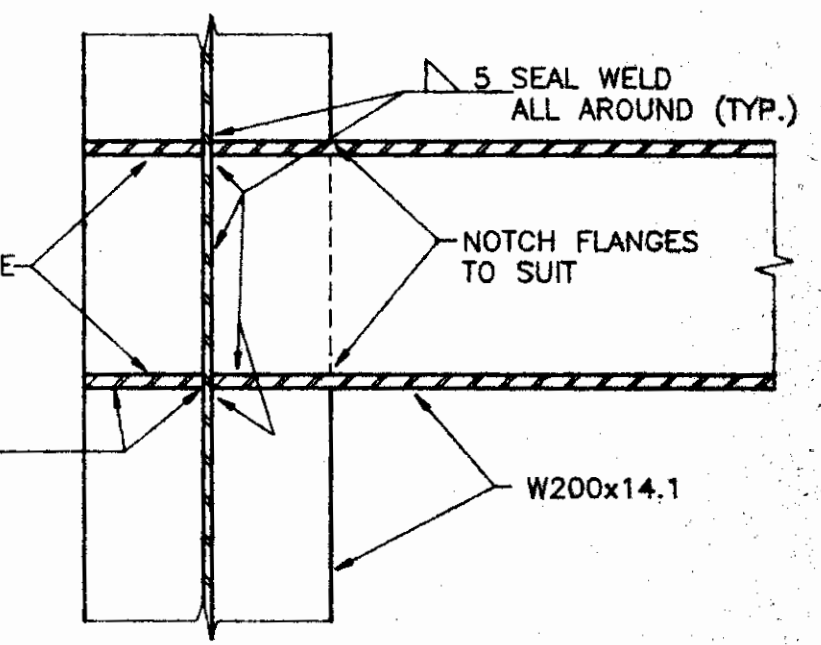
NORTHWEST VIEW
1:25



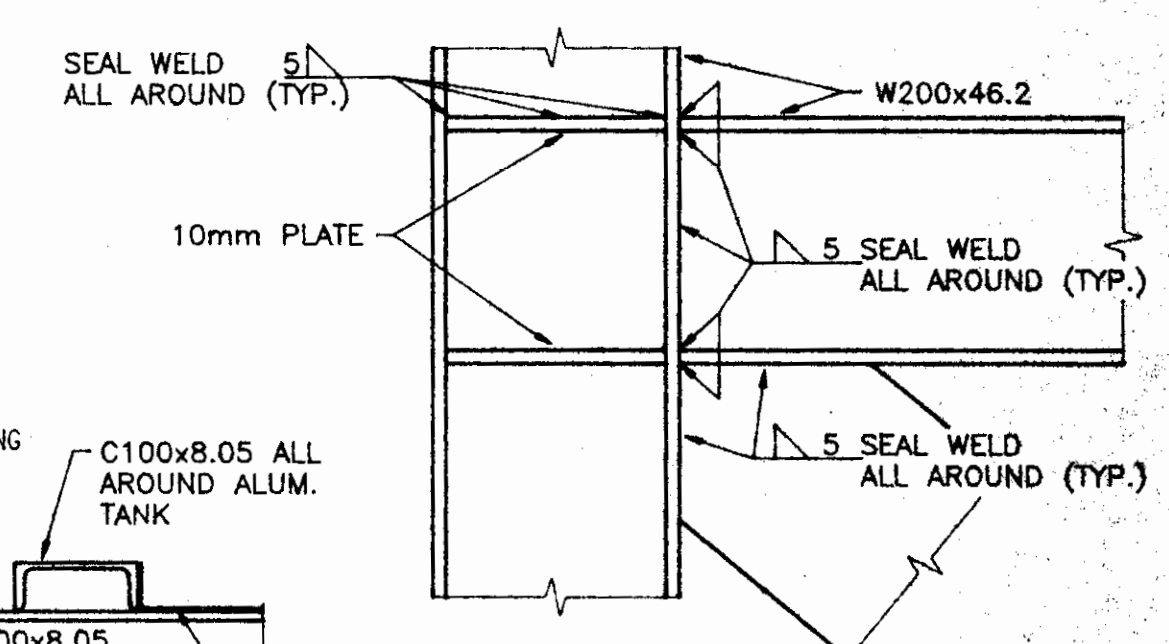
DETAIL D
N.T.S.



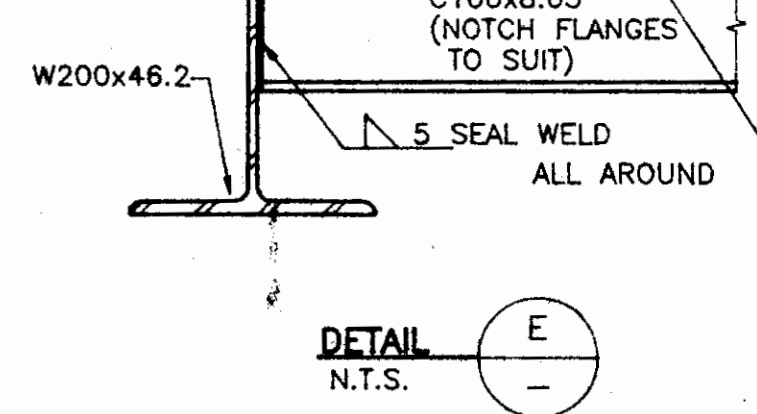
DETAIL C
N.T.S.



DETAIL B
N.T.S.



DETAIL A
N.T.S.



DETAIL E
N.T.S.

NOTE: ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 OR CSA EQUIVALENT

NOTE: PROVIDE 2mm FIBRE ISOLATING GASKET BETWEEN ALL ALUMINUM AND STEEL CONNECTIONS. PROVIDE ISOLATING COLLAR AND WASHERS FOR ALL BOLTS BETWEEN STEEL AND ALUMINUM



DAITON & KOBERT LTD. <small>Consulting Engineers ACAD. REG. NO. 193-7-10 SHEET # of 7</small>		DEPARTMENT OF FISHERIES AND OCEANS SALMONID ENHANCEMENT PROGRAM	
DESIGNED D.H./J.LEE DRAWN J.BRAGG CHECKED D.H./J.LEE RECOMMENDED <small>[Signature]</small> APPROVED <small>[Signature]</small> APPROVED	INCH CREEK HATCHERY CONTRACT No. FP91-4013 WET WELL No. 3 DETAILS		SCALE AS SHOWN DATE JUNE, 1991 DRAWING NUMBER 11-31-349 REVISIONS
NO. DATE REVISIONS			