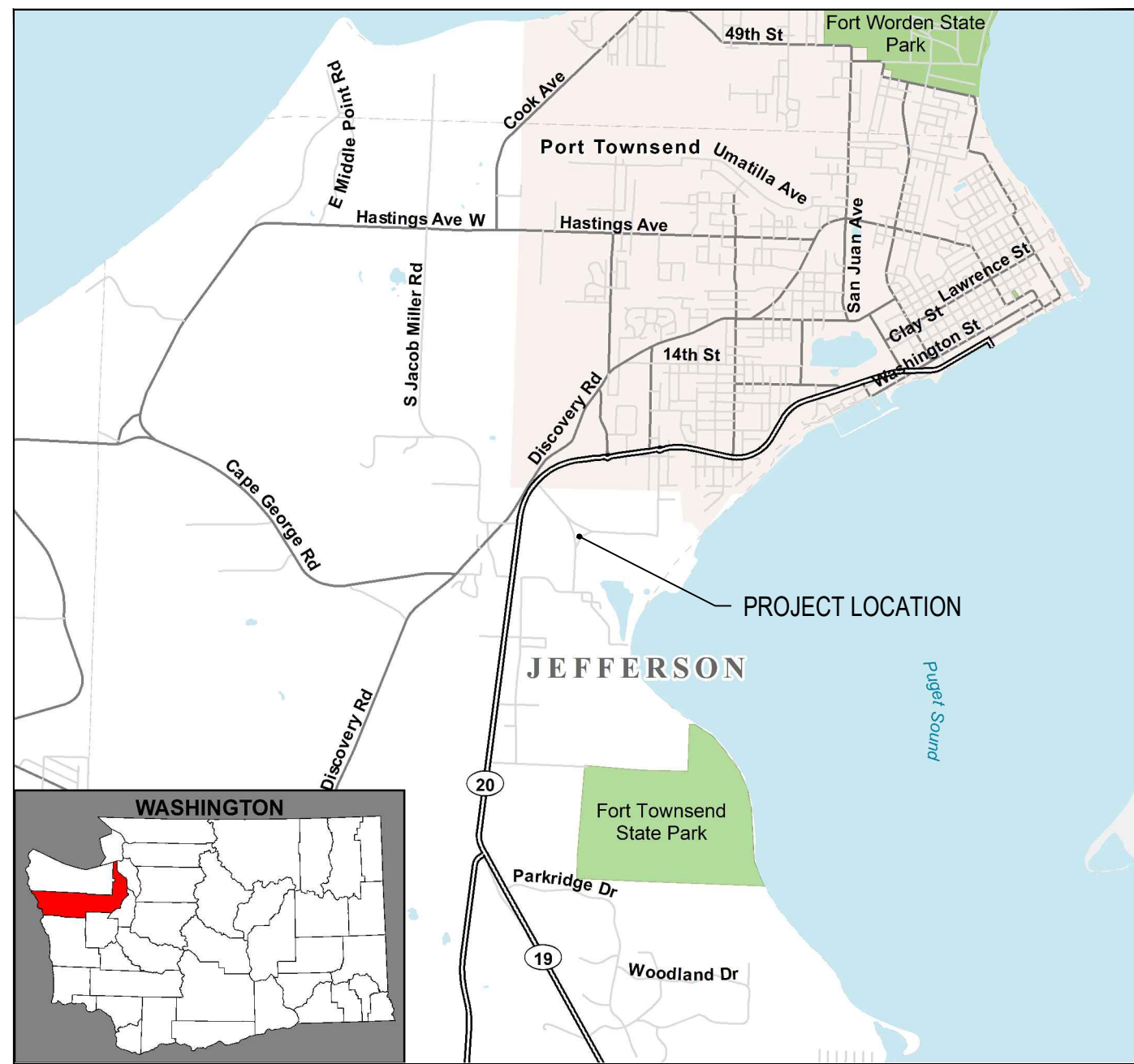


CITY OF PORT TOWNSEND WATER SUPPLY METERING IMPROVEMENTS

SUMMER 2023

PROJECT VICINITY MAP



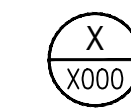
DRAWING INDEX

SHEET NO.	DESCRIPTION	DWG NO.
1	COVER	COV
2	CITY FLOW METER MECHANICAL PLAN	M01
3	INDUSTRIAL FLOW METER MECHANICAL PLAN	M02
4	MECHANICAL DETAILS I	M03
5	MECHANICAL DETAILS II	M04
6	ELECTRICAL LEGEND	E01
7	CITY FLOW METER ELECTRICAL PLAN	E02
8	INDUSTRIAL FLOW METER ELECTRICAL PLAN	E03
9	ELECTRICAL DETAILS	E04
10	TELEMETRY PANEL LAYOUT	E05
11	TELEMETRY PANEL POWER AND COMMUNICATIONS DIAGRAM	E06
12	TELEMETRY PANEL INPUT AND OUTPUT WIRING 1	E07
13	TELEMETRY PANEL INPUT AND OUTPUT WIRING 2	E08

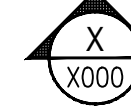
SECTION AND DETAIL REFERENCES

THE FOLLOWING CONVENTIONS HAVE BEEN USED WITHIN THESE DRAWINGS TO REFER THE READER BETWEEN THE SECTION/DETAIL AND THE PLAN FROM WHICH IT IS REFERENCED.

REFERENCE BUBBLES



PLAN REFERENCE BUBBLE - REFERS READER BACK TO THE PLAN FROM WHICH THE DETAIL OR SECTION ORIGINATED.



DETAIL/SECTION REFERENCE BUBBLE - REFERS READER TO THE DRAWING ON WHICH THE DETAIL OR SECTION IS LOCATED.

WHERE: ID = SECTION/DETAIL REFERENCE NUMBER
= DRAWING NUMBER ON WHICH DETAIL ORIGINATED OR RESIDES.

SECTION/DETAIL REFERENCE NUMBER CONVENTIONS:
SECTIONS OR ELEVATIONS SHOULD HAVE A LETTER REFERENCE NUMBER (A THROUGH ZZ)

CONTACT PERSONNEL

CONTACT	POSITION	AGENCY	PHONE
TYLER JOHNSON	PROJECT MANAGER	CITY OF PORT TOWNSEND	(360) 390-4062
MICHAEL SPEARS	OPERATIONS MANAGER	CITY OF PORT TOWNSEND	(360) 379-5001
STEVE KING, P.E.	PUBLIC WORKS DIRECTOR	CITY OF PORT TOWNSEND	(360) 379-5090
STEVE MUCK		PORT TOWNSEND PAPER CORP.	(360) 531-0011
RYAN FESKENS, P.E.	PROJECT MANAGER	RH2 ENGINEERING	(425) 951-5396
MARK BRAAKSMA, P.E.	ELECTRICAL ENGINEER	RH2 ENGINEERING	(360) 684-1552
JEFFERSON COUNTY PUD		POWER	(360) 385-5800
LUMEN (CENTURY LINK)		TELEPHONE AND FIBER	1-800-244-1111
ONE-CALL LOCATE		CALL 48HRS BEFORE YOU DIG	1-800-424-5555
DEPARTMENT OF ECOLOGY		REPORT ANY SPILLS	1-800-258-5990
PORT TOWNSEND FIRE DEPARTMENT		NON-EMERGENCY	(360) 385-2626
PORT TOWNSEND FIRE DEPT. & FIRST AID 911		EMERGENCY	911

GENERAL NOTES

1. THE PIPELINE THAT SUPPLIES WATER TO THE CITY AND THE BRANCH TO THE PORT TOWNSEND PAPER CORPORATION ARE THE ONLY SIGNIFICANT SOURCES OF WATER FOR EACH PARTY AND MAY BE OUT OF SERVICE FOR A MAXIMUM OF 48 HOURS. THE CITY AND THE PAPER CORPORATION HAVE COORDINATED CLOSELY TO GET THIS WORK COMPLETED DURING A WINDOW OF TIME THAT WILL NOT IMPACT THE VIABILITY OF THE CITY'S WATER SYSTEM OR THE MILL'S OPERATIONS AND FINANCIAL WELLBEING. AN OUTAGE LONGER THAN THE INITIAL 48 HOURS, OR ADDITIONAL OUTAGES, WILL BE SUBJECT TO LIQUIDATED DAMAGES.
2. FOLLOWING CONTRACT EXECUTION, THE CITY WILL WORK WITH THE CONTRACTOR TO IDENTIFY THE PHYSICAL LOCATION WHERE THE IMPROVEMENTS ARE TO BE INSTALLED.
3. THE CONTRACTOR SHALL SUBMIT A DETAILED SHUTDOWN SCHEDULE TO AIDE IN PROGRESS MONITORING THROUGHOUT THE 48 HOUR SHUTDOWN. IT IS ASSUMED THAT THE CONTRACTOR WILL HAVE SEPARATE CREWS WORKING AT EACH FLOW METER FACILITY LOCATION AND THAT AROUND THE CLOCK WORK WILL TAKE PLACE UNTIL ALL NECESSARY WORK HAS BEEN COMPLETED.

CONSTRUCTION SEQUENCING:

1. 30 WORKING DAYS PRIOR TO BEGINNING FLOW METER FACILITY INSTALLATIONS, CONTRACTOR SHALL REVIEW AVAILABLE MATERIALS FOR EACH FACILITY AND CONFIRM THAT ALL NECESSARY COMPONENTS ARE AVAILABLE AND ON HAND. NOTIFY THE OWNER AND/OR ENGINEER IMMEDIATELY REGARDING ANY INCONSISTENCIES OR CONCERNS. CONTRACTOR SHALL ALSO PREDIG CONNECTION LOCATIONS AND MOBILIZE ALL MATERIALS AND EQUIPMENT TO THE INSTALLATION SITES.
2. THE CITY WILL ISOLATE THE PIPELINE BEGINNING AT 7:00 AM ON WEDNESDAY, OCTOBER 11, 2023 AND BEGIN DRAINING ACTIVITIES IMMEDIATELY THEREAFTER. IT IS ASSUMED THAT IT MAY TAKE UP TO 6 HOURS TO FULLY DRAIN THE PIPELINE. THE CONTRACTOR MUST HAVE THE NECESSARY IMPROVEMENTS COMPLETED SUCH THAT THE PIPELINE IS READY TO BE PUT BACK INTO SERVICE PRIOR TO 5:00 AM ON FRIDAY, OCTOBER 13TH. THE CITY WILL FILL AND FLUSH THE MAIN TO RESTORE SERVICE BY 7:00 AM ON FRIDAY, OCTOBER 13, 2023.
- 3A. COMPLETE THE CIVIL/MECHANICAL/STRUCTURAL ELEMENTS OF THE CITY FLOW METER PIPING AND MANHOLE IMPROVEMENTS AS NECESSARY TO ALLOW FOR THE PIPELINE TO BE RECOMMISSIONED. THRUST BLOCKING AND OTHER ANCILLARY COMPONENTS MAY BE INSTALLED ONCE THE PIPELINE IS BACK IN SERVICE.
- 3B. COMPLETE THE CIVIL/MECHANICAL/STRUCTURAL ELEMENTS OF THE INDUSTRIAL FLOW METER PIPING AND MANHOLE IMPROVEMENTS AS NECESSARY TO ALLOW FOR THE PIPELINE TO BE RECOMMISSIONED. THRUST RESTRAINT FLANGE SHALL BE SLIPPED ON THE PIPE BUT WELDING AND OTHER ANCILLARY COMPONENTS MAY BE INSTALLED ONCE THE PIPELINE IS READY TO BE PLACED BACK IN SERVICE.
4. COMPLETE ALL REMAINING WORK ASSOCIATED WITH EACH FACILITY.

THE CITY HAS PRE-PURCHASED MOST MAJOR MECHANICAL/STRUCTURAL PIPELINE COMPONENTS, LISTED BELOW, THAT HAVE BEEN DELIVERED TO THEIR STORAGE YARD. CONTRACTOR SHALL MAKE ARRANGEMENTS TO PICK UP MATERIALS AND TRANSPORT THEM TO THE PROJECT SITE.

CONTRACTOR TO INSTALL THE FOLLOWING PRE-PURCHASED ITEMS:

ELECTRIC METER LOAD CENTER	(2)	14" BUTTERFLY VALVE (MJXMJ)
SCADA CONTROL PANEL	(2)	14" ROMAC 501 COUPLING
(2) 84" PRE-CAST MANHOLE WITH ACCESS HATCH; CONTRACTOR TO PROVIDE LADDER.	(4)	14" ROMAC FLANGE COUPLING ADAPTER
(1) 20" BUTTERFLY VALVE (FLxFL)	(2)	14" ROMAC RESTRAINED FLANGE COUPLING ADAPTER
(1) 20" TEE (FLxFLxFL)	(1)	14" ENVIROMAG FLOW METER
(1) 20" BLIND FLANGE	(1)	14" SADDLE WITH 1" TAP
(1) 20" ROMAC FLANGE COUPLING ADAPTER	(4)	14" WEDGE ACTION MJ KIT
(1) 20" SLIP ON WELDED FLANGE	(6)	14" PLATED BOLT & NUT KIT
(1) 20" ENVIROMAG FLOW METER	(6)	14" 1/2" RING GASKET
(1) 20" FLANGE INSULATING GASKET KIT	(2)	14" FLANGE INSULATING GASKET KIT
(4) 20" 1/2" RING GASKET, NSF-61 EPDM, 150#	(36.5')	14" DI PIPE
(2) 20" BFV FLANGE PLATED BOLT & NUT KIT		
(1) 20" PLATED BOLT & NUT KIT		

CONTRACTOR SHALL PROCURE AND INSTALL ALL OTHER MATERIALS (NOT PROVIDED BY THE CITY) NECESSARY TO CONSTRUCT COMPLETE AND FUNCTIONAL FACILITIES MEETING THE DESIGN INTENT. CONTRACTOR SHALL IMMEDIATELY INFORM THE OWNER/ENGINEER OF ANY COMPONENTS THAT ARE BELIEVED TO BE OF LONG LEAD TIME THAT MAY IMPACT THE INSTALLATION TIMING.

PROJECT LOCATION MAP



**CALL 48 HOURS BEFORE YOU DIG
ONE CALL 811**

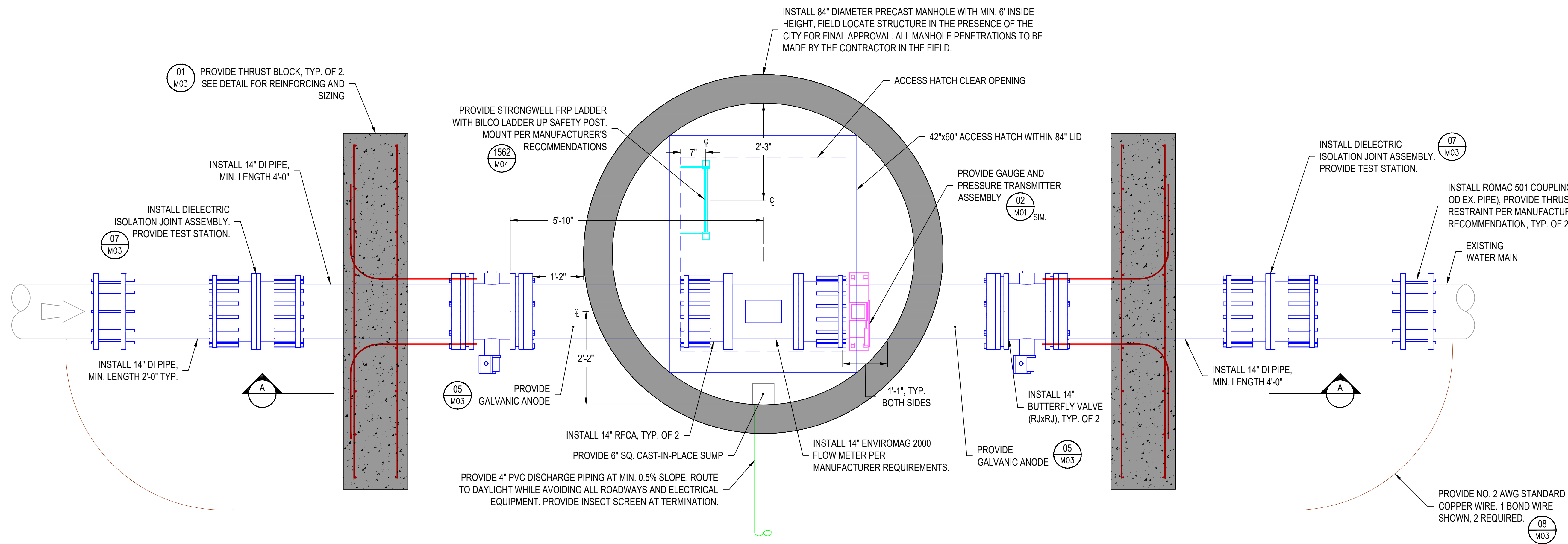
**REPORT ALL SPILLS
DEPT. OF ECOLOGY 1-800-258-5990**



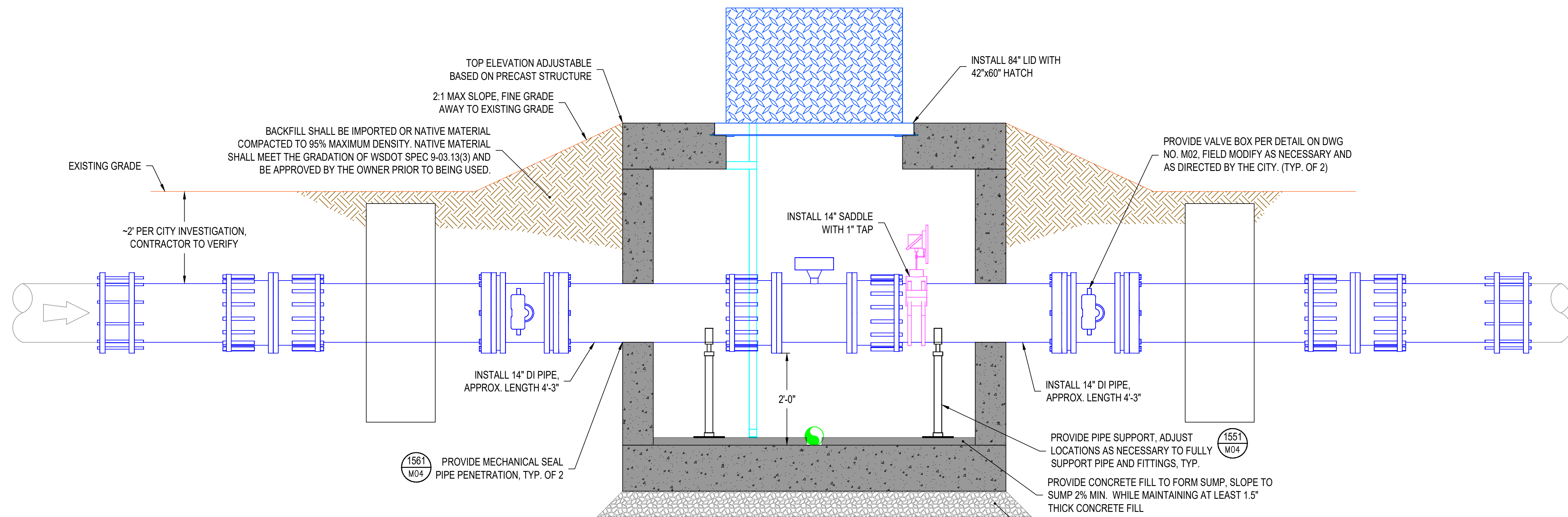
NOTE:
POWER METER ADDRESS IS 76 SOUTH 8TH ST.
PORT TOWNSEND, WA 98368

SITE PLAN
NOT TO SCALE





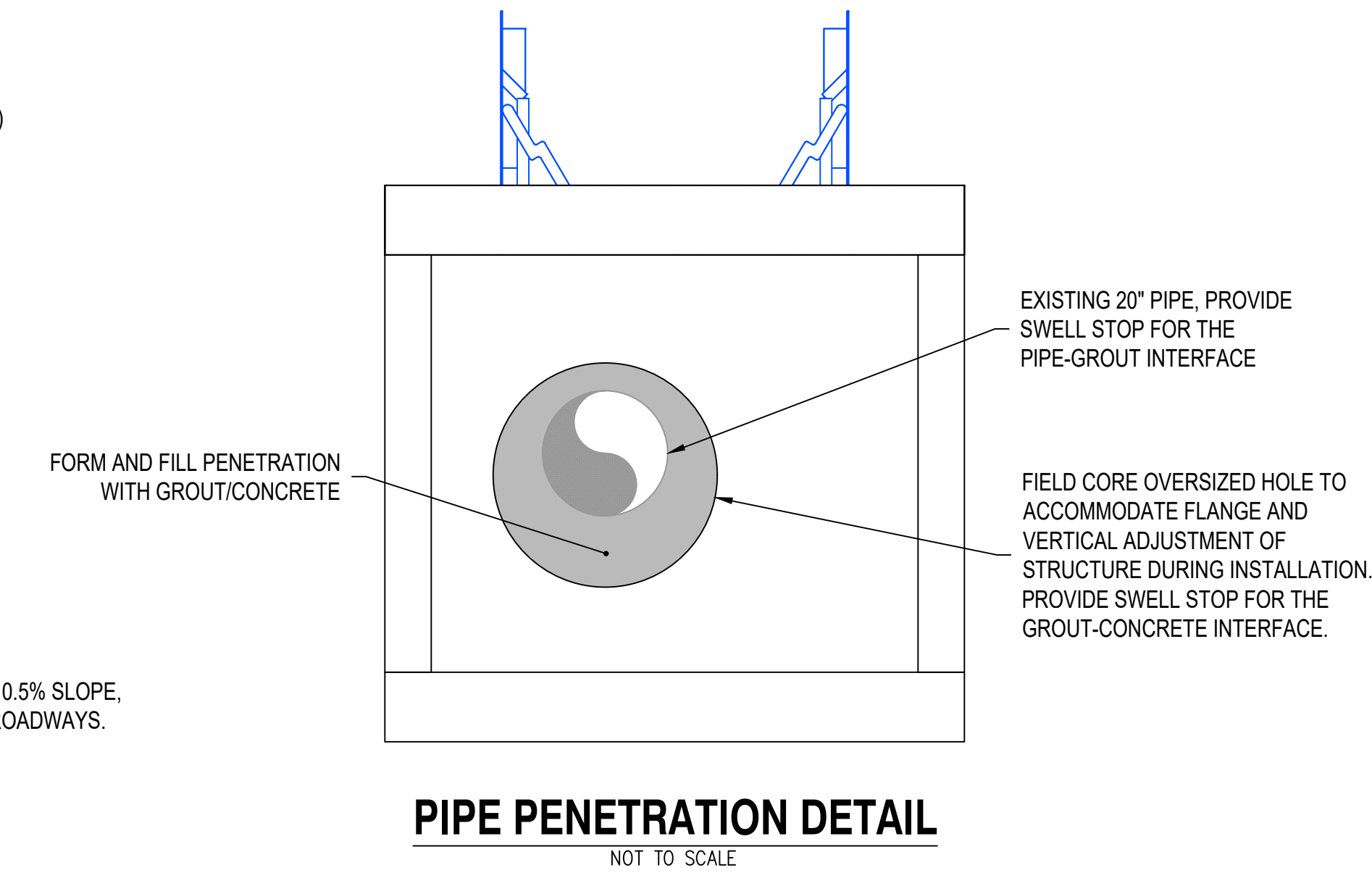
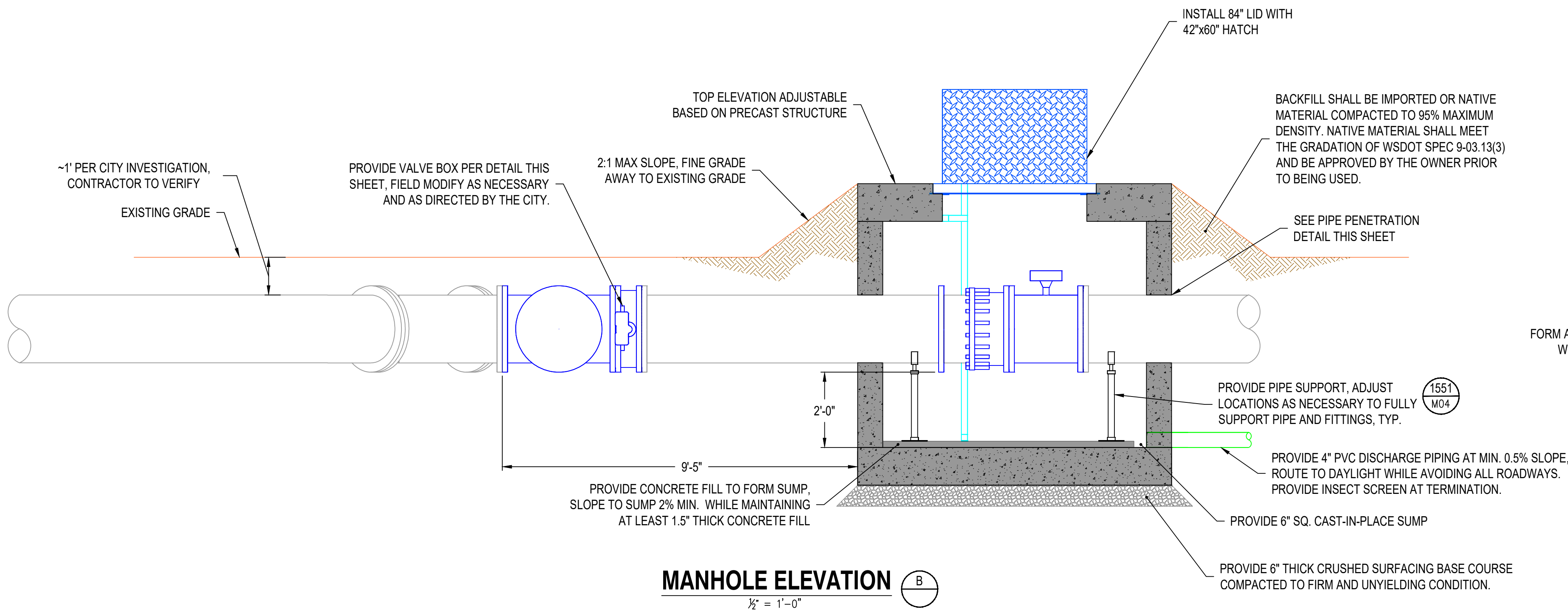
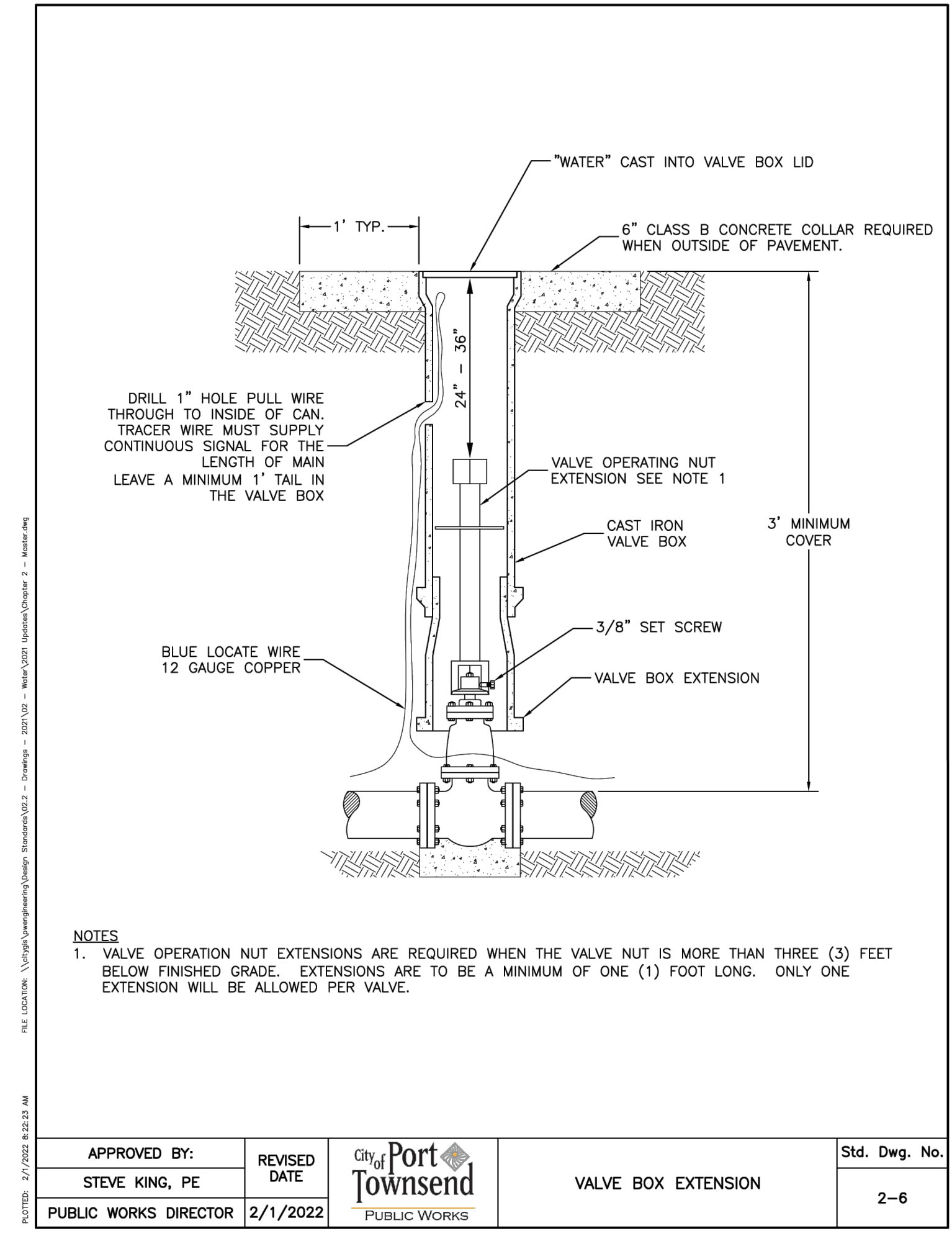
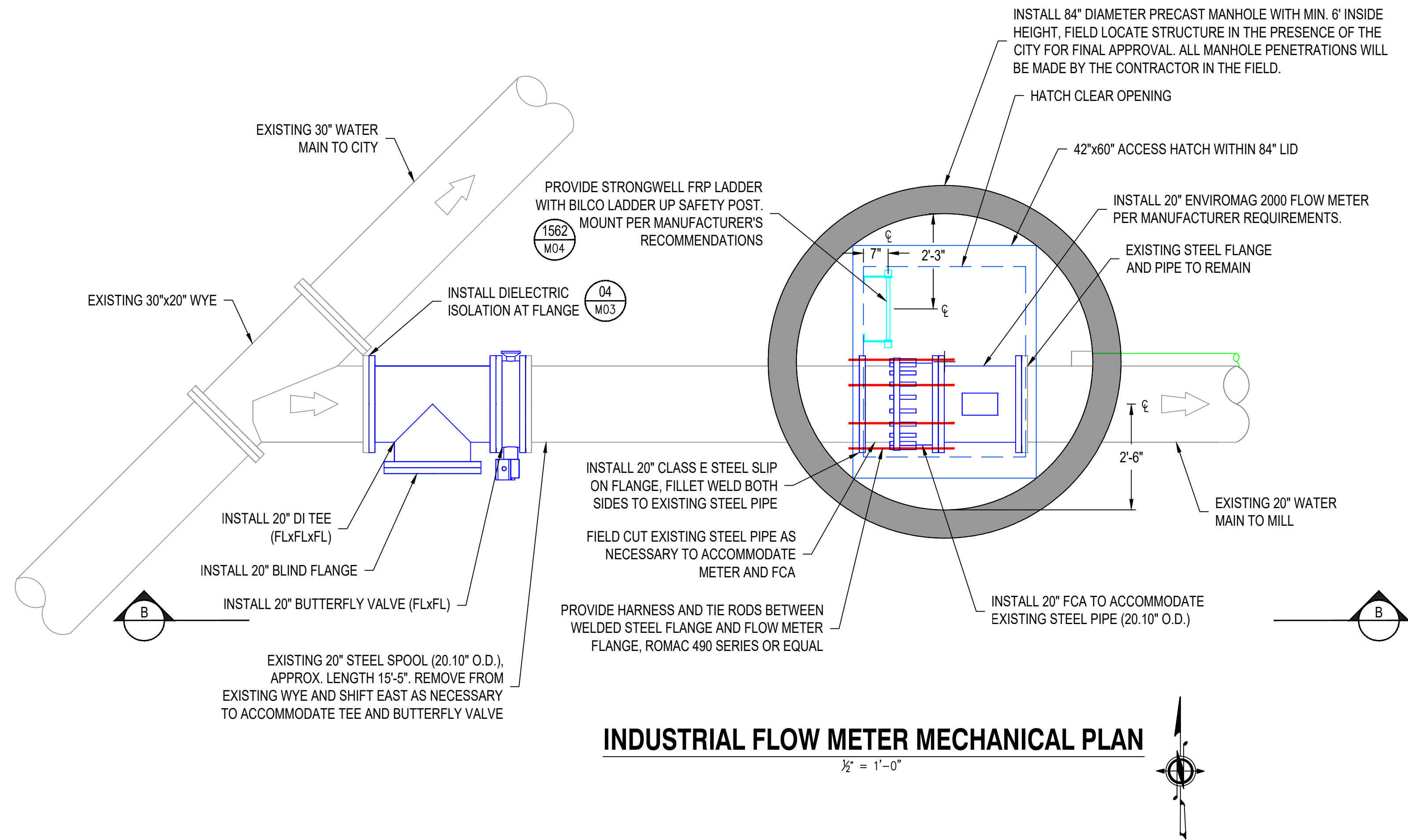
CITY FLOW METER MECHANICAL PLAN
 $\frac{3}{4}" = 1'-0"$

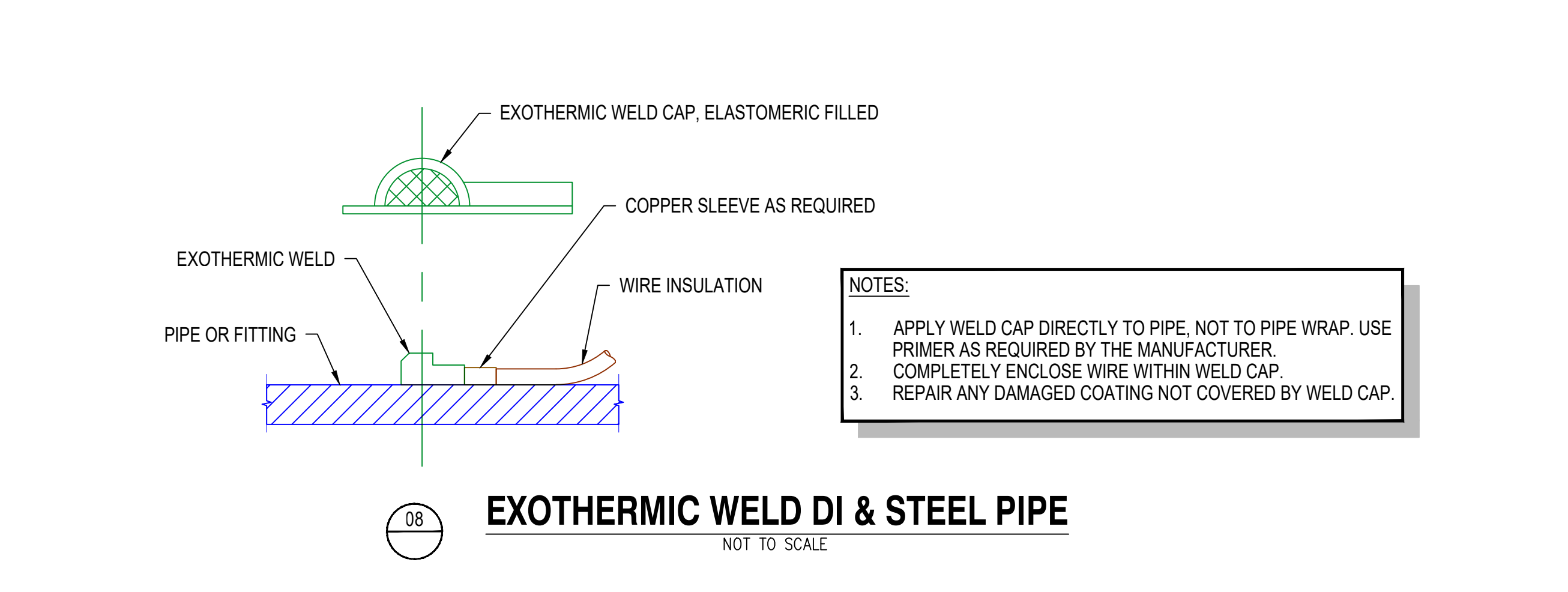
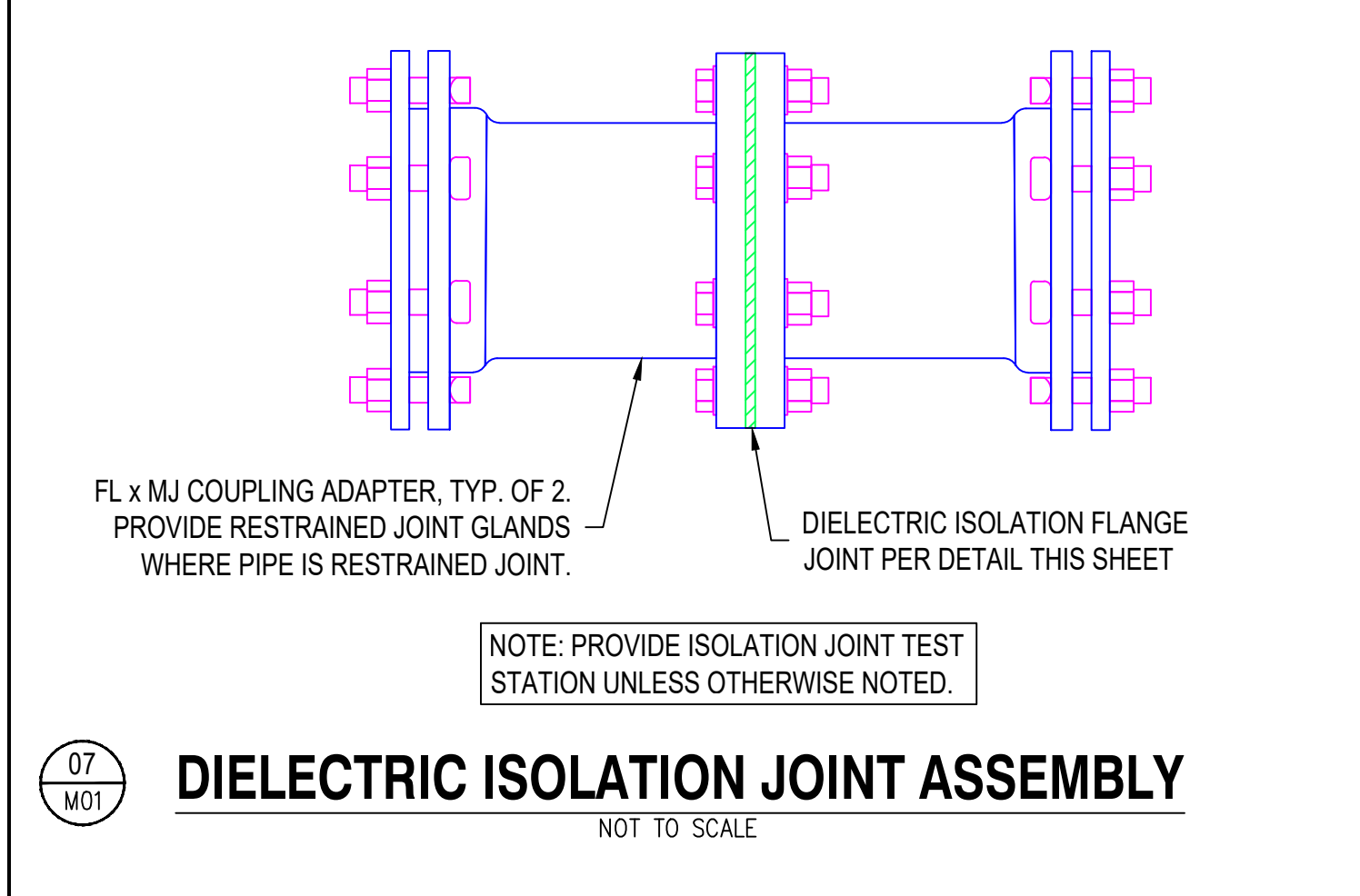
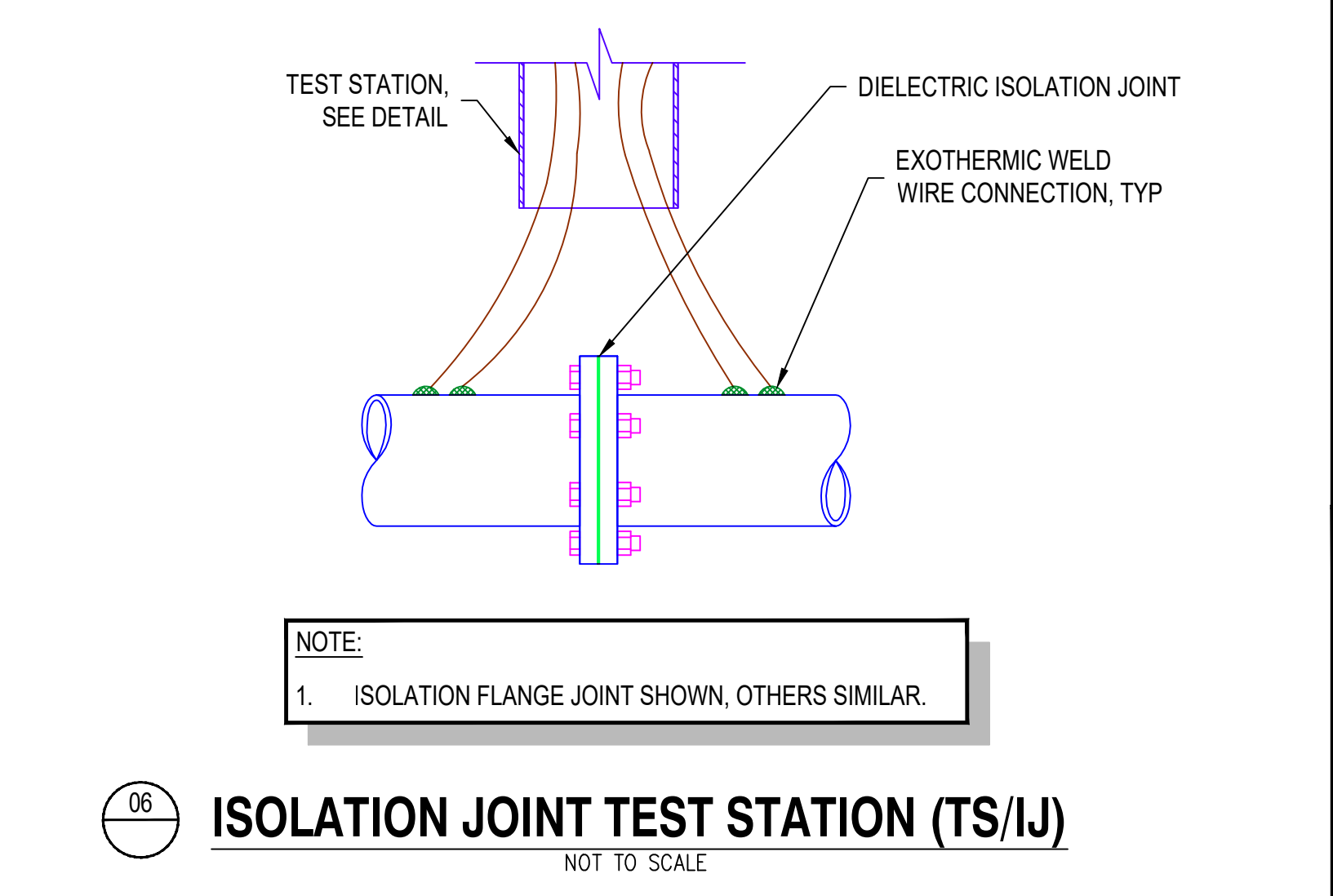
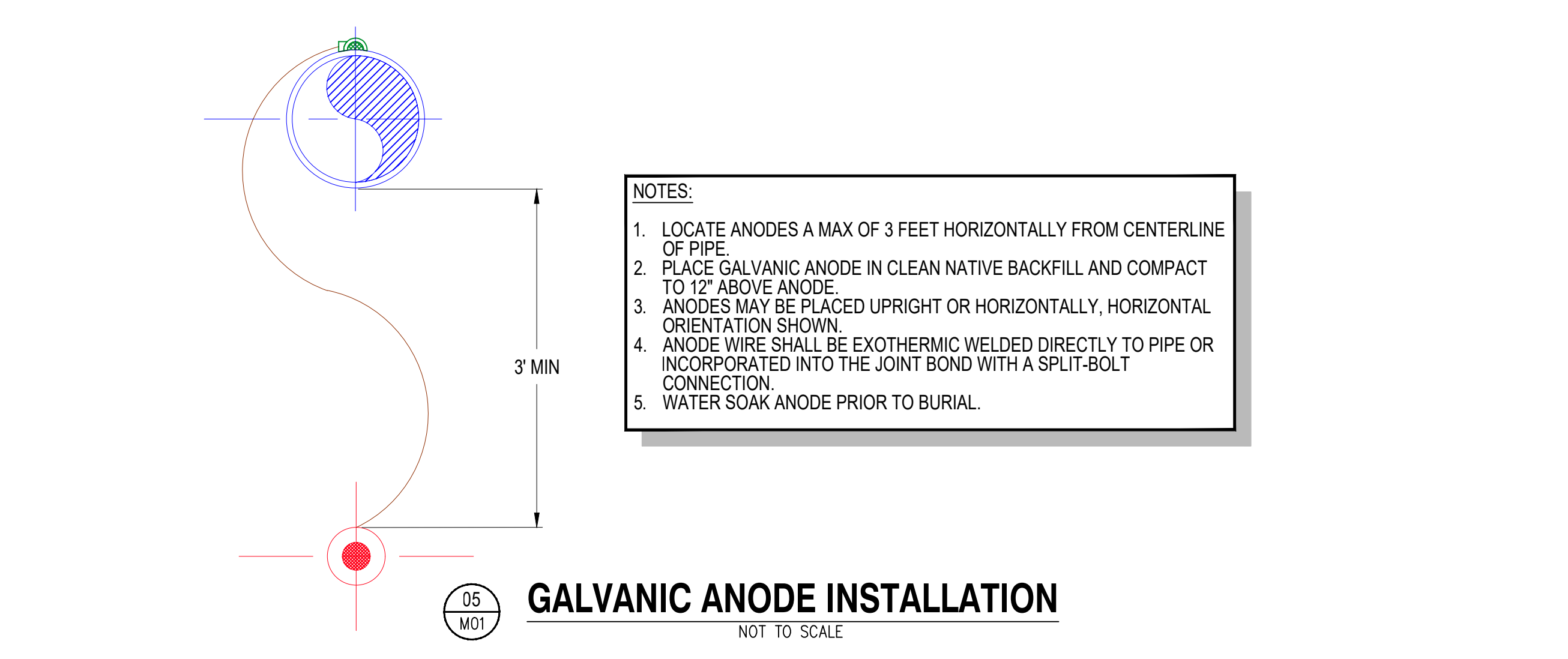
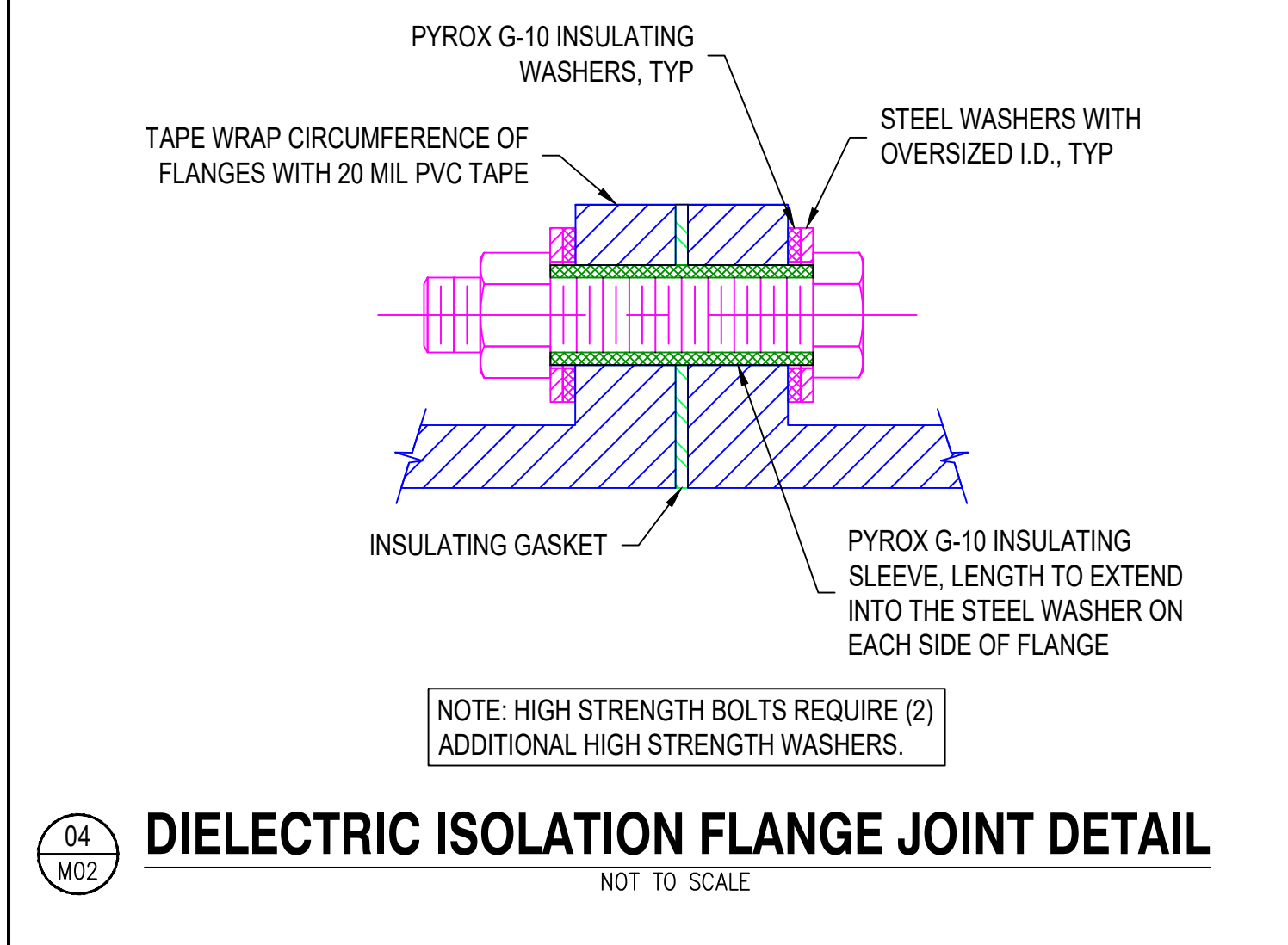
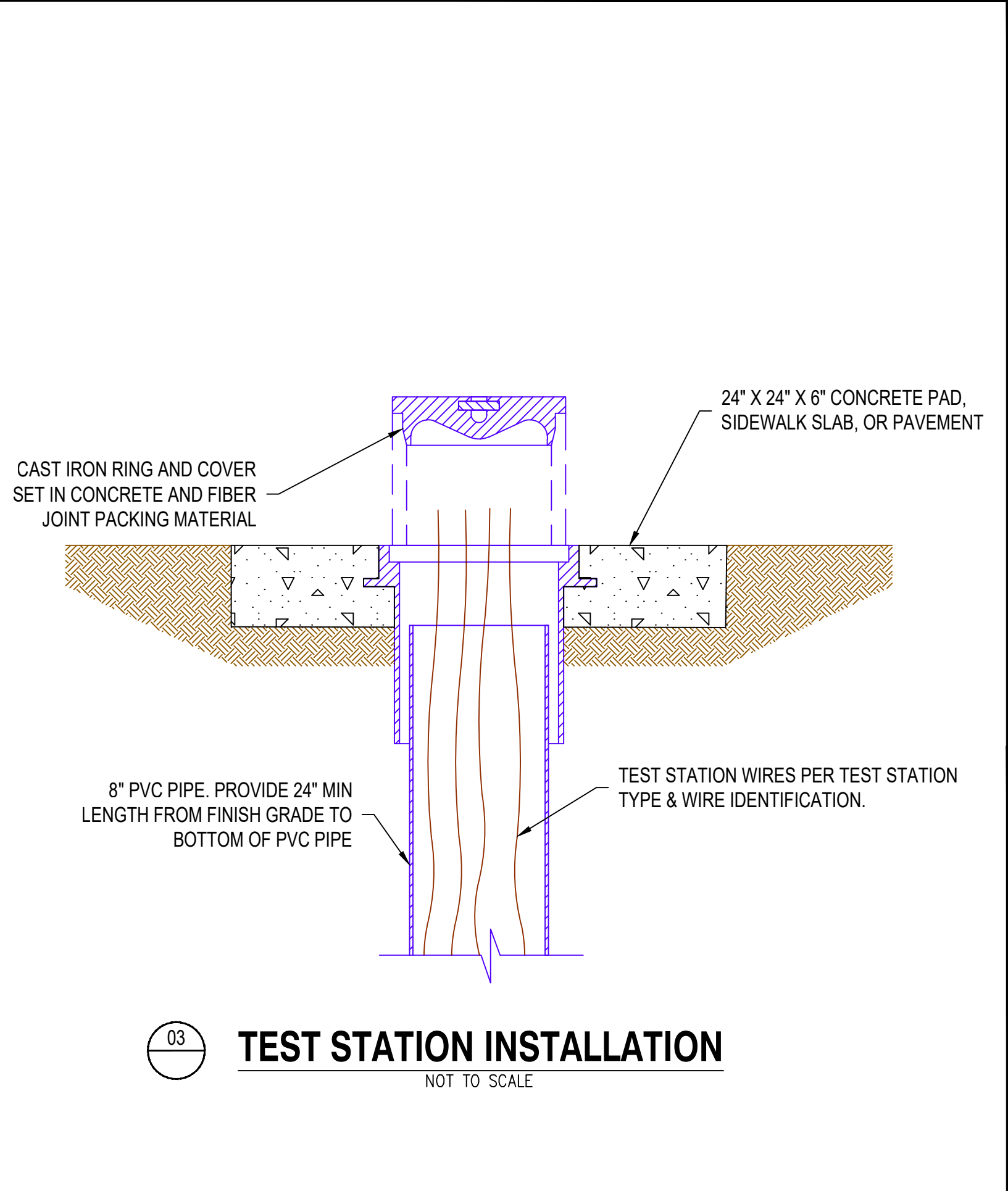
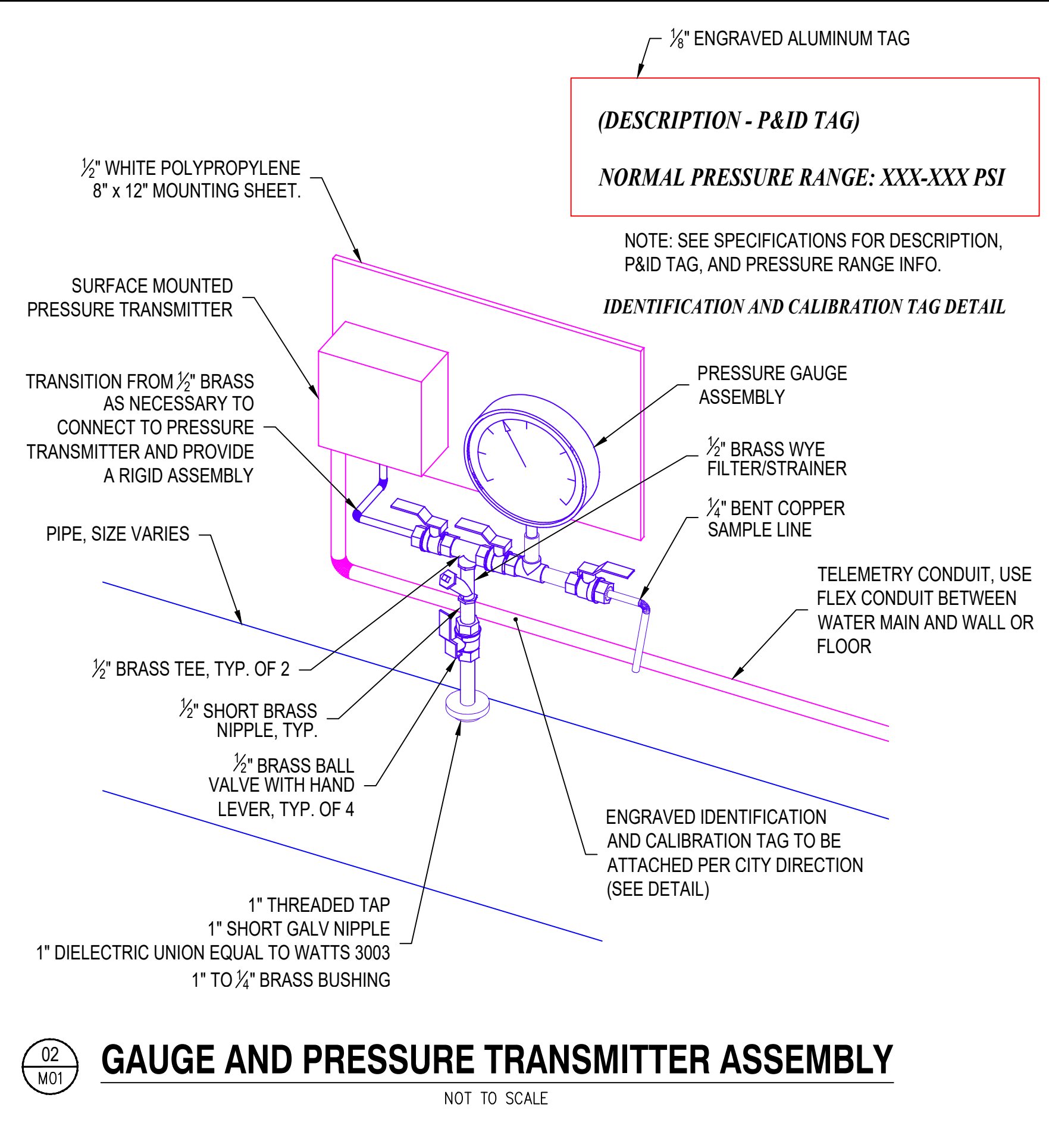
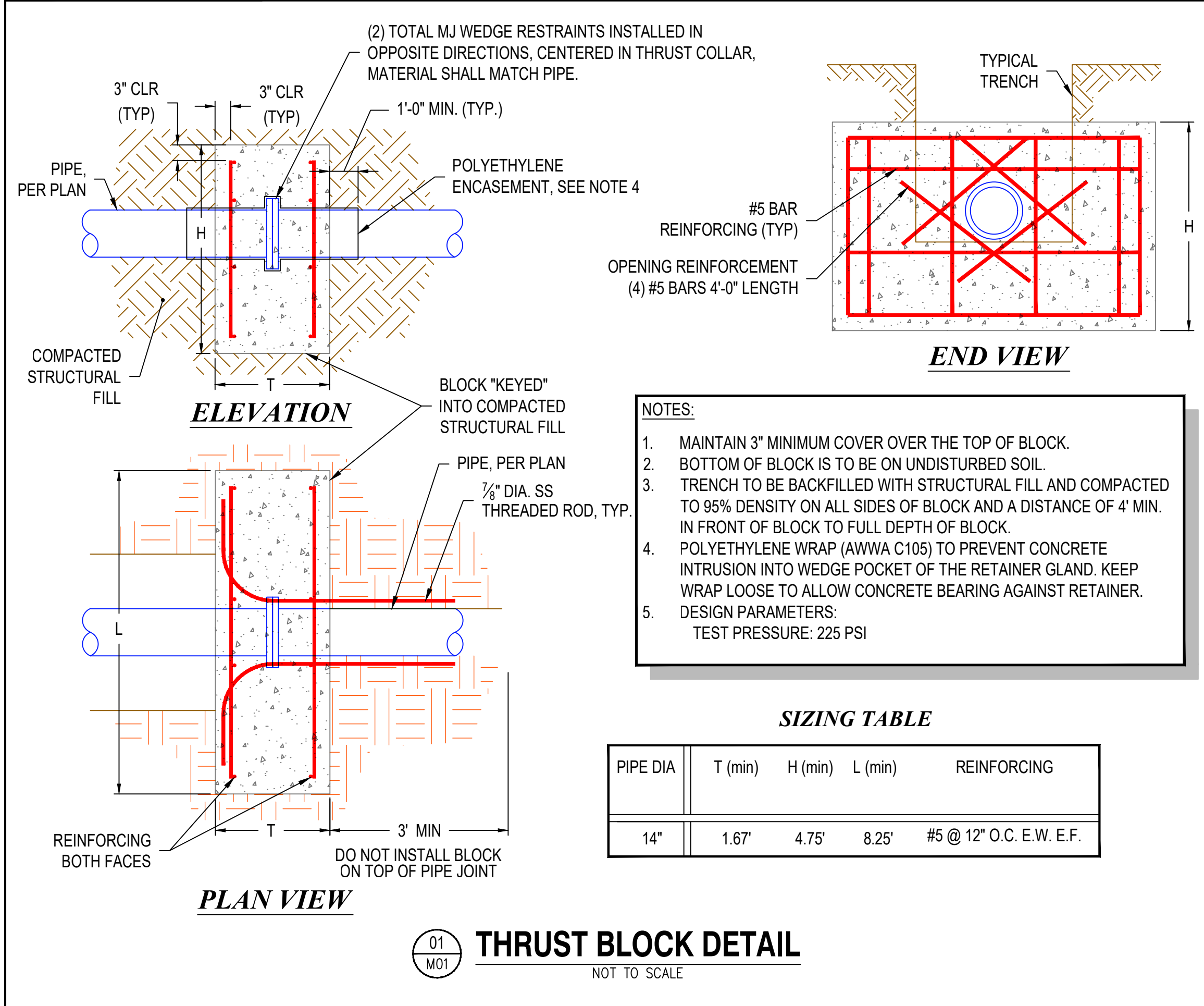


MANHOLE ELEVATION
 $\frac{3}{4}" = 1'-0"$

NO.	DATE	DESCRIPTION	BY	REVIEW
07/0723		ISSUED FOR BIDDING		

NO.	DATE	DESCRIPTION	BY	REVIEW
07/07/23		ISSUED FOR BIDDING		





CORROSION CONTROL TEST WIRE IDENTIFICATION TABLE

ITEM	WIRE COLOR	WIRE
NEW WATER MAIN	WHITE	8 AWG STRANDED COPPER WIRE, USE-TYPE INSULATION
EXISTING WATER MAIN	BLACK	8 AWG STRANDED COPPER WIRE, USE-TYPE INSULATION

NOTES:

1. WIRE SHALL HAVE ENOUGH SLACK TO EXTEND A MIN OF 2 FT ABOVE FINISHED GRADE AFTER FINAL PAVING.
2. FOR AN ISOLATION JOINT RUN OF NEW WATER PIPE, WIRE ON THE UP STATION SIDE OF THE ISOLATION JOINT SHALL BE WHITE AND WIRE ON THE DOWN STATION SIDE OF THE ISOLATION JOINT SHALL BE BLACK.
3. COLOR CODE WIRES BY INSULATION COLOR, OR BY COLORED TAPE OR PAINT ON LAST 4 FT OF WIRE.

RH2

PROFESSIONAL ENGINEER

SIGNED: 07/07/2023

PROFESSIONAL ENGINEER

SIGNED: 07/07/2023

CITY OF PORT TOWNSEND

WATER SUPPLY METERING IMPROVEMENTS

MECHANICAL DETAILS I

JOB NO.: 21-071

ENGINEER: LIB

DATE: Jul 5, 2023

REVIEWED: RJF

DATE: Jul 5, 2023

FILENAME: WSA-D-14METER.DWG

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW
07/0723		ISSUED FOR BIDDING		

SCALE: SHOWN

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M03

SHEET NO.: 4

13

GENERAL MECHANICAL NOTES

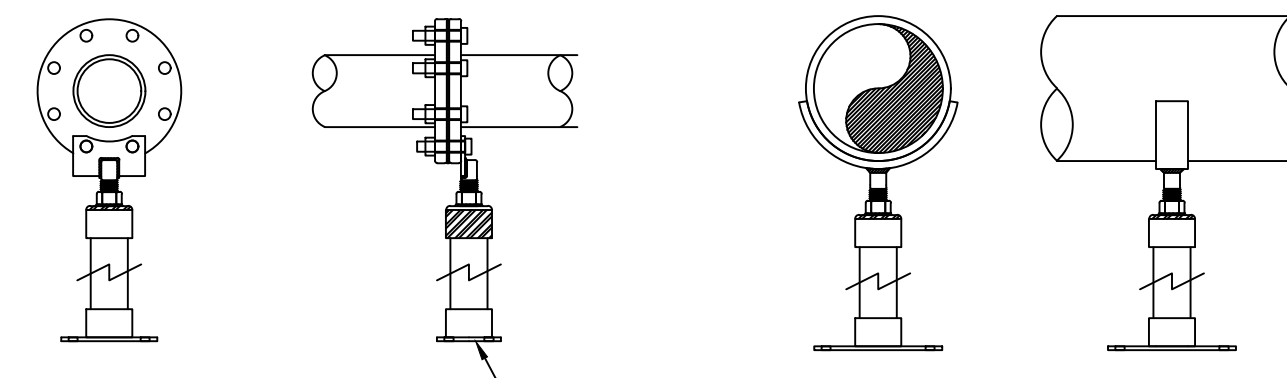
- CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, LABOR, AND EXPERTISE TO CONSTRUCT MAJOR AND MINOR PIPING SYSTEMS ACCORDING TO APPLICABLE CODES, STANDARDS, AND MANUFACTURER RECOMMENDATIONS.
- CONTRACTOR SHALL CONFORM TO PIPE ROUTING AND ARRANGEMENT AS CLOSELY AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PIPING DIMENSIONS.
- FITTINGS AND/OR PIPING THAT MAY BE REQUIRED IN ORDER TO OPERATE SOME MINOR MECHANICAL SYSTEMS, INSTRUMENTATION, AND EQUIPMENT MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR SHALL PROVIDE FITTINGS AND PIPING AS NECESSARY TO HAVE A COMPLETE AND FUNCTIONAL SYSTEM.
- CONTRACTOR SHALL CONNECT EQUIPMENT, VALVES, METERS, AND OTHER SIMILAR FITTINGS TO PIPING SYSTEM SUCH THAT IT CAN BE READILY DISASSEMBLED FOR MAINTENANCE OF THE EQUIPMENT. THIS MAY REQUIRE PROVIDING ADDITIONAL FITTINGS OR SUPPORTS NOT SHOWN IN THE PLANS.
- CONTRACTOR SHALL PROVIDE ANY AND ALL VALVED VENTS AT HIGH POINTS AND VALVED DRAINS AT LOW POINTS AND ALL OTHER LOCATIONS AS NECESSARY TO SUCCESSFULLY TEST PIPING SYSTEMS.
- NOT ALL PIPE SUPPORTS ARE SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE AND INSTALL PIPE SUPPORTS AS NECESSARY TO PROVIDE A RIGID, SECURE, NON-SAGGING SYSTEM. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL PROVIDE AND/OR INSTALL ALL NECESSARY THRUST RESTRAINT, INCLUDING BUT NOT LIMITED TO CONCRETE BLOCKING, SHACKLE RODS, MECHANICAL THRUST RESTRAINT (MEGALUGS OR EQUAL) AND TRUE RESTRAINED JOINT PIPE (TRJ) PIPE.
- IN THE EVENT THAT A SECTION OF PIPING FAILS A VISUAL LEAK TEST, AND ANY MECHANICAL JOINTS WITH MEGA-LUG STYLE RESTRAINTS NEED TO BE DISASSEMBLED, THE MEGA-LUGS AND THE ASSOCIATED PIPE MAY NOT BE REUSED AND MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL PVC FITTINGS SHALL BE SOCKET END-TYPE FITTINGS UNLESS OTHERWISE NOTED.
- ALL VALVES SHALL BE REMOVABLE WITHOUT HAVING TO CUT PIPE (I.E. FLANGED OR TRUE UNION)
- ALL PRESSURE PIPE SHALL HAVE RESTRAINED JOINTS. BURIED PIPING SHALL BE MECHANICALLY RESTRAINED JOINTS (END CONFIGURATION DENOTED AS "RJ"). PUSH ON JOINTS WITH FIELD LOK (OR APPROVED EQUAL) ARE ACCEPTABLE RESTRAINED JOINT IN STRAIGHT SECTIONS WITH BLOCKING OR RESTRAINED FITTINGS AS SPECIFIED. PROVIDE TRUE (BOLTLESS) RESTRAINED JOINT PIPE (END CONFIGURATION DENOTED AS "TRJ") AND CONCRETE BLOCKING WHERE SPECIFIED ON PLANS.
- PIPING WHICH NORMALLY OPERATES UNDER FULL CONDITIONS WITH HYDROSTATIC HEAD HIGHER THAN THE CROWN OF THE PIPE SHALL BE CONSIDERED PRESSURE PIPING. PIPING WHICH NORMALLY OPERATES AT A HYDROSTATIC HEAD NO HIGHER THAN THE PIPE CROWN SHALL BE CONSIDERED GRAVITY PIPELINES. ALL PIPING SHALL BE VISUALLY LEAK TESTED IN THE PRESENCE OF THE OWNER AND/OR ENGINEER.
- UNLESS OTHERWISE NOTED, PIPE MATERIAL SHALL BE USED BASED ON PIPE FUNCTION AND AS SPECIFIED IN THE PIPE SCHEDULE (SEE SPECIFICATIONS). PREPARE AND COAT ALL EXPOSED PIPING PER THE FINISHES SECTION OF THE SPECIFICATIONS.
- CONTRACTOR SHALL INSTALL AND MOUNT ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS, THE REQUIREMENTS IN THE SPECIFICATIONS FOR SEISMIC RESTRAINT, AND THE FOLLOWING REQUIREMENTS. EQUIPMENT MOUNTED ON FLOORS THAT SLOPE SHALL BE LEVELED WITH STEEL SHIMS AND SHALL BE FINISHED GROUTED TO FILL ALL VOIDS CAUSED BY THE FLOOR SLOPE.

GENERAL PIPE SUPPORT NOTES

1550
TYP.

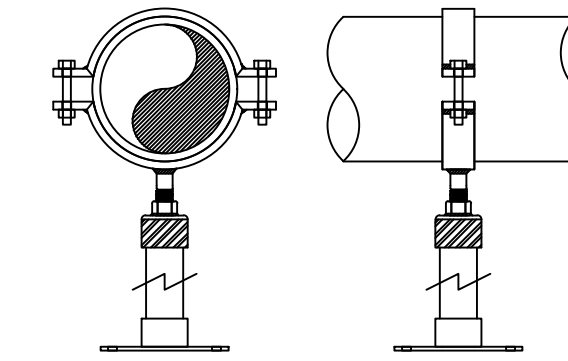
PIPE SIZE	ROD SIZE	MAX. SPAN FOR PIPE SUPPORTS (FT)			
		STEEL	DUCTILE IRON	COPPER	PLASTIC
14"	1"	10	10	-	10
20"	1-1/4"	10	10	-	10

- FOR PIPE SIZES THAT ARE NOT LISTED IN ABOVE TABLE, THE NEXT LARGER PIPE SIZE SHALL BE USED FOR DETERMINING LOADING AND SUPPORT SPACING.
- ROD SIZE IS BASED ON CARRYING SINGLE PIPE. WHEN MORE THAN ONE PIPE IS TO BE SUPPORTED, RODS SHALL BE SIZED USING SUM OF DESIGN WEIGHTS TO DETERMINE TOTAL LOAD.
- PLASTIC PIPE SUPPORT SPACING BASED ON SCH 80 PIPE AT 100 DEG F. SCH 40 PIPE OR HIGHER TEMPERATURES REQUIRE SHORTER SPANS. SEE MANUFACTURER'S RECOMMENDATIONS.
- DESIGN WEIGHTS ARE BASED ON SCH 80 STEEL PIPE AT 10 FT SUPPORT SPACING.
- ALL CONNECTIONS TO CONCRETE SHALL BE CONCRETE ANCHORS PER SPECIFICATIONS & STRUCTURAL DETAILS.
- MSS REFERS TO MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY, STANDARD PRACTICE SP 58 AND SP 69.
- IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF THE WALL WITHIN A WATER BEARING STRUCTURE, ALL HARDWARE AND SUPPORT MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, MATERIALS SHALL BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, AND LABOR FOR CONSTRUCTING PIPE SUPPORT SYSTEMS.
- PIPE SUPPORT SYSTEMS AS DETAILED PROVIDE GENERAL GUIDELINES FOR HOW PIPES SHALL BE SUPPORTED. ADDITIONAL SUPPORT CONFIGURATIONS MAY BE REQUIRED. CONTRACTOR SHALL SUBMIT ALTERNATE SUPPORT DETAILS FOR APPROVAL.
- CONTRACTOR SHALL PROVIDE SUPPORTS AS NEEDED TO SECURE PIPING SYSTEM IN NORMAL AND TEST OPERATING CONDITIONS.
- CONTRACTOR IS RESPONSIBLE FOR DESIGN OF PIPE SUPPORTS, HANGERS AND SEISMIC BRACING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



TYPE A - FLANGE SUPPORT

TYPE B - SADDLE SUPPORT
(AS SPECIFIED OR WITH ENGINEER APPROVAL)



TYPE C - SADDLE CLAMP SUPPORT
(TYP. AT PIPING)

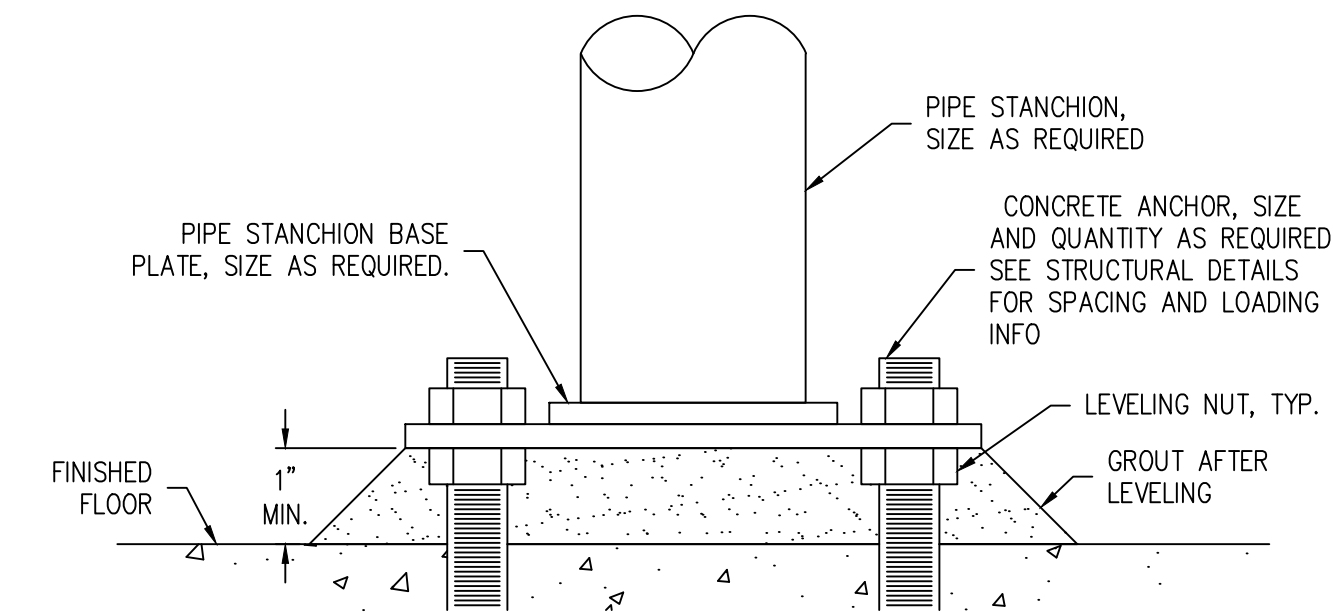
- FLANGE, SADDLE, AND SADDLE CLAMP SUPPORTS SHALL BE "STANDON" BRAND AS MANUFACTURED BY MATERIAL RESOURCES OR EQUAL.

(TYP. AT VALVES, METERS, AND FITTINGS)

PS1 - STANDON PIPE SUPPORT

NOT TO SCALE

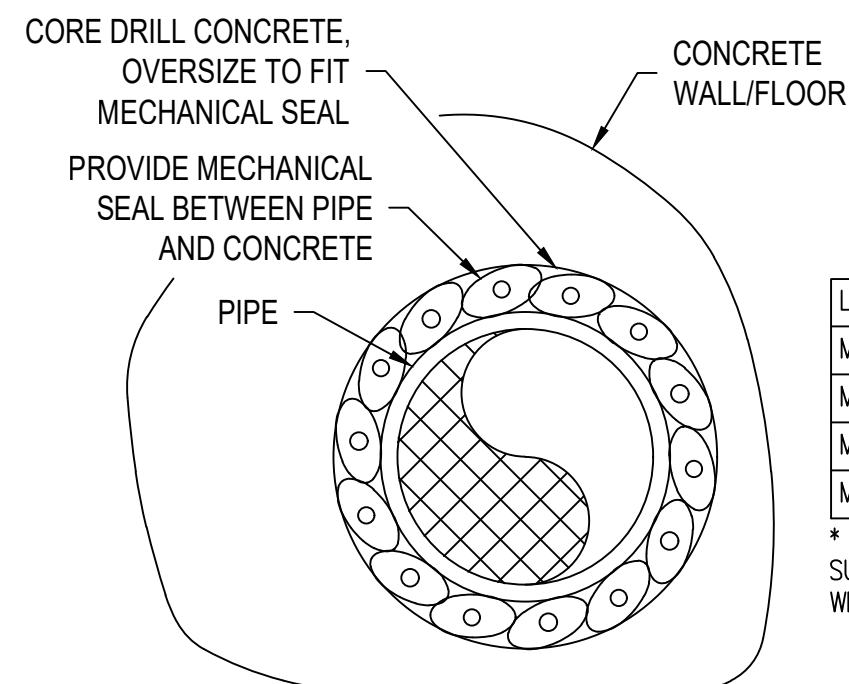
1551
TYP.



PIPE STANCHION DETAIL

NOT TO SCALE

1552
TYP.



LINKSEAL MODEL	APPLICATION			
	DIRECT BURY	WATER	WASTE WATER	CHEMICAL
MODEL "C"	X	X		
MODEL "L"	X	X		
MODEL "S-316"			X	X
MODEL "T"				X

* CONTRACTOR SHALL VERIFY LINKSEAL SUITABILITY FOR CHEMICAL APPLICATIONS WITH MANUFACTURER.

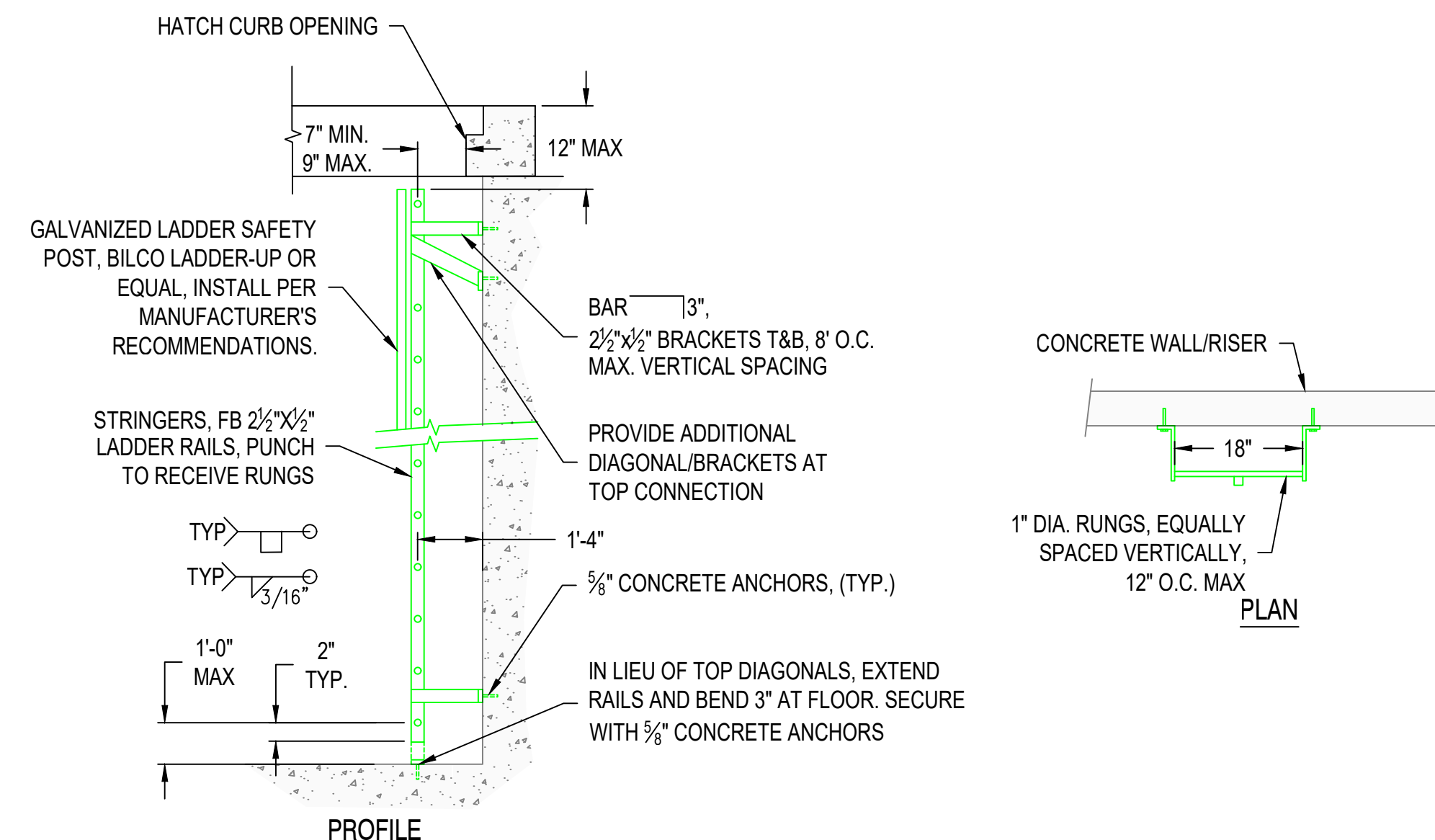
ABOVE GRADE AND BELOW GRADE (NON-SUBMERGED) CONCRETE WALL AND FLOOR

- ALL PENETRATIONS SHALL BE SEALED TO MAINTAIN FIRE AND SOUND RATING OF INTERIOR.
- ALL BELOW GRADE AND/OR SUBMERGED PENETRATIONS SHALL BE SEALED WATERTIGHT.
- MECHANICAL SEALS SHALL BE LINKSEAL OR APPROVED EQUAL. MECHANICAL SEALS SHALL BE SELECTED BASED ON THE APPLICATION. SEE TABLE A FOR APPLICATION MATRIX.
- WHERE PIPE PENETRATION IS LOCATED IN THE FLOOR OVER A POTABLE WATER BEARING STRUCTURE, SLEEVE SHALL EXTEND 1" MIN. ABOVE FLOOR TO FURTHER PREVENT WATER INTRUSION.

PP3 - MECHANICAL SEAL PIPE PENETRATION

1561
TYP.

NOT TO SCALE



PROFILE

VAULT LADDER DETAIL

NOT TO SCALE

1562
TYP.

RH2



SIGNED: 07/07/2023



SIGNED: 07/07/2023

CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS

MECHANICAL DETAILS II

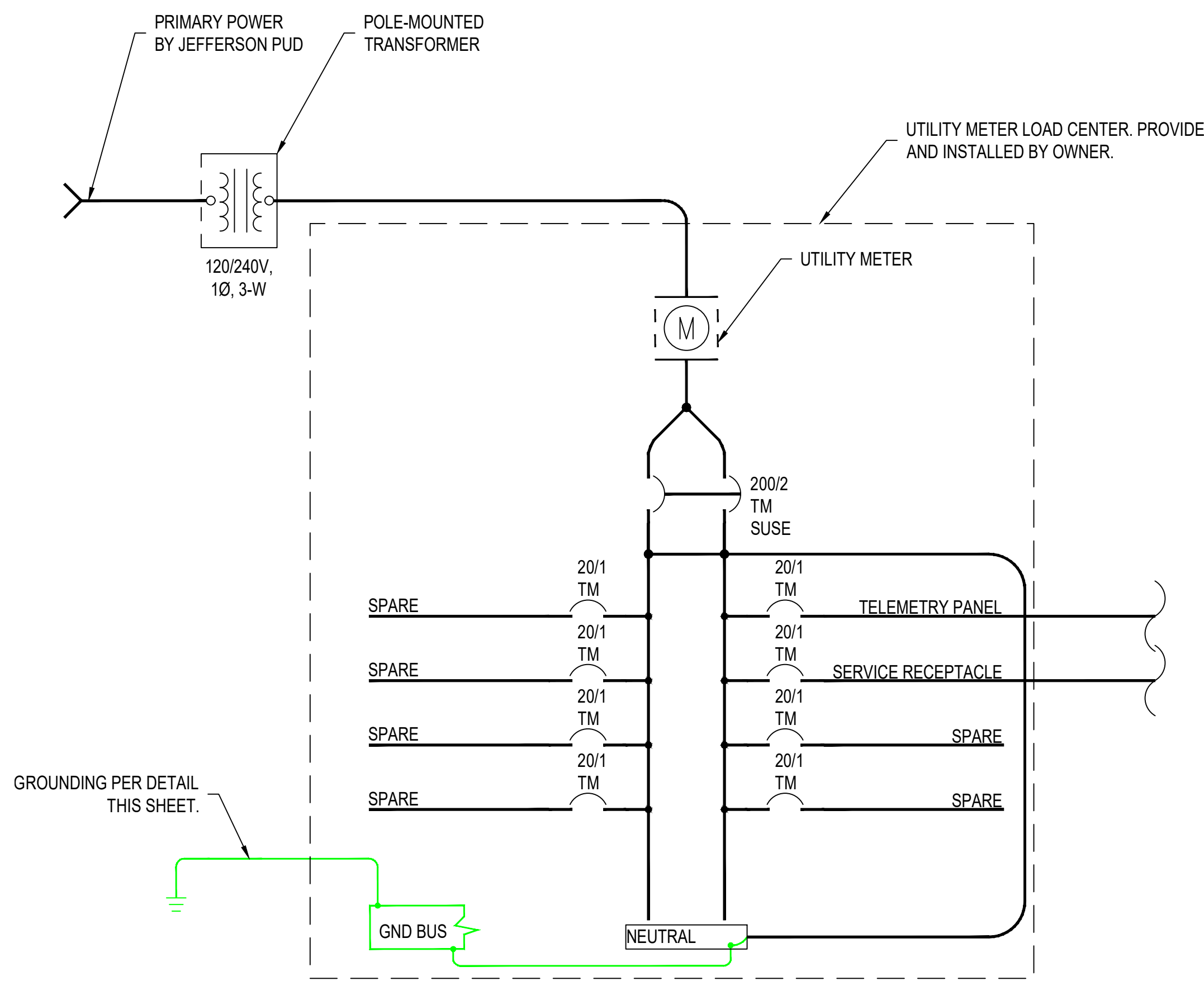
NO.	DATE	DESCRIPTION	BY	REVIEW
07/07/23		ISSUED FOR BIDDING		

SCALE: SHOWN

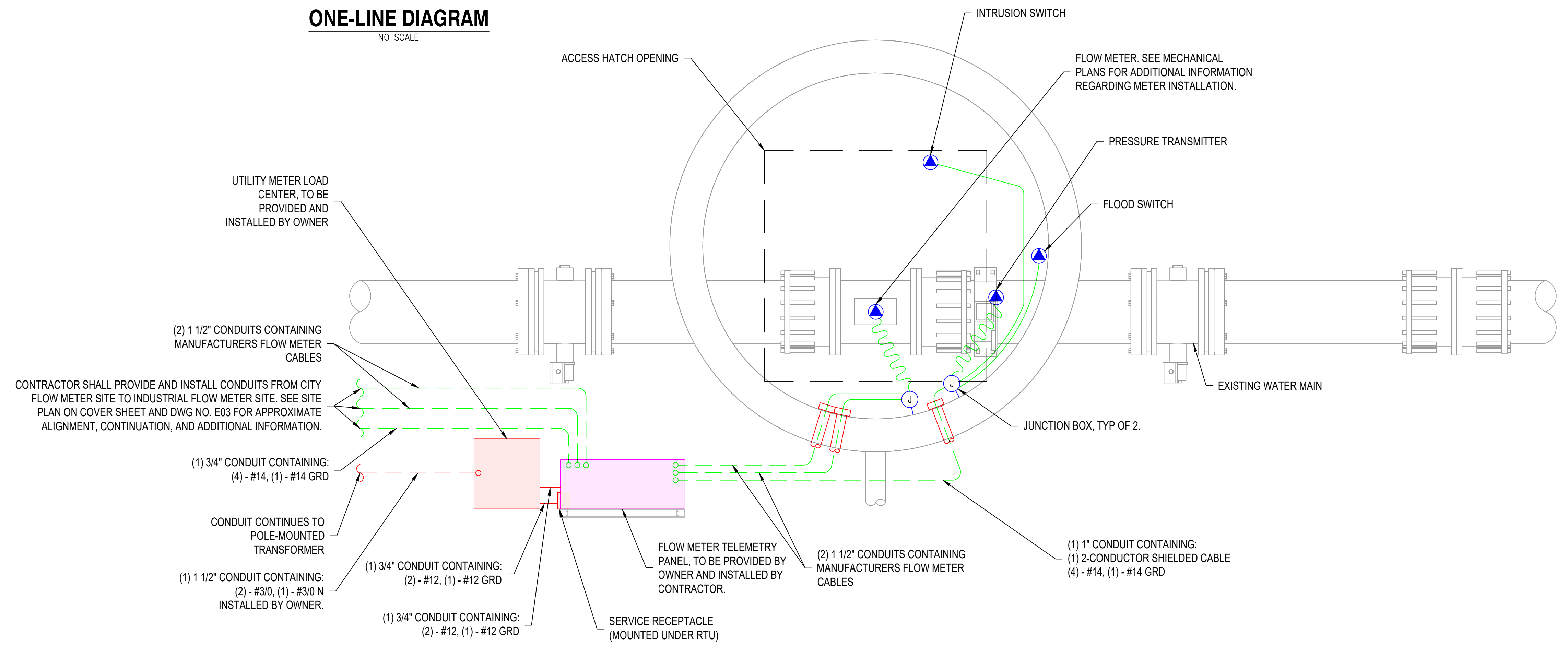
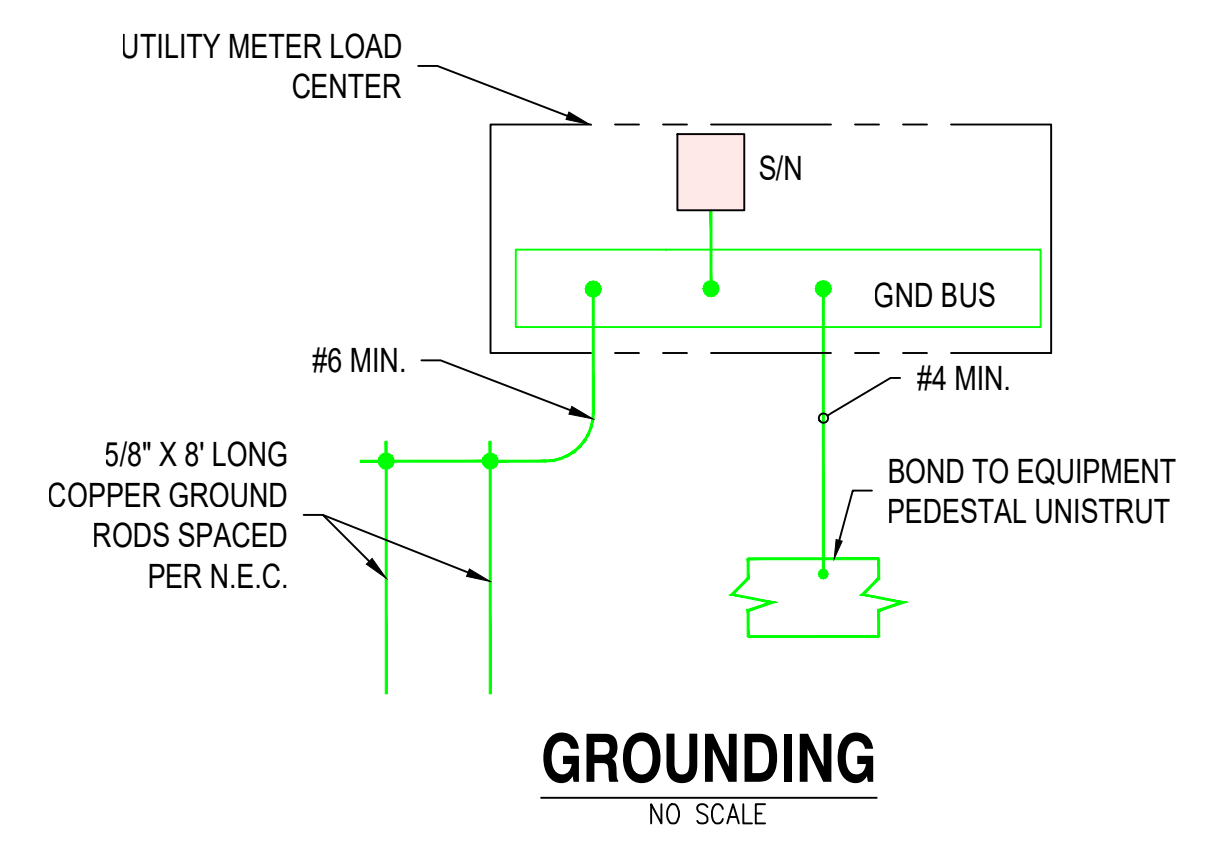
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M04 SHEET NO.: 5

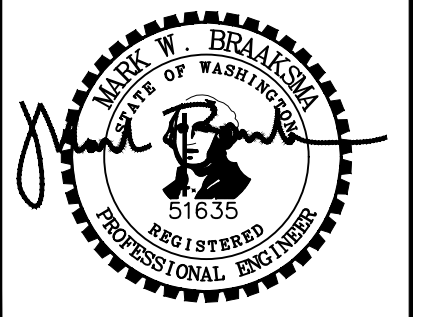
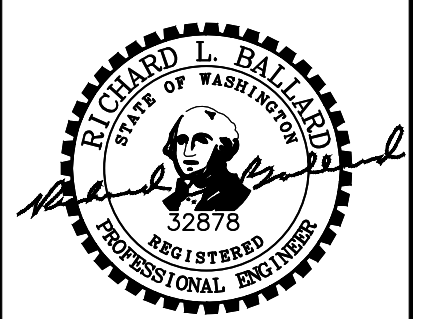
13



ONE-LINE DIAGRAM
NO SCALE



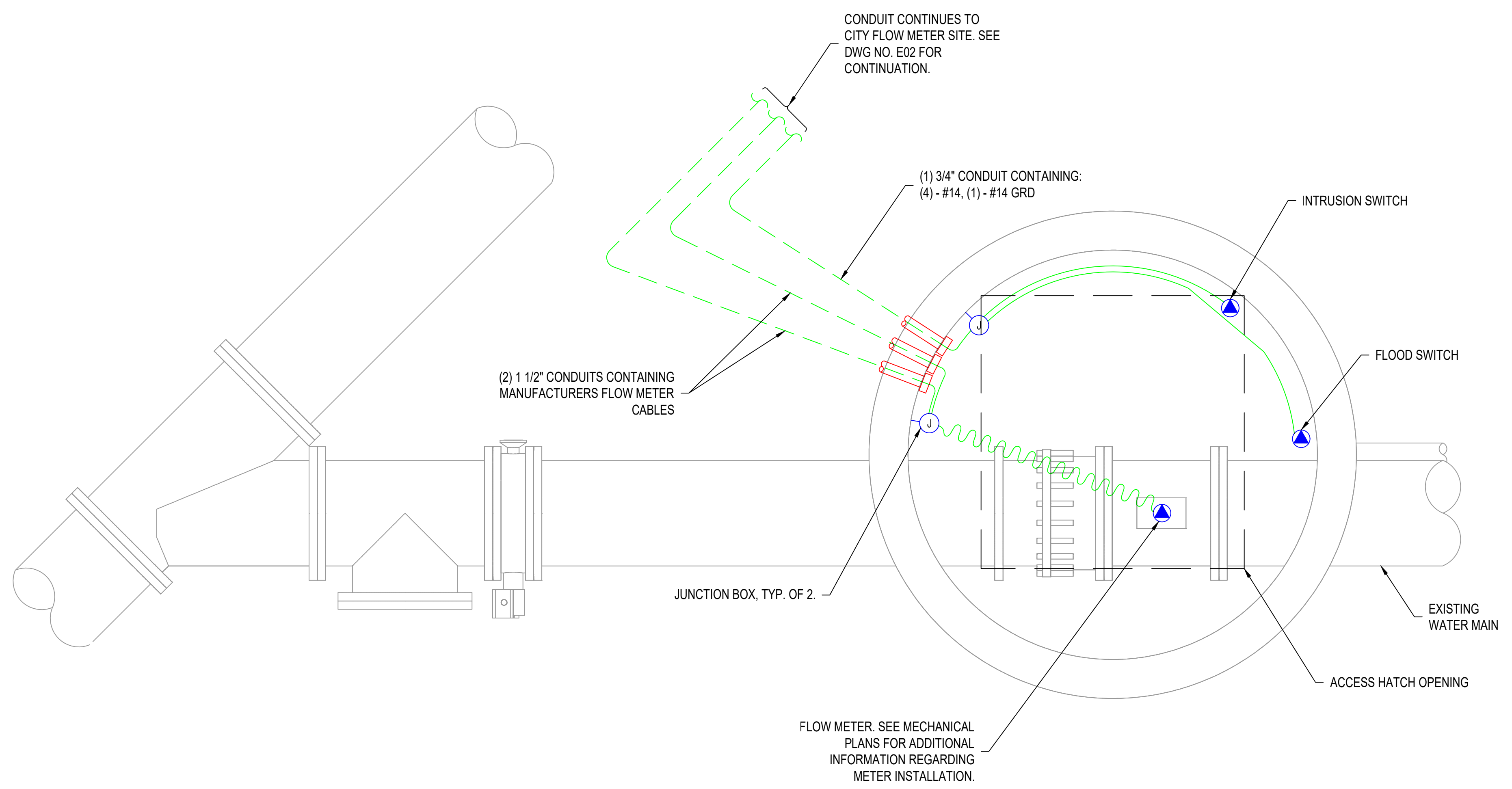
CITY FLOW METER ELECTRICAL PLAN
3/4" = 1'-0"



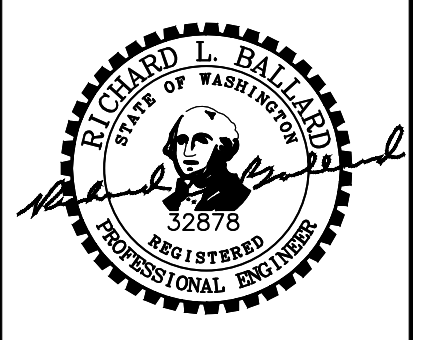
CITY OF PORT TOWNSEND
CITY OF PORT TOWNSEND WATER SUPPLY METERING IMPROVEMENTS

CITY FLOW METER ELECTRICAL PLAN

ENGINEER	DATE	REVISIONS	NO.	DATE	DESCRIPTION
BPC	Jul 5, 2023	ISSUED FOR BIDDING	1		
MWB	Jul 5, 2023				



INDUSTRIAL FLOW METER ELECTRICAL PLAN
 $\frac{3}{4}'' = 1'-0''$



SIGNED: 07/07/2023



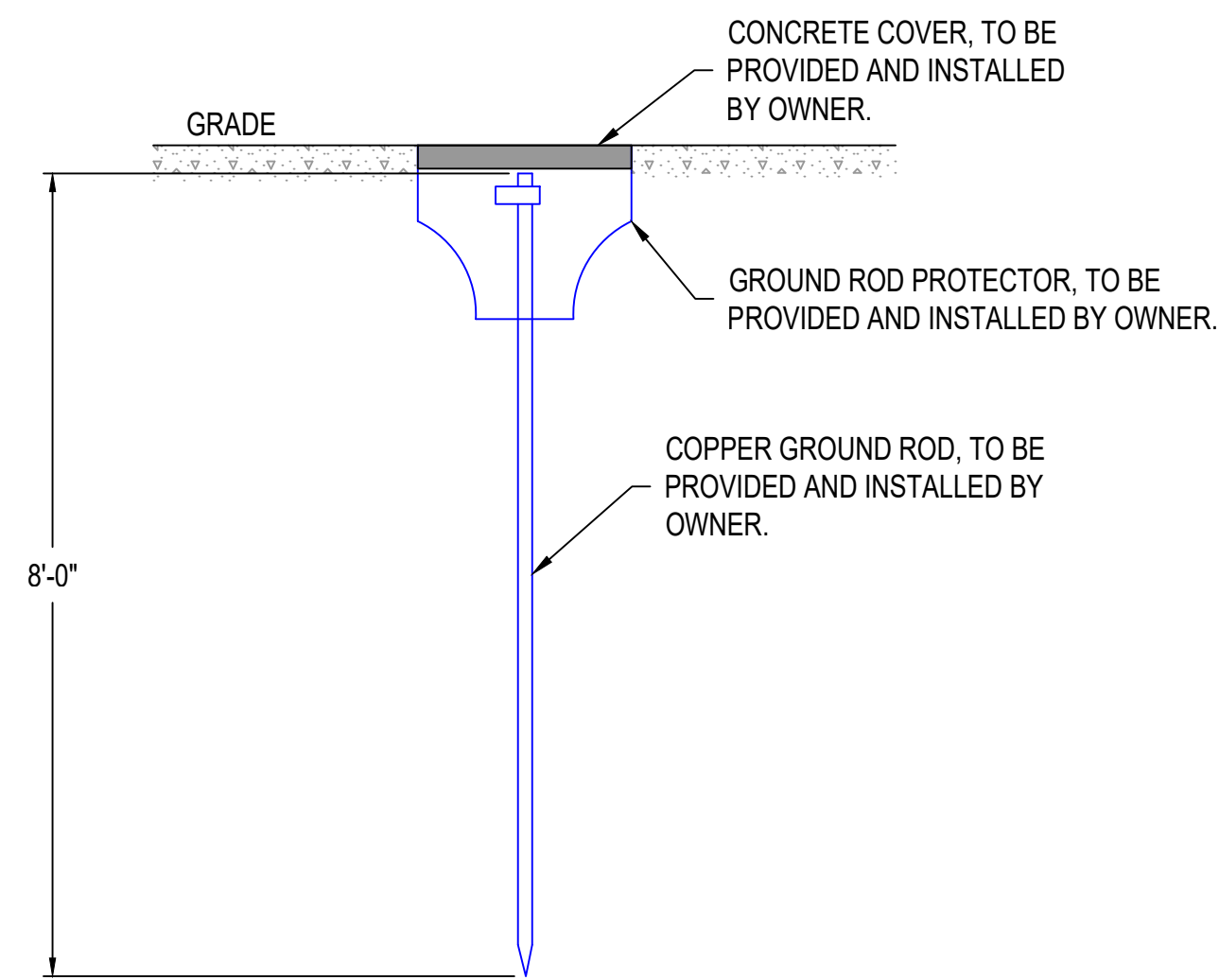
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CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS
INDUSTRIAL FLOW METER ELECTRICAL PLAN

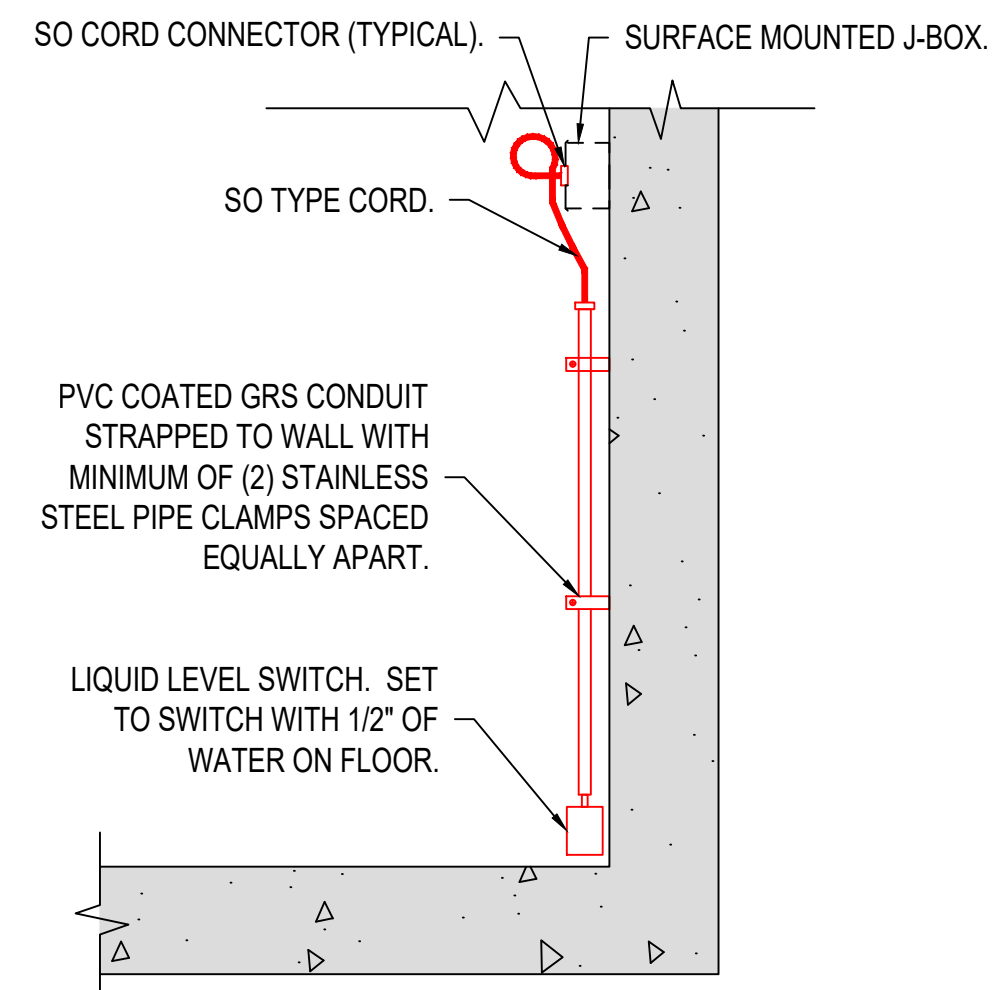
ENGINEER: BPC	DATE: Jul 5, 2023	CLIENT: TOWNSEND	JOB NO.: 21-0071
REVIEWED: MWB	PLT DATE: Jul 5, 2023	FILENAME: WSMAD-ELEC02.DWG	
REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	07/07/23	ISSUED FOR BIDDING	BPC
			MWB

SCALE: SHOWN
 0' 1' 2'

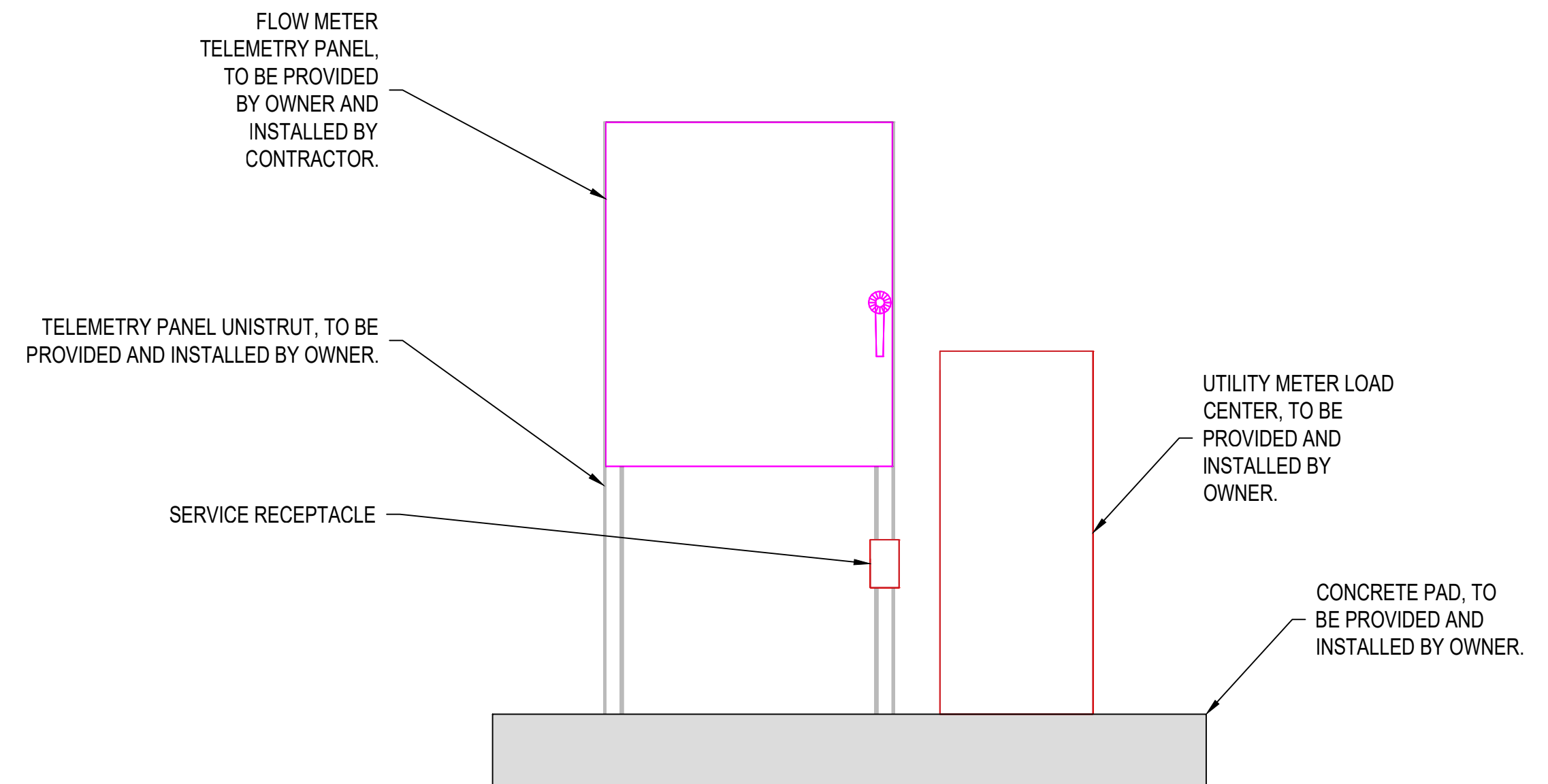
DWG NO.: **E03** SHEET NO.: **8** OF **13**



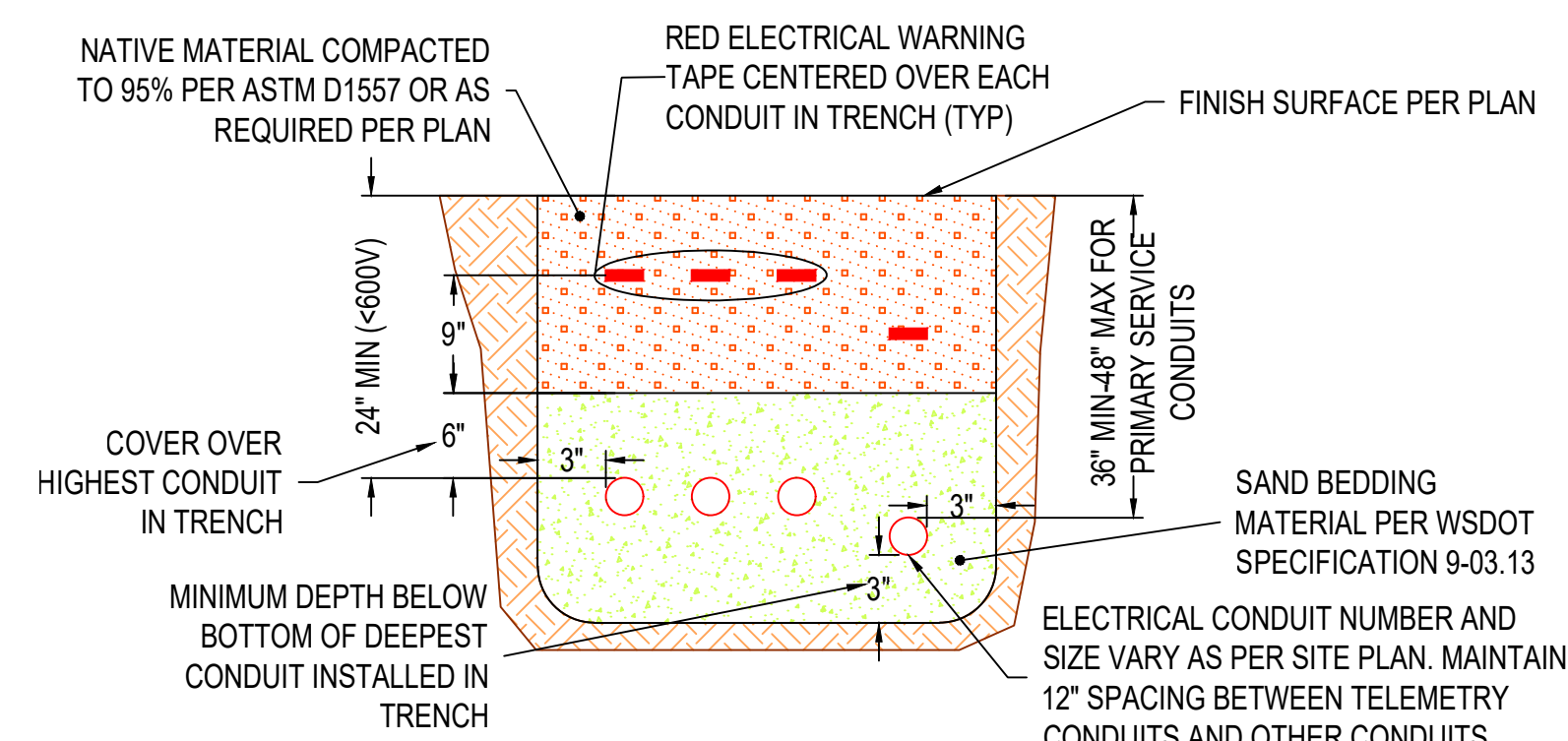
GROUNDING ROD DETAIL
NO SCALE



FLOOD SWITCH DETAIL
NOT TO SCALE

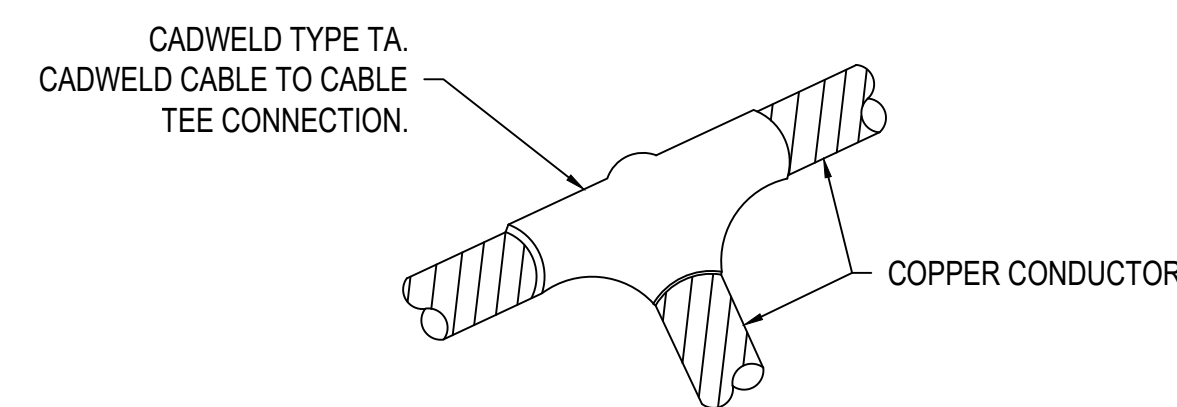


ELECTRICAL EQUIPMENT PEDESTAL DETAIL
NOT TO SCALE

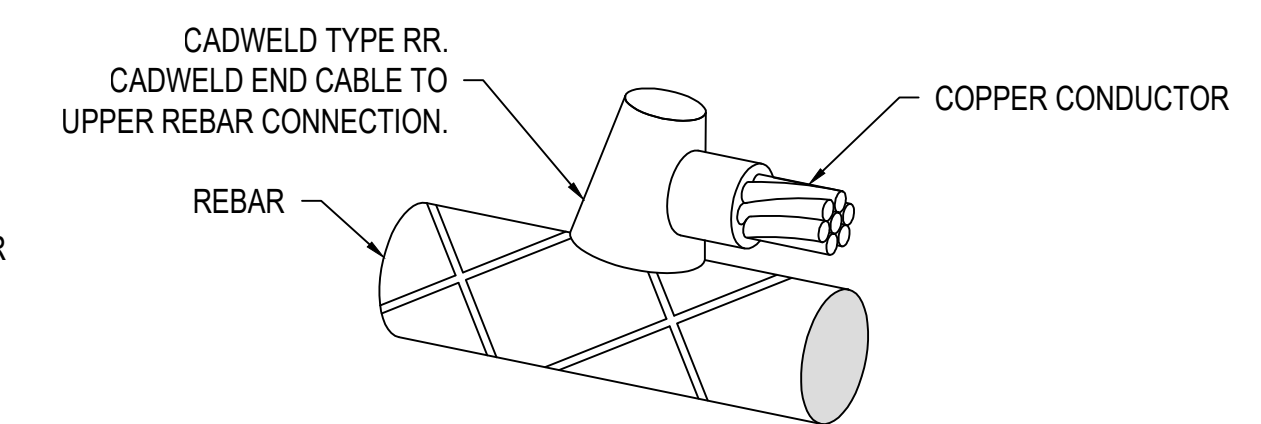


TYPICAL ELECTRICAL TRENCH DETAIL
NOT TO SCALE

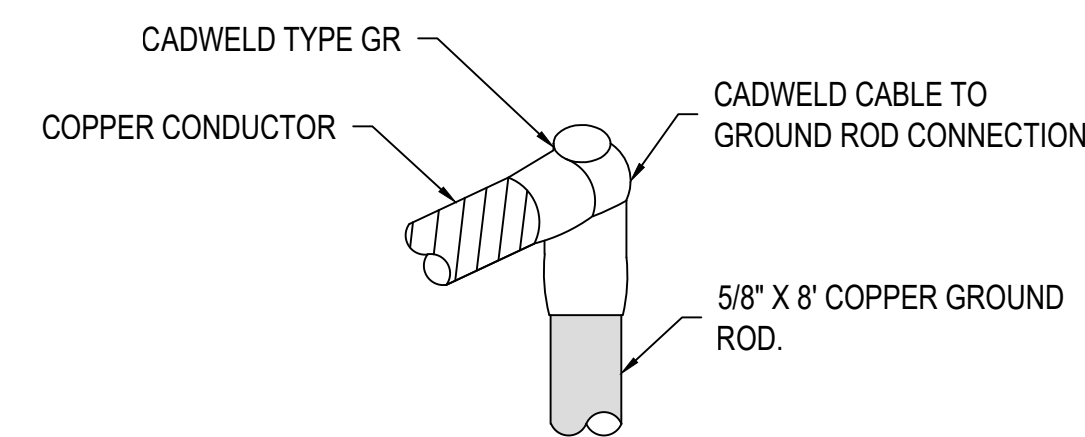
NOTE: BURY DEPTH OF CONDUIT AND HORIZONTAL SPACING SHALL BE CONFIRMED WITH SERVING UTILITY BEFORE CONSTRUCTION.



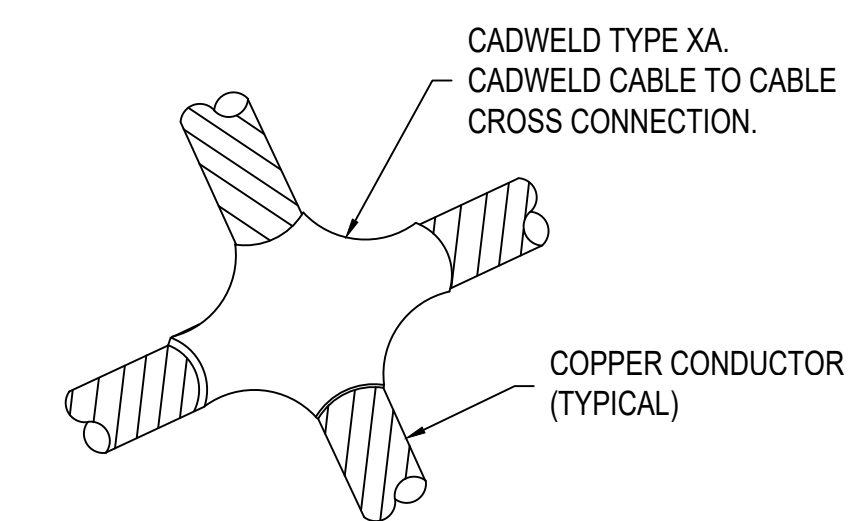
GROUND TEE DETAIL
NO SCALE



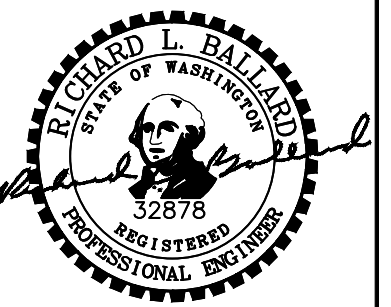
GROUND REBAR DETAIL
NO SCALE



GROUND TEE DETAIL
NO SCALE



GROUNDING CROSS DETAIL
NO SCALE



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CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS

ELECTRICAL DETAILS



NO.	DATE	DESCRIPTION	BY	REVIEW
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ENGINEER: BPC	DATE: Jul 5, 2023	CLIENT: TOWNSEND	JOB NO.: 21-0071
REVIEWED: MWB	PLT/DATE: Jul 5, 2023	FILENAME: WSMAD-ELEC02.DWG	
REVISIONS			
SCALE: SHOWN			
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"			
DWG NO.: E04	SHEET NO.: 9		

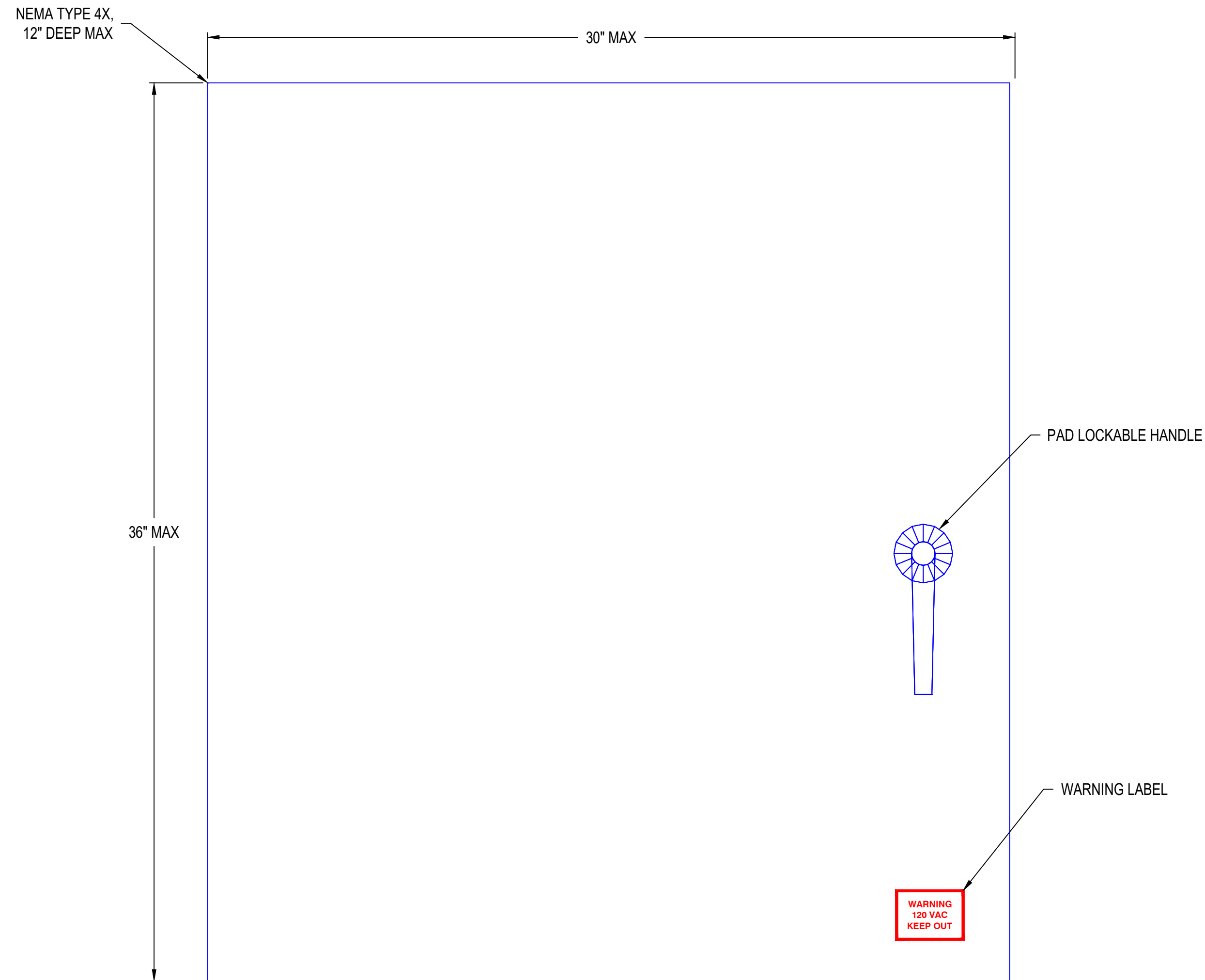
NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL.



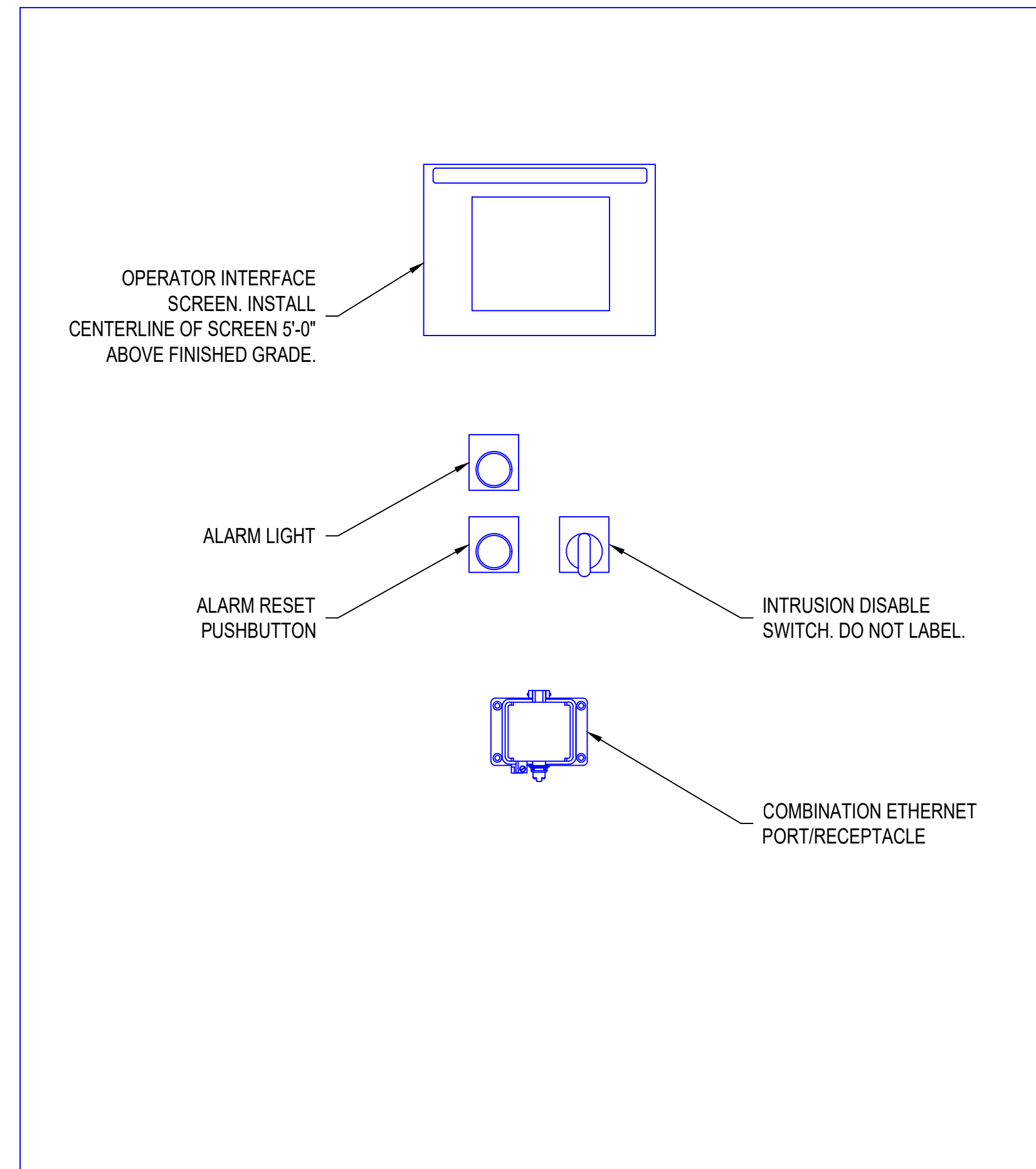
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TELEMETRY PANEL EXTERIOR DOOR LAYOUT
NOT TO SCALE



TELEMETRY PANEL INTERIOR SWING DOOR LAYOUT
NOT TO SCALE

CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS

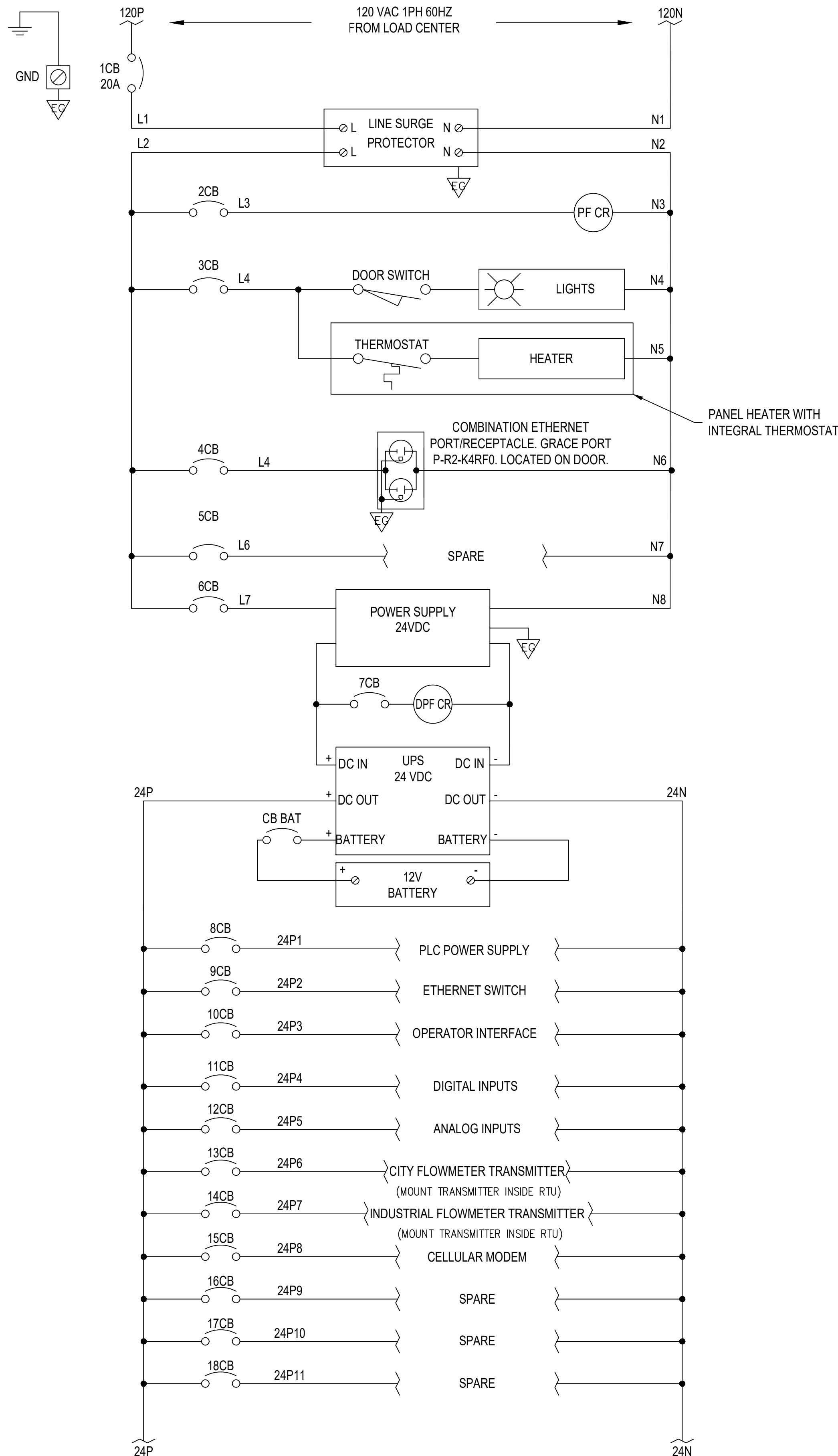
TELEMETRY PANEL LAYOUT

ENGINEER: BPC	DATE: Jul 5, 2023	CLIENT: TWNSD	JOB NO.: 21-0271	REVIEW
REVIEWED: MWB	PLT DATE: Jul 5, 2023	FILENAME: WSM-D-ELEC03.DWG		BY
REVISIONS				
NO.	DATE	DESCRIPTION		
1	07/07/23	ISSUED FOR BIDDING	BPC	MWB

SCALE: SHOWN

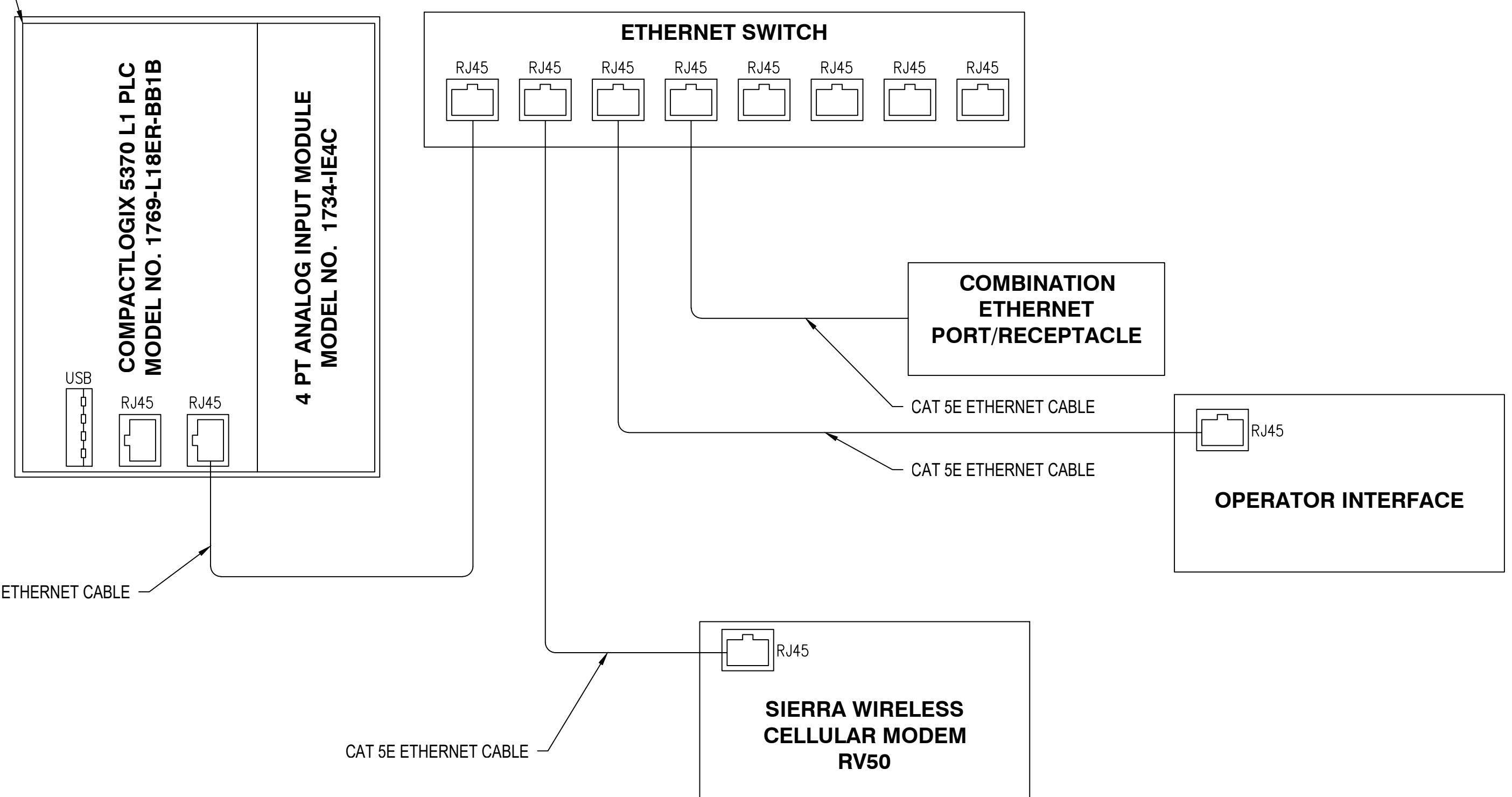
DRAWING IS FULL SCALE WHEN BAR MEASURES 2'

DWG NO.: E05 SHEET NO.: 10 OF 13



POWER LAYOUT
NOT TO SCALE

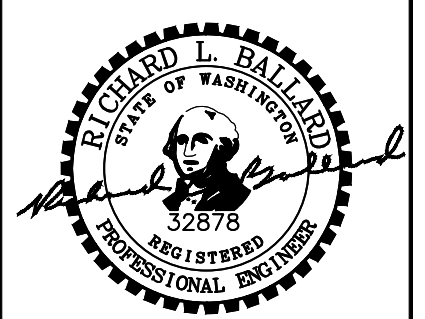
COMPACTLOGIX
5370 L1 PLC BASE,
MODEL NO.
1769-L18ER-BB1B



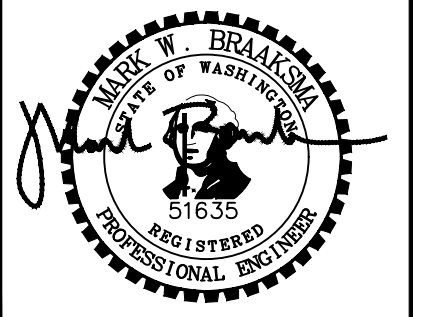
COMMUNICATIONS LAYOUT
NOT TO SCALE

PROVIDE CELLULAR MODEM WITH HIGH-GAIN DIRECTIONAL ANTENNA, MOUNTED TO PANEL EXTERIOR. PROVIDE CABLES AS NECESSARY.

NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL.



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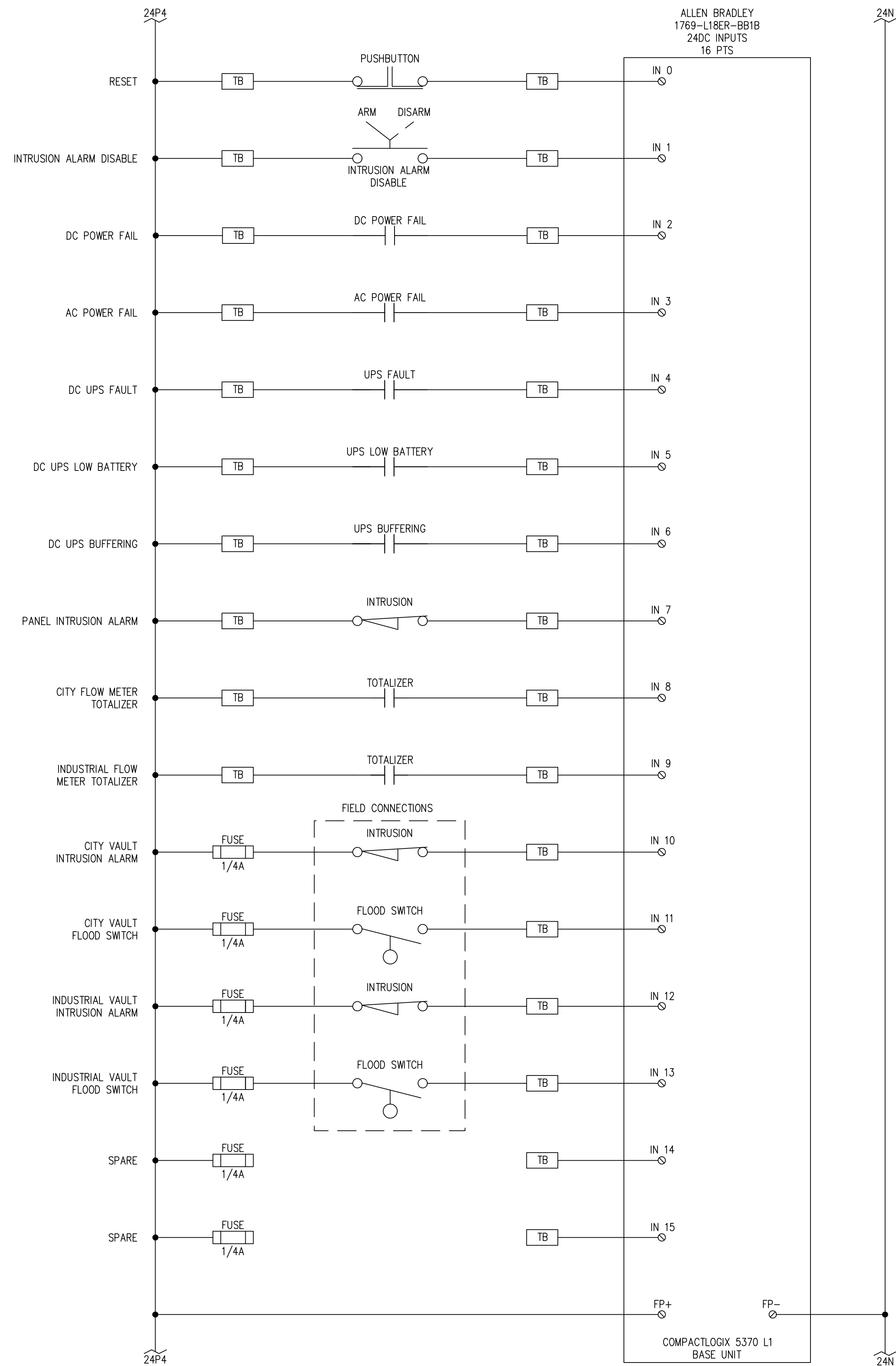


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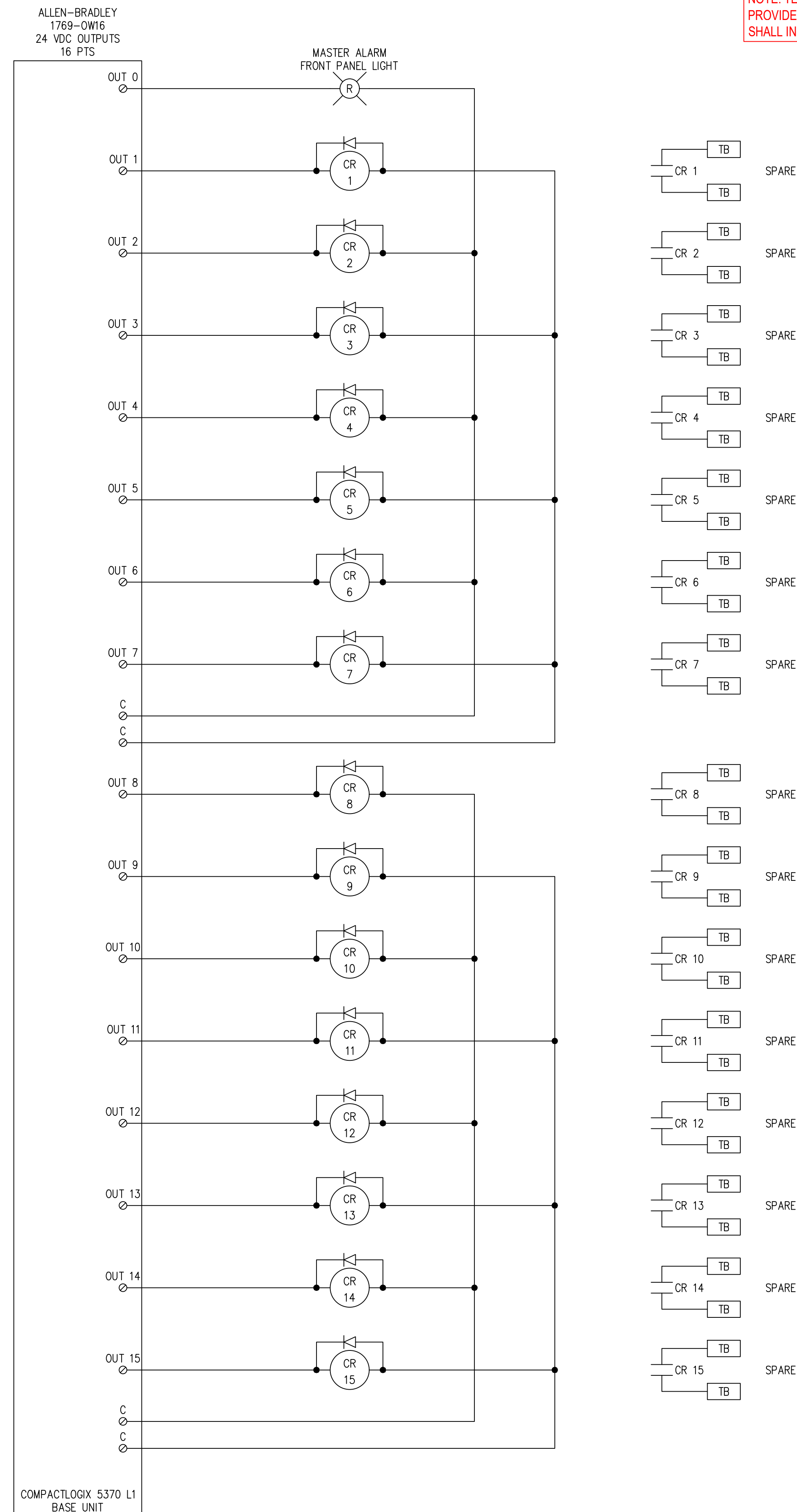
CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS
TELEMETRY PANEL POWER AND COMMUNICATIONS DIAGRAM

ENGINEER: BPC	DATE: Jul 5, 2023	CLIENT: TOWNSEND	JOB NO.: 21-0071	NO.	DATE	DESCRIPTION
REVIEWED: MVB	PLT DATE: Jul 5, 2023	FILENAME: WSM4-D-ELEC03.DWG				
REVISIONS						
	07/07/23	ISSUED FOR BIDDING				

SCALE: SHOWN	
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"	
DWG NO.: E06	SHEET NO.: 11



DIGITAL INPUTS, BASE UNIT
NOT TO SCALE



DIGITAL OUTPUTS, BASE UNIT
NOT TO SCALE

NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL.



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CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS
TELEMETRY PANEL INPUT AND OUTPUT WIRING 1

ENGINEER: BPC	DATE: Jul 5, 2023	CLIENT: TOWNSEND	JOB NO.: 21-0071	REVIEWED: MWB	DATE: Jul 5, 2023	FILENAME: WSM-M-ELEC03.DWG	ISSUED FOR BIDDING	NO.	DATE	DESCRIPTION	BY	REVIEW
REVISIONS												
								07/07/23				

SCALE: SHOWN
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

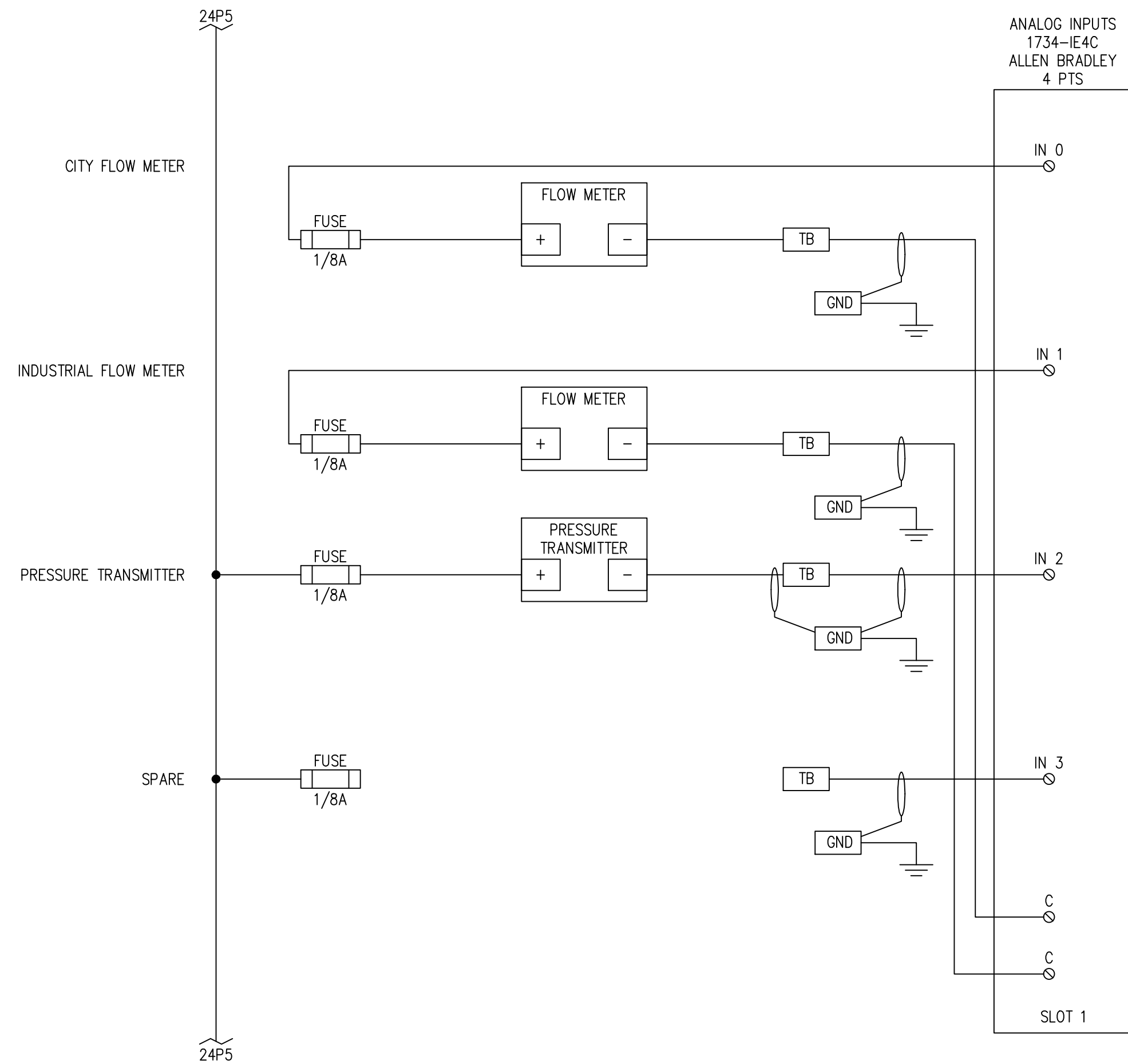
NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL.



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ANALOG INPUTS, SLOT 1
NOT TO SCALE

CITY OF PORT TOWNSEND
WATER SUPPLY METERING IMPROVEMENTS
TELEMETRY PANEL INPUT AND OUTPUT WIRING 2

ENGINEER: BPC	DATE: Jul 5, 2023	CLIENT: TOWNSEND	JOB NO.: 21-071
REVIEWED: MWB	DATE: Jul 5, 2023	FILENAME: WSMAD-ELEC03.DWG	
REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	07/07/23	ISSUED FOR BIDDING	BPC
			MWB

SCALE: SHOWN
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"