



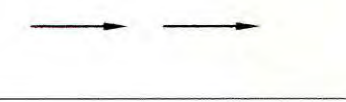
FISHERIES AND OCEANS CANADA

WEST VANCOUVER LABORATORIES UV DISINFECTION

LEGEND

- WATER FLOW
- SAND FILTER SYSTEM
- PIPE CROSS SECTION
- HIDDEN PIPE CROSS SECTION

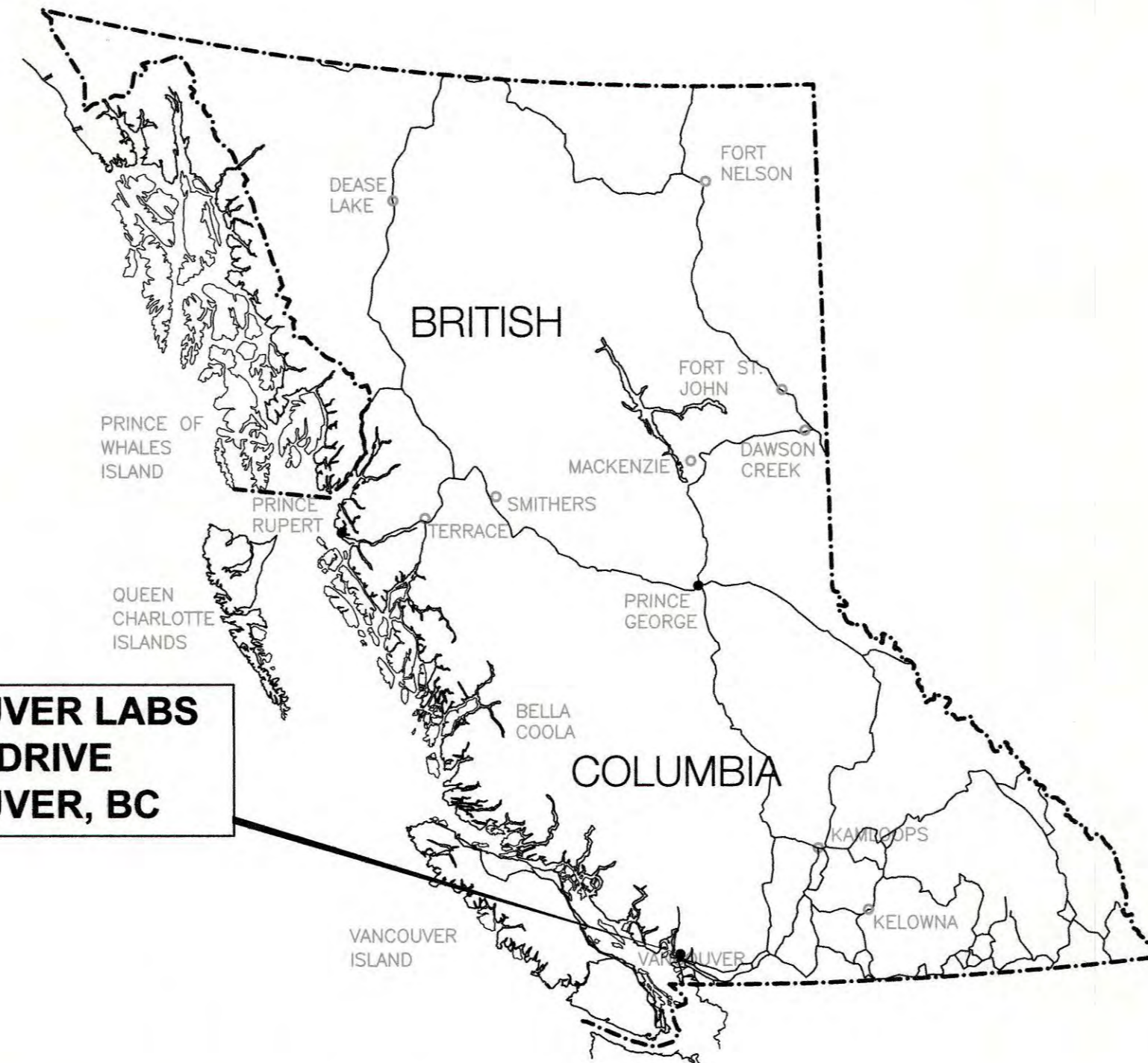
EXISTING



PROPOSED



WEST VANCOUVER LABS
41620 MARINE DRIVE
WEST VANCOUVER, BC



DRAWING LIST

CIVIL

- COVER DRAWING LIST, LOCATION MAP AND LEGEND
- C1.1 EXISTING PLAN VIEW
- C1.2 PROPOSED PIPING CONFIGURATION

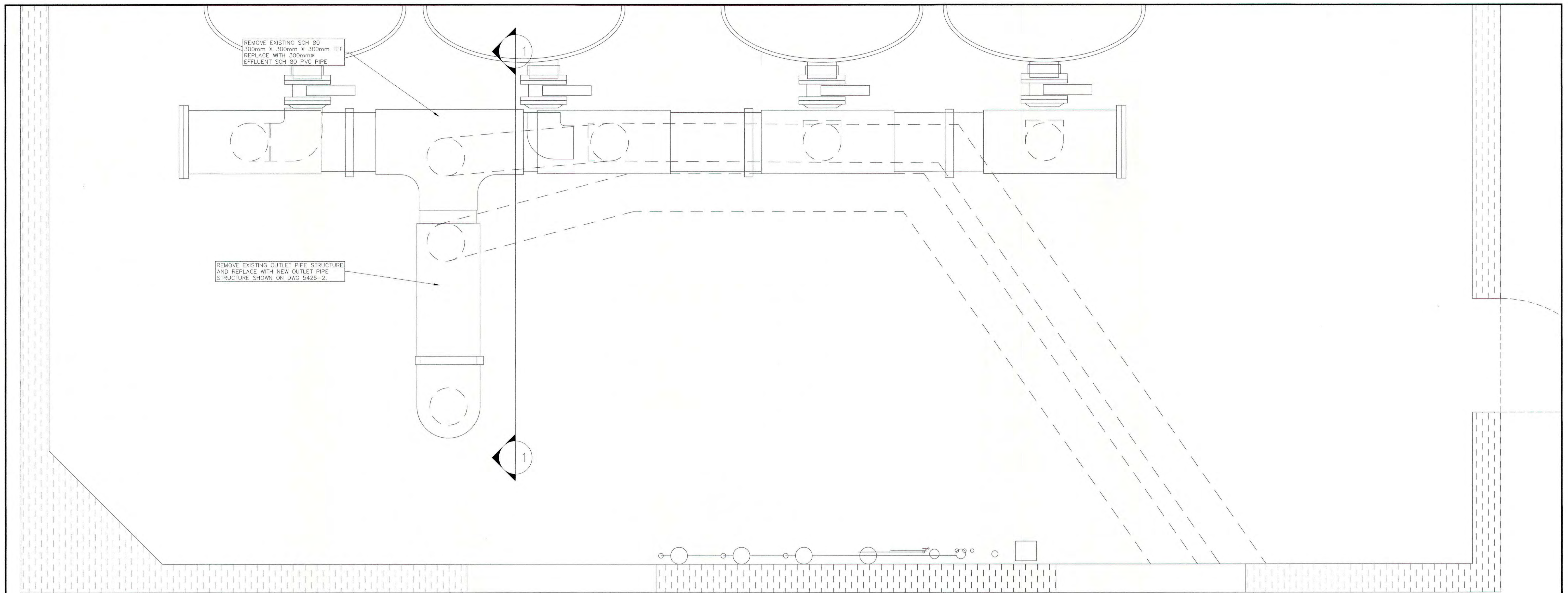
ELECTRICAL

- E1 ELECTRICAL SITE PLAN
- E5 ELECTRICAL AREA ENLARGEMENT - SAND FILTER BUILDING
- E6 ELECTRICAL AREA ENLARGEMENT - BOILER ROOM
- E10 ELECTRICAL SECTIONS AND ELEVATIONS



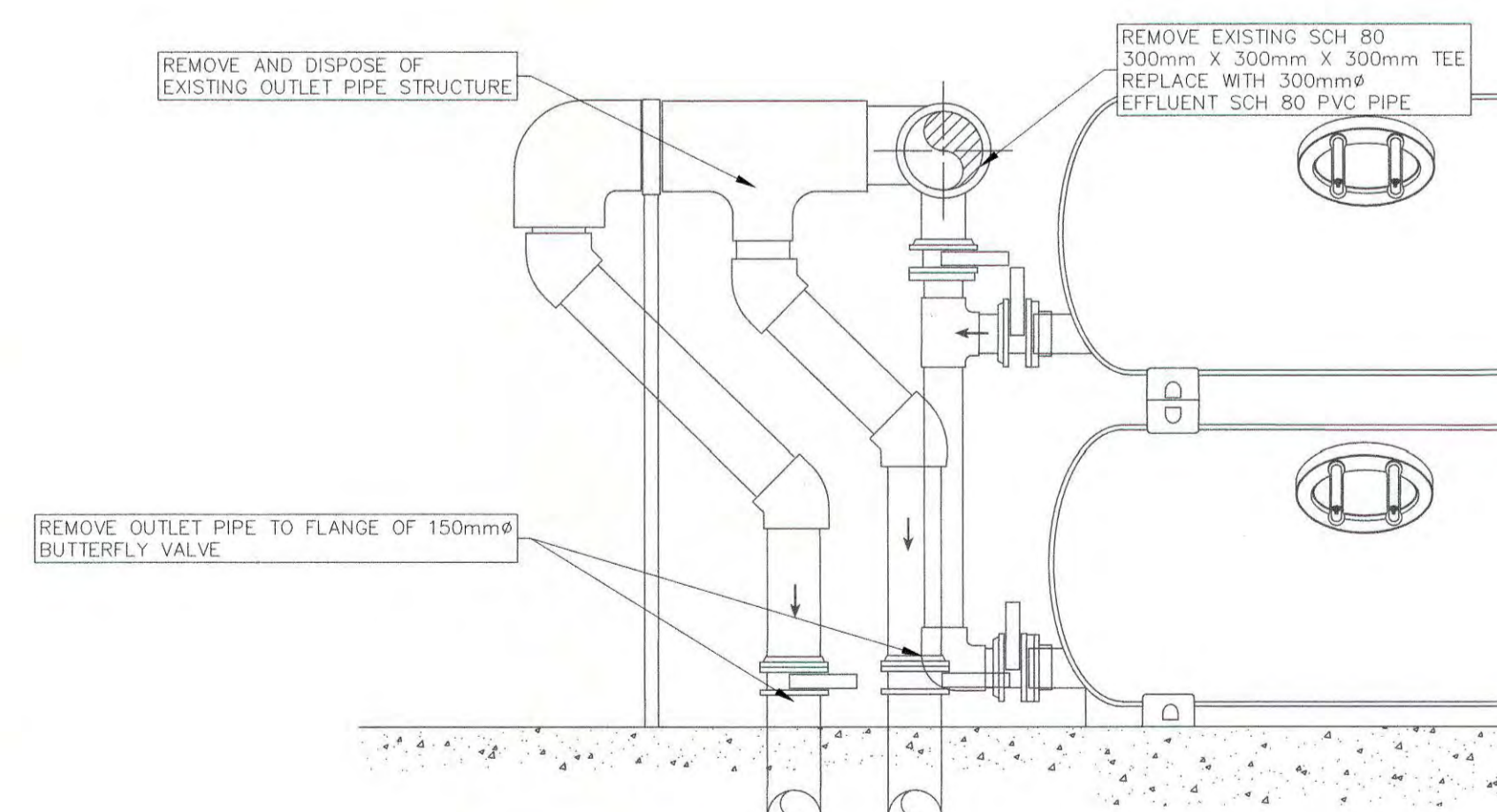
F1700-180019

ISSUED FOR TENDER
OCTOBER, 2018



EXISTING PLAN VIEW

SCALE 1:25



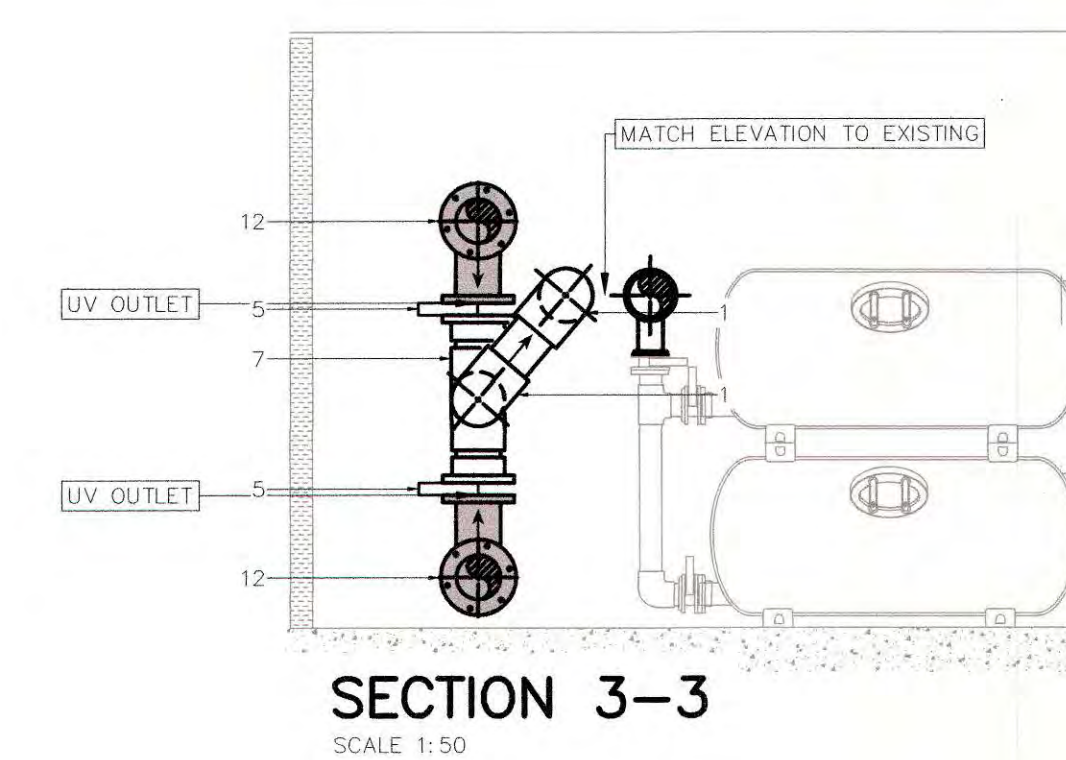
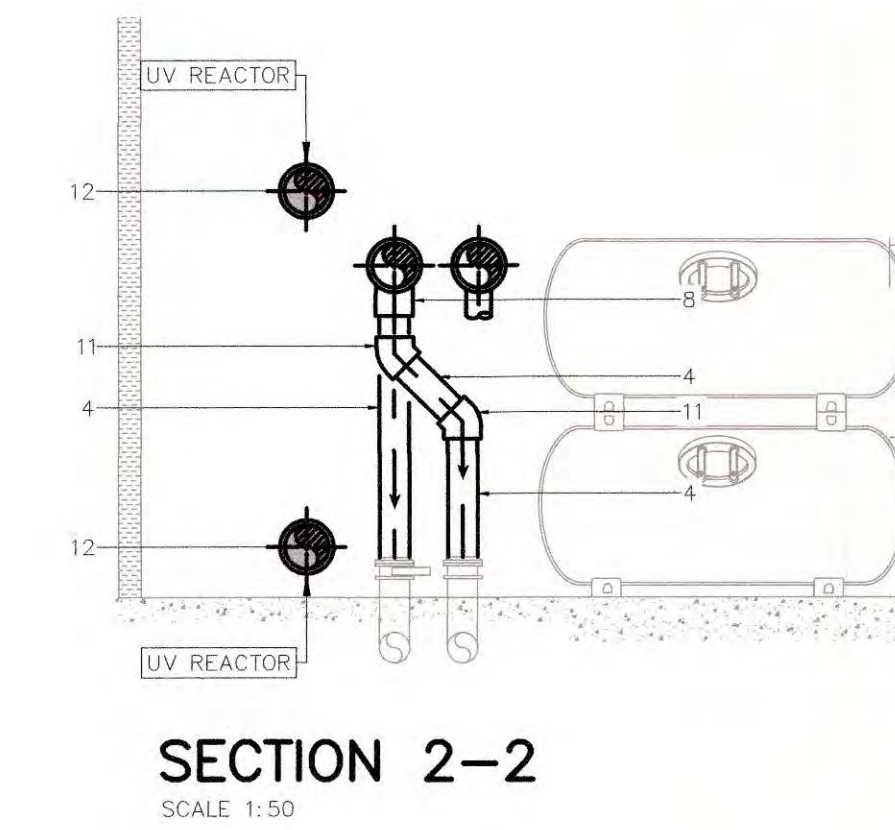
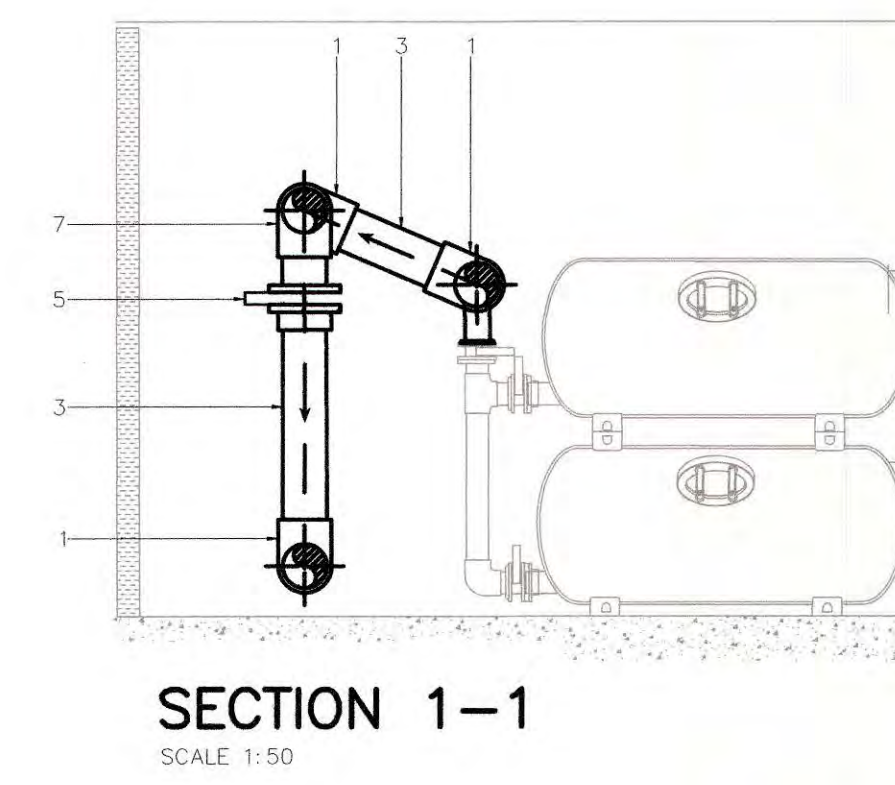
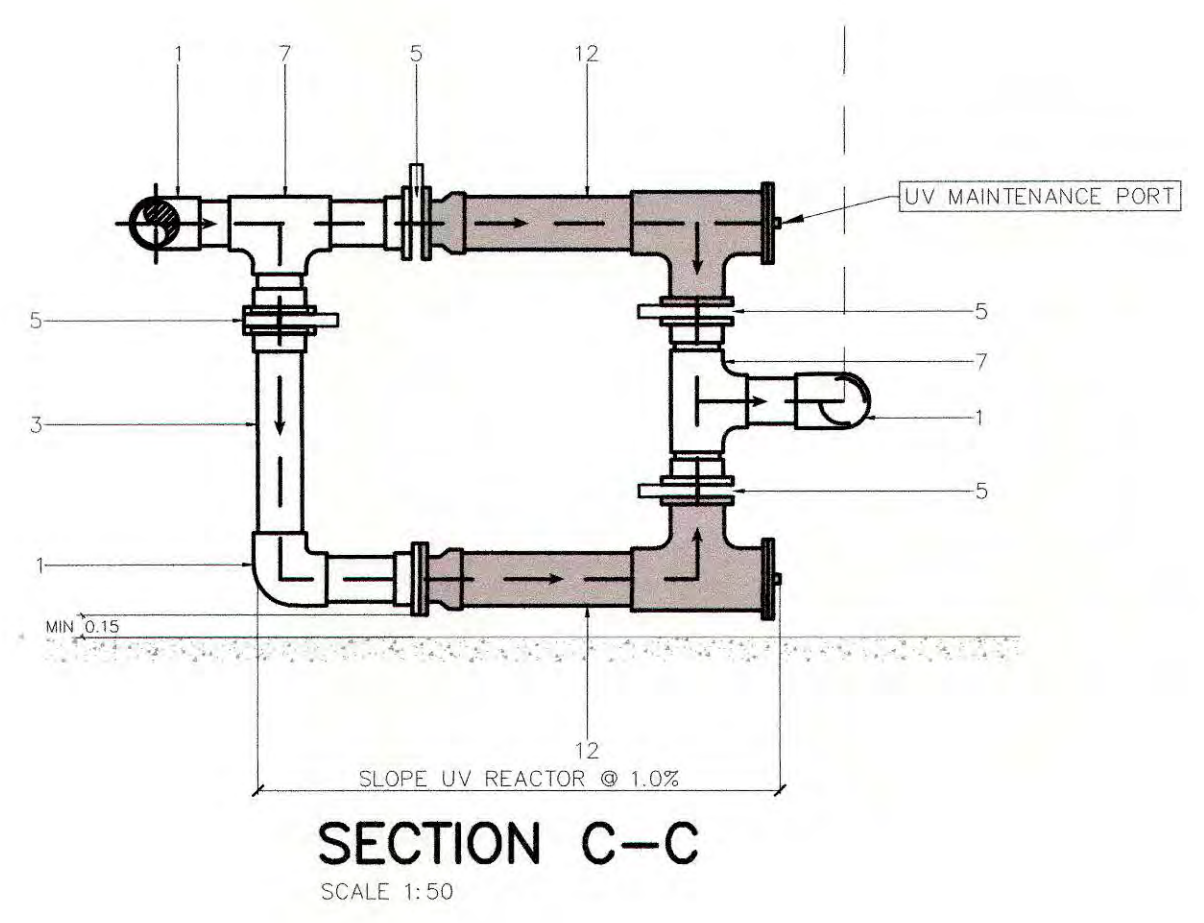
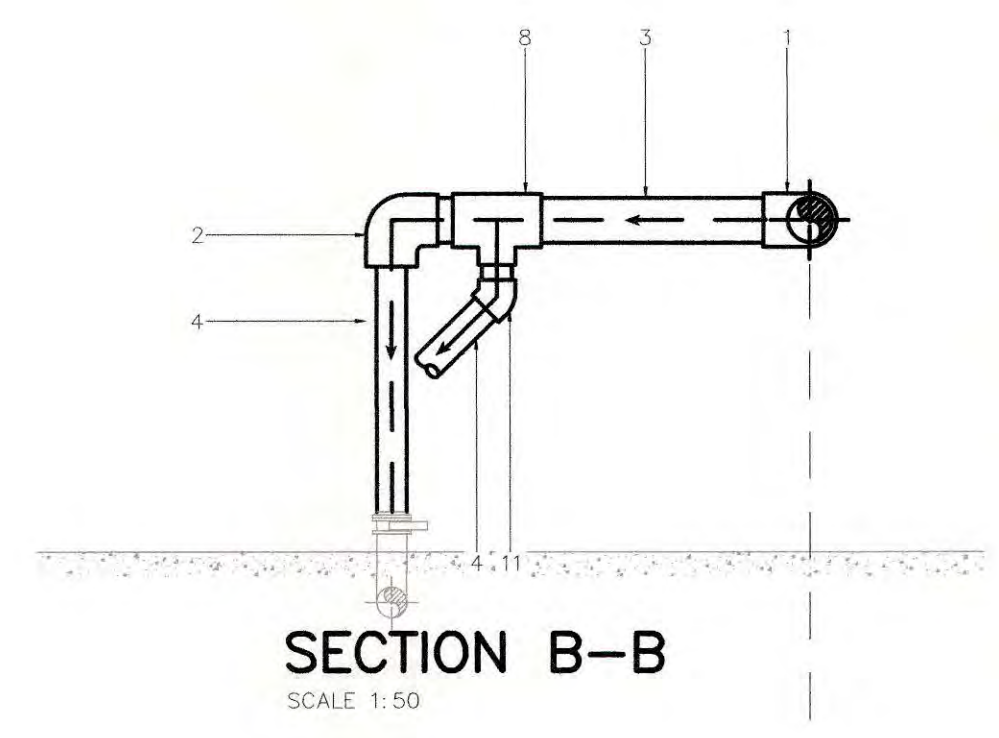
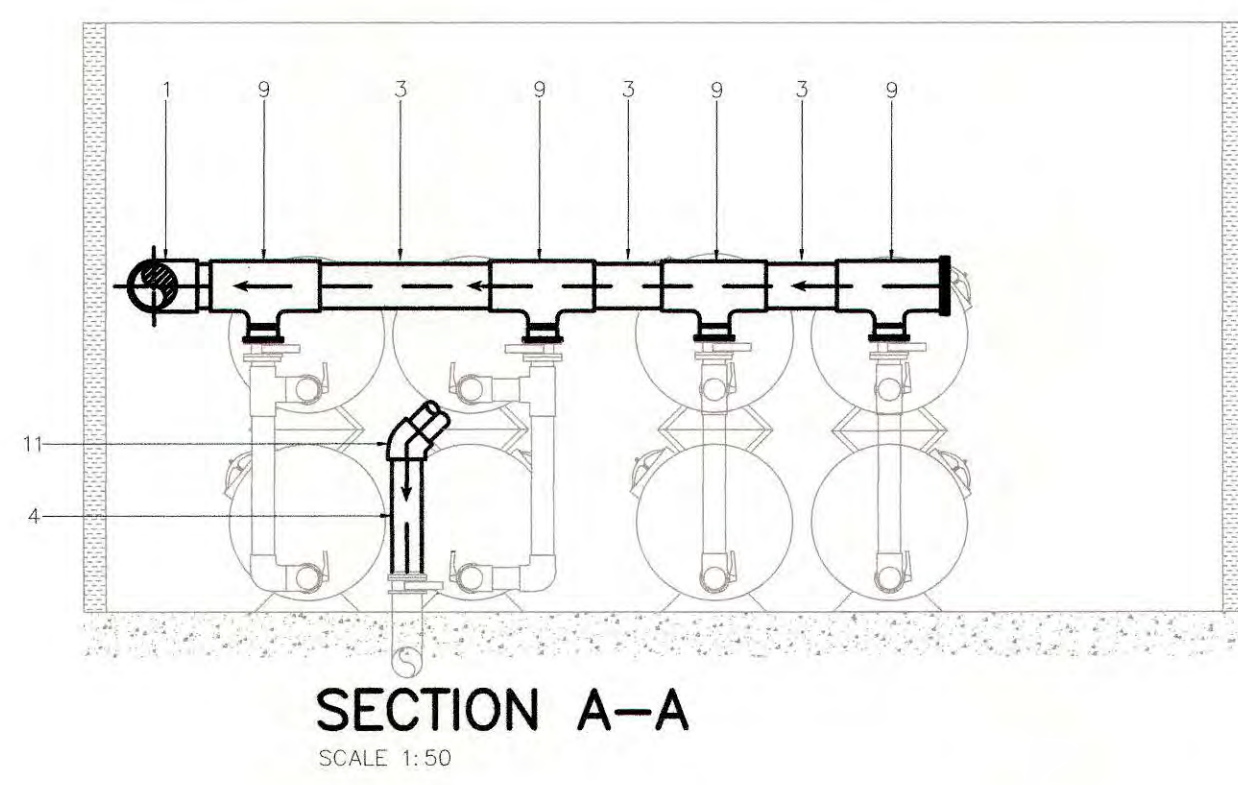
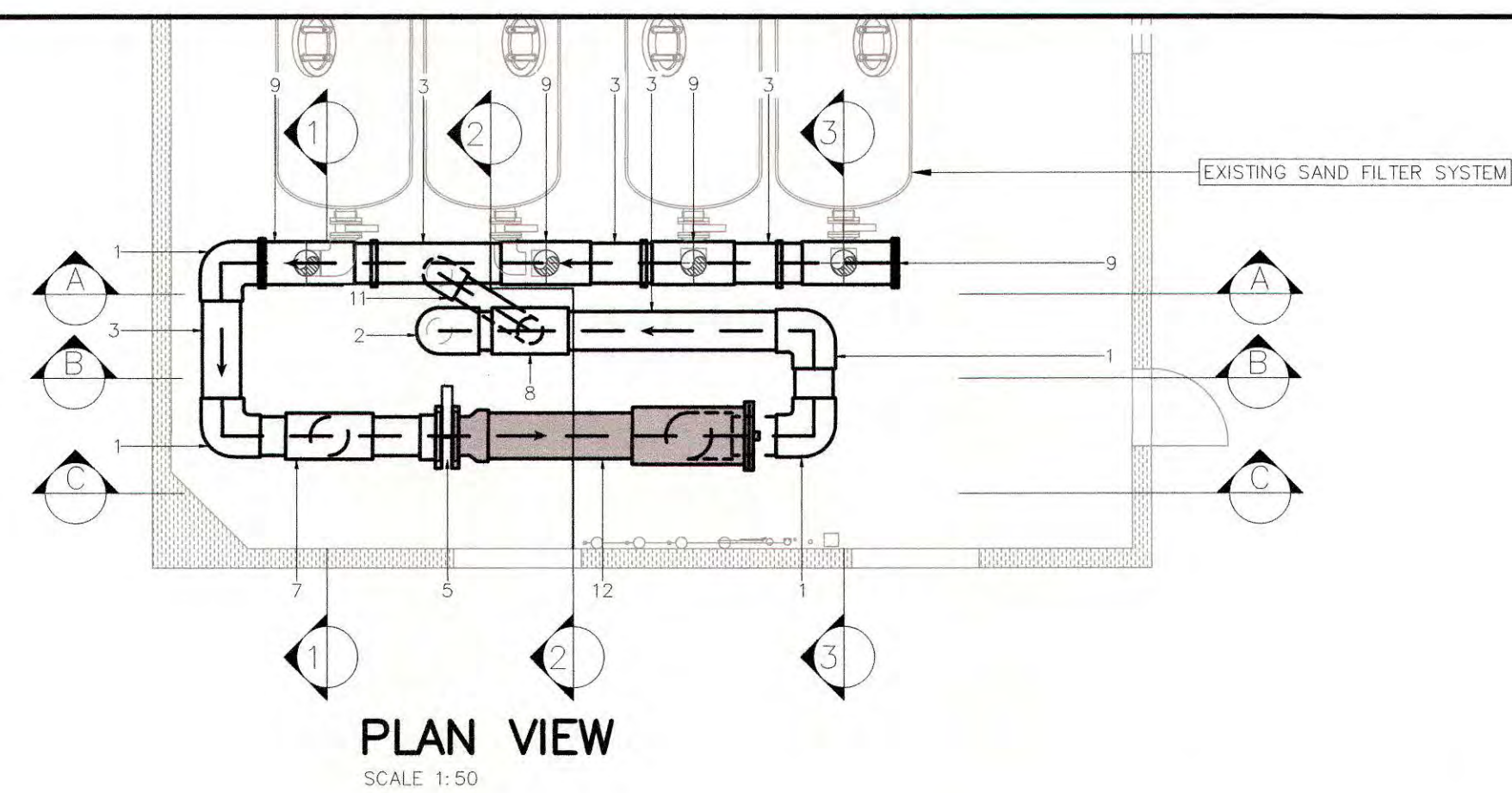
SECTION 1-1

SCALE 1:25



FISHERIES AND OCEANS CANADA REAL PROPERTY AND SAFETY AND SECURITY		SCALE START DATE 2018-07-31 DRAWING NUMBER C1.1
WEST VANCOUVER LABORATORIES UV ADDITION TO SEAWATER FILTRATION SYSTEM DEMOLITION PLAN		

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS	DESIGNED JM	DRAWN JMC	CHECKED GC	RECOMMENDED	APPROVED
			1	2018-10-22	ISSUED FOR TENDER					

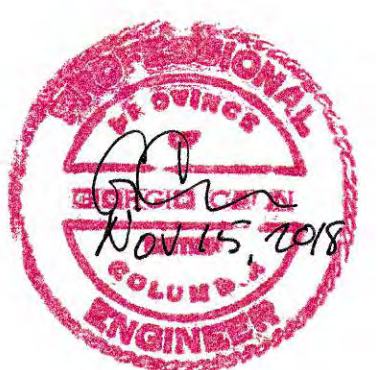


MATERIAL LIST:

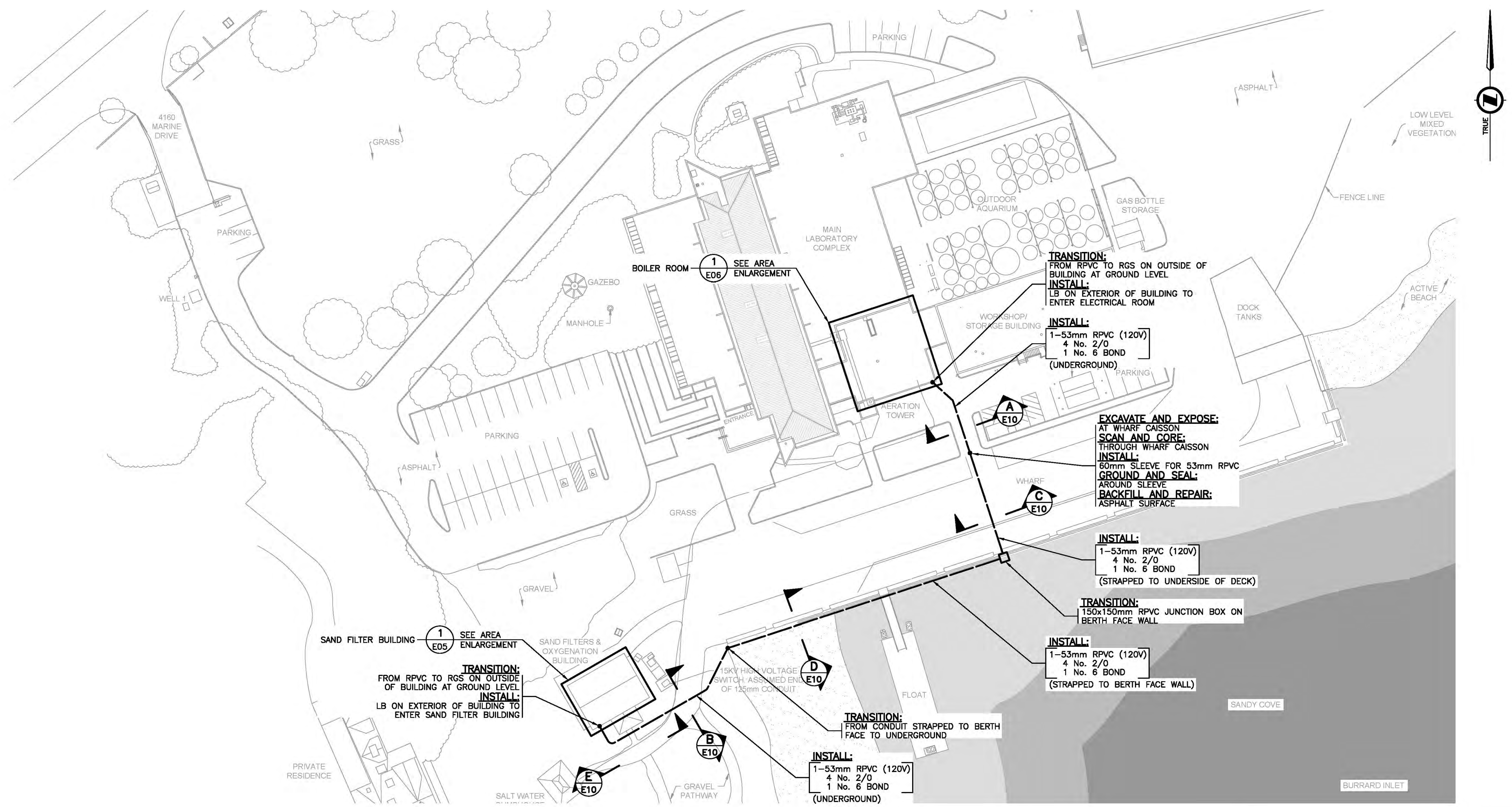
1. 300mm 90° ELBOW S X S
2. 300mm X 200mm 90° ELBOW S X S
3. 300mm Ø EFFLUENT PIPE
4. 200mm Ø EFFLUENT PIPE
5. 300mm Ø BUTTERFLY VALVE WITH FLANGE
6. PIPE SUPPORT STAND
7. 300mm x 300mm x 300mm TEE S x S x S
8. 300mm x 300mm x 200mm TEE S x S x S
9. 300mm x 300mm x 150mm TEE S x S x S
10. 200mm x 200mm x 200mm TEE S x S x S
11. 200mm 45° ELBOW S X S
12. 350mm Ø EFFLUENT UV

GENERAL NOTES:

1. DIMENSION PROVIDED FOR GUIDANCE ONLY
2. MAX FLOW PUMPED THROUGH SYSTEM IS 140 LPS (8,500 LPM)
3. DESIGN FLOW THROUGH FOUR SAND FILTER TANKS IS 100 LPS (6,000 LPM)
4. VELOCITY IN HEADER PIPE AT 10 LPS IS EQUAL TO 1.6 M/S
5. COORDINATE SYSTEM SHUT OFFS WITH DFO OPERATIONAL STAFF
6. ALL PIPE MATERIALS TO BE SCH 80 PVC



FISHERIES AND OCEANS CANADA REAL PROPERTY AND SAFETY AND SECURITY		WEST VANCOUVER LABORATORIES UV ADDITION TO SEAWATER FILTRATION SYSTEM UV ADDITION LAYOUT		SCALE START DATE 2018-07-31 DRAWING NUMBER C1.2		
DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS	DESIGNED .JM DRAWN .JMC CHECKED GC RECOMMENDED APPROVED
			1	2018-10-22	ISSUED FOR TENDER	



SITE PLAN
1:400



NOTES:

1. CONTRACTOR TO SCAN AND LOCATE ALL UNDERGROUND UTILITIES IN THE LOCATIONS WHERE UNDERGROUND TRENCHING IS REQUIRED.
2. CONTRACTOR SHALL PROVIDE SAFETY PLAN FOR WORKING BELOW THE WHARF.

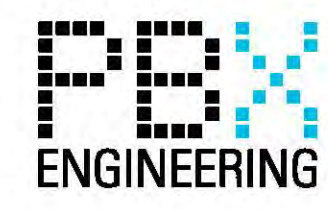
CHECK BEFORE YOU DIG
CONTRACTOR SHALL CONFIRM THE LOCATIONS OF ALL UNDERGROUND UTILITIES.

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

ALL EQUIPMENT IS EXISTING
UNLESS NOTED OTHERWISE

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

WEST VANCOUVER LABORATORIES UV BACKUP SYSTEM POWER		SCALE
		1:400
ELECTRICAL SITE PLAN		DATE
		18-Aug-17
E01		DRAWING NUMBER
		E01
REVISION	P1	



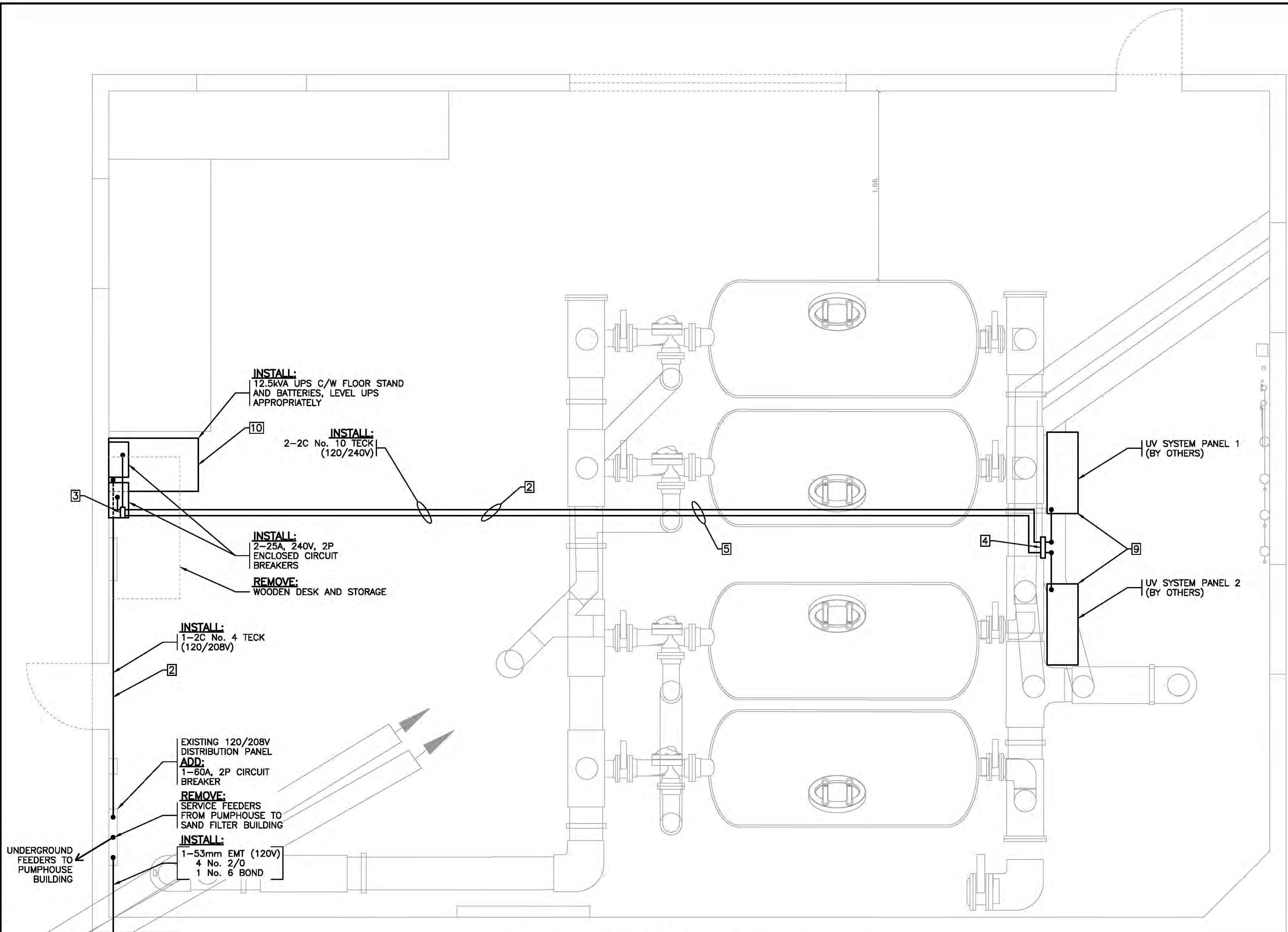
NO.	DATE	REVISIONS
-	2018-AUG-17	ISSUED FOR TENDER

DESIGNED	JF
DRAWN	PBX
CHECKED	BW
RECOMMENDED	
APPROVED	
APPROVED	

NOTES

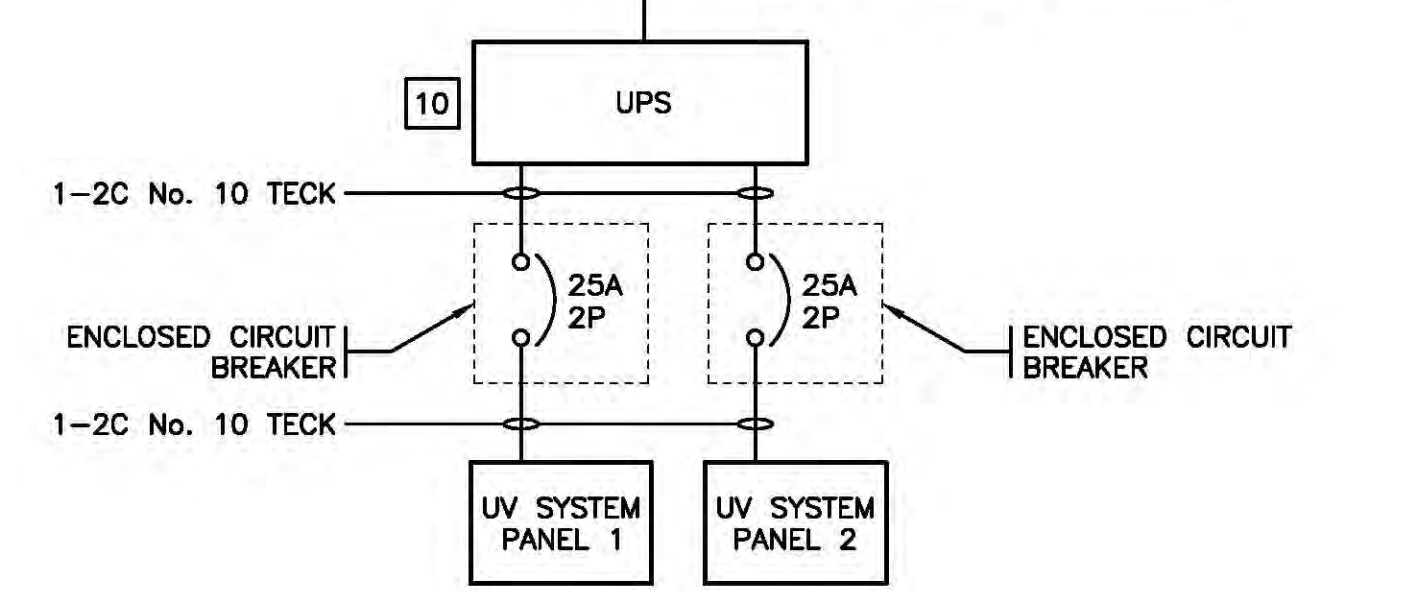
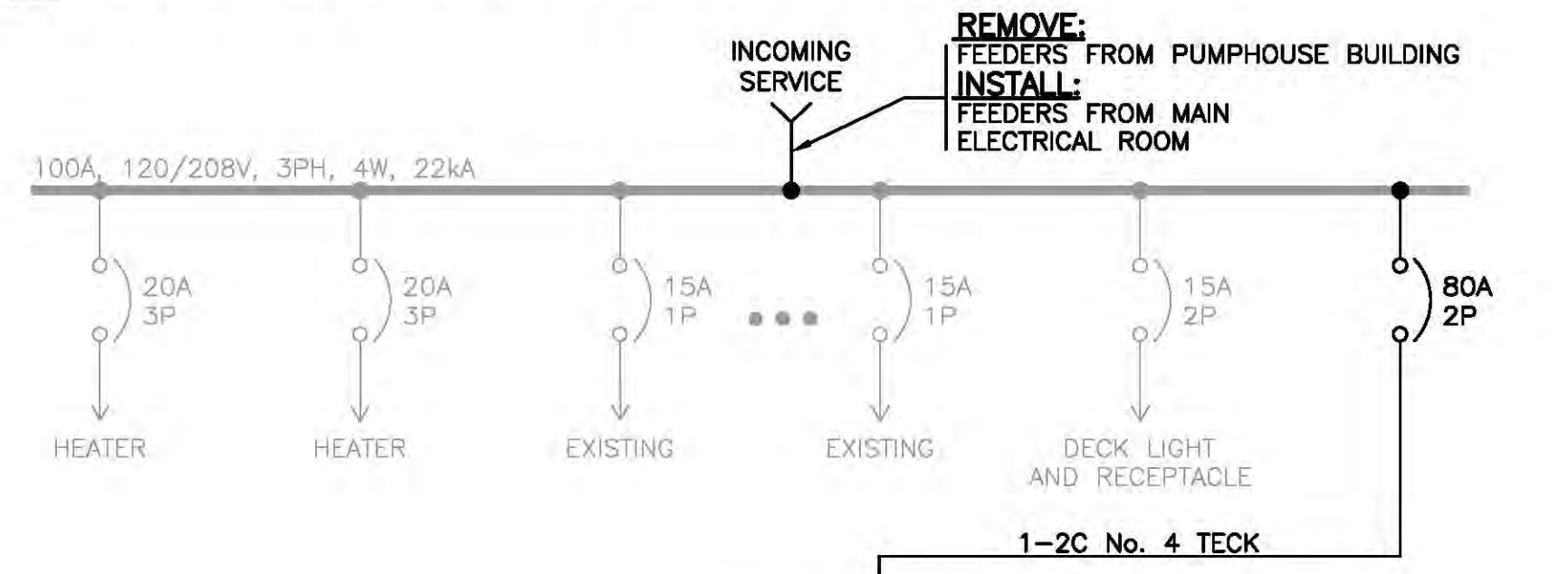
P:\18280_PBX_West_Van_Lab\A01 - UV System Backup Power\Drawings\A001.E01 - 18/AUG/2018 4:03 PM MICHAEL TAJADAR

P:\18250_MEA_West_Van_Lob\A01 - UV System Backup Power\Drawings\A05.E05 - 16/08/2018 3:45 PM - MICHAEL TAJADAR



GENERAL NOTES:

1. ALL ROUTING IS SHOWN DIAGRAMMATICALLY. CONTRACTOR TO COORDINATE THE OPTIMUM ROUTE WITH SITE CONDITIONS AND THE GENERAL CONTRACTOR.
2. ROUTE CABLING FROM DISTRIBUTION, UP WALL AND ALONG CEILING, DOWN TO THE POWER CONNECTION POINT OF THE UV SYSTEM CABINETS.
3. STRAP CABLE TO WALL WITH SUPPORTING STRAPS PER C.E.C.
4. ALLOW TO PROVIDE FREE-STANDING VERTICAL UNISTRUT CABLE SUPPORT BRACKET TO RUN CABLES FROM CEILING TO UV PANELS. CONTRACTOR TO REVIEW WITH THEIR SEISMIC ENGINEER AND ADJUST AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.
5. SUSPEND UNISTRUT USING THREADED RODS OR SURFACE MOUNT UNISTRUT SUPPORTS TO CEILING TO SUPPORT HORIZONTAL CABLE RUNS. CONTRACTOR TO REVIEW WITH THEIR SEISMIC ENGINEER AND ADJUST AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.
6. THE ELECTRICAL TRADE SHALL PROVIDE SEISMIC RESTRAINT AND ANCHORAGE FOR ALL ELECTRICAL EQUIPMENT AND SERVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE B.C. BUILDING CODE, AND ALL APPLICABLE BUILDING BYLAWS. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, TRANSFORMERS, PANEL BOARDS, CONDUIT AND LUMINAIRES.
7. PROVIDE CERTIFIED PROFESSIONALLY-SEALED SHOP AND PLACEMENT DRAWINGS WHERE APPLICABLE FOR ALL ELECTRICAL EQUIPMENT AND EQUIPMENT ASSEMBLIES SHOWING THE METHODS OF ATTACHMENT TO THE PARTICULAR STRUCTURE FOR EACH PIECE OF EQUIPMENT AND ASSEMBLY AND PROVIDE ANCHORAGE/ATTACHEMENT DETAILS APPROVED AND SEALED BY A B.C. REGISTERED PROFESSIONAL STRUCTURAL ENGINEER.
8. INCLUDE IN THE TENDERED PRICE ALL SERVICES OF THE PROFESSIONAL STRUCTURAL ENGINEER INCLUDING BUT NOT LIMITED TO PROVIDING SUPPLEMENTAL SCHEDULE S-B AND S-C FOR THE PROJECT IN RESPECT OF THE SEISMIC RESTRAINT OF ALL ELECTRICAL MATERIALS AND EQUIPMENT, CONDUCTING THE NECESSARY SITE REVIEWS AND PROVIDING A LETTER AT THE CONCLUSION OF THE PROJECT, CONFIRMING THAT ALL SEISMIC RESTRAINTS FOR THE ELECTRICAL WORKS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE ENGINEER'S INSTRUCTIONS. SUPPLEMENTAL SCHEDULES TO BE ADDRESSED AND SUBMITTED TO THE PROJECT'S ELECTRICAL ENGINEER OF RECORD.
9. CONTRACTOR TO CONFIRM FINAL LOCATIONS OF UV SYSTEM PANELS PRIOR TO INSTALLATION.
10. CONTRACTOR TO CONFIGURE UPS TO ACCEPT 208V INPUT AND PROVIDE 240V OUTPUT.



SINGLE LINE

**ISSUED FOR TENDER
NOT FOR CONSTRUCTION**

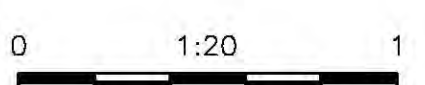
**ALL EQUIPMENT IS EXISTING
UNLESS NOTED OTHERWISE**

EQUIPMENT DESCRIPTION	
UPS	EATON FERRUPS FE12.5kVA
RATING	12.5kVA/10kW
INPUT	208V
OUTPUT	240V
TIME AT FULL LOAD	18 MINUTES

NOTES LEGEND:

- 1 vs. 1. INDICATES THAT THE NOTE APPLIES TO THE ENTIRE DRAWING.
- ↑ INDICATES THAT THE NOTE IS REFERENCED TO A SPECIFIC LOCATION ON THE DRAWING.

AREA ENLARGEMENT 1 SAND FILTER BUILDING
 1:20
 E01



**ALL EQUIPMENT SHOWN IN BOLD
DESIGNATES NEW INSTALLATION**

FISHERIES AND OCEANS CANADA
 REAL PROPERTY AND TECHNICAL SUPPORT

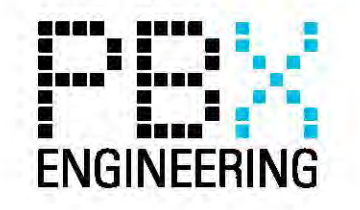
**WEST VANCOUVER LABORATORIES
UV BACKUP SYSTEM POWER**

**ELECTRICAL
AREA ENLARGEMENT
SAND FILTER BUILDING**

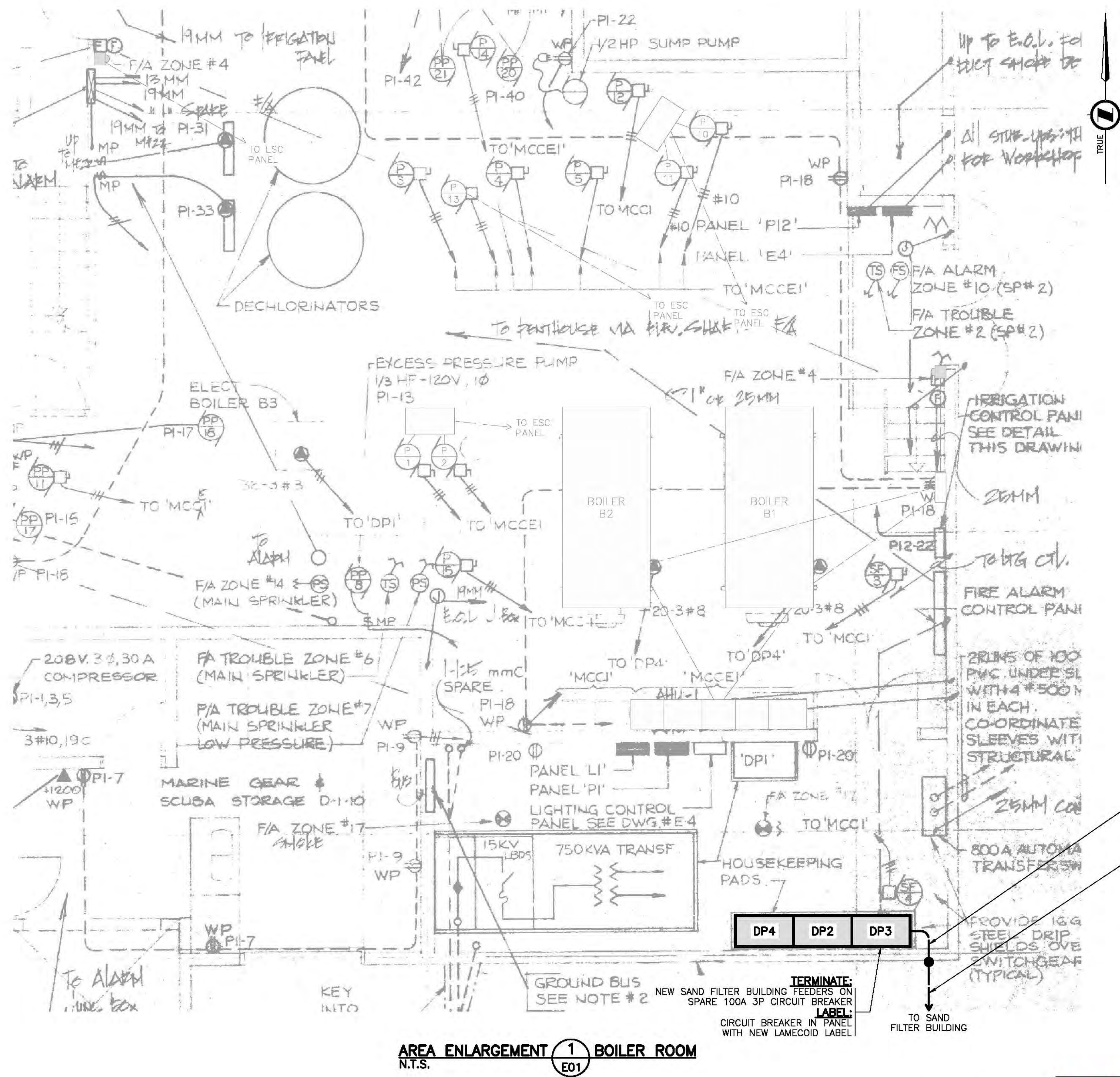
SCALE	1:20
DATE	18-Aug-17
DRAWING NUMBER	E05
REVISION	P1

DESIGNED	JF
DRAWN	PBX
CHECKED	BW
RECOMMENDED	
APPROVED	
APPROVED	

NO.	DATE	REVISIONS
-	2018-AUG-17	ISSUED FOR TENDER



NOTES



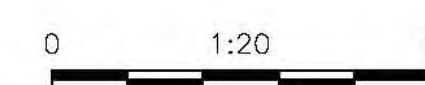
CABLE LEGEND	
---	120V CONDUIT/CABLE
---	COMMUNICATIONS CONDUIT/CABLE

AREA ENLARGEMENT 1 BOILER ROOM
N.T.S. E01

- INSTALL:**
1-53mm EMT (120V)
4 No. 2/0
1 No. 6 BOND
- INSTALL:**
1-53mm RPVC (120V)
4 No. 2/0
1 No. 6 BOND

**ISSUED FOR TENDER
NOT FOR CONSTRUCTION**

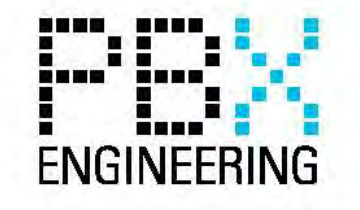
**ALL EQUIPMENT IS EXISTING
UNLESS NOTED OTHERWISE**



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

**WEST VANCOUVER LABORATORIES
UV BACKUP SYSTEM POWER**

SCALE	1:20
DATE	18-Aug-17
DRAWING NUMBER	E06
REVISION	P1

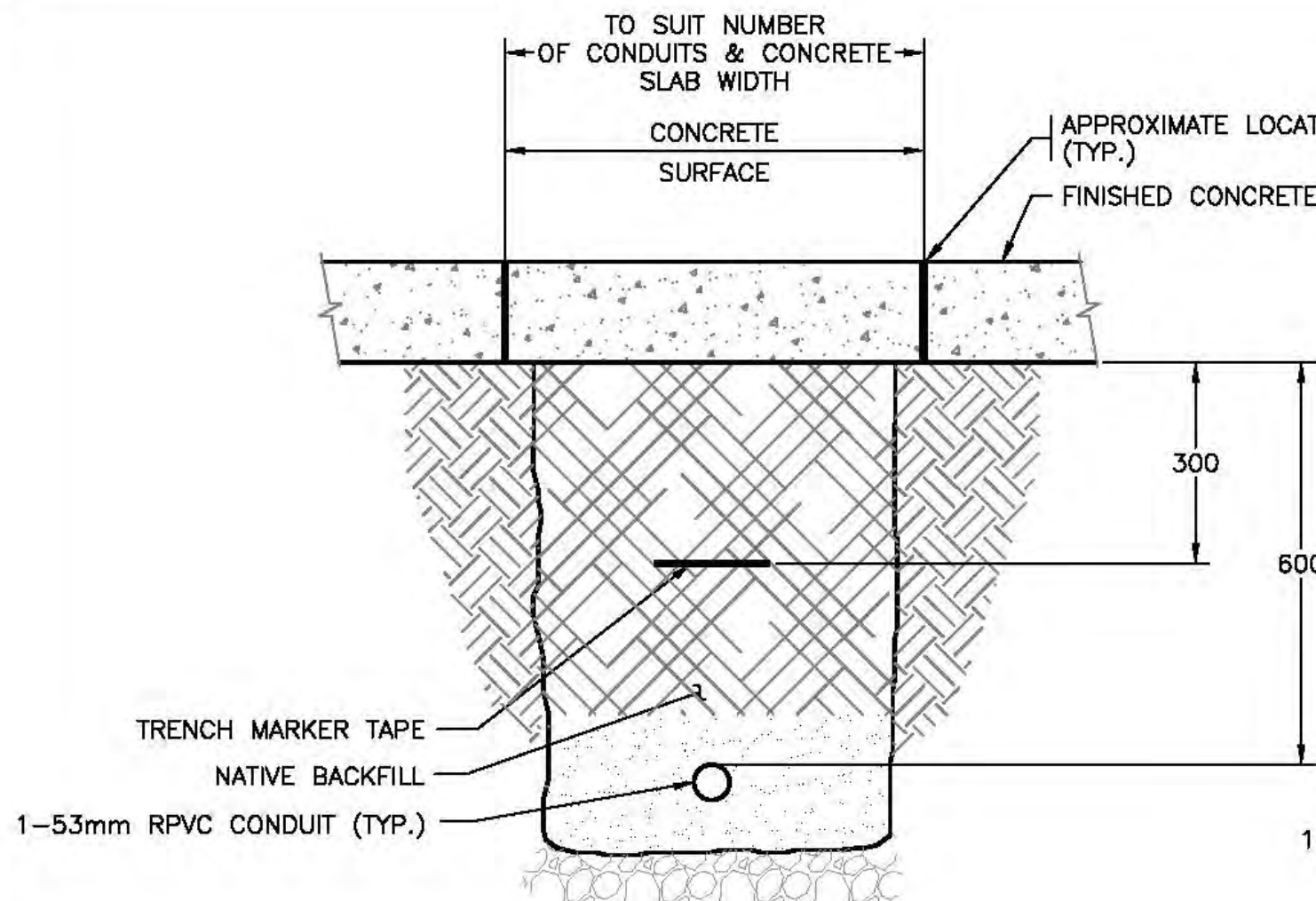


NOTES

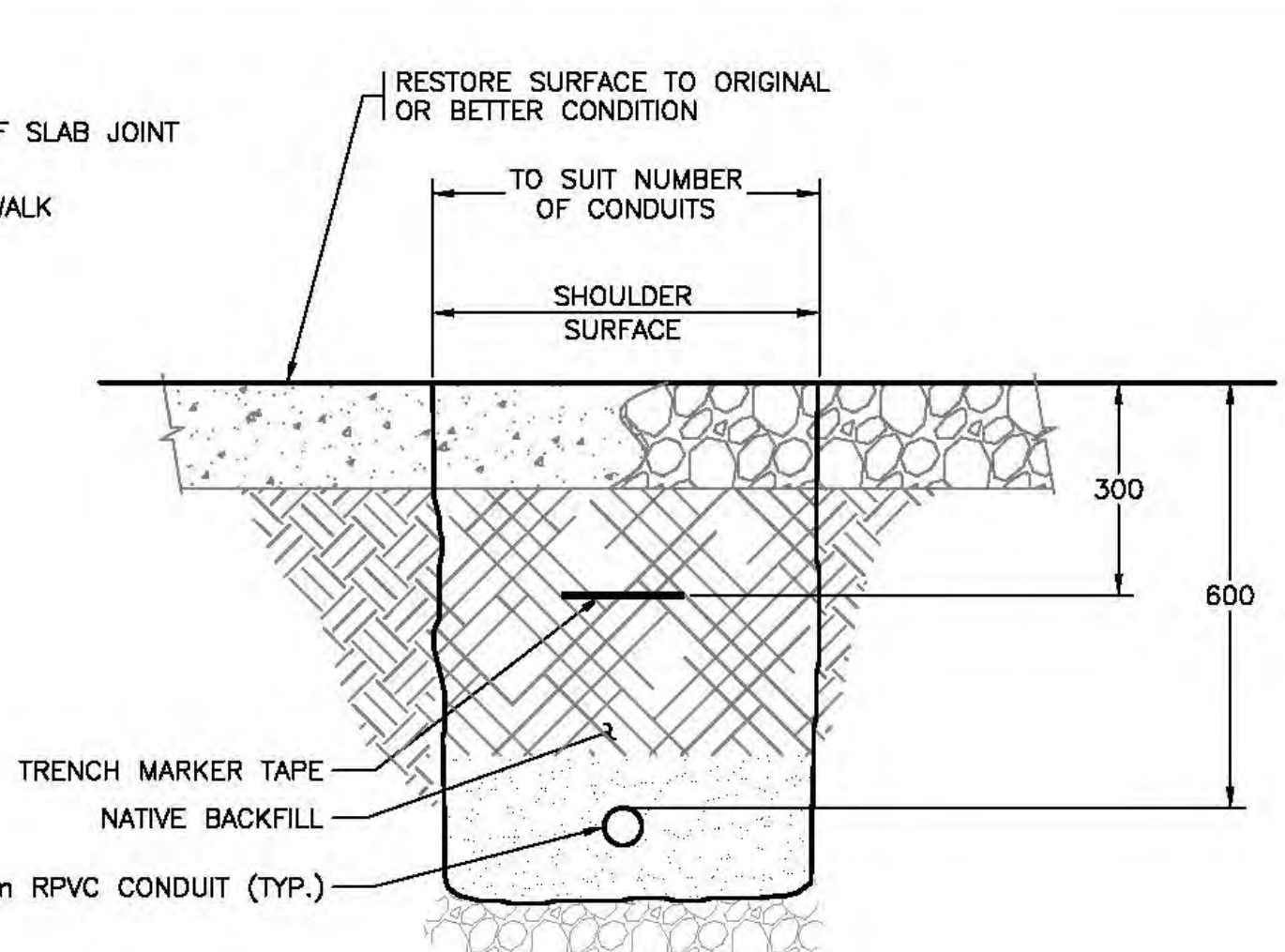
NO.	DATE	REVISIONS
-	2018-AUG-17	ISSUED FOR TENDER

DESIGNED	JF
DRAWN	PBX
CHECKED	BW
RECOMMENDED	BW
APPROVED	
APPROVED	

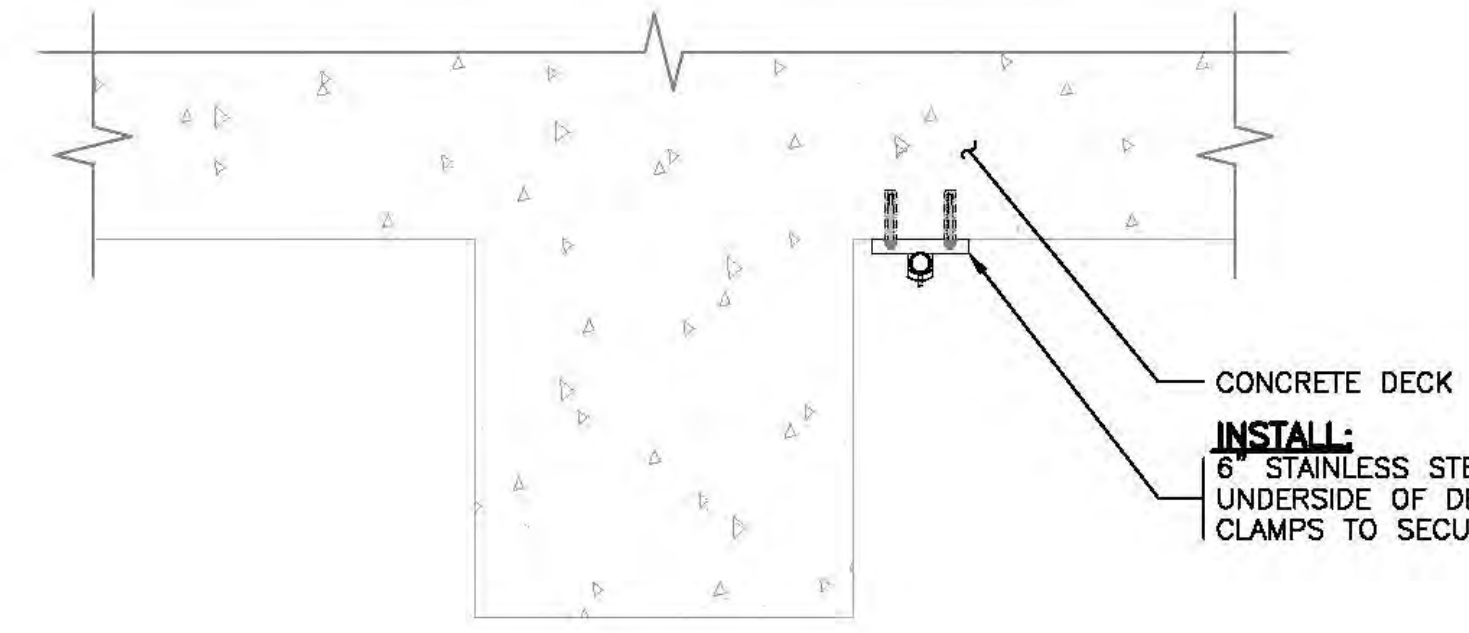
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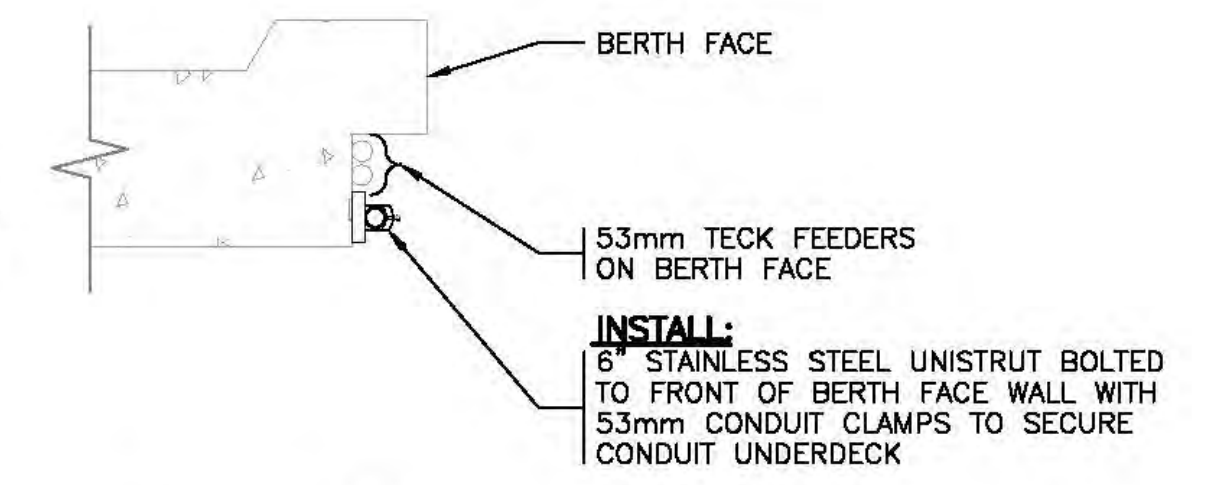
SECTION A
1:10 **E01** TYPICAL TRENCH - ASPHALT



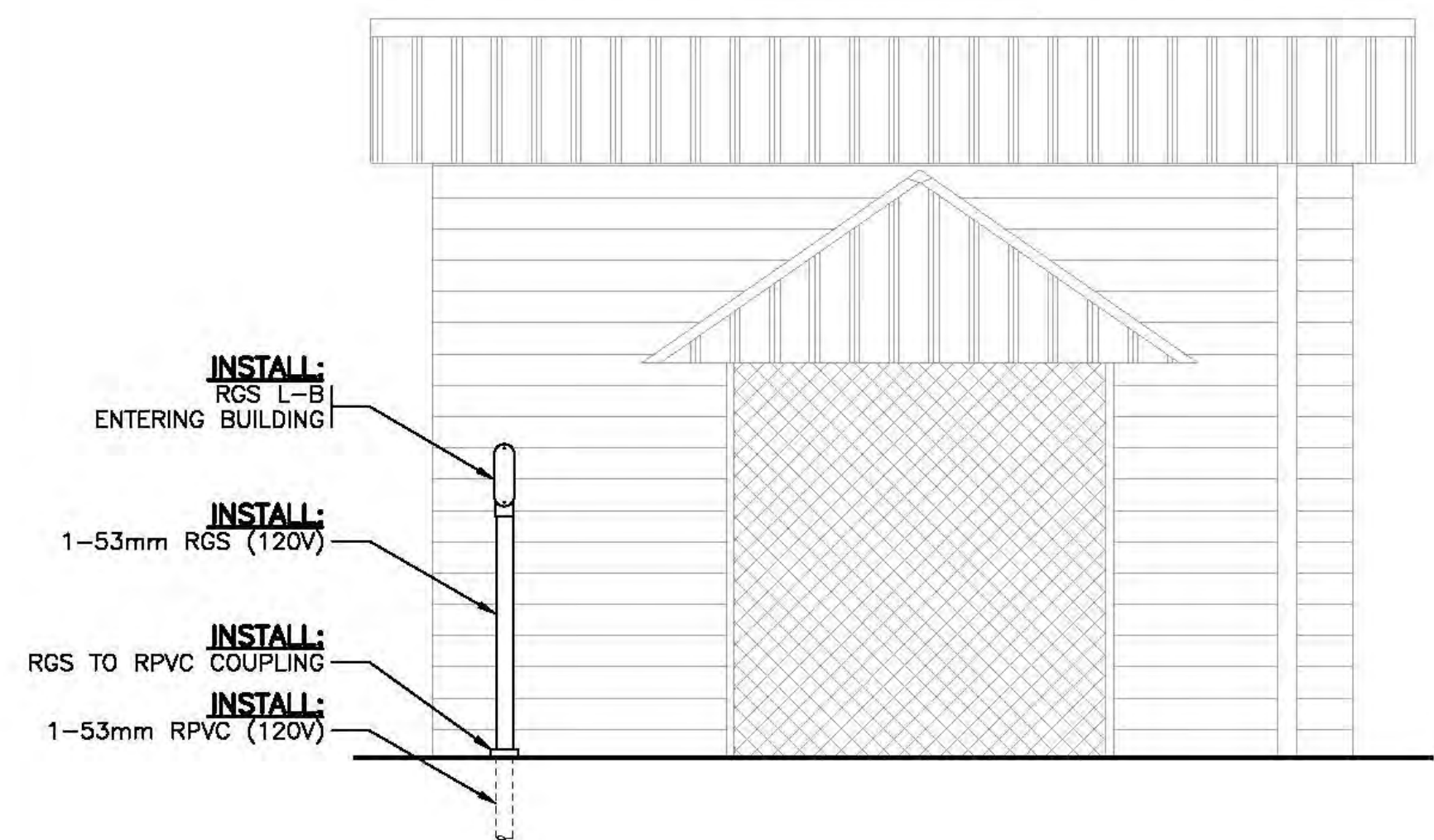
SECTION B
1:10 **E01** TYPICAL TRENCH - SHOULDER



SECTION C
1:20 **E01**
*REFER TO IMAGE 1



SECTION D
1:20 **E01**
*REFER TO IMAGE 2



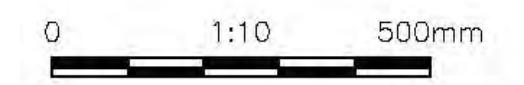
SECTION E
N.T.S. **E01** SAND FILTER BUILDING



IMAGE 1 - UNDERDECK
N.T.S.



IMAGE 2 - BERTH FACE
N.T.S.



CHECK BEFORE YOU DIG
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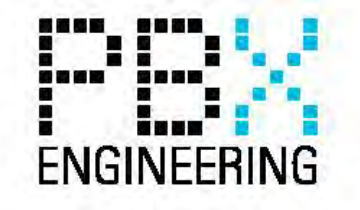
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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

WEST VANCOUVER LABORATORIES
UV BACKUP SYSTEM POWER

ELECTRICAL
SECTIONS AND ELEVATIONS

SCALE AS SHOWN
DATE 18-Aug-17
DRAWING NUMBER E10
REVISION P1



NO.	DATE	REVISIONS
-	2018-AUG-17	ISSUED FOR TENDER

NOTES

P:\181810 - UV Backup System - Backup Power Drawings\RDD\ELD - 23/08/2018 - 10:27 AM - E10.DWG