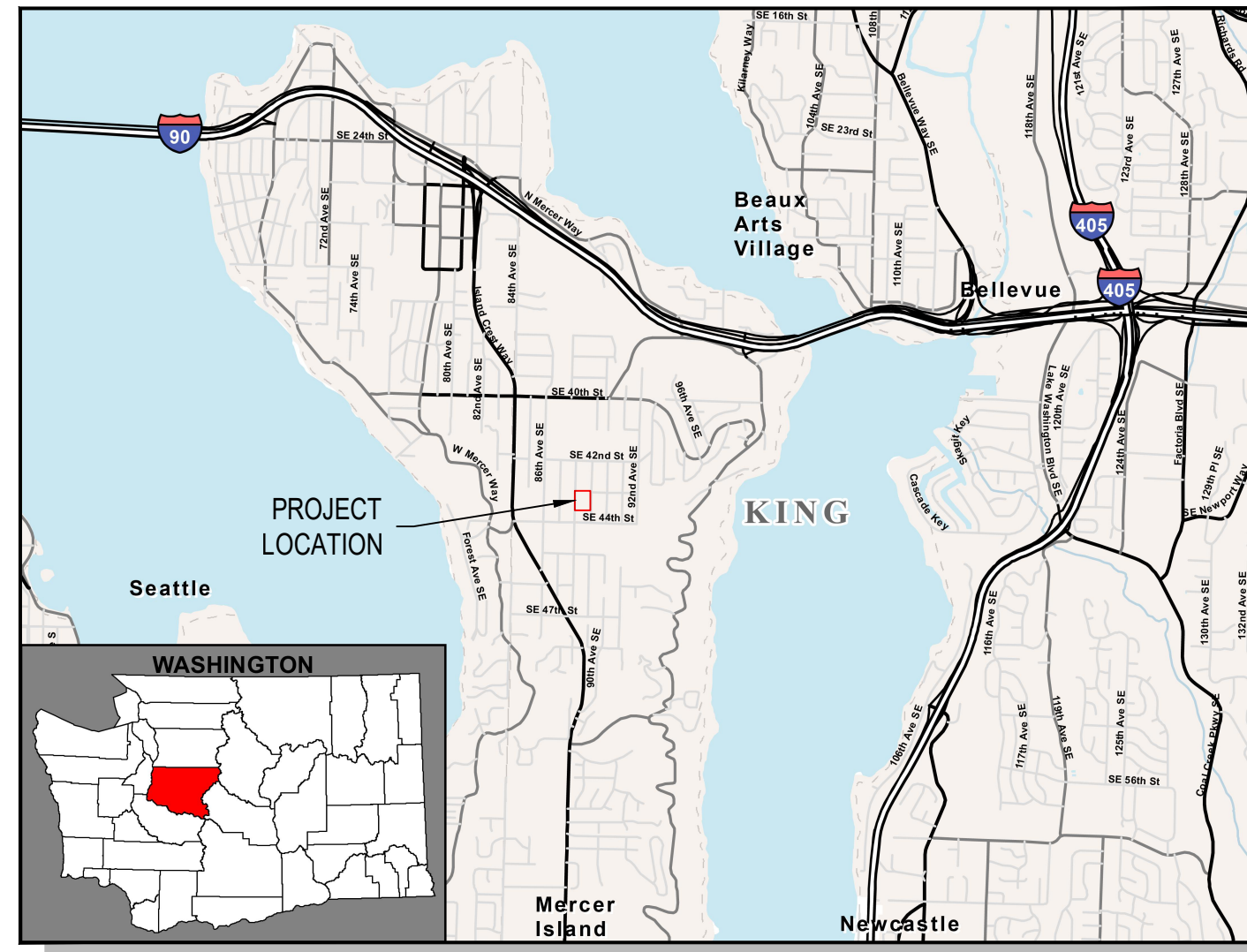




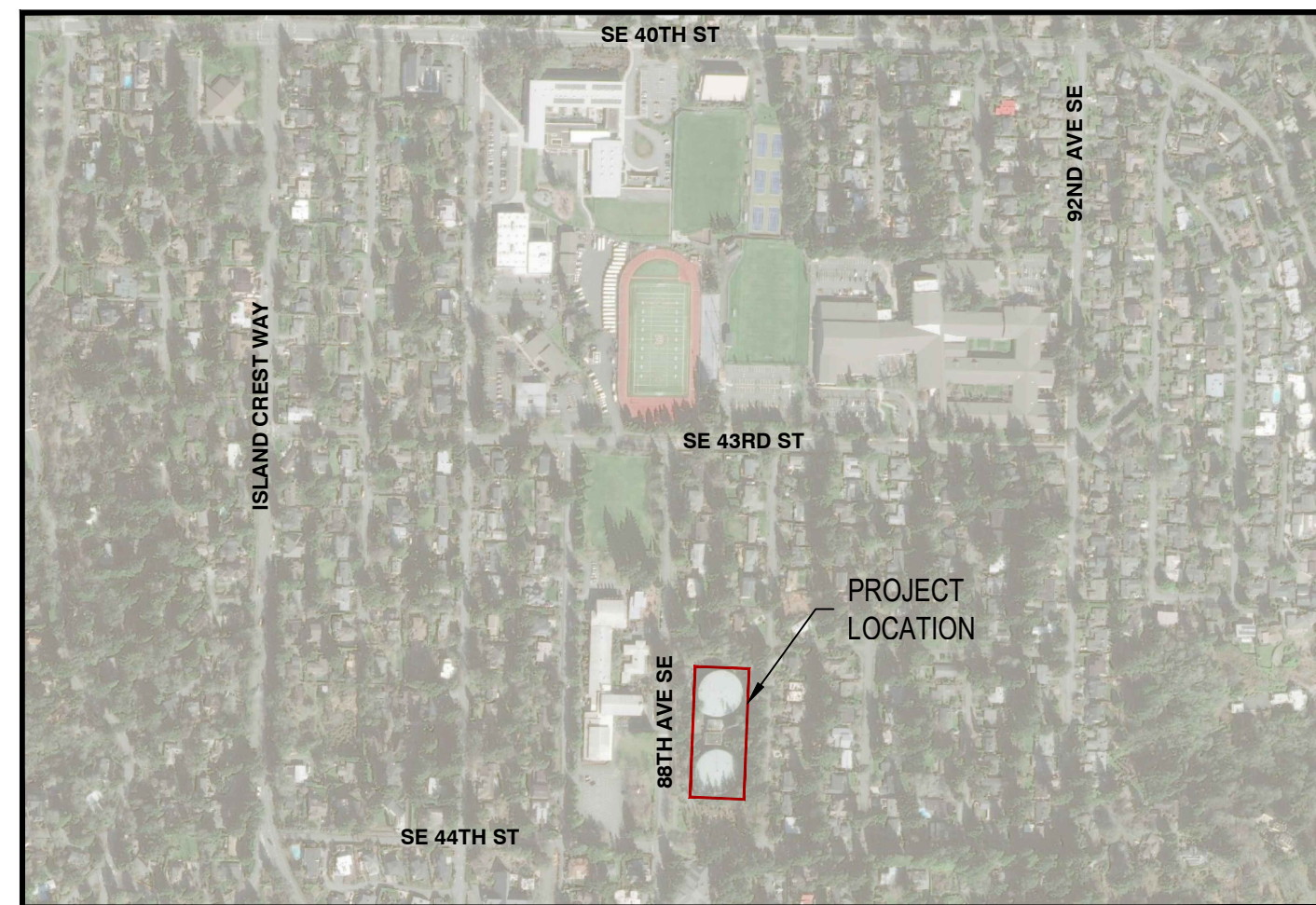
# CITY OF MERCER ISLAND

## NORTH AND SOUTH RESERVOIR IMPROVEMENTS 2022

### PROJECT VICINITY MAP



### PROJECT LOCATION MAP

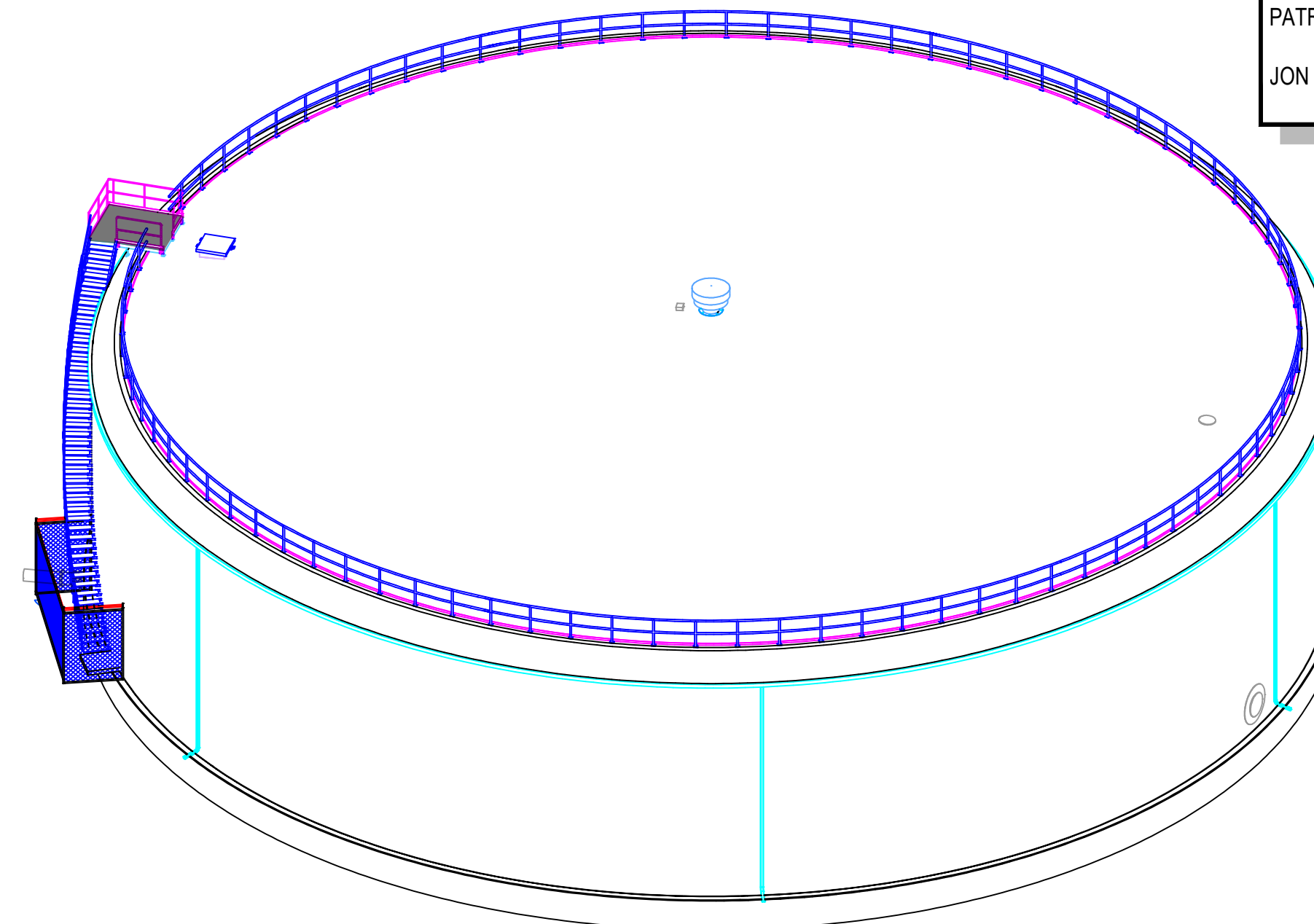
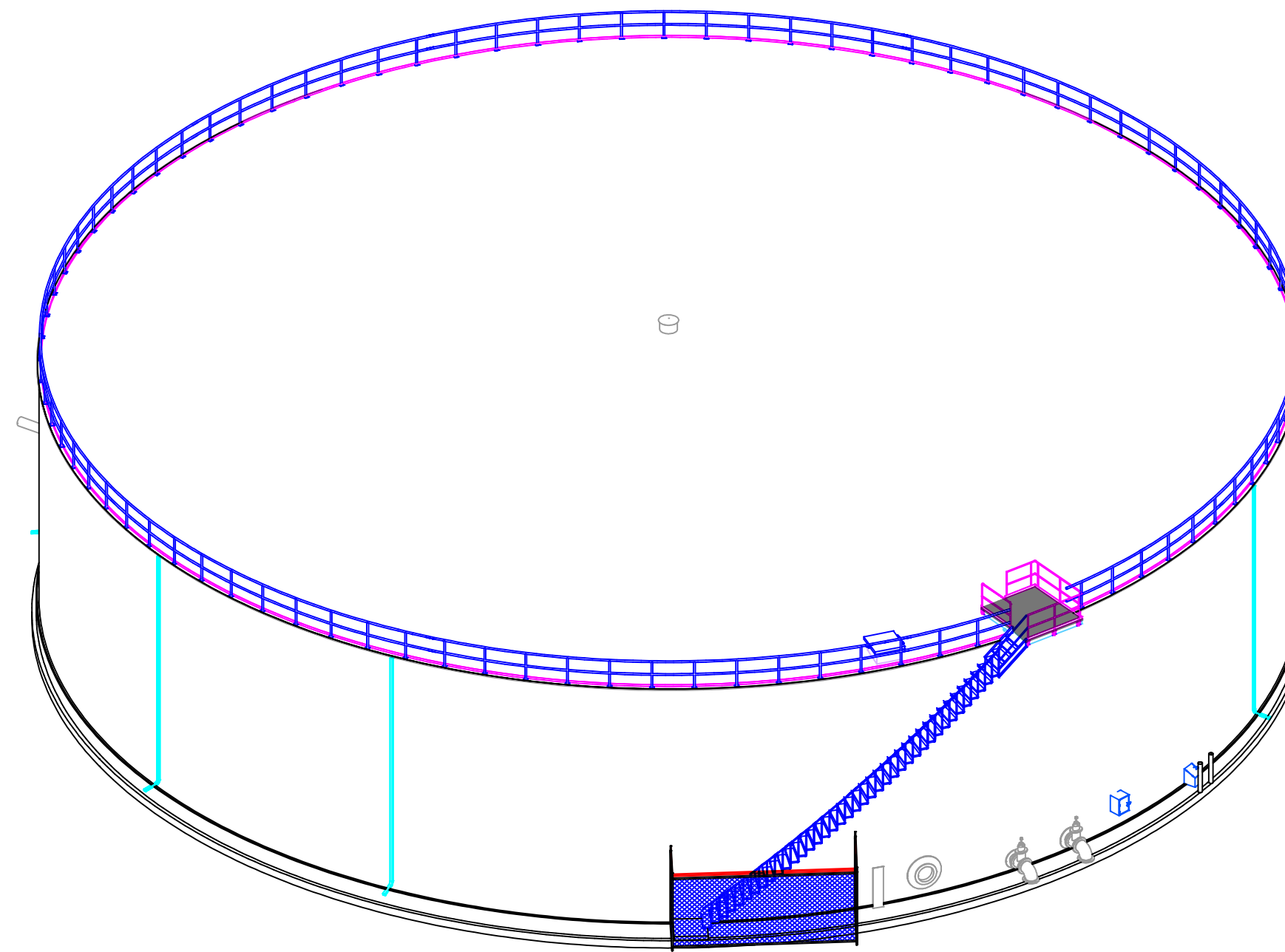


ADDRESS: 4350 88TH AVE SE,  
MERCER ISLAND, WA 98040

CALL 48 HOURS BEFORE YOU DIG  
ONE CALL 811

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

### VOLUME II OF II

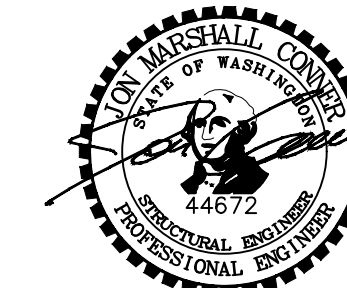


### DRAWING INDEX

Sheet No	Sheet Title	Dwg No
01	COVER	COV
02	GENERAL NOTES	G01
03	EXISTING SITE PLAN	C01
04	PROPOSED SITE PLAN	C02
05	STRUCTURAL NOTES	S01
06	NORTH TANK IMPROVEMENTS PLAN	S02
07	NORTH TANK IMPROVEMENTS SECTIONS	S03
08	SOUTH TANK IMPROVEMENTS PLAN	S04
09	SOUTH TANK IMPROVEMENTS SECTIONS	S05
10	DETAILS 1	S06
11	DETAILS 2	S07
12	DETAILS 3	M01
13	DETAILS 4	E01
14	CATHODIC PROTECTION PLAN AND DETAILS - NORTH TANK	CP01
15	CATHODIC PROTECTION PLAN AND DETAILS - SOUTH TANK	CP02

### CONTACT PERSONNEL

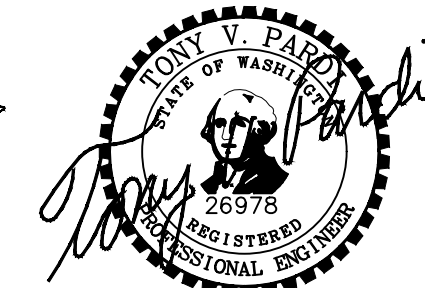
CONTACT	AGENCY	PHONE
ALLEN HUNTER	CITY OF MERCER ISLAND	206-275-7812
PATRICK YAMASHITA, P.E. (PROJECT MANAGER)	CITY OF MERCER ISLAND	206-275-7722
JON CONNER, P.E. (PROJECT MANAGER)	RH2 ENGINEERING	425-951-5352



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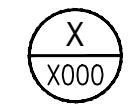
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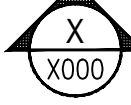


## SECTION AND DETAIL REFERENCES

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).

## SURVEY NOTES

INSTRUMENT: NIKON TOTAL STATION DTM-A10LG (5 SECOND INSTRUMENT),  
METHOD USED: FIELD TRAVERSE WITH ACTUAL  
FIELD MEASUREMENTS AND ANGLES  
WAC 332-130-070

DATE OF SURVEY: DECEMBER 1998

BASIS OF BEARING: MONUMENT NO 18 & MONUMENT 19 PER MERCER ISLAND CONTROL N88°43'25"W  
1996.425 (RECORD) N88°43'25"W 1996.47' (MEAS)

### BENCHMARK #1

MOST WESTERLY MONUMENT IN THE INTERSECTION OF SE 40TH ST AND 92ND AVE SE. FOUND BRASS  
NAIL IN CONCRETE IN CASE (12/98) ELEVATION = 302.10'

### BENCHMARK #2

MOST WESTERLY MONUMENT IN THE INTERSECTION OF SE 40TH ST AND 86TH AVE SE. FOUND BRASS  
NAIL IN CONCRETE IN CASE (12/98) ELEVATION = 322.60'

### BENCHMARK #3 (SET ON SITE)

NW COR CONCRETE PAD AT THE NW CORNER OF THE PUMP HOUSE ELEVATION = 369.11'

## ABBREVIATIONS

CONC	CONCRETE	N	NORTHING
CL	CENTERLINE	PE	POLYETHYLENE
DIAM	DIAMETER	PROP	PROPOSED
DI	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
DWG	DRAWING	R	RIGHT
E	EASTING	RT	RIGHT
ELEV	ELEVATION	SPEC	SPECIFICATIONS
EX	EXISTING	STD	STANDARD
L	LEFT	TYP	TYPICAL
LT	LEFT	W	WATER
LF	LINEAR FEET		

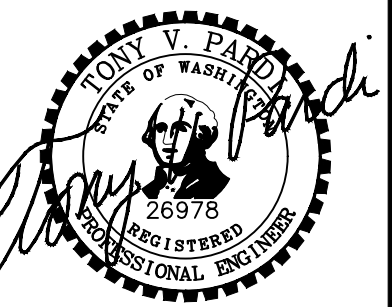
## GENERAL NOTES

- ALL WORKMANSHIP, CONSTRUCTION AND MATERIALS SHALL BE PERFORMED OR SUPPLIED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS, PLANS, OWNER STANDARD DETAILS, AND THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, 2020 EDITION, AS ISSUED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION, WHICH IS HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS.
- A PRECONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO CONSTRUCTION, AND 48 HOURS ADVANCE NOTIFICATION PRIOR TO ACTUAL START OF WORK IS REQUIRED.
- THE EXISTING TOPOGRAPHIC AND PHYSICAL FEATURES SHOWN ON THESE PLANS ARE BASED ON A FIELD SURVEY PERFORMED IN 1998, RECORD DRAWINGS, AND FIELD RECONNAISSANCE BY RH2 ENGINEERING.
- THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE RECORDS BUT HAVE NOT BEEN EXPOSED AND MEASURED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK TO AVOID DAMAGE OR DISTURBANCE, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. IT IS UNDERSTOOD THAT OTHER ABOVE GROUND AND UNDERGROUND FACILITIES NOT SHOWN ON THE PLANS MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK.
- THE CONTRACTOR SHALL PROTECT BUILDINGS, FENCES, APPURTENANCES, ABOVE GROUND UTILITIES, AND OTHER PROPERTY ADJACENT TO ALL CONSTRUCTION AREAS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR REPAIRING ALL DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL SECURE NECESSARY PERMITS PRIOR TO STARTING CONSTRUCTION. THE OWNER WILL OBTAIN SOME OF THE REQUIRED PERMITS. SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION REGARDING PERMITS.
- ONSITE EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE IN PLACE PRIOR TO CONSTRUCTION. ANY PROBLEMS OCCURRING BEFORE FINAL ACCEPTANCE BY THE OWNER SHALL BE CORRECTED BY THE CONTRACTOR. UPON FINAL ACCEPTANCE BY THE OWNER, OR AS OTHERWISE DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY, NON-DEGRADABLE EROSION CONTROL MEASURES.
- ANY REVISIONS TO PLANS MUST BE MADE BY THE ENGINEER AND APPROVED BY THE OWNER PRIOR TO ANY IMPLEMENTATION IN THE FIELD.
- A COPY OF THE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- MATERIALS SAMPLING AND TESTING SHALL BE AT A FREQUENCY AND MAGNITUDE AS SPECIFIED IN THE STANDARD SPECIFICATIONS OR DETERMINED BY THE ENGINEER. A PRIVATE AND INDEPENDENT TESTING LABORATORY SHALL PERFORM TESTING AND SAMPLING. CERTIFIED TEST REPORTS SHALL BE FURNISHED FOR ALL TESTS PERFORMED BY PRIVATE TESTING LABORATORIES. THE OWNER WILL BE RESPONSIBLE FOR ACCEPTANCE TESTING.

## LEGEND

### EXISTING LEGEND

	CATCH BASIN (ROUND)		TREE (DECIDUOUS)
	CATCH BASIN (RECTANGULAR)		TREE (CONIFER)
	SANITARY SEWER MANHOLE		ROCKERY
	WATER METER		SIGN
	FIRE HYDRANT		ASPHALT AREA
	WATER VALVE		GRAVEL AREA
	WATER BLOW OFF VALVE		
	POWER VAULT		
	POWER POLE		
	POWER GUY ANCHOR		
	NATURAL GAS		
	UNDERGROUND POWER		
	RIGHT OF WAY CENTERLINE		
	RIGHT OF WAY LINE		
	SANITARY SEWER		
	STORM DRAIN LINE		
	WATER LINE		
	FENCE		



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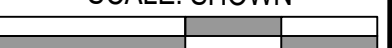
CITY OF MERCER ISLAND  
NORTH AND SOUTH RESERVOIR  
IMPROVEMENTS 2022

GENERAL NOTES



ENGINEER	DATE	REVISIONS	NO.	DATE	DESCRIPTION	BY	REVIEW
KNV	Nov 29, 2022						
JMC	Nov 30, 2022						

SCALE: SHOWN



DRAWING IS FULL SCALE WHEN BAR MEASURES 2'

DWG NO.: G01 SHEET NO.: 02

14



VISUAL LEVEL INDICATOR  
 ROOF LANDING  
 EXTERIOR LANDING  
 LADDER SAFETY CAGE, TYP.  
 EXTERIOR LADDER, TYP.  
 VANDAL SHIELD



SOUTH TANK EXISTING EXTERIOR LADDER, CAGE AND LANDING

ROOF ACCESS HATCH  
 ROOF LANDING



SOUTH TANK EXISTING ACCESS HATCH

INTERIOR LANDING  
 OVERFLOW



SOUTH TANK EXISTING INTERIOR LADDER

INTERIOR LADDER WITH SAFETY CAGE

LADDER SAFETY CAGE, TYP.  
 EXTERIOR LADDER, TYP.  
 VISUAL LEVEL INDICATOR  
 EXTERIOR LANDING  
 VANDAL SHIELD



NORTH TANK EXISTING EXTERIOR LADDER, CAGE AND LANDING

ROOF ACCESS HATCH

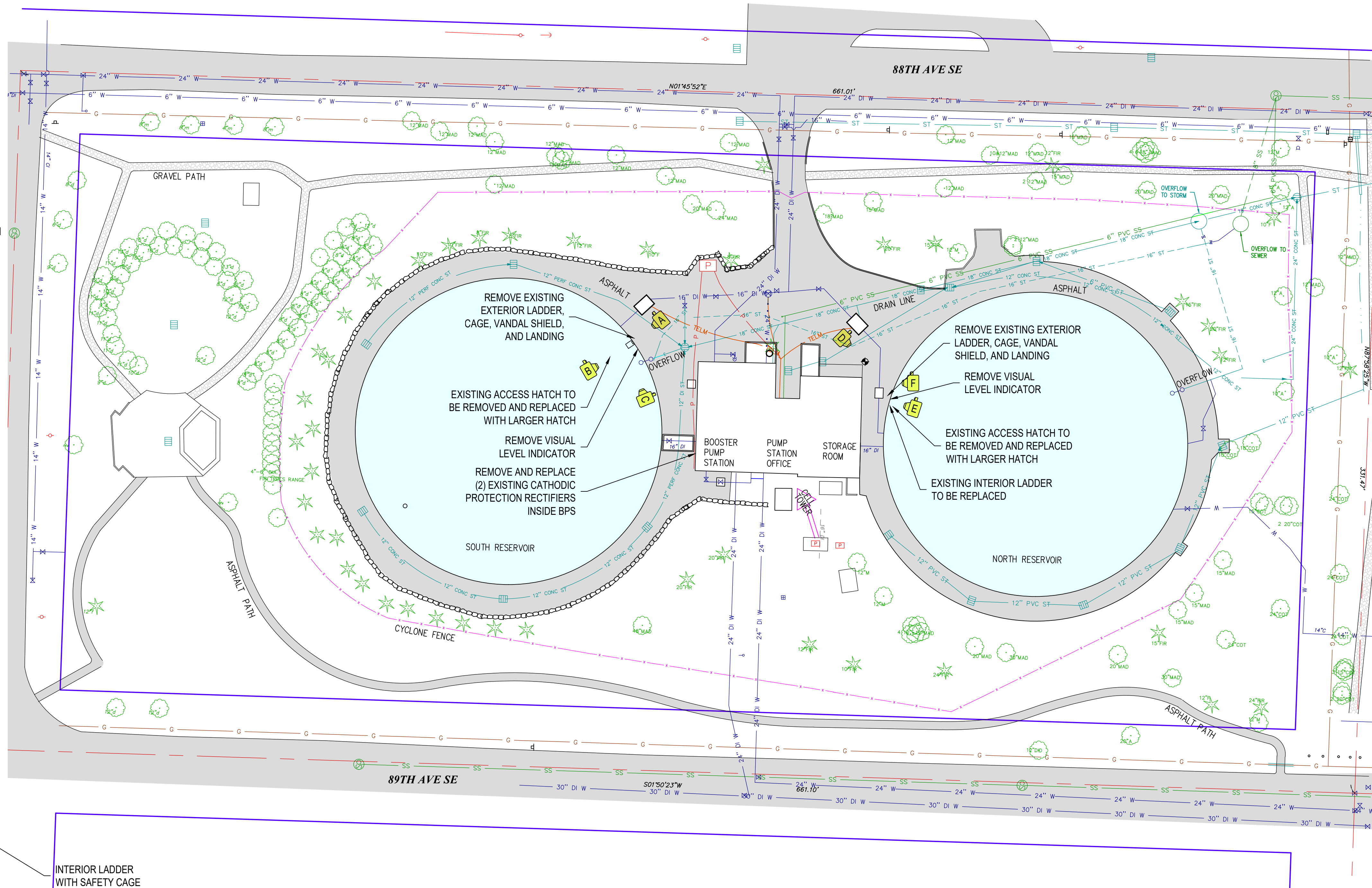


NORTH TANK EXISTING ACCESS HATCH

SAFETY CLIMB  
 INTERIOR LADDER

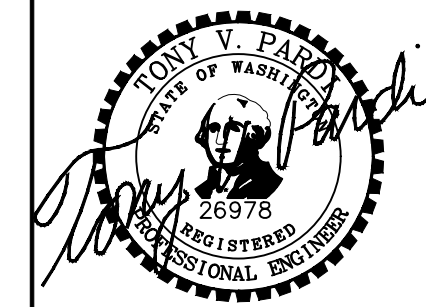
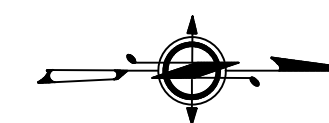


NORTH TANK EXISTING INTERIOR LADDER



**EXISTING SITE AND DEMOLITION PLAN**

1" = 30'



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**CITY OF MERCER ISLAND  
 NORTH AND SOUTH RESERVOIR  
 IMPROVEMENTS 2022**

**EXISTING SITE PLAN**



NO.	DATE	DESCRIPTION	BY	REVIEW

ENGINEER: KKV	DATE: Nov 29, 2022	CLIENT: M-I	JOB NO.: 21-0000
REVIEWED: JMC	PROJECT DATE: Nov 30, 2022	FILENAME: MIRD-QV01.DWG	
DWG NO.: C01		SHEET NO.: 03	
		14	

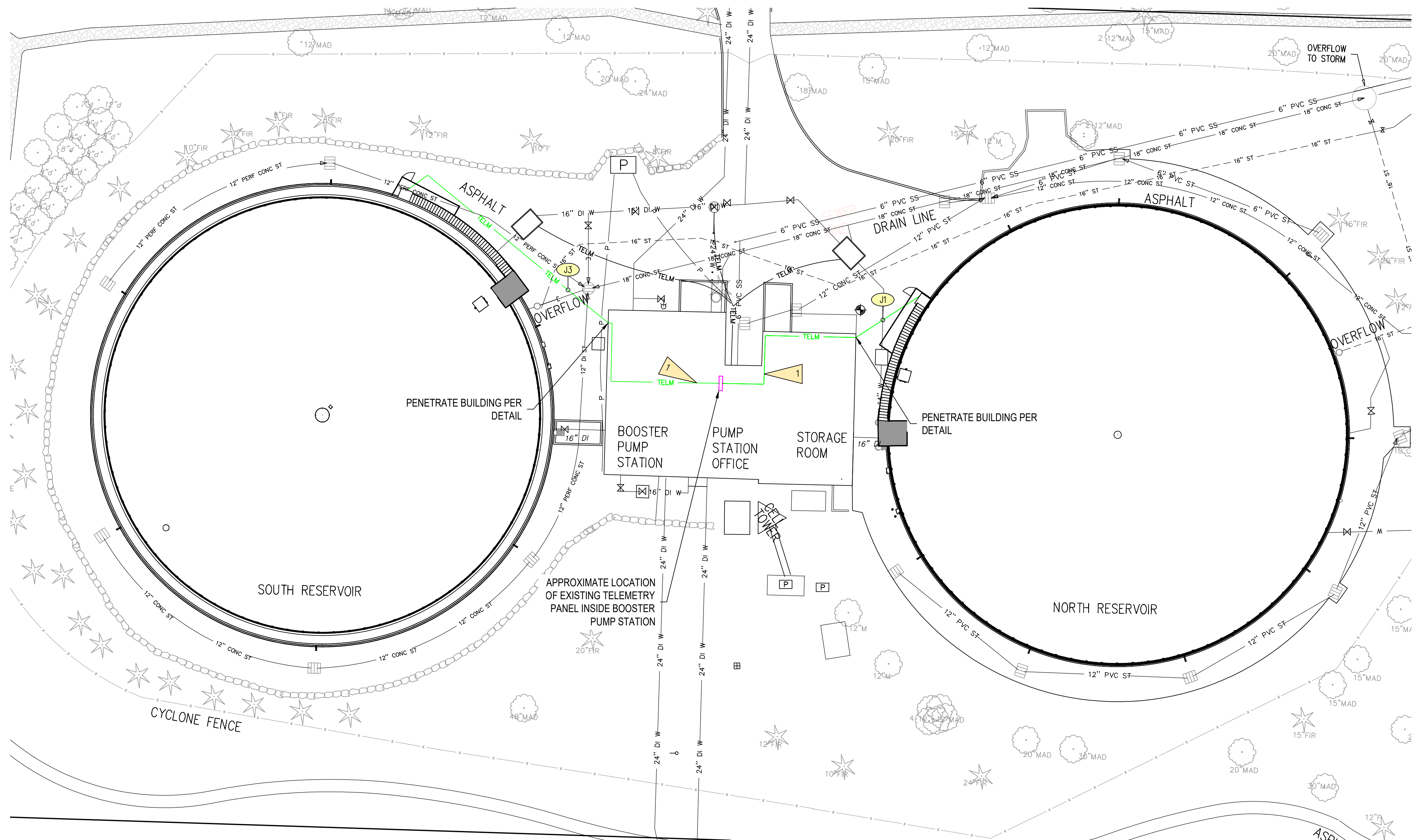
SCALE: SHOWN  
 0' 1' 2'  
 DRAWING IS FULL SCALE WHEN BAR MEASURES 2"  
 REVISIONS



CONTROL CONDUIT AND CONDUCTOR SCHEDULE					
CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C1	NORTH TANK JUNCTION BOX	NORTH TANK GATE INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C2	SOUTH TANK JUNCTION BOX	SOUTH TANK GATE INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	

INSTRUMENTATION CONDUIT AND CONDUCTOR SCHEDULE					
CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
J1	EXISTING TELEMETRY PANEL	NORTH TANK JUNCTION BOX	3/4"	(2) - #14, (1) - #14 GRD (1) 2-CONDUCTOR SHIELDED CABLE	
J2	NORTH TANK JUNCTION BOX	NORTH TANK RADAR LEVEL TRANSMITTER	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J3	EXISTING TELEMETRY PANEL	SOUTH TANK JUNCTION BOX	3/4"	(2) - #14, (1) - #14 GRD (1) 2-CONDUCTOR SHIELDED CABLE	
J4	SOUTH TANK JUNCTION BOX	SOUTH TANK RADAR LEVEL TRANSMITTER	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	

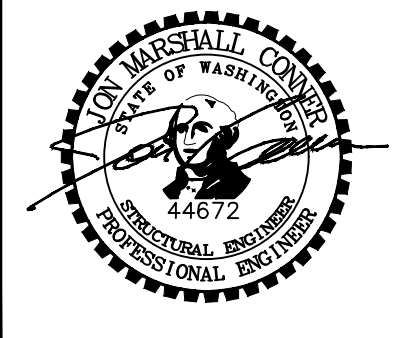
- ELECTRICAL NOTES**
- ROUTE CONDUIT THROUGH BUILDING, TERMINATED AT TELEMETRY PANEL. SUPPORT CONDUIT AS NECESSARY, PROVIDE JUNCTION AND PULL BOXES AS NECESSARY. CONDUIT SHALL ENTER BUILDING AT NEAREST EXTERIOR WALL TO RESERVOIR TRENCH ROUTE AND PROCEED THROUGH THE BUILDING. MOUNTING CONDUIT TO THE EXTERIOR OF THE BUILDING IS UNACCEPTABLE. CONDUIT SHALL BE ROUTED ALONG CEILING, IN ATTIC IF POSSIBLE. ALL CONDUIT PENETRATIONS SHALL BE MADE WEATHER PROOF. ALL CONDUIT SHALL BE MOUNTED SECURELY.
  - SEE THIS SHEET FOR CONDUIT AND CONDUCTOR SCHEDULE.
  - CONTROL CONDUCTORS SHALL BE 600 VOLT TYPE THW, THWN, OR THHW, CLASS BE STRANDED COPPER CABLE. ALUMINUM CONDUCTORS SHALL NOT BE ALLOWED.
  - TWO CONDUCTOR SHIELDED CABLES SHALL BE TYPE PLTC CABLE. THEY SHALL CONSIST OF TWO #16 AWG, 7-STRAND COPPER CONDUCTORS PER ASTM B8 WITH 15 MILS PVC INSULATION AND INDIVIDUAL CONDUCTOR JACKET OF NYLON. CONDUCTORS SHALL BE TWISTED WITH 2-INCH OR SHORTER LAY, WITH 100 PERCENT FOIL SHIELDING AND TINNED COPPER DRAIN WIRES. THE CABLE SHALL HAVE AN OVERALL PVC JACKET WITH A THICKNESS OF 35 MILS. THE INSULATION SYSTEM SHALL BE RATED AT 90 DEGREES CELSIUS AND FOR OPERATION AT 600 VOLTS.
  - ALL CONDUIT SHALL BE STEEL, HOT DIPPED GALVANIZED INSIDE AND OUT. IT MUST MEET USA STANDARDS INSTITUTE C80-1 UNDERWRITERS LABORATORIES STANDARD UL6 AND CARRY A UL LABEL. USE CAST THREADED HUB FITTINGS AND JUNCTION BOXES FOR ALL RIGID CONDUIT EXCEPT IN LOCATIONS NOT PERMITTED BY THE NEC.



**PROPOSED SITE PLAN**  
1" = 10'



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SIGNED: 11/29/2022

**CITY OF MERCER ISLAND  
NORTH AND SOUTH RESERVOIR  
IMPROVEMENTS 2022**

**PROPOSED SITE PLAN**



NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C02 SHEET NO.: 04 14



**BASIS OF DESIGN**

**GEOTECHNICAL PARAMETERS:**

MAXIMUM NET BEARING: 10,000 PSF  
 SOIL SEISMIC SITE CLASS: C  
 SOILS REPORT REFERENCE: HWA GEO REPORT, 1999

**OTHER LOADING PARAMETERS:**

WIND LOAD: 110 MPH (MERCER ISLAND MUNICIPAL CODE)  
 SNOW LOAD: 25 PSF (MERCER ISLAND MUNICIPAL CODE)  
 RISK CATEGORY: IV  
 IMPORTANCE FACTOR: 1.5  
 DESIGN CATEGORY: D  
 SEISMIC PARAMETERS:  
 SDs: 1.137 g  
 SD1: 0.494 g

**OTHER DESIGN VALUES USED:**

OCCUPANCY CATEGORY: UNOCCUPIED, GROUP U, UTILITY  
 CONCRETE: 4500 PSI WITH 60,000 PSI REINFORCING

**LIVE LOADS:**

PLATFORMS: 100 PSF LIVE LOAD, 300 LB CONCENTRATED  
 STAIRS: 200 PSF LIVE LOAD, 1000 LB CONCENTRATED  
 GUARDRAILS: 50 LB/FT OR 200LB POINT LOAD LATERAL IN ANY DIRECTION AT TOP RAIL.

**CRITERIA**

ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AWWA D100-11, ASCE 7-16, AND IBC 2018.

SHOP DRAWINGS AND STRUCTURAL CALCULATIONS SHALL BE STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN WASHINGTON STATE.

THE FOLLOWING ITEMS SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS: ROOF VENT AS MODIFIED FOR LANYARD TIE-OFFS BELOW

THE PLATFORMS, STAIRS, GUARDRAIL, LADDERS, ROOF ACCESS HATCH, AND OTHER MINOR APPURTENANCES SHALL BE DESIGNED BY THE CONTRACTOR AS SPECIFIED. THE GENERAL ARRANGEMENT AND OVERALL DIMENSIONS OF THESE ITEMS SHALL BE AS SHOWN ON THE DRAWINGS.

**GENERAL**

LINES SHOWN ON DRAWINGS MAY BE ASSOCIATED WITH CAD MODELING AND MAY NOT REPRESENT REQUIRED OR ALLOWED JOINTS. SEE DETAILS FOR CLARIFICATION ON REQUIRED AND ALLOWED JOINTS.

REINFORCED CONCRETE REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315-18 AND 318-14. LAP ALL REINFORCEMENTS IN ACCORDANCE WITH THE "REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE" - SEE THIS SHEET.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED: FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . 3" FORMED SURFACES EXPOSED TO EARTH (WALLS BELOW GRADE), WATER OR WEATHER (#6 BARS OR LARGER) . . . 2"

**WELDS**

DESIGN AND FABRICATION PER AWWA D100-11. UNLESS OTHERWISE NOTED, WELD SIZES TO EQUAL THICKNESS OF THE THINNER MEMBER BEING JOINED. FOR FILLET WELD SIZES NOT SHOWN, USE MINIMUM WELD SIZE PER AWWA D100-11, SECTION 8.12.1.

ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PRE-QUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORDS THAT THE WELD QUALIFICATION PROCEDURE MEETS THE REQUIREMENTS OF SEC 14.1.4 OF AWWA D100-11.

**STRUCTURAL ABBREVIATIONS**

ACI - AMERICAN CONCRETE INSTITUTE	EF - EACH FACE	MPH - MILES PER HOUR
AL - ALUMINUM	EW - EACH WAY	O.C. - ON CENTER
ASCE - AMERICAN SOCIETY OF CIVIL ENGINEERS	FB - FLAT BAR	PL - PLATE
CHK - CHECKERED	GR - GRADE	PSF - POUNDS PER SQ FT
CL - CENTERLINE	IBC - INTERNATIONAL BUILDING CODE	RB - ROUND BAR
CLR - CLEAR	LB - POUND	RST - REINFORCING STEEL
EA - EACH	LLV - LONG LEG VERTICAL	SST - STAINLESS STEEL
		T&B - TOP AND BOTTOM

**RESERVOIR NOTES:**

- ALL PROPOSED STEEL MEMBERS SHALL BE PREPARED AND PRIMED OR FINISH COATED UNLESS OTHERWISE NOTED IN PLANS AND EXCEPT AT WELD HOLDBACKS. FOLLOWING FIELD WELDING, PRIMER TOUCH UP/REPAIR SHALL BE PERFORMED PER THE TECHNICAL SPECIFICATIONS, FOLLOWED BY INTERMEDIATE AND FINISH COATING IN THE FIELD PER TECHNICAL SPECIFICATIONS.
- ALL EXISTING ROOF JOINTS SHALL BE SEAL WELDED, INCLUDING ROOF PLATE & RAFTER CONNECTIONS.
- ALL MILD STEEL SPECIFIED ON PLANS TO BE COATED ALONG WITH TANK SHELL. GALVANIZED STEEL SPECIFIED ON PLANS SHALL BE UNCOATED.

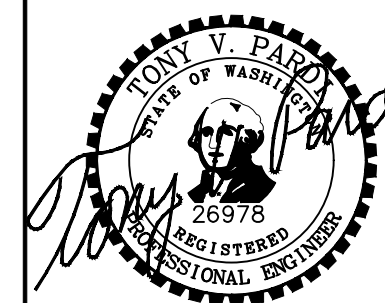
**DEFERRED SUBMITTALS:**

- PLATFORMS, STAIRS, GUARDRAIL, LADDERS, HATCHES, AND OTHER CONTRACTOR DESIGNED APPURTANCES

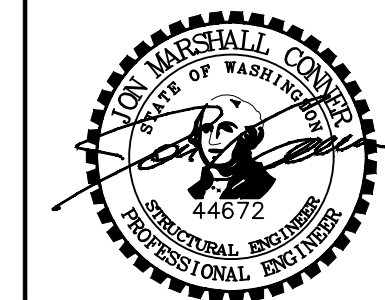
Table 1704.3			
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION			
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD (a)
<b>1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:</b>			
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	---	X	---
<b>2. INSPECTION OF HIGH-STRENGTH BOLTING:</b>			
A. SNUG-TIGHT (BEARING) JOINTS.	---	X	"AISC 360, SECTION M2.5"
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	---	X	
C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	---	
<b>3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:</b>			
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	---	X	"AISC 360, SECTION N2.1"
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	APPLICABLE ASTM MATERIAL STANDARDS
C. MANUFACTURER'S CERTIFIED TEST REPORTS.	---	X	
<b>3. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:</b>			
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	---	X	"AISC 360, SECTION M5.5"
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	APPLICABLE ASTM MATERIAL STANDARDS
C. MANUFACTURER'S CERTIFIED TEST REPORTS.	---	X	
<b>4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:</b>			
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	---	X	---
<b>5. INSPECTION OF WELDING:</b>			
<b>A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:</b>			
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	---	AWS D1.1
2) MULTIPASS FILLET WELDS.	X	---	
3) SINGLE-PASS FILLET WELDS >5/16"	X	---	
4) PLUG AND SLOT WELDS.	X	---	
5) SINGLE-PASS FILLET WELDS ?5/16"	X	X	
6) FLOOR AND ROOF DECK WELDS.	---	X	AWS D1.3
<b>B. REINFORCING STEEL:</b>			
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	---	X	AWS D1.4 ACI 318: SECTION 4.2.2
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	---	
3) SHEAR REINFORCEMENT.	X	---	
4) OTHER REINFORCING STEEL	---	X	
<b>6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:</b>			
A. DETAILS SUCH AS BRACING AND STIFFENING.	---	X	---
B. MEMBER LOCATIONS.	---	X	
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	---	X	

FOR SI: 1 INCH = 25.4 MM.

A. WHERE APPLICABLE, SEE ALSO SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE



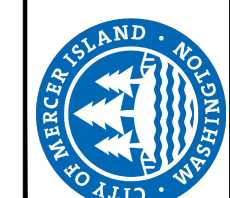
SIGNED: 11/29/2022



SIGNED: 11/29/2022

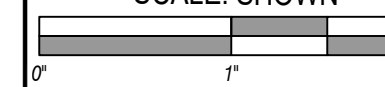
CITY OF MERCER ISLAND  
 NORTH AND SOUTH RESERVOIR  
 IMPROVEMENTS 2022

STRUCTURAL NOTES



NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN



DRAWING IS FULL SCALE WHEN BAR MEASURES 2'

DWG NO.: S01 SHEET NO.: 05 14

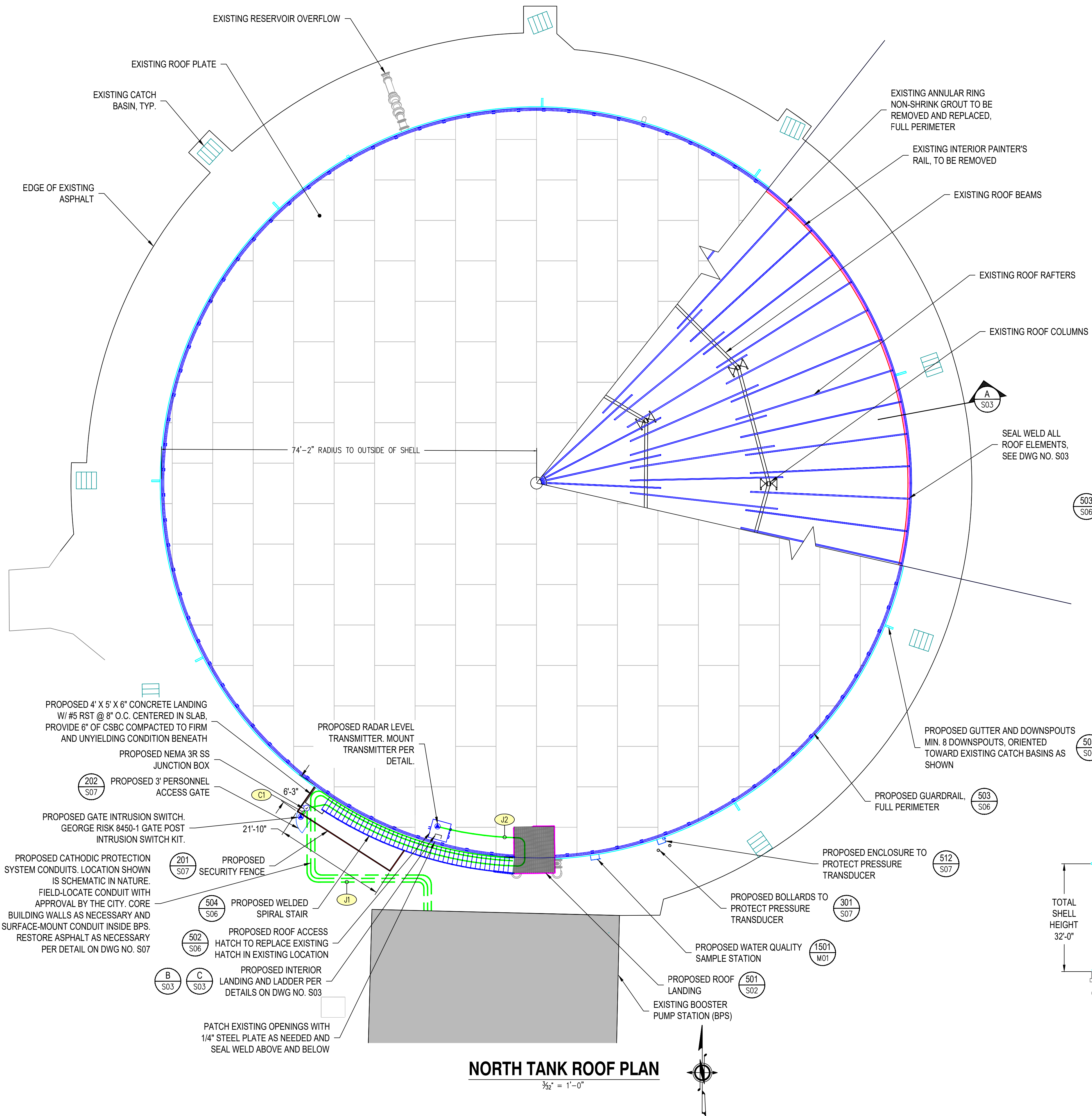


**ELECTRICAL NOTES**

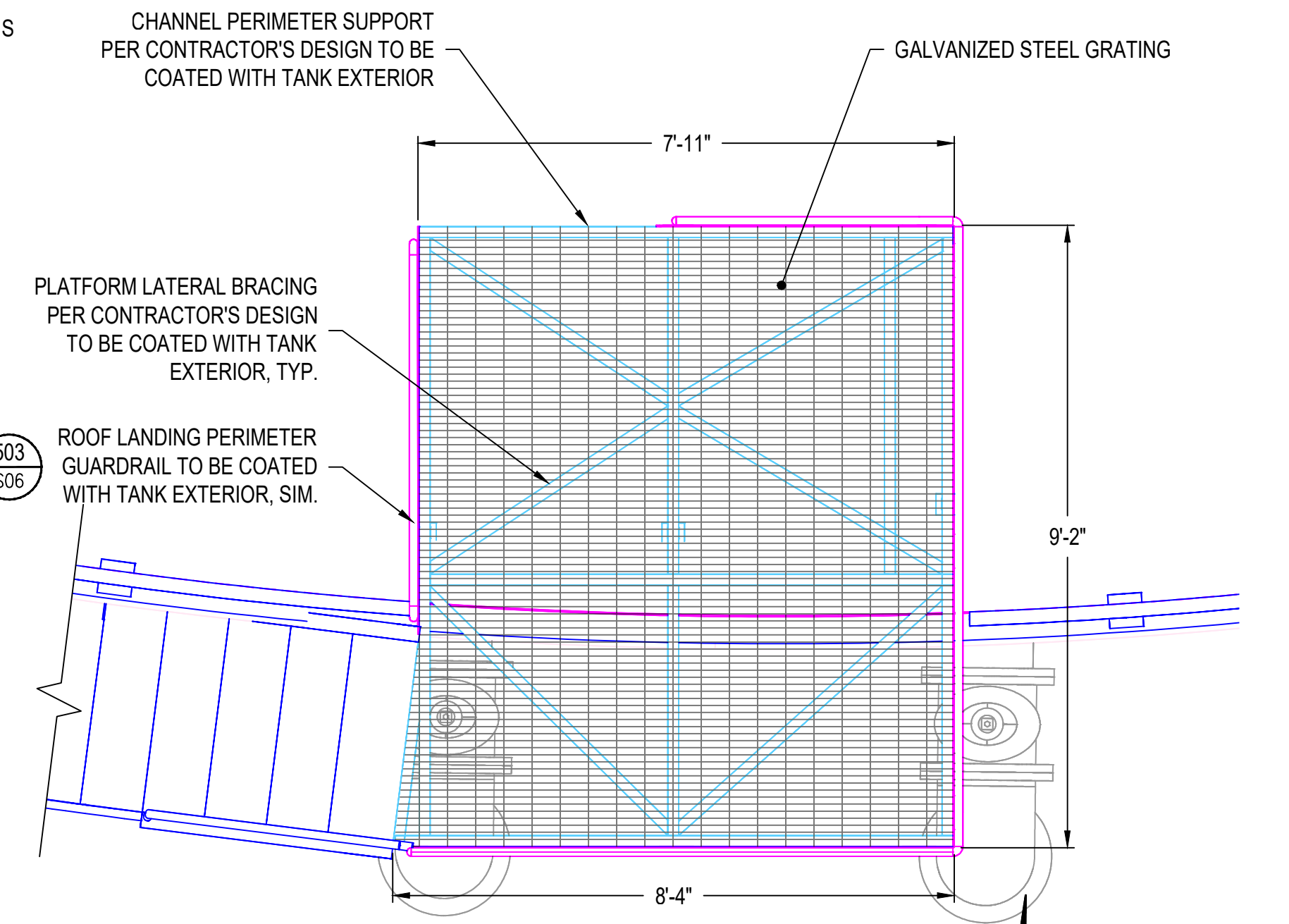
XX 1. SEE DWG NO. C02 FOR CONDUIT AND CONDUCTOR SCHEDULE.

**COATING NOTES**

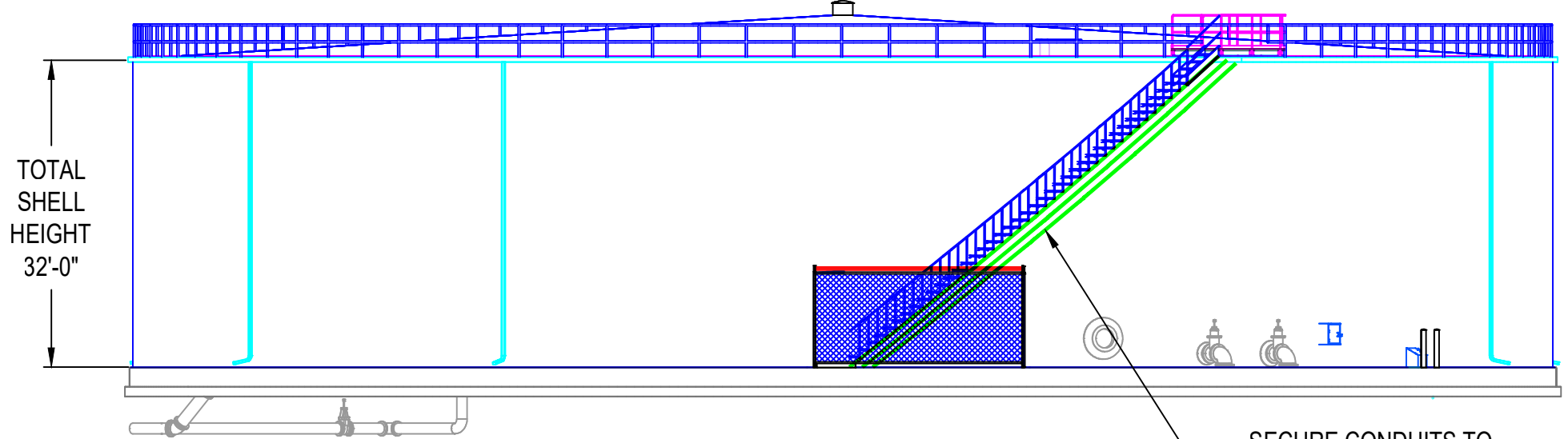
1. INTERIOR COATING SYSTEM TO BE BLASTED, REMOVED, AND RECOATED. SEE DIV. 9 OF THE TECHNICAL SPECIFICATIONS.
2. EXTERIOR COATING SYSTEM TO BE PREPARED AND OVER COATED IN ACCORDANCE WITH DIV. 9 OF THE TECHNICAL SPECIFICATIONS.



**NORTH TANK ROOF PLAN**  
3/32" = 1'-0"



**NORTH ROOF PROPOSED LANDING PLAN**  
1/2" = 1'-0"



**NORTH TANK ELEVATION VIEW**  
1/16" = 1'-0"

NO.	DATE	DESCRIPTION	BY	REVIEW

ENGINEER: KJV	DATE: Nov 30, 2022	CLIENT: M-I	JOB NO.: 21-0000
REVIEWER: JMC	DATE: Nov 30, 2022	FILENAME: MIRC-D-STRO2.DWG	
<b>REVISIONS</b>			
SCALE: SHOWN			
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"			
DWG NO.: S02	SHEET NO.: 06	14	



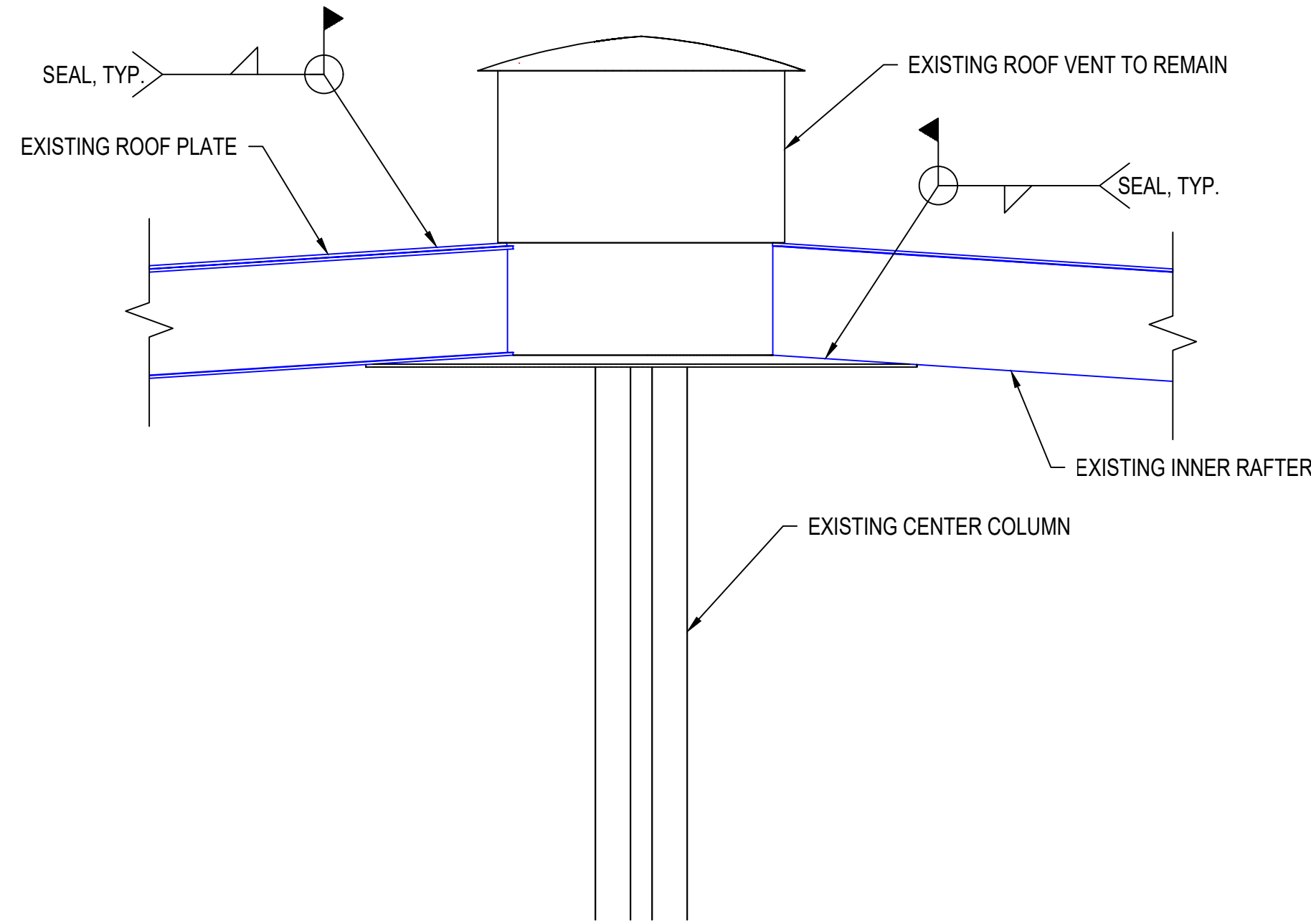
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

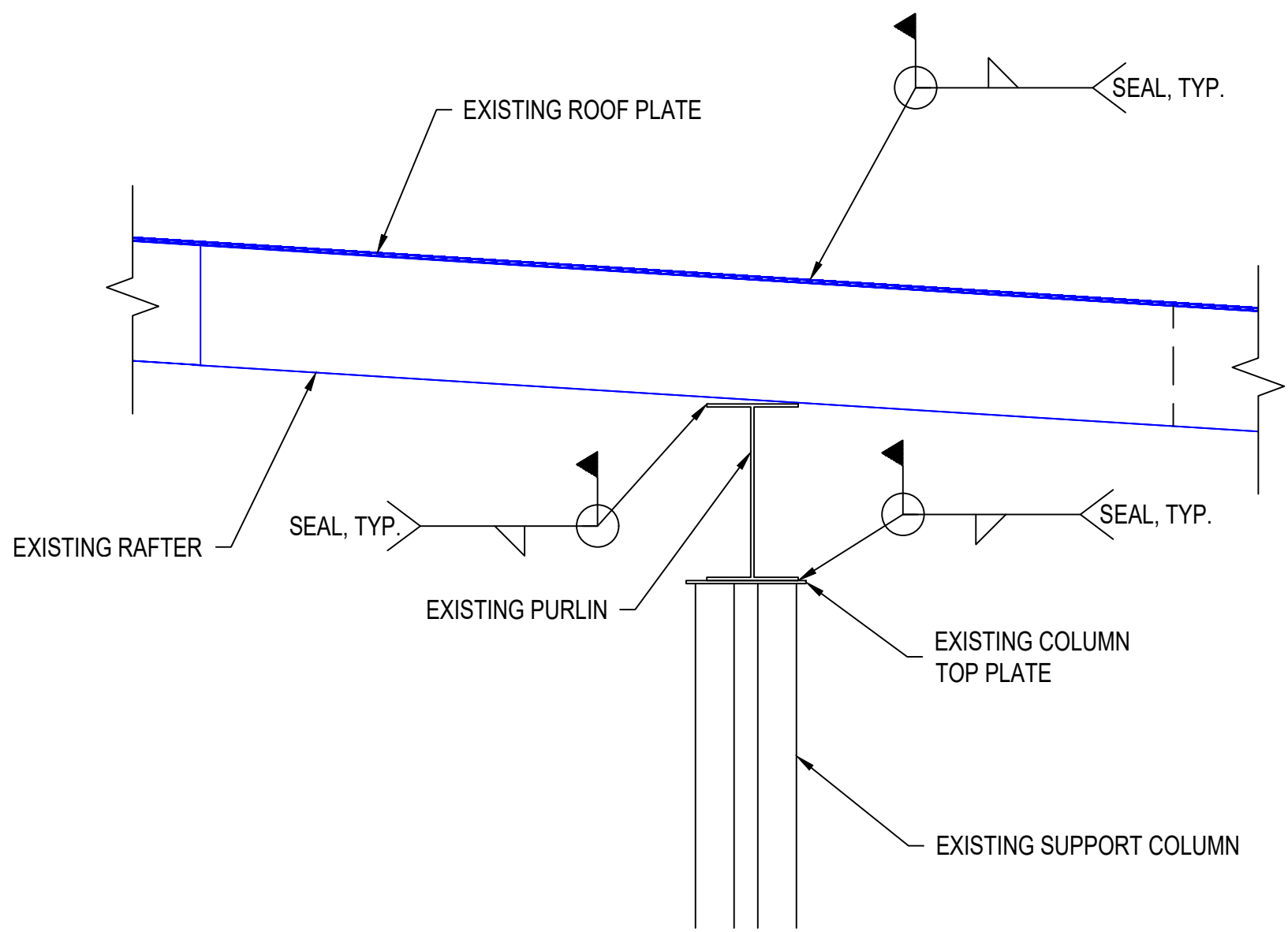
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S03 SHEET NO.: 07

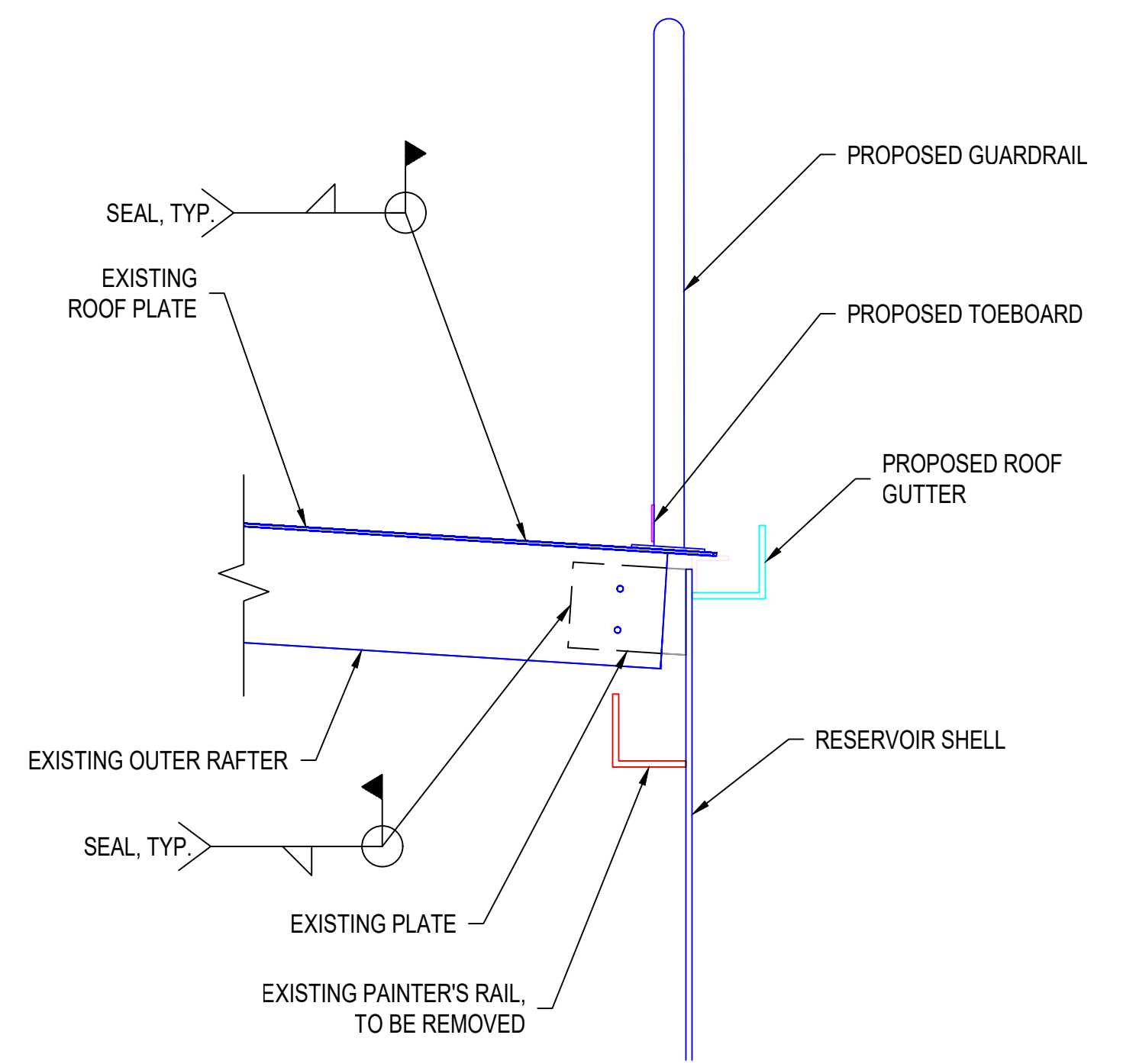
NOTES:  
1. SHIM GAPS WITH FLAT BAR AS REQUIRED TO PERFORM SEAL WELDING  
2. TIE RODS MAY BE REMOVED AFTER SEAL WELDING



**A**  
TYP. **INNER RAFTER/CENTER COLUMN CONNECTION**  
1" = 1'-0"

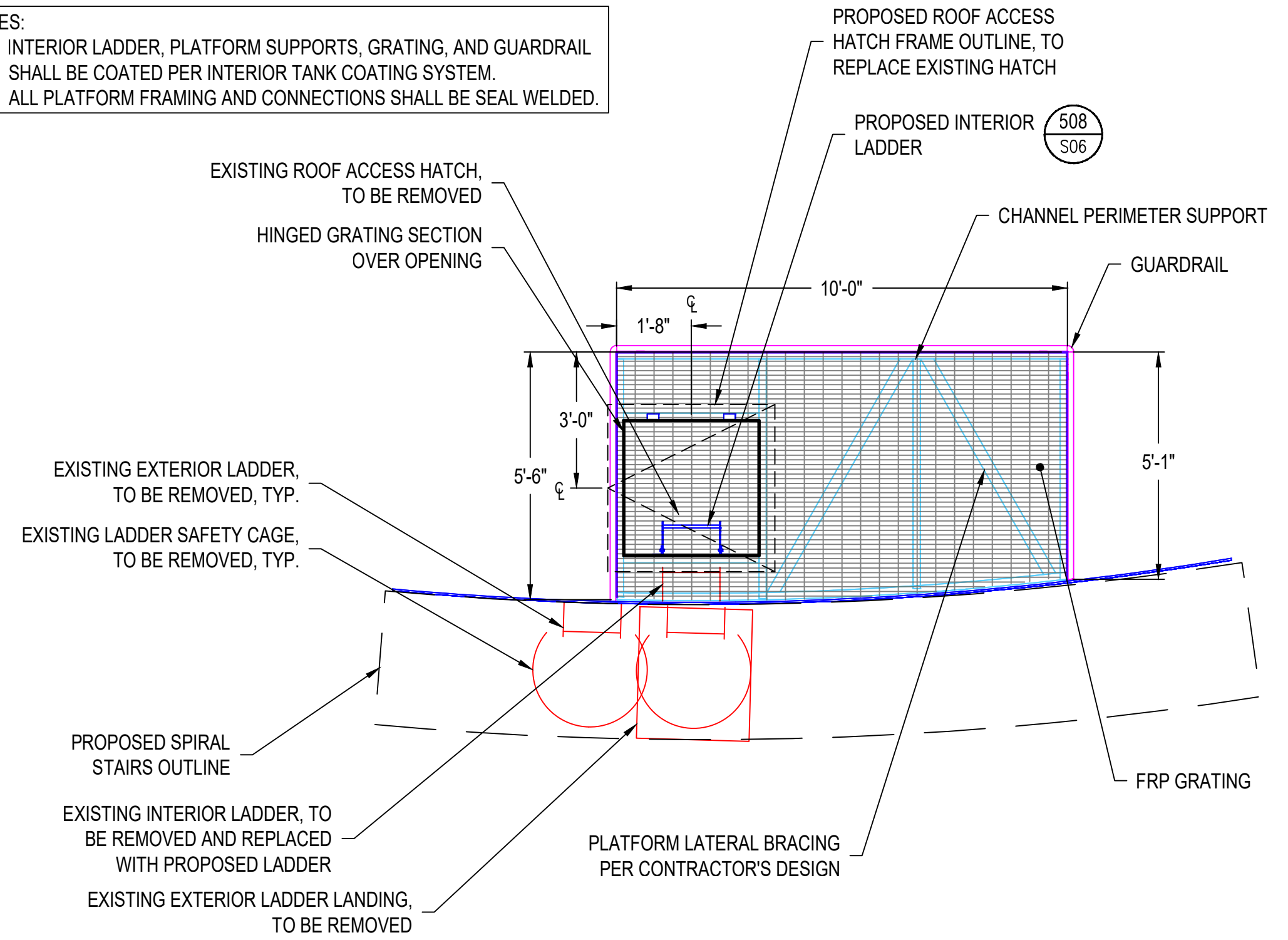


**A**  
TYP. **RAFTER/PURLIN CONNECTION**  
1" = 1'-0"



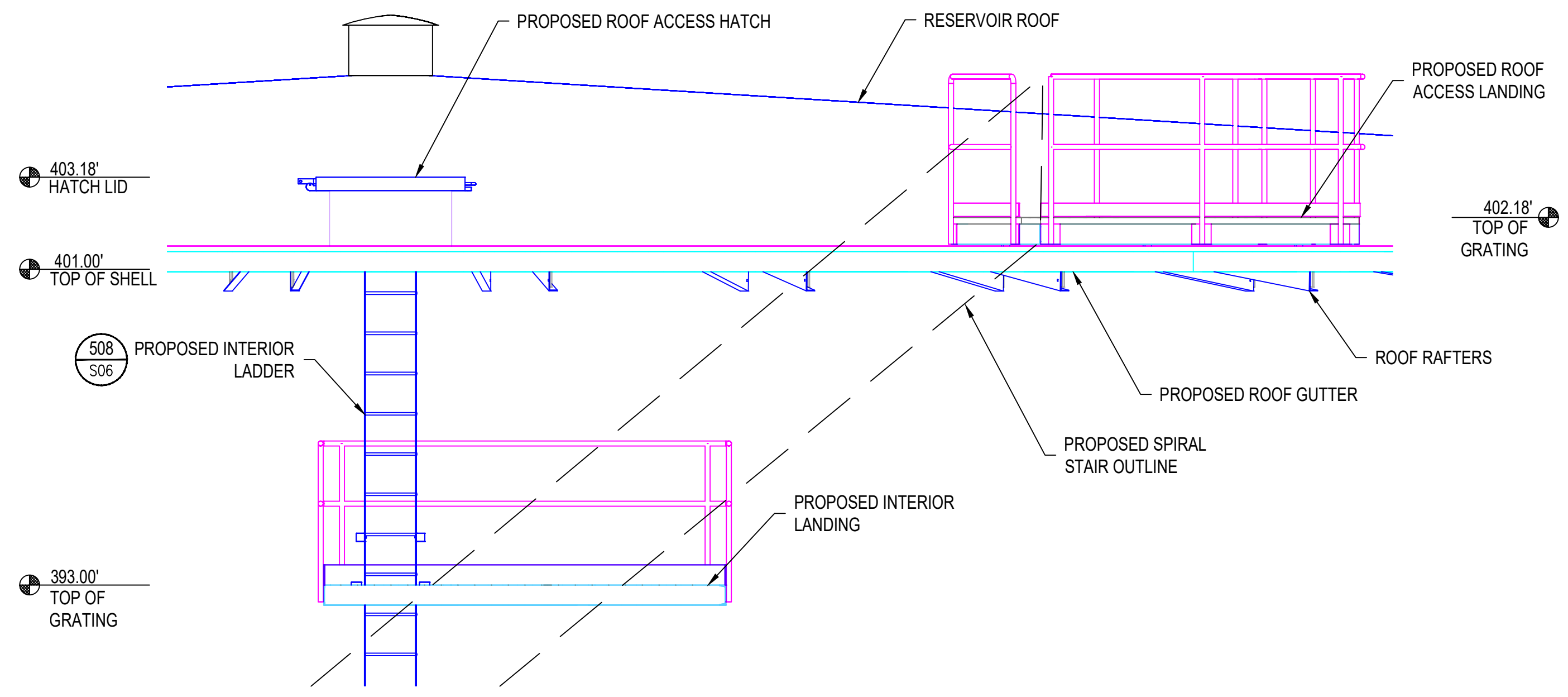
**A**  
TYP. **WALL/RAFTER CONNECTION**  
1" = 1'-0"

NOTES:  
1. INTERIOR LADDER, PLATFORM SUPPORTS, GRATING, AND GUARDRAIL SHALL BE COATED PER INTERIOR TANK COATING SYSTEM.  
2. ALL PLATFORM FRAMING AND CONNECTIONS SHALL BE SEAL WELDED.



NOTE: ROOF AND RAFTERS HIDDEN FOR CLARITY

**B**  
S02 **INTERIOR LANDING AND DEMOLITION PLAN**  
3/8" = 1'-0"



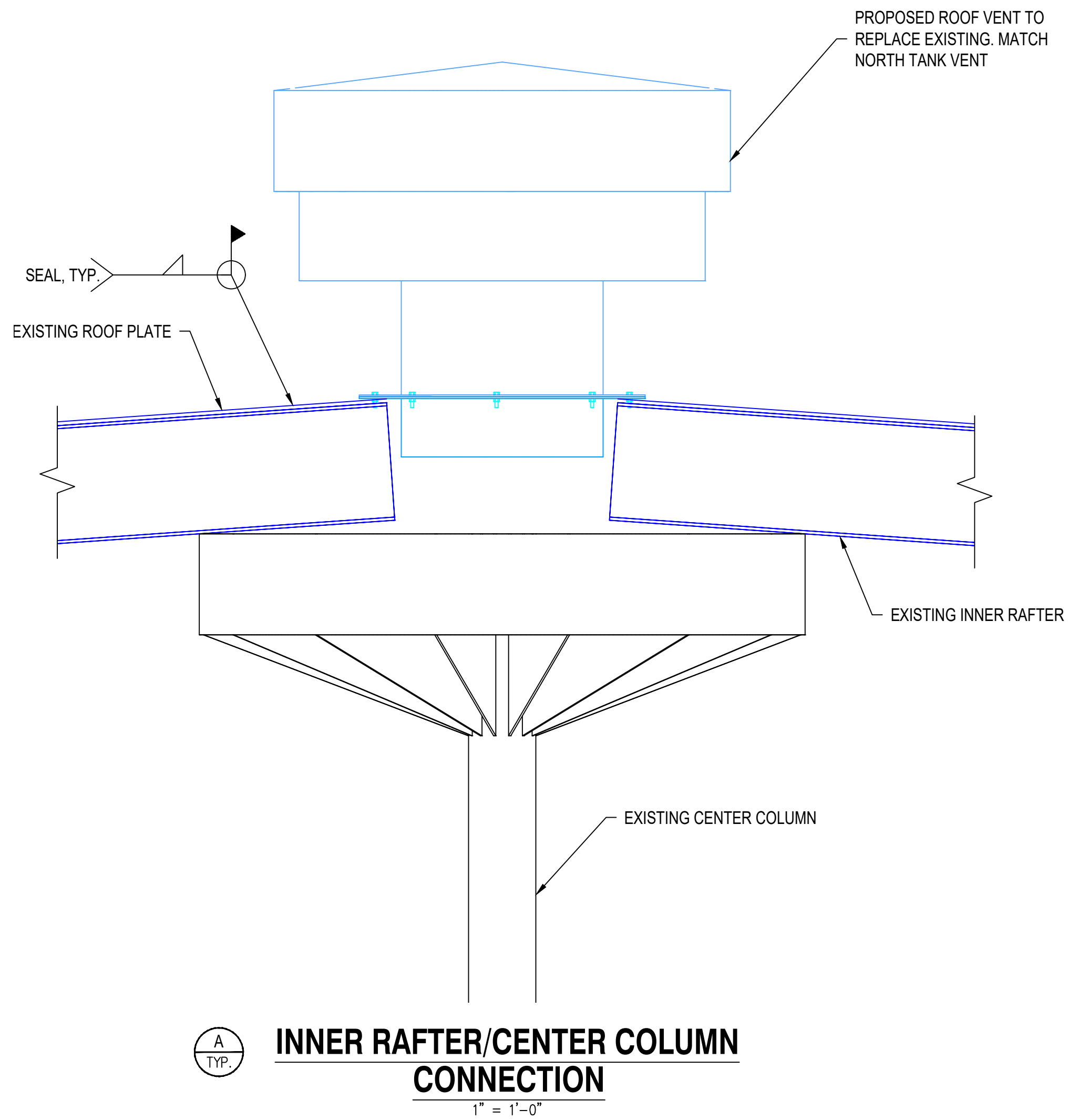
NOTE: ROOF GUARDRAILS HIDDEN FOR CLARITY

**C**  
S02 **ROOF ACCESS LANDING AND HATCH ELEVATION**  
3/8" = 1'-0"

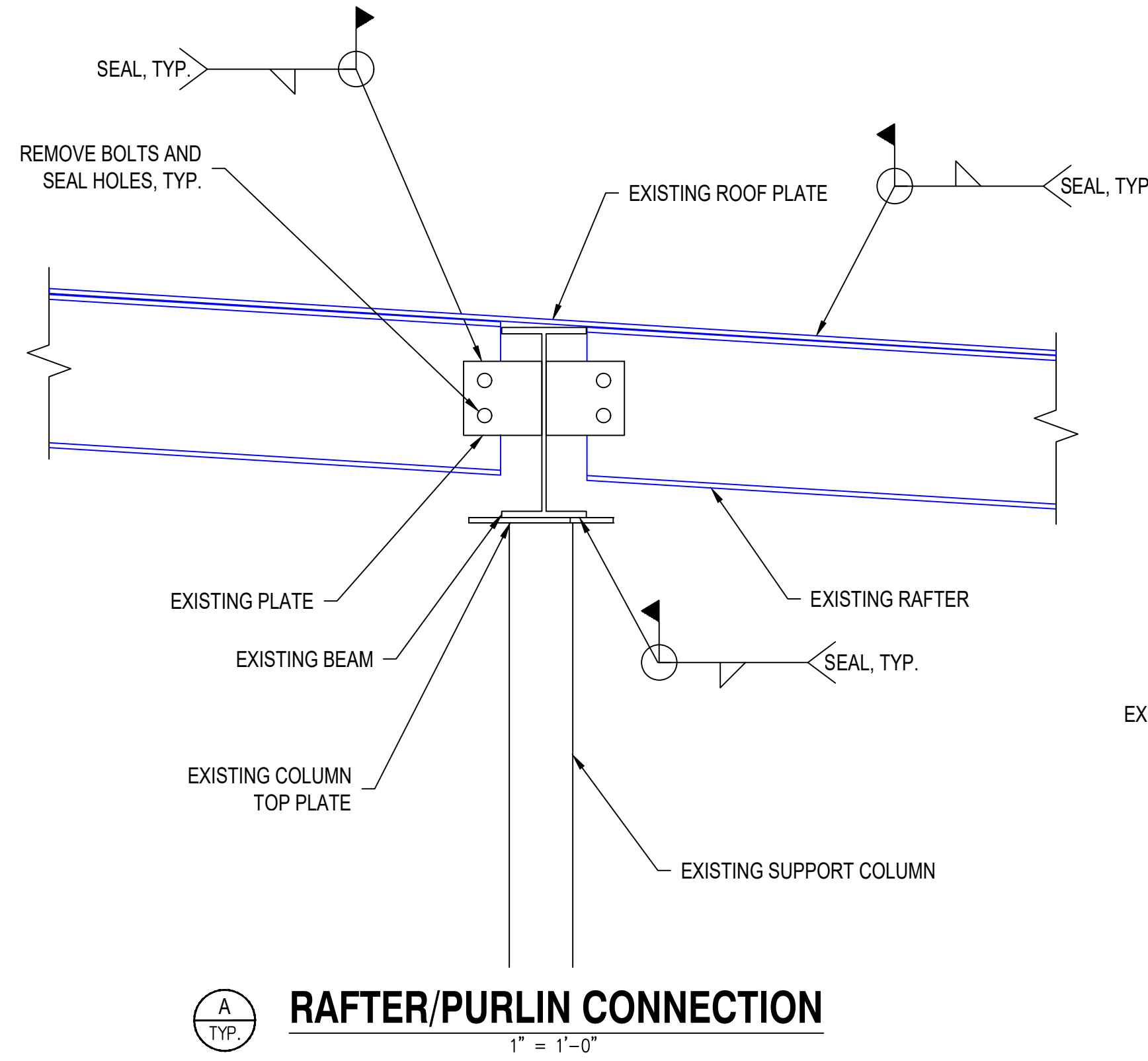




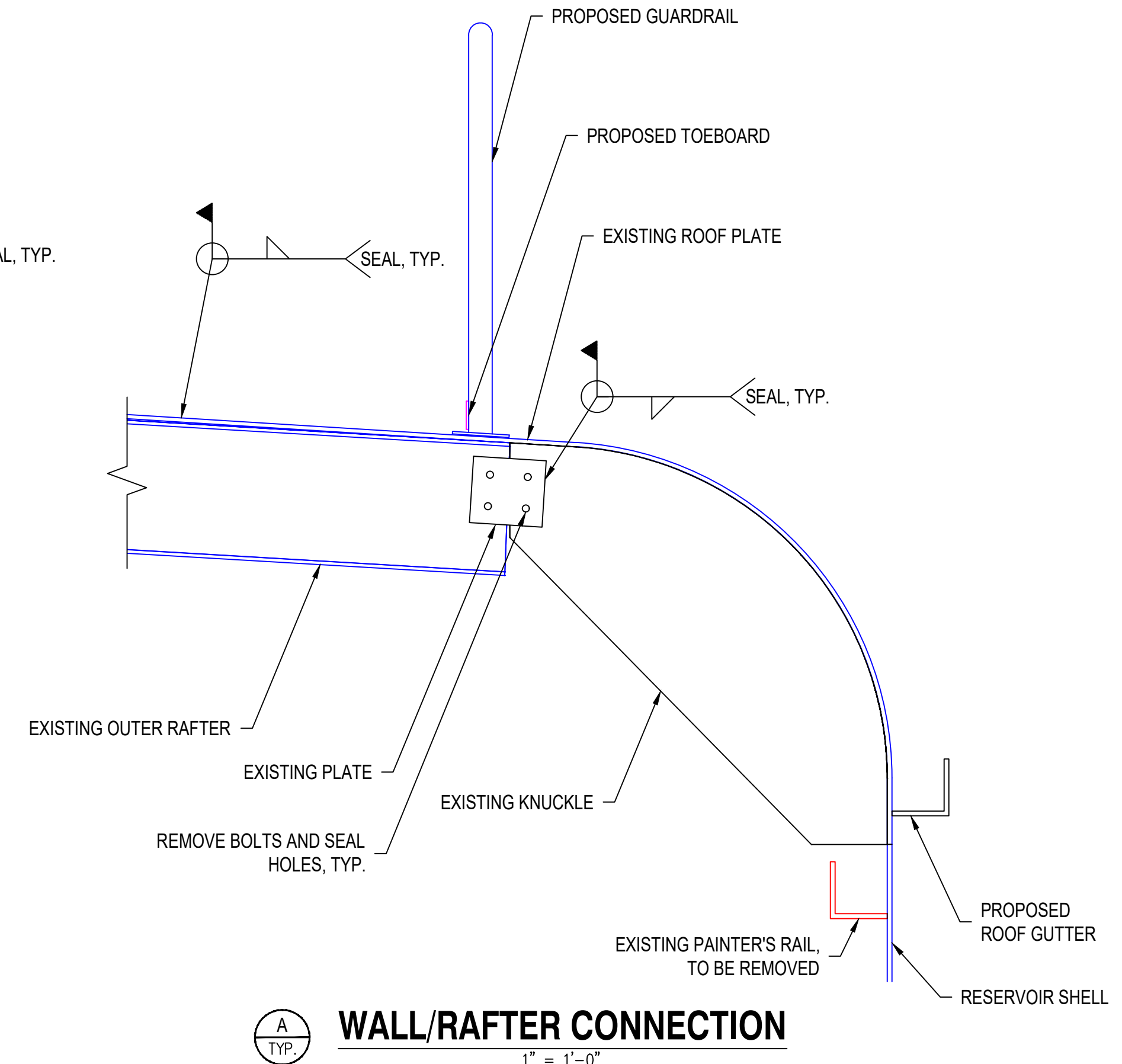




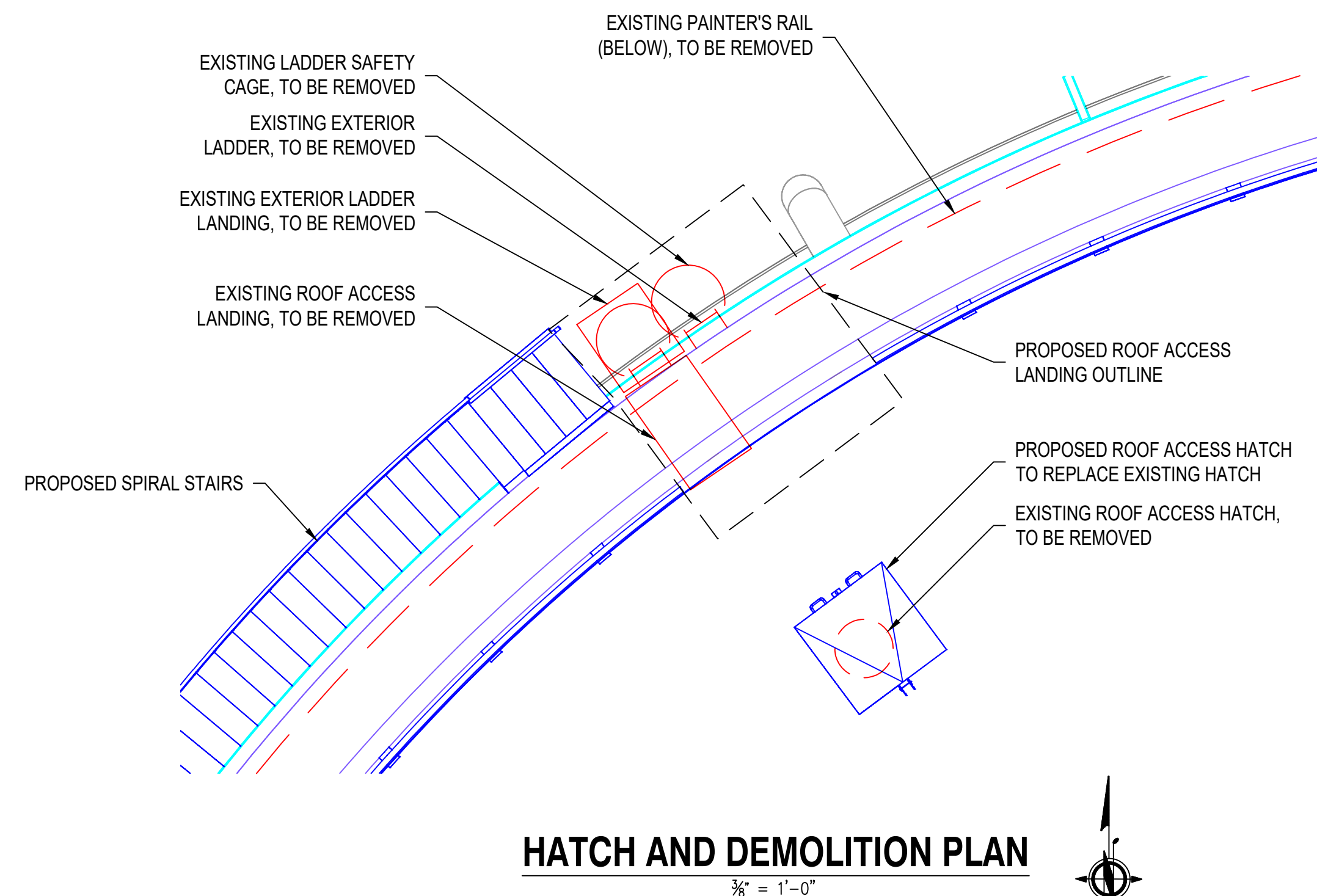
**INNER RAFTER/CENTER COLUMN CONNECTION**  
1" = 1'-0"



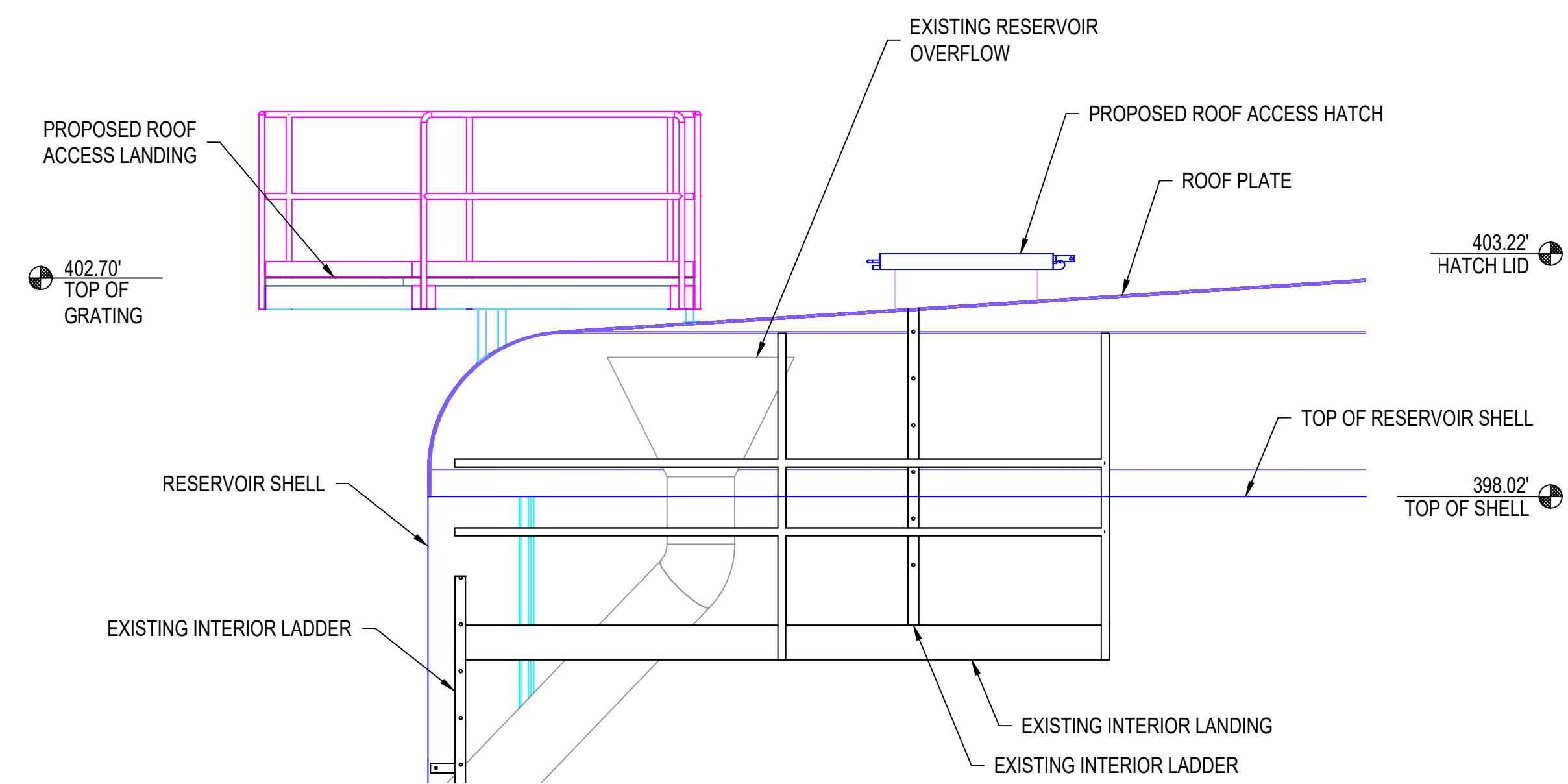
**RAFTER/PURLIN CONNECTION**  
1" = 1'-0"



**WALL/RAFTER CONNECTION**  
1" = 1'-0"



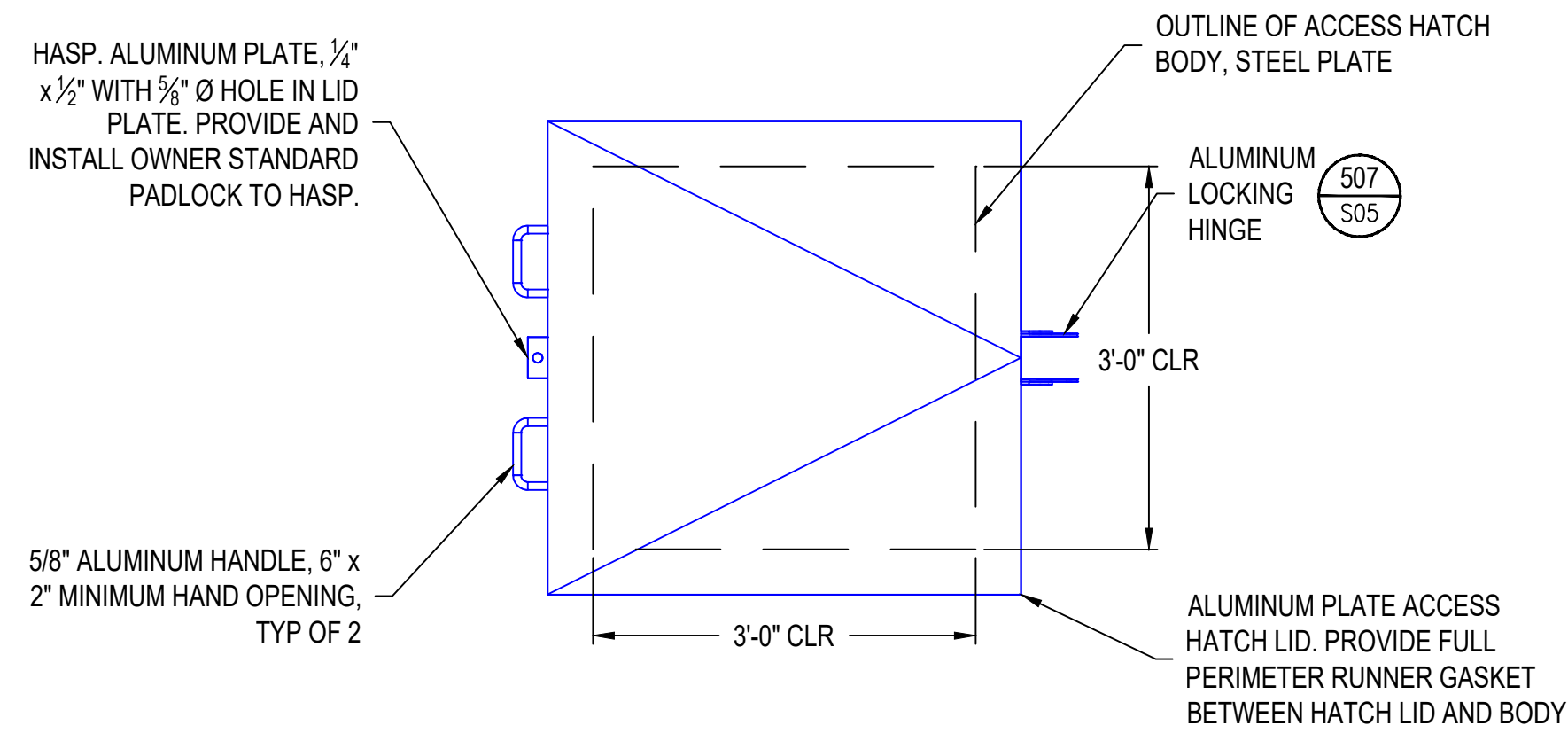
**HATCH AND DEMOLITION PLAN**  
3/8" = 1'-0"



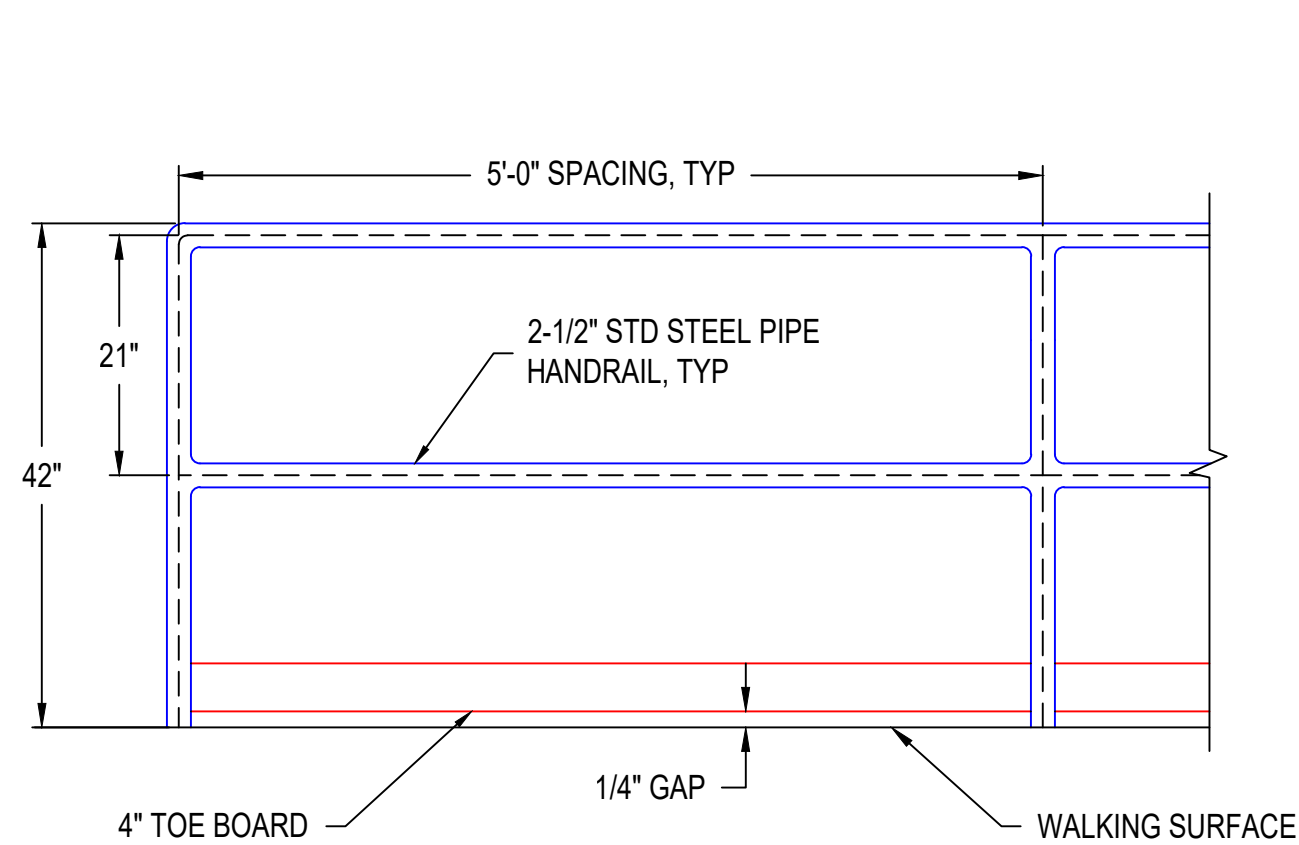
**ROOF ACCESS LANDING AND HATCH ELEVATION**  
3/8" = 1'-0"

NO.	DATE	DESCRIPTION	BY	REVIEW

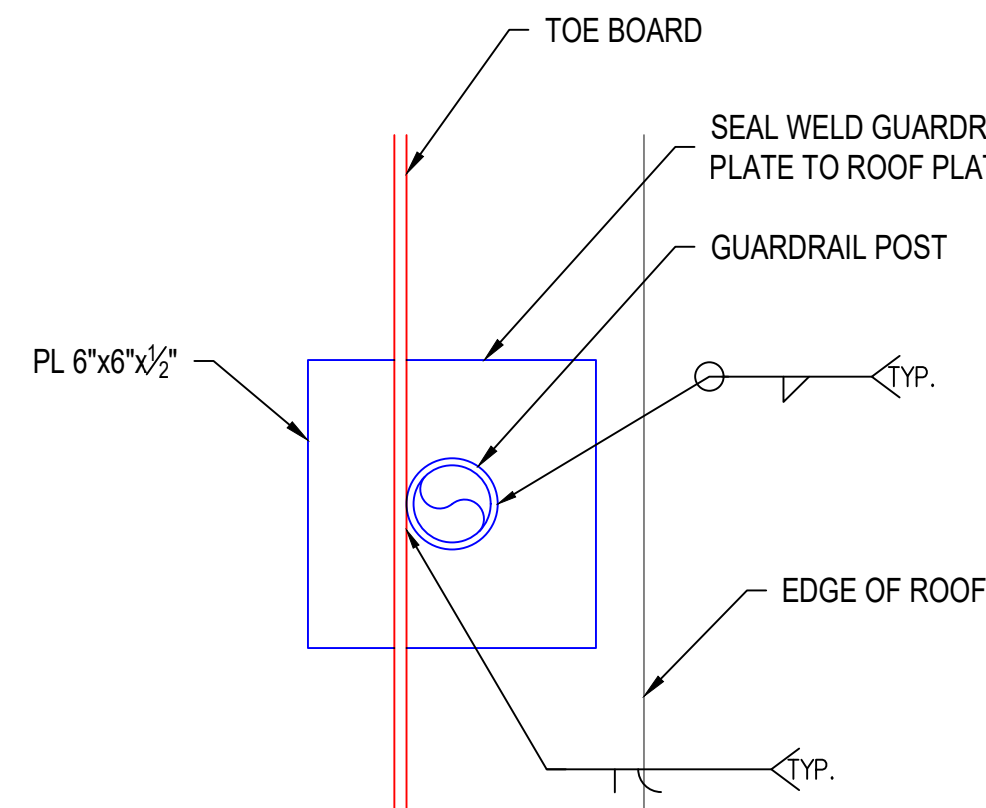




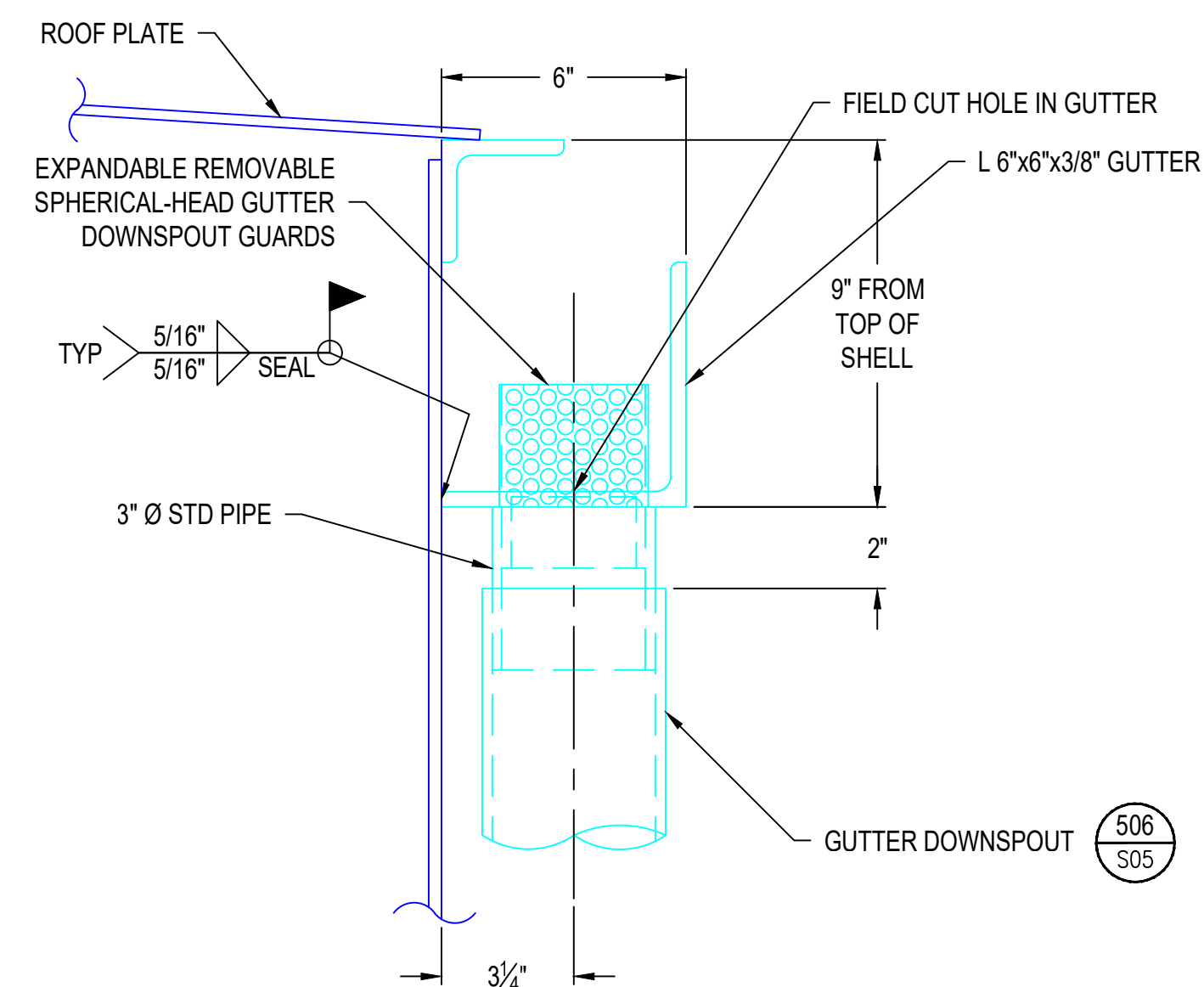
502 TYP. ROOF ACCESS HATCH  
3/4" = 1'-0"



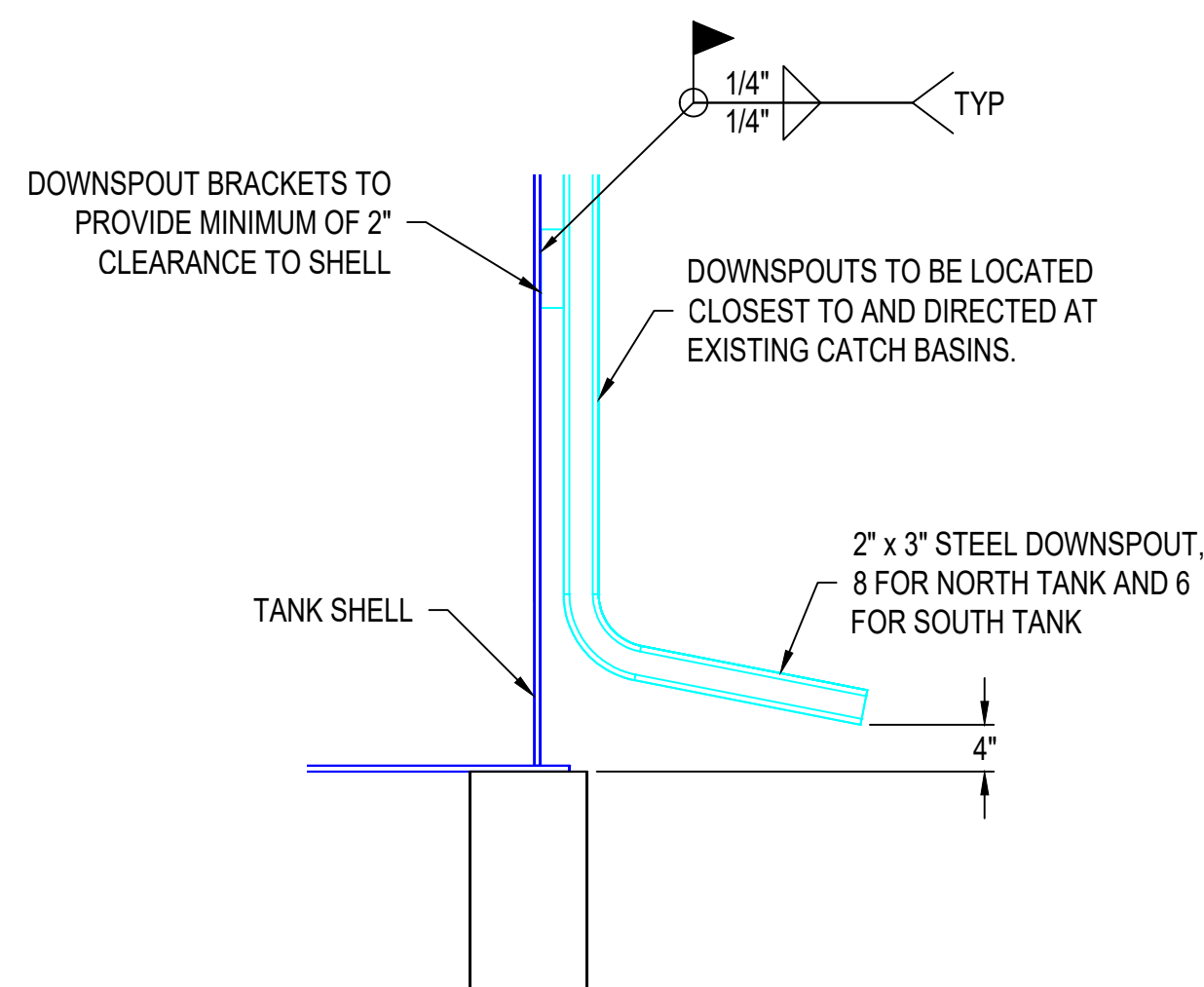
503 TYP. TWO-RAIL GUARDRAIL  
NOT TO SCALE



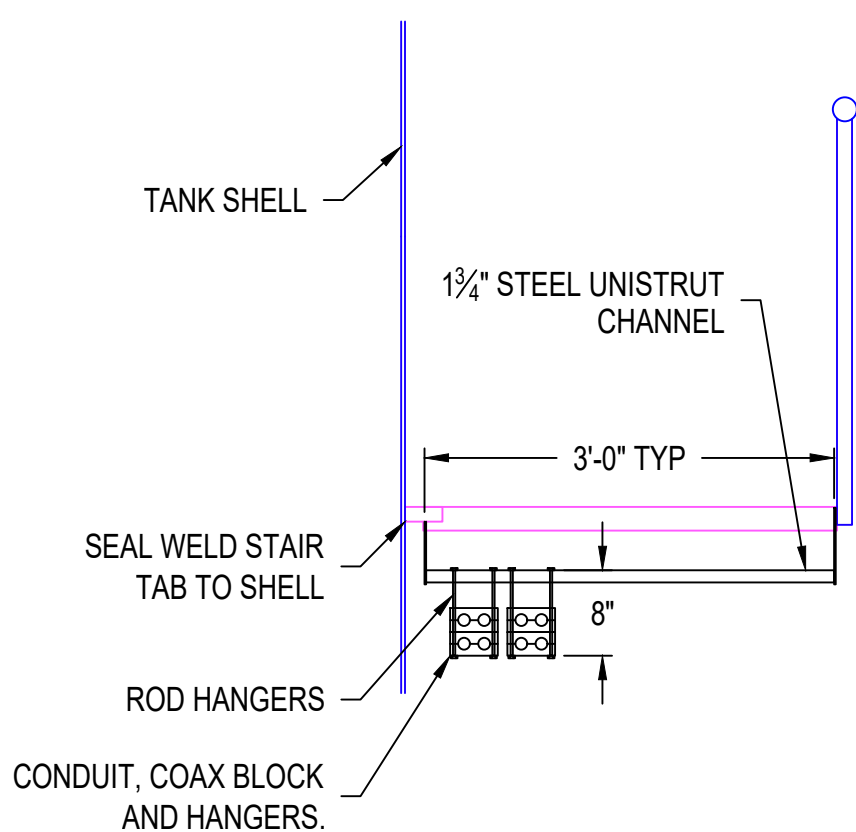
504 TYP. SPIRAL STAIR  
1 1/2" = 1'-0"



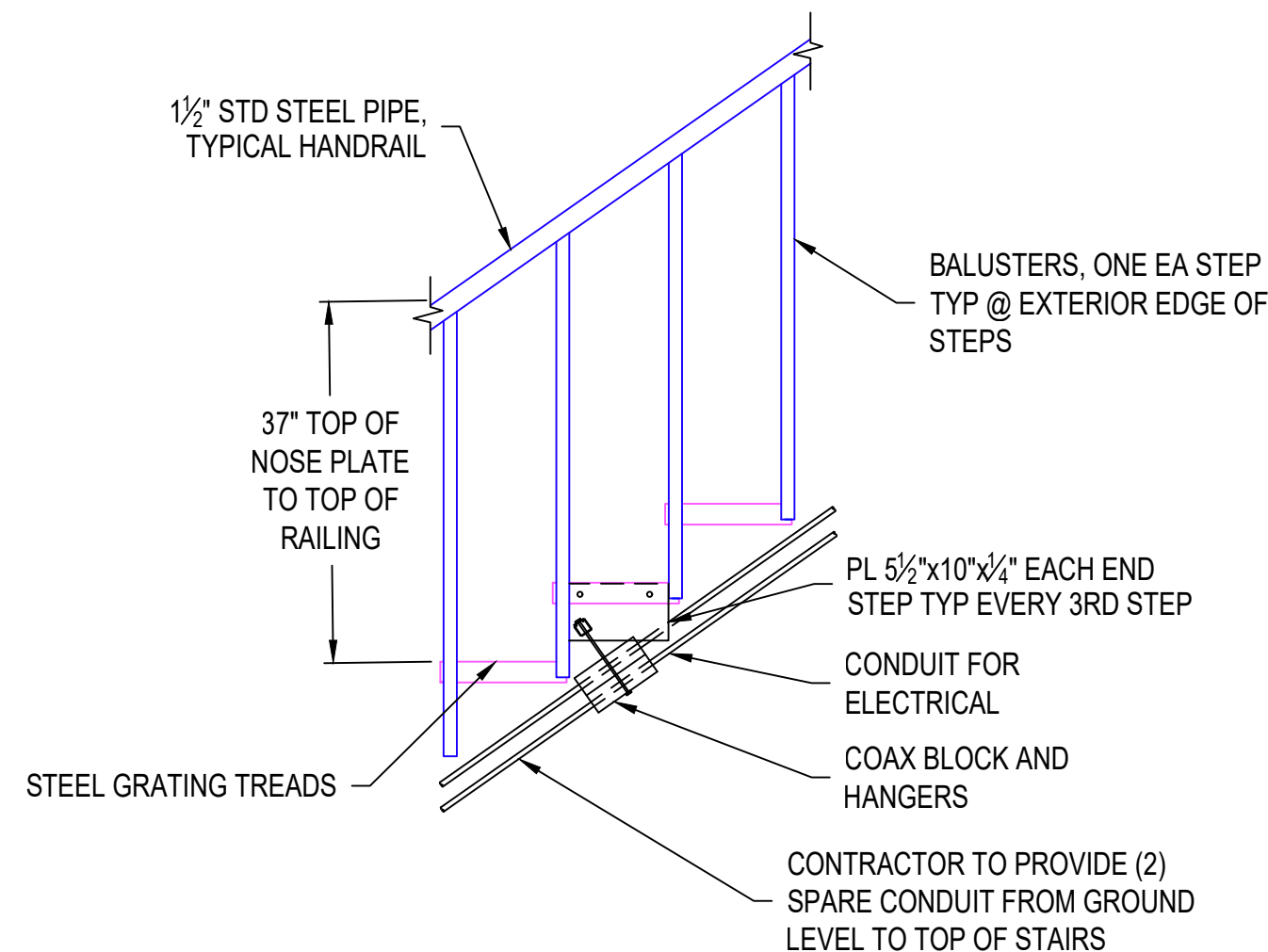
505 TYP. GUTTER DETAIL  
3" = 1'-0"



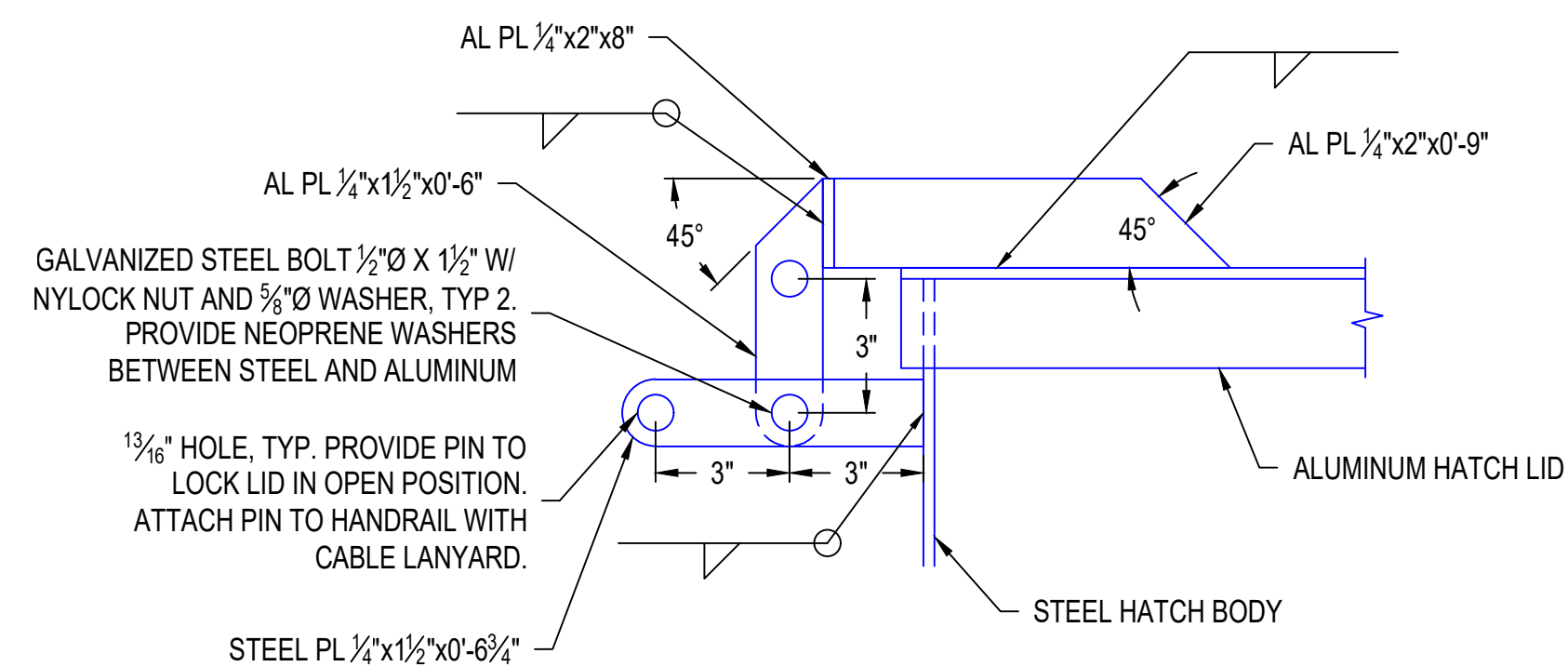
506 TYP. DOWNSPOUT DETAIL  
3/4" = 1'-0"



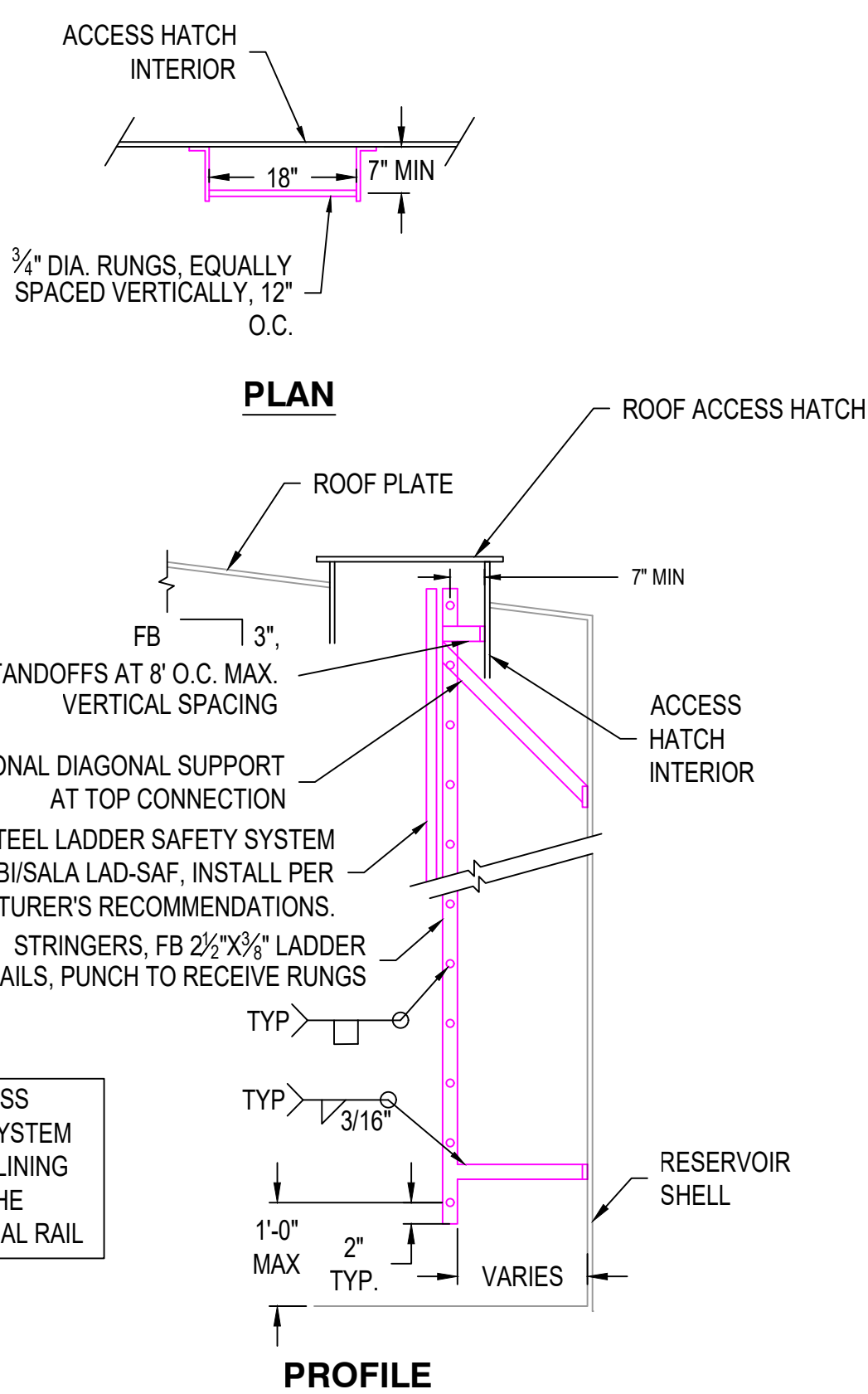
507 TYP. ROOF HATCH HINGE  
3" = 1'-0"



508 TYP. INTERIOR LADDER DETAIL  
NOT TO SCALE



509 TYP. ROOF VENT  
NTS



**RH2**

Professional Engineer  
25978  
44672  
Professional Engineer

SIGNED: 11/29/2022

**CITY OF MERCER ISLAND  
NORTH AND SOUTH RESERVOIR  
IMPROVEMENTS 2022**

**DETAILS 1**

NO.	DATE	DESCRIPTION	BY	REVIEW

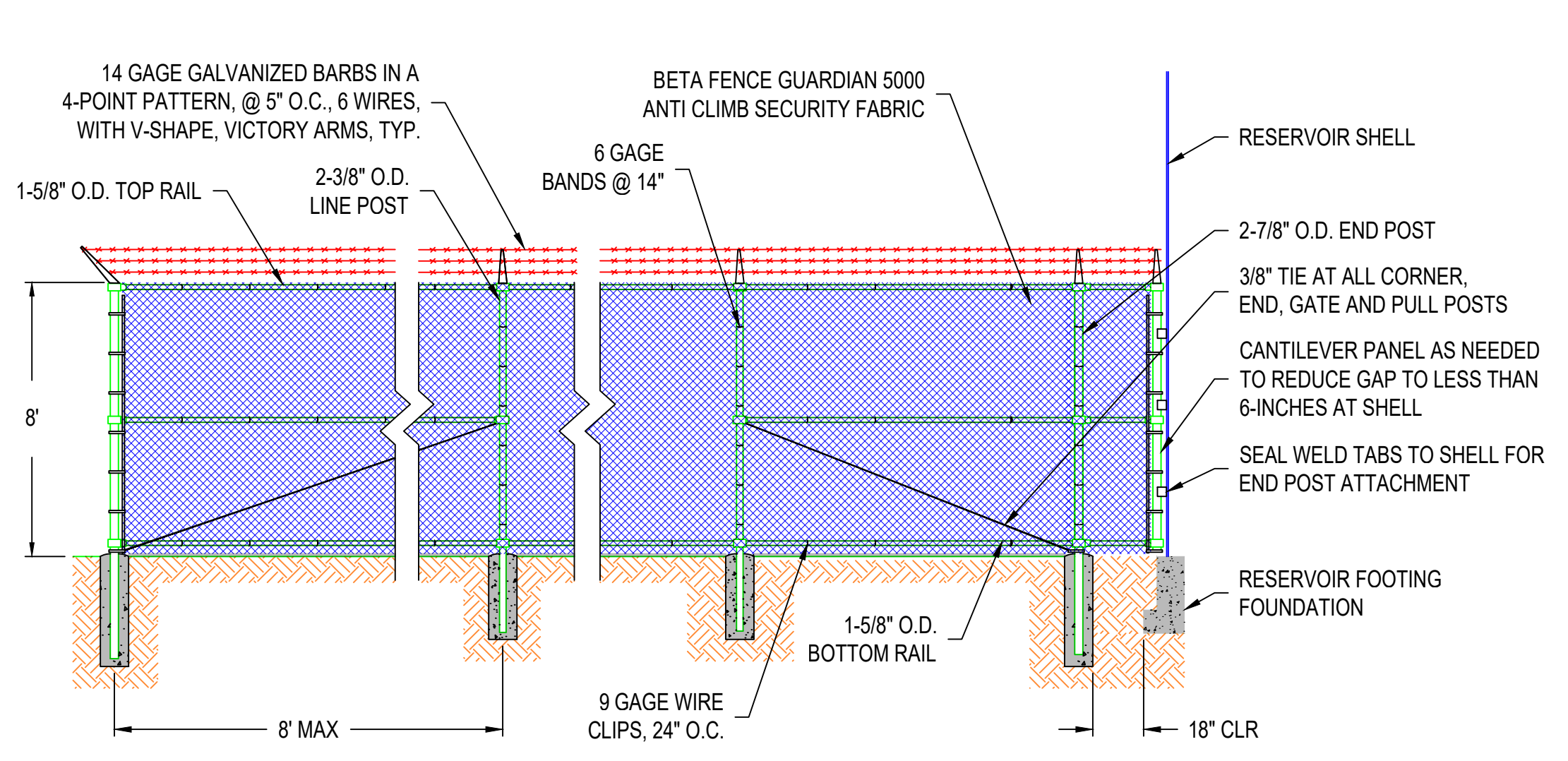
SCALE: SHOWN

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S06 SHEET NO.: 10 OF 14

NOTE: COAT THE STAINLESS STEEL LADDER SAFETY SYSTEM PER THE INTERIOR TANK LINING SYSTEM. DO NOT COAT THE NOTCHES ON THE VERTICAL RAIL

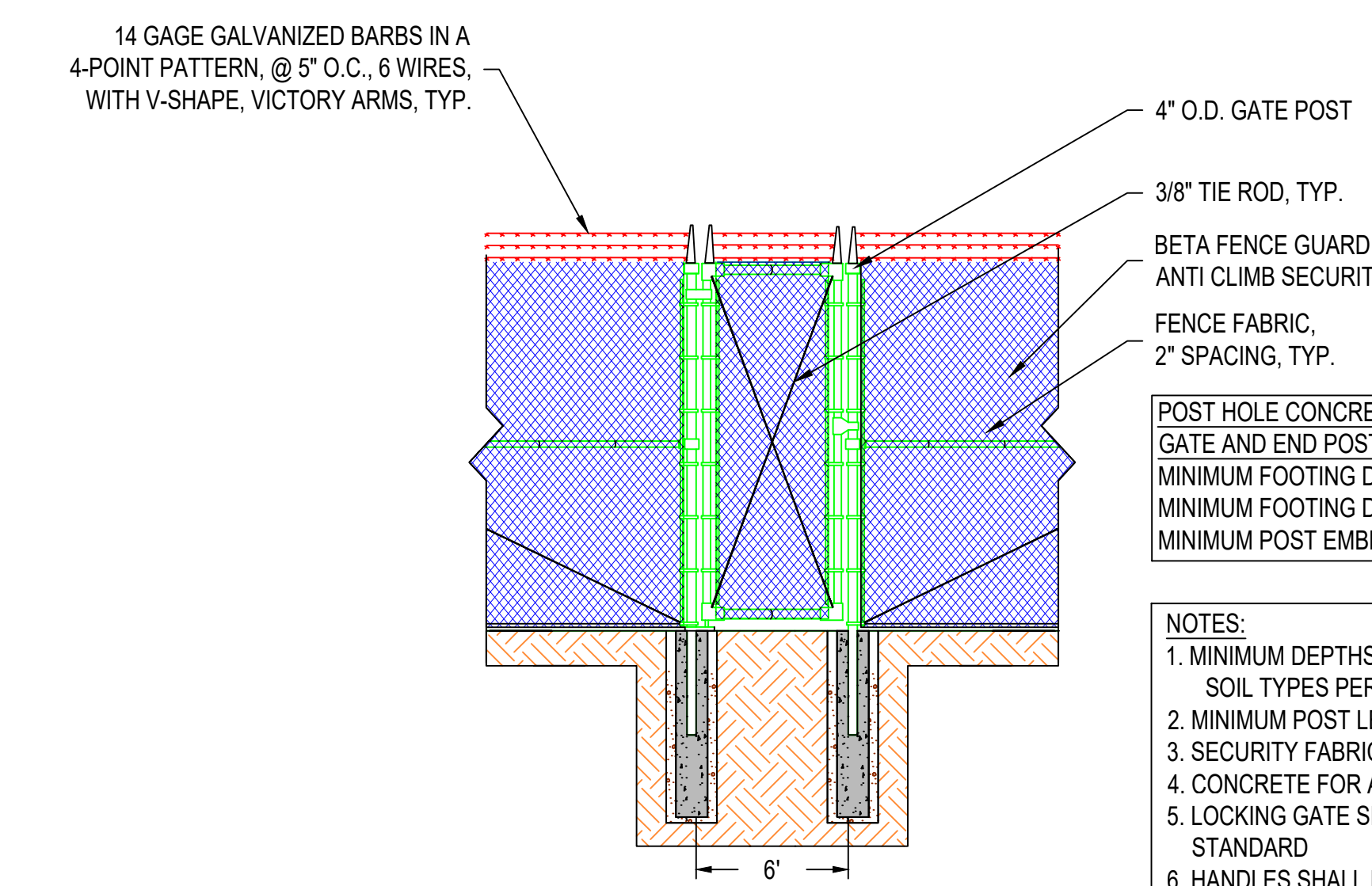




**POST HOLE CONCRETE:**  
 GATE AND END POSTS  
 MINIMUM DEPTH=54"  
 MINIMUM DIAMETER=18"  
 MINIMUM POST EMBEDMENT = 24"

**NOTES:**  
 1. MINIMUM DEPTHS BASED ON IBC GRAVEL OR SANDY GRAVEL SOIL TYPES PER TABLE 1804.2  
 2. MINIMUM POST LENGTH: 8'-0"  
 3. SECURITY FABRIC, POLES AND HARDWARE SHALL BE PVC COATED (BLACK IN COLOR)  
 4. CONCRETE FOR ALL FOOTINGS SHALL BE WSDOT CLASS 4000.

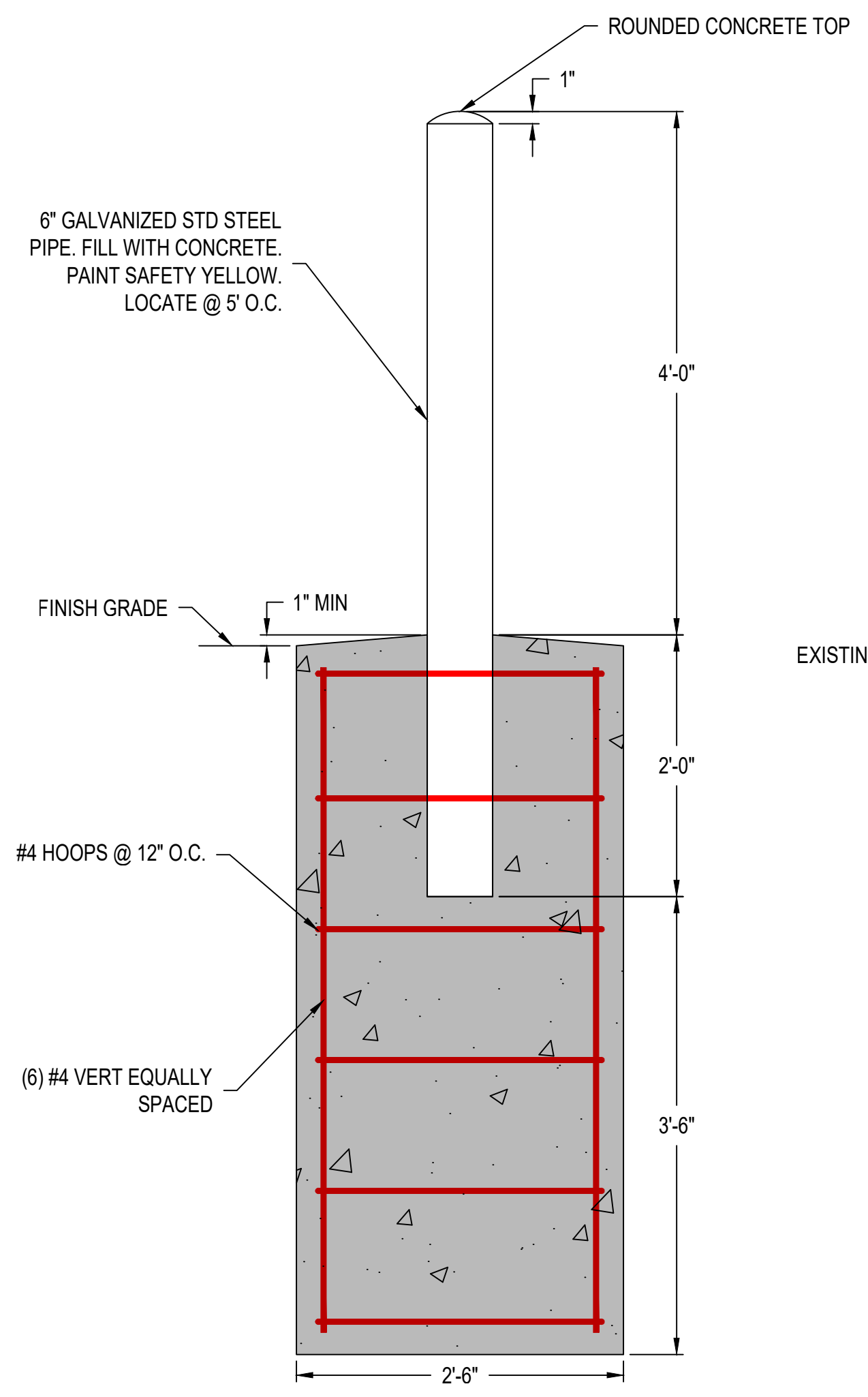
**201 RESERVOIR ACCESS SECURITY FENCE**  
 TYP. NTS



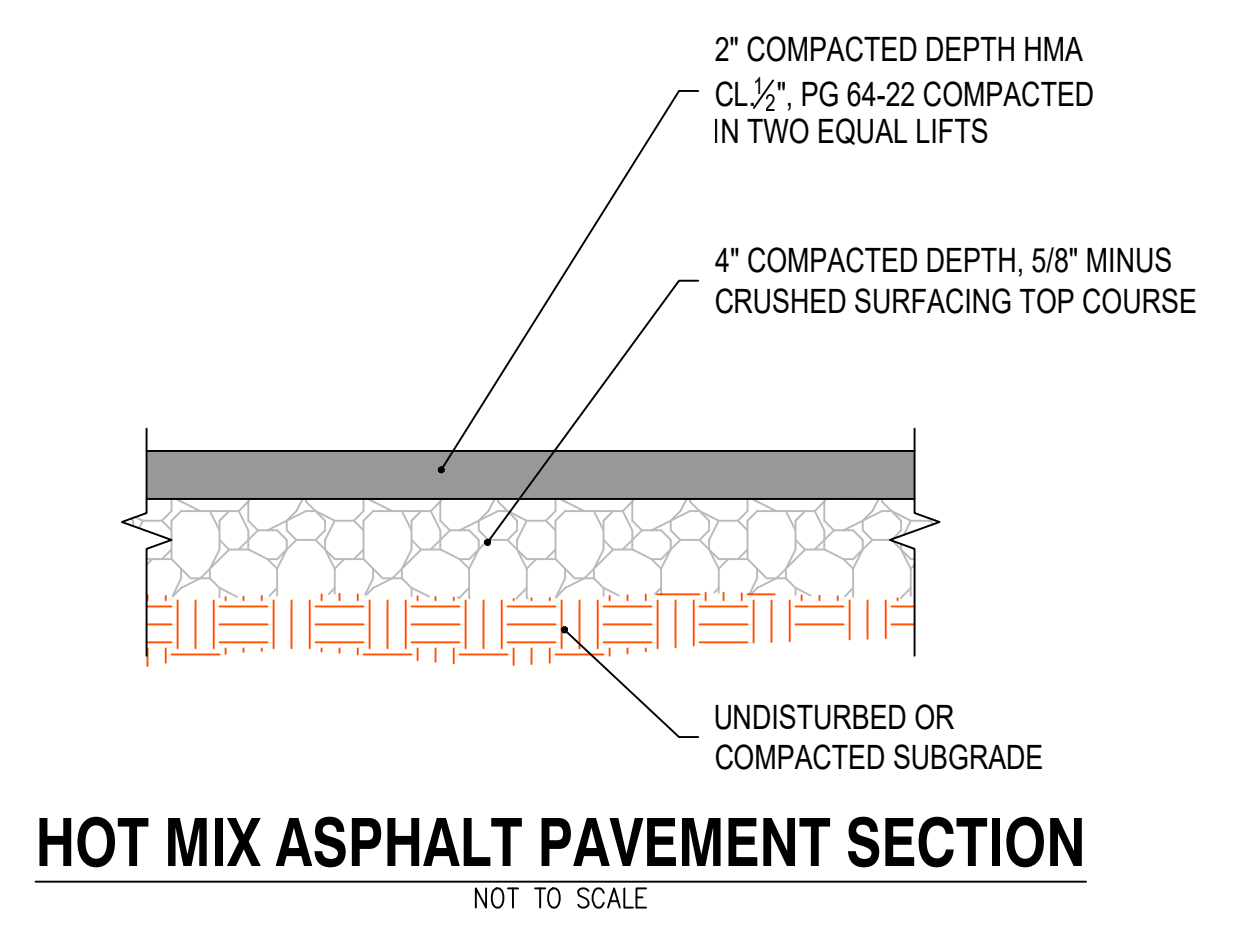
**POST HOLE CONCRETE:**  
 GATE AND END POSTS  
 MINIMUM FOOTING DEPTH=54"  
 MINIMUM FOOTING DIAMETER=18"  
 MINIMUM POST EMBEDMENT = 24"

**NOTES:**  
 1. MINIMUM DEPTHS BASED ON IBC GRAVEL OR SANDY GRAVEL SOIL TYPES PER TABLE 1804.2  
 2. MINIMUM POST LENGTH: 10'-0"  
 3. SECURITY FABRIC SHALL BE PVC COATED (BLACK IN COLOR)  
 4. CONCRETE FOR ALL FOOTINGS SHALL BE WSDOT CLASS 4000  
 5. LOCKING GATE SHALL BE KEYED TO MATCH OWNERS STANDARD  
 6. HANDLES SHALL BE LEVER-STYLE

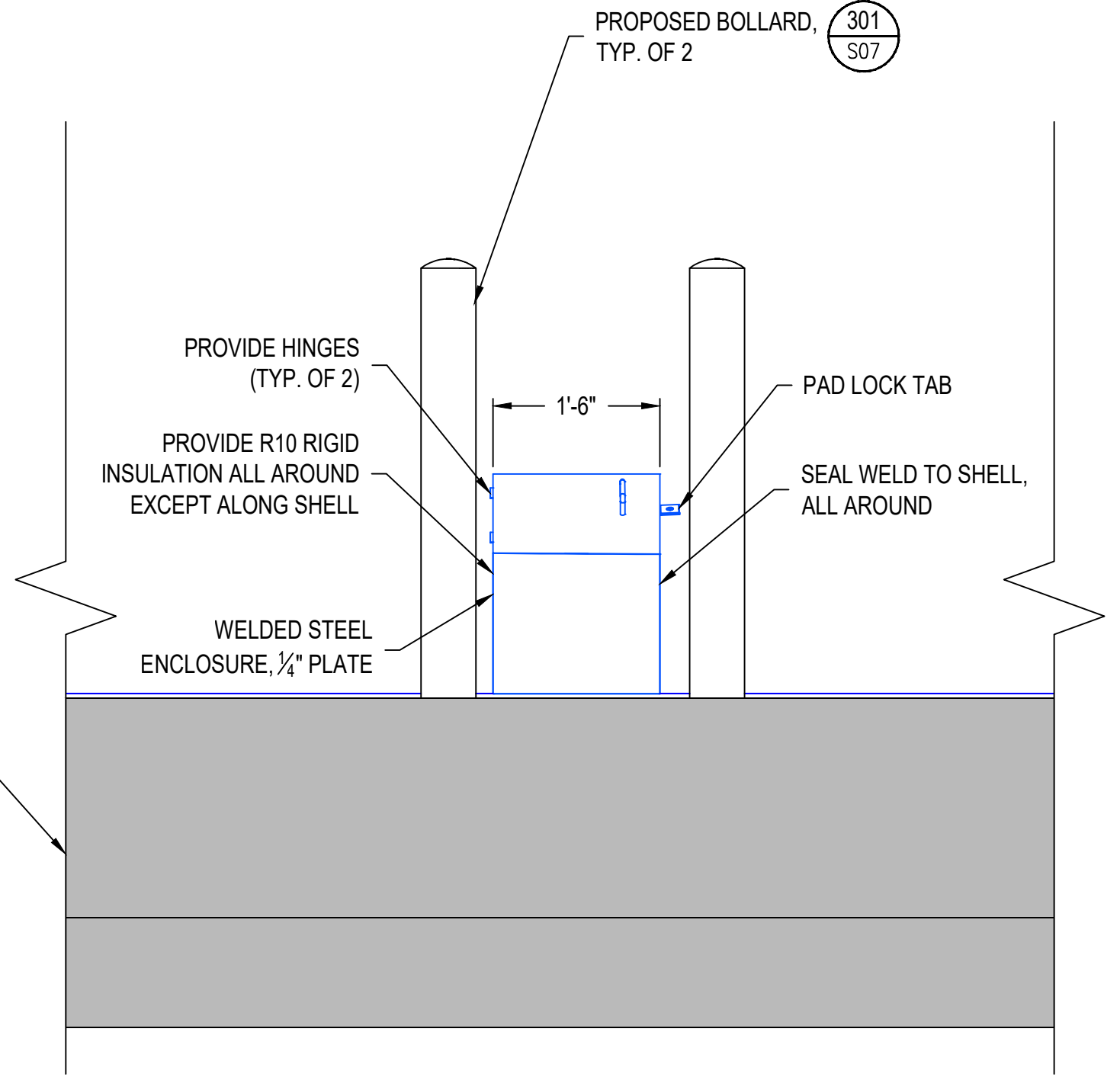
**202 PERSONNEL ACCESS GATE DETAIL**  
 TYP. NTS



**301 BOLLARD DETAIL**  
 S02 1" = 1'-0"



**HOT MIX ASPHALT PAVEMENT SECTION**  
 NOT TO SCALE



**512 PRESSURE TRANSDUCER ENCLOSURE ELEVATIONS**  
 S02 3/4" = 1'-0"

**RH2**

Professional Engineer  
 State of Washington  
 License No. 25978  
 Signed: 11/29/2022

Professional Engineer  
 State of Washington  
 License No. 44672  
 Signed: 11/29/2022

**CITY OF MERCER ISLAND  
 NORTH AND SOUTH RESERVOIR  
 IMPROVEMENTS 2022**

**DETAILS 2**



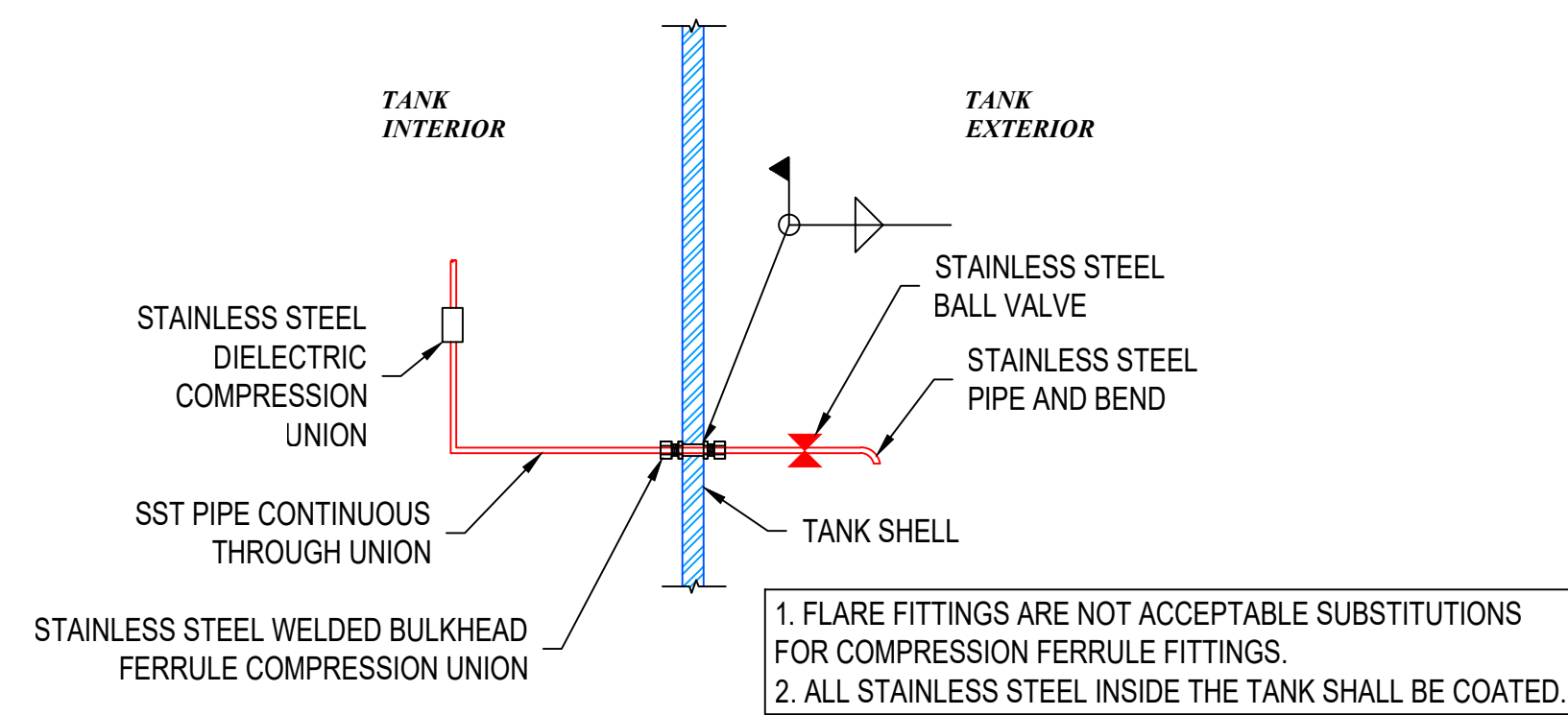
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

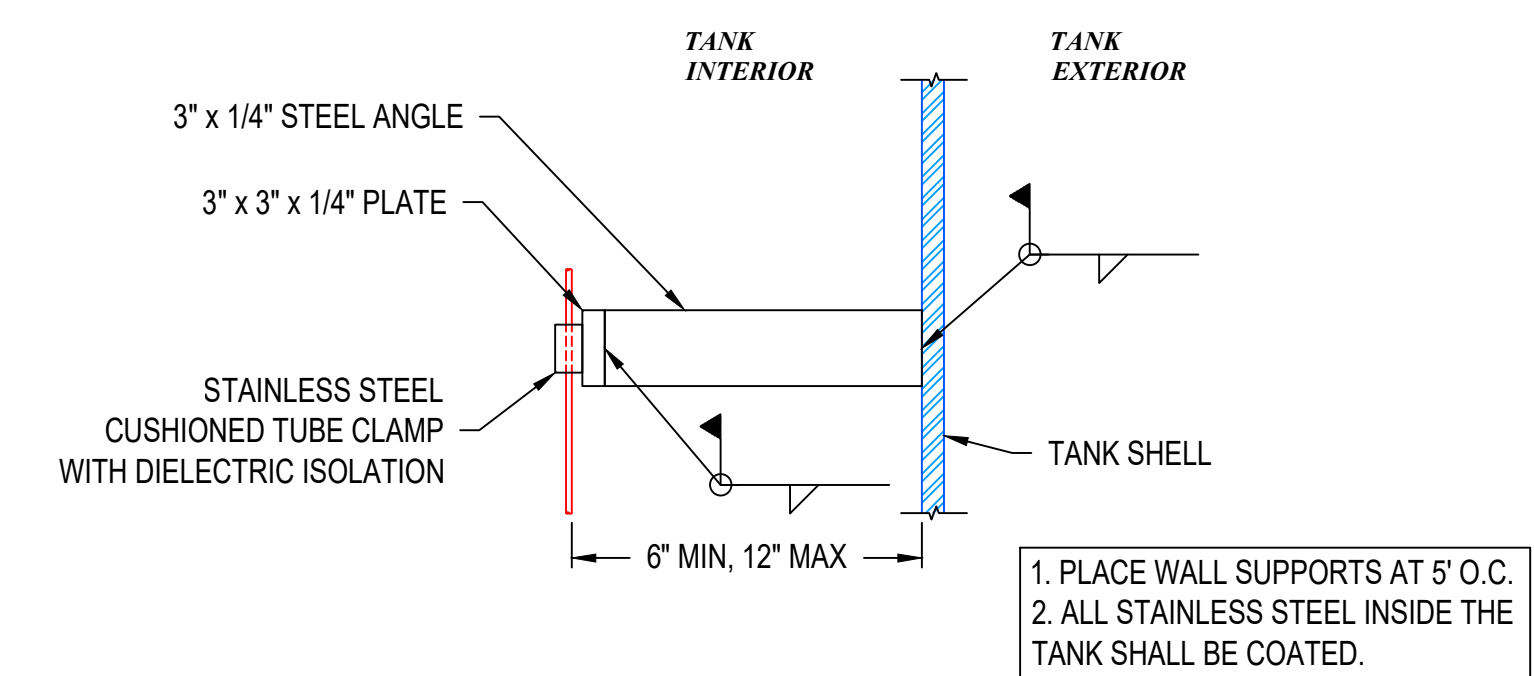
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: **S07** SHEET NO.: **11** OF **14**

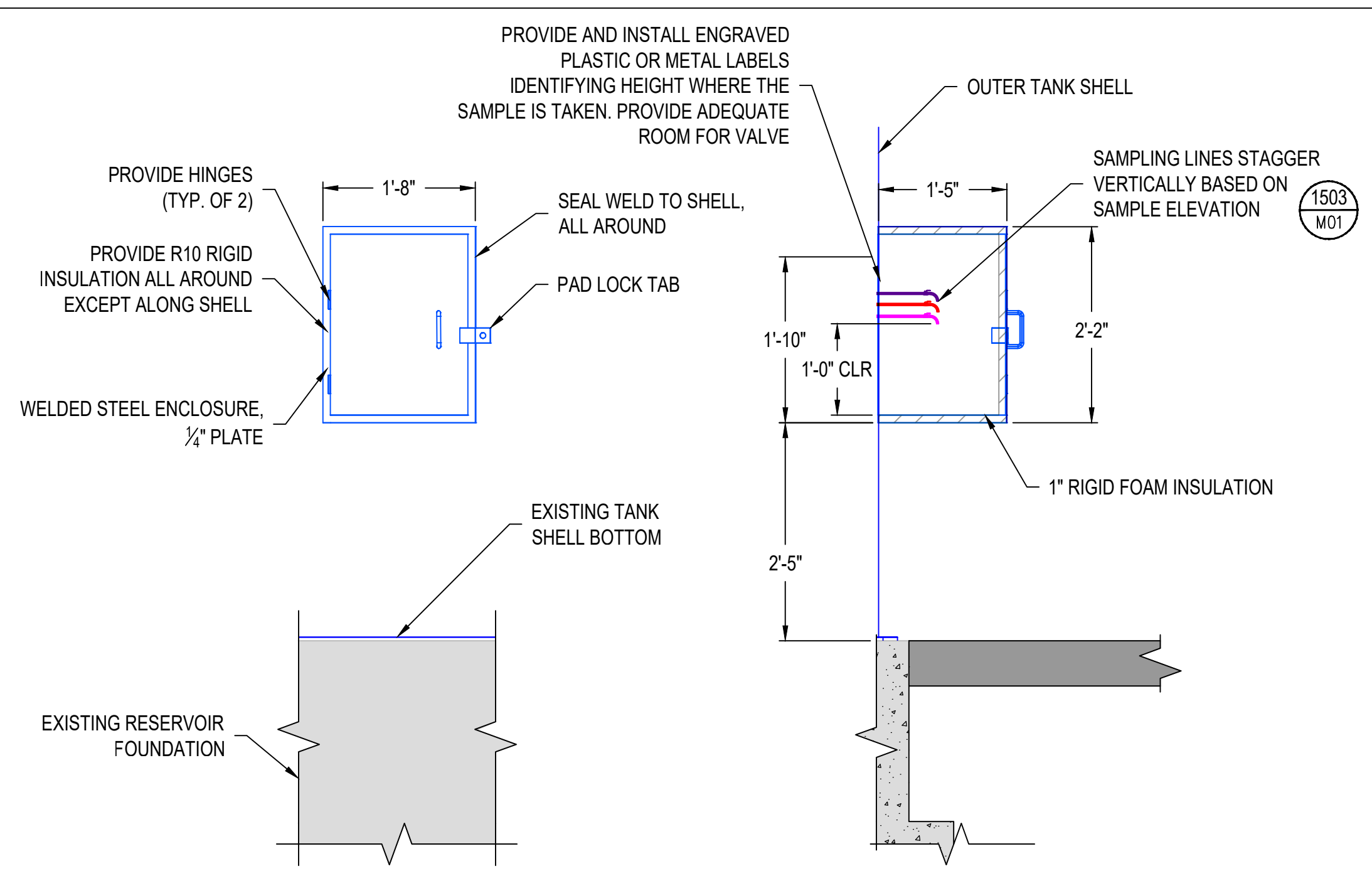




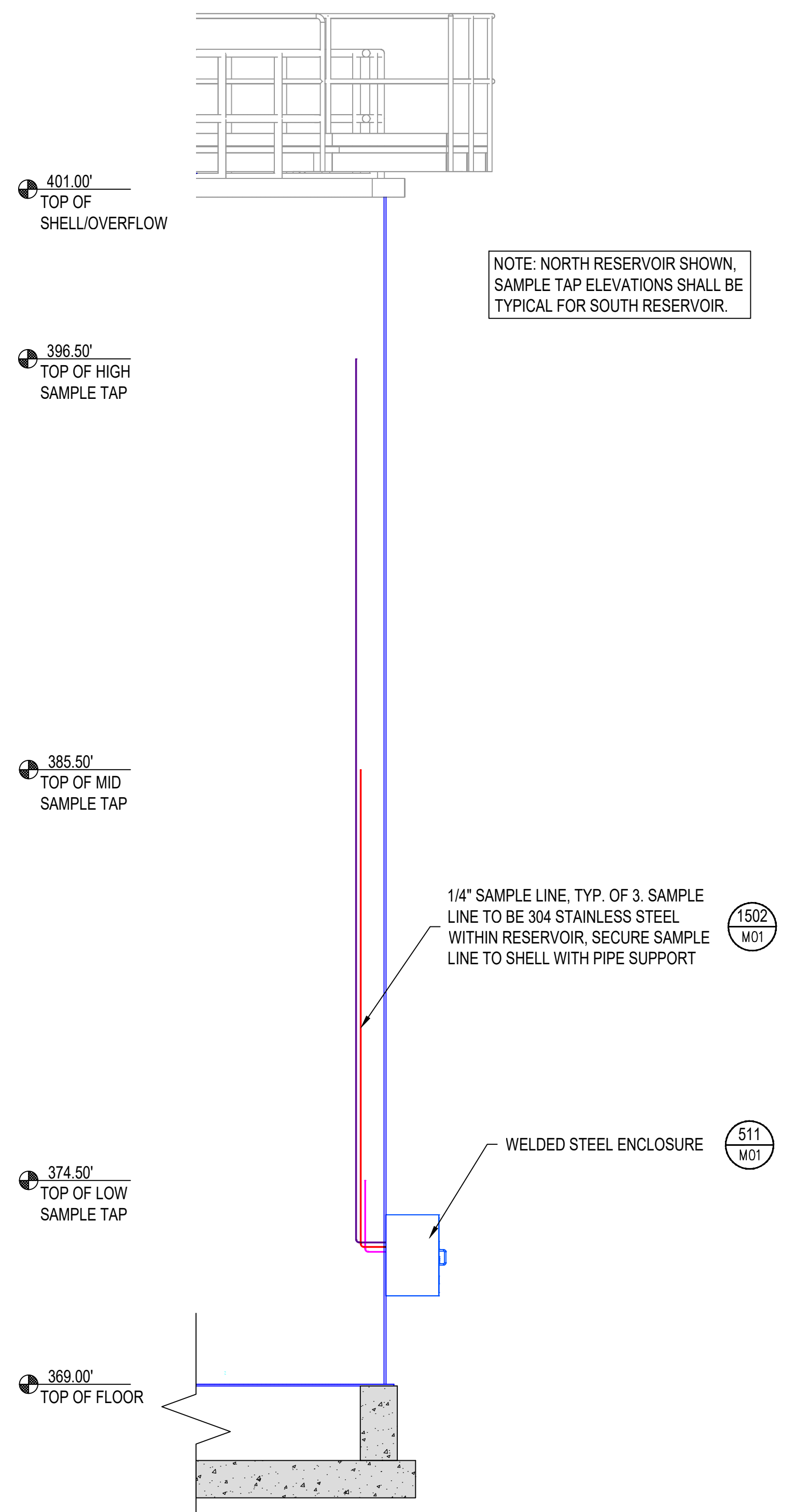
1501 M01  
**TYPICAL SHELL PENETRATION FOR SAMPLING LINES - ELEVATION**  
 NOT TO SCALE



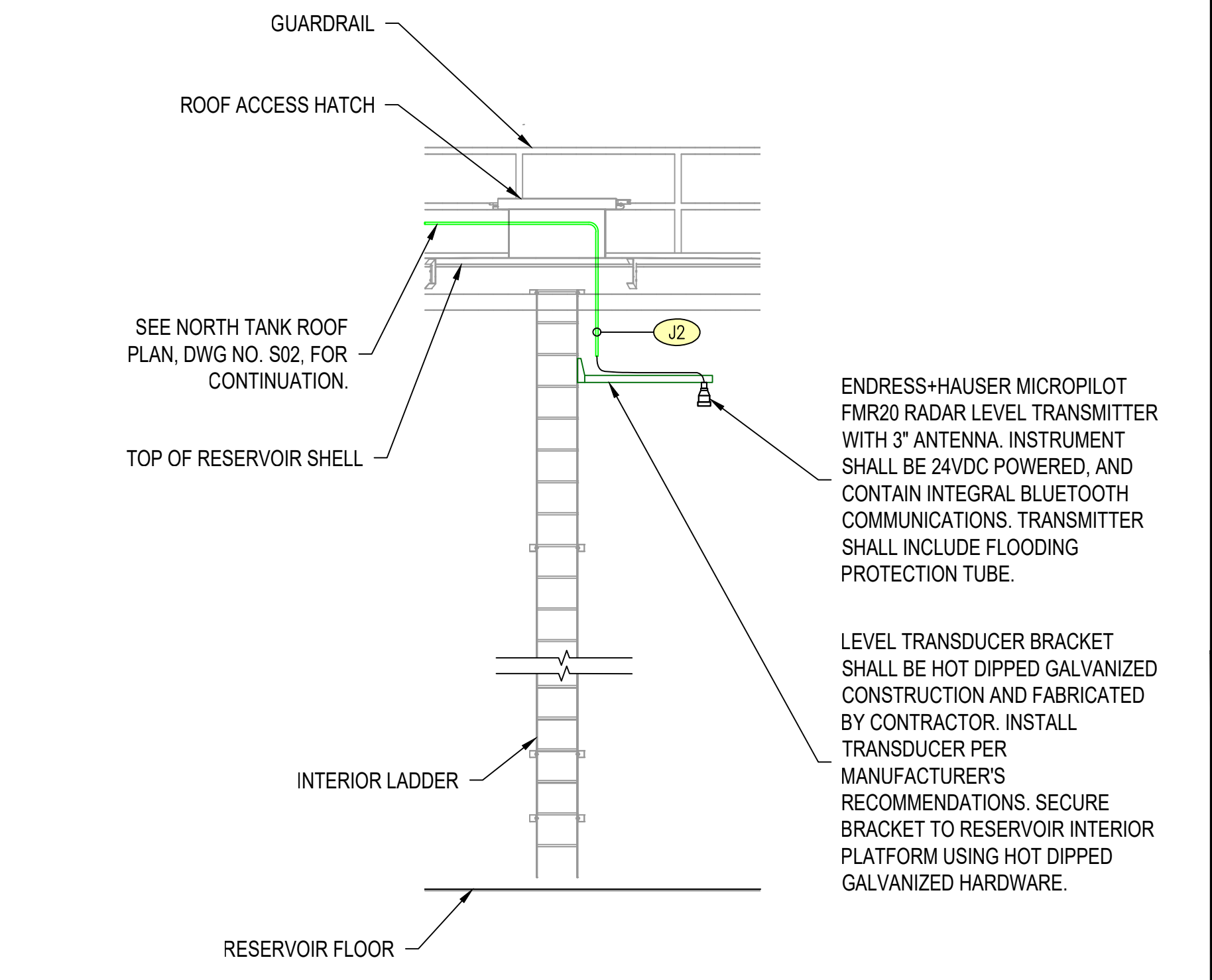
1502 M01  
**WATER QUALITY SAMPLING LINE SHELL SUPPORT - ELEVATION**  
 NOT TO SCALE



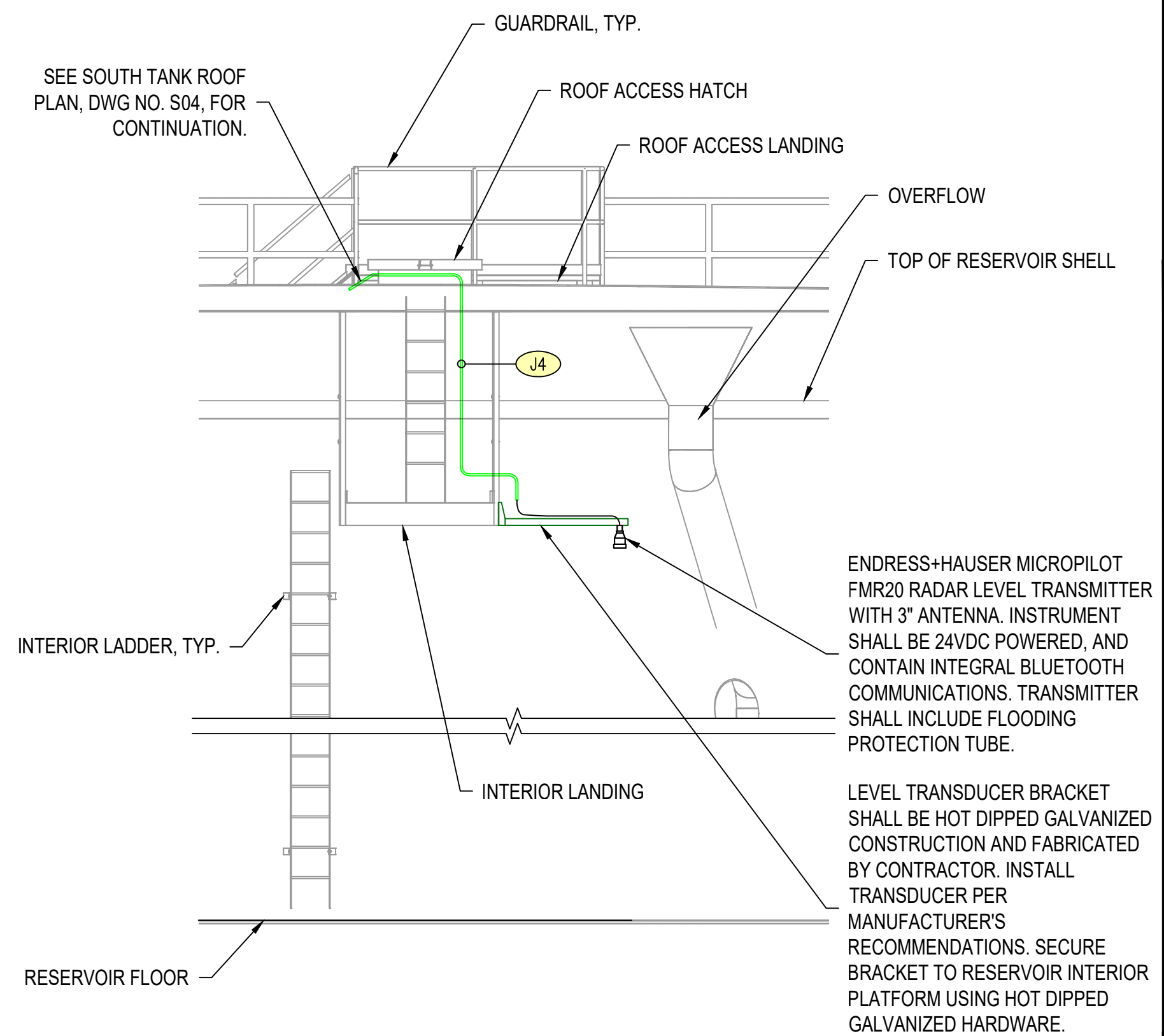
511 M01  
**SAMPLING TAP ENCLOSURE ELEVATIONS**  
 $\frac{3}{4}'' = 1'-0''$



1503 M01  
**RESERVOIR SAMPLING TAPS**  
 $\frac{3}{8}'' = 1'-0''$



**NORTH RESERVOIR INTERIOR ELECTRICAL DETAILS**  
 NOT TO SCALE



**SOUTH RESERVOIR INTERIOR ELECTRICAL DETAILS**  
 NOT TO SCALE

**RH2**

Professional Engineer  
 No. 25978  
 State of Washington  
 Signed: 11/29/2022

Professional Engineer  
 No. 44672  
 State of Washington  
 Signed: 11/29/2022

**CITY OF MERCER ISLAND**  
**NORTH AND SOUTH RESERVOIR IMPROVEMENTS 2022**

**DETAILS 3**

NO.	DATE	DESCRIPTION	BY	REVIEW

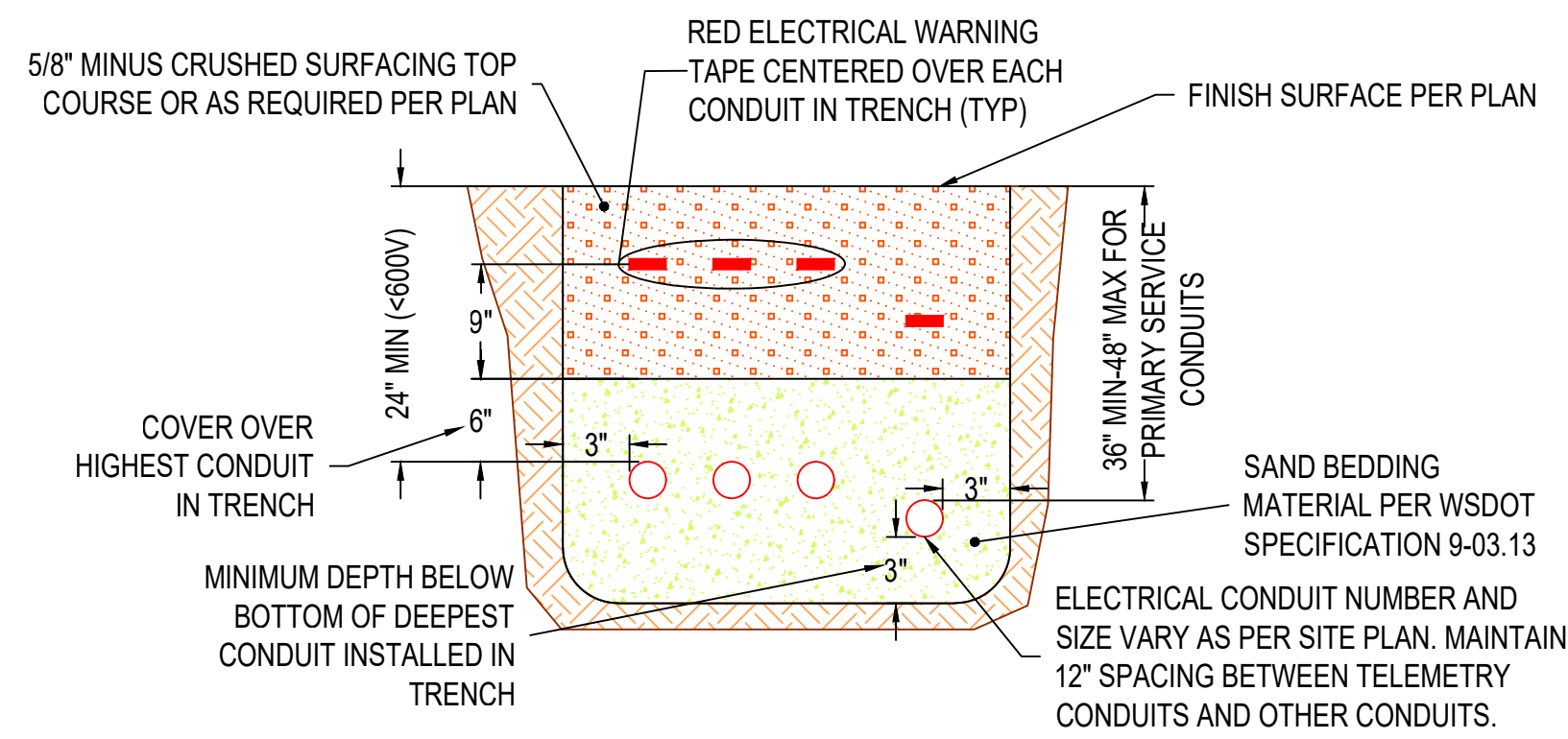
REVISIONS

SCALE: SHOWN

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M01 SHEET NO.: 12 OF 14

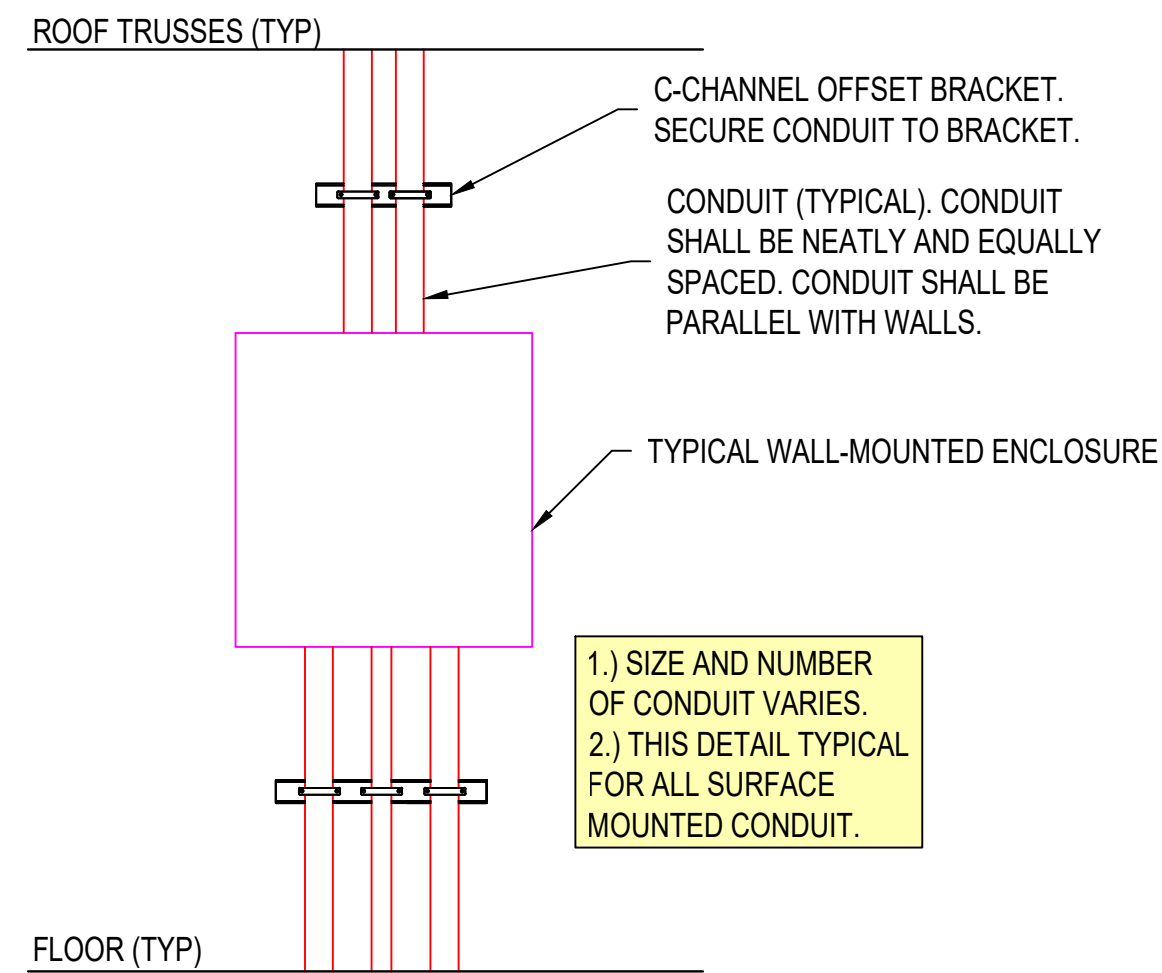




**TYPICAL ELECTRICAL TRENCH DETAIL**

NOT TO SCALE

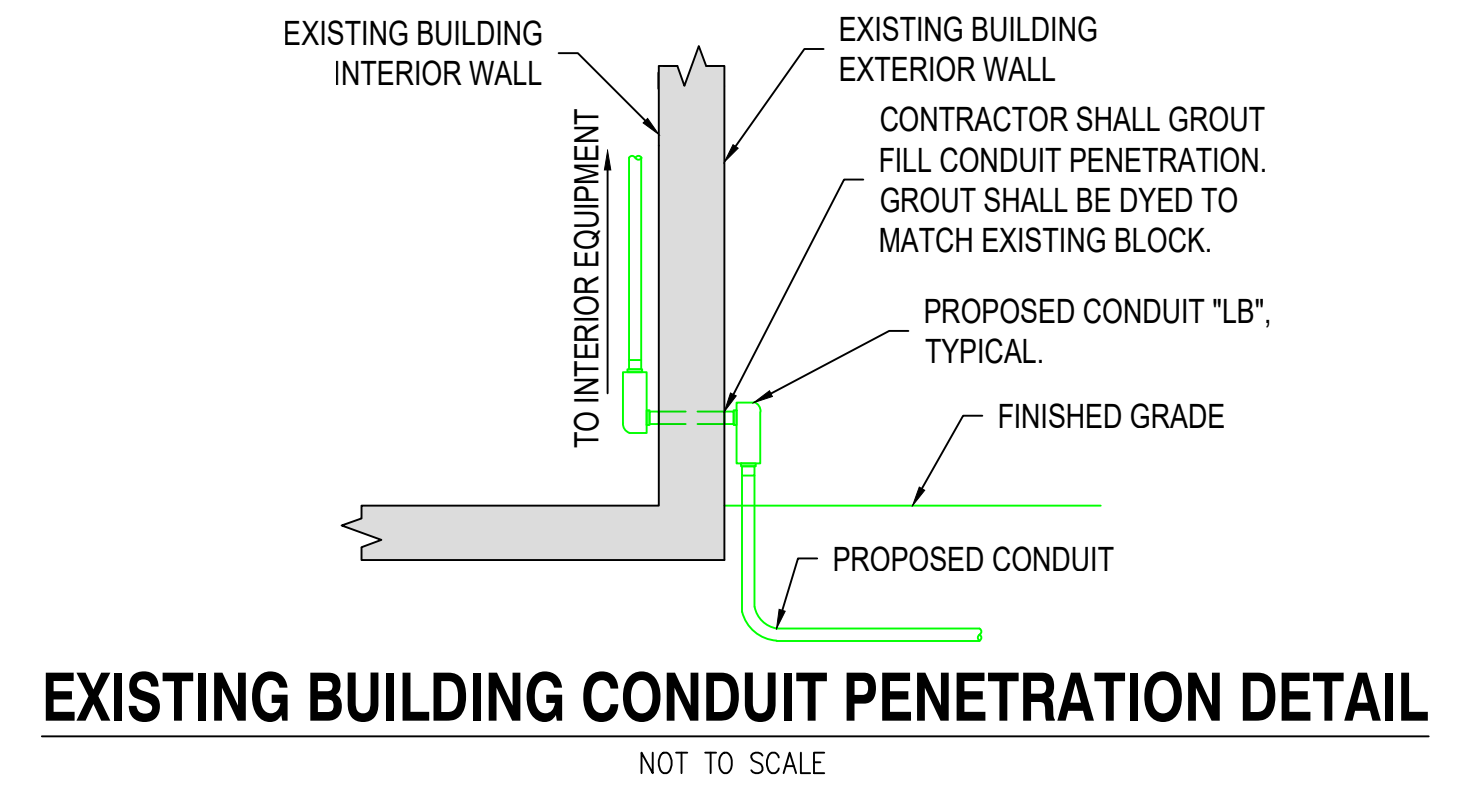
NOTE: BURY DEPTH OF CONDUIT AND HORIZONTAL SPACING SHALL BE CONFIRMED WITH SERVING UTILITY BEFORE CONSTRUCTION.



**SURFACE MOUNTED CONDUIT DETAIL**

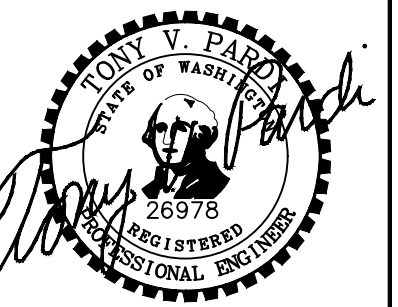
NOT TO SCALE

1.) SIZE AND NUMBER OF CONDUIT VARIES.  
2.) THIS DETAIL TYPICAL FOR ALL SURFACE MOUNTED CONDUIT.

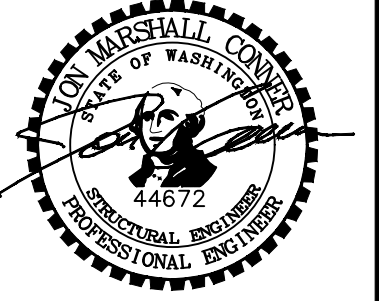


**EXISTING BUILDING CONDUIT PENETRATION DETAIL**

NOT TO SCALE



SIGNED: 11/29/2022



SIGNED: 11/29/2022

**CITY OF MERCER ISLAND  
NORTH AND SOUTH RESERVOIR  
IMPROVEMENTS 2022**



**DETAILS 4**

NO.	DATE	DESCRIPTION	BY	REVIEW

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

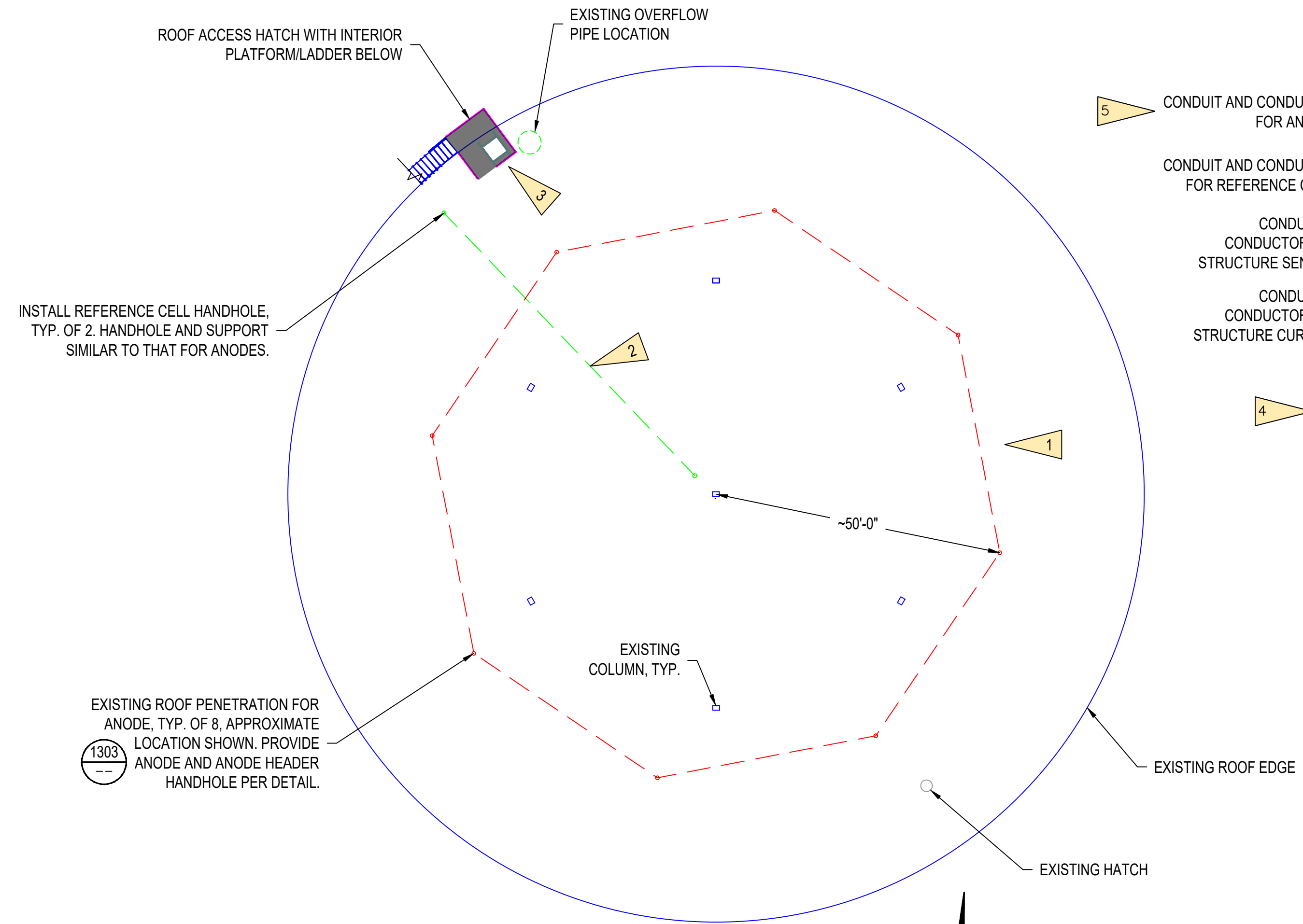
**REVISIONS**

ENGINEER: BC SWF/DATE: Nov 29, 2022 CLIENT: M-I JOB NO.: 21-0200  
REVIEWED: MVB PLOT DATE: Nov 30, 2022 FILENAME: MIRD-ELEC01.DWG



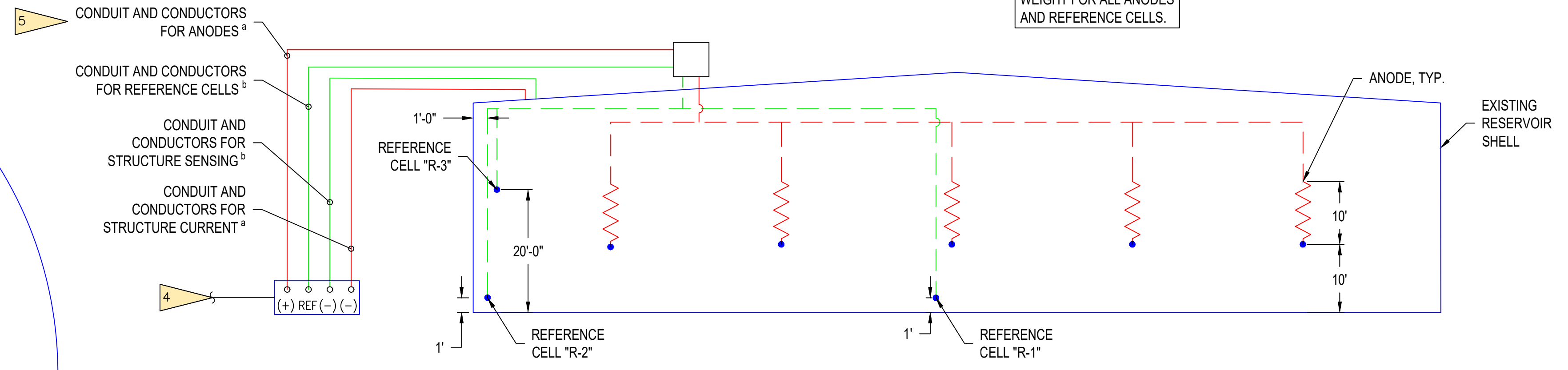
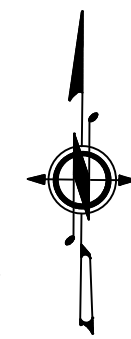






**RESERVOIR CATHODIC PROTECTION PLAN (SOUTH TANK)**

1/8" = 1'-0"



**RESERVOIR CATHODIC PROTECTION SCHEMATIC DIAGRAM (SOUTH TANK)**

NOT TO SCALE

ELECTRICAL NOTES	
1	1. ANODE HEADER CABLE ROUTED UNDER ROOF, TYPICAL BETWEEN ANODE HANDHOLES. CONTINUOUS LOOP HEADER CABLE, DO NOT CUT HEADER CABLE FOR ANODE CONNECTION. PROVIDE SLACK TO LIFT SPLICE OUT OF HANDHOLE.
2	2. REFERENCE CELL WIRING ROUTED UNDER ROOF, TYPICAL BETWEEN HANDHOLES.
3	3. PROVIDE CONDUIT ENTRANCE FOR ANODES AND REFERENCE CELLS AT ACCESS HATCH.
4	4. SEE DRAWING NO. S04 FOR ADDITIONAL INFORMATION.
5	5. PROVIDE DEDICATED CONDUIT FOR CATHODIC PROTECTION WIRING. DO NOT ROUTE THE DC WIRING (°) IN THE SAME CONDUIT AS THE REFERENCE CELL/STRUCTURE SENSING WIRING (°).
6	6. DISPOSE OF EXISTING CATHODIC PROTECTION ANODES, WIRING, AND CONDUITS. SEAL ALL TANK PENETRATIONS.



**EXISTING ANODE HANDHOLE**

EXISTING ANODE HANDHOLE PENETRATION TO BE REUSED FOR PROPOSED ANODES. PROVIDE NEW ANODE HEADER HANDHOLE PER DWG NO. CP01.

**CITY OF MERCER ISLAND**  
**NORTH AND SOUTH RESERVOIR IMPROVEMENTS 2022**



**CATHODIC PROTECTION PLAN AND DETAILS - SOUTH TANK**

NO.	DATE	DESCRIPTION	BY	REVIEW