

Change Order No. 1

Date of Issuance: 9/22/2025
Owner: Town of Bristol
Contractor: Phoenix Fabricators, LLC
Engineer: Jones Petrie Rafinski Corp.
Project: Town of Bristol Water System Improvements

Effective Date: 9/25/2025
Owner's Contract No.:
Contractor's Project No.: N/A
Engineer's Project No.: 2023-0005
Contract Name: B

The Contract is modified as follows upon execution of this Change Order:

Description:

Removed Freedom Powder Site Improvements and Restoration, Bid items 6 and 7.
 Modified elevated storage tank such that it can function as a chlorine contact tank as negotiated and approved by IDEM.
 Added tank level instrument to top of tank to serve as a high-high level alarm.

Attachments:

1. Change Order Worksheet
2. Description of Change Memo
3. Revised Plan Sheets C101, C103, M104 and Additional Plan Sheets C103A, M102
4. Additional Spec 40 05 65 Swing Check Valves

Change in Contract Price		Change in Contract Time	
Original Contract Price:	\$ 5,750,000.00	Original Contract Times:	
Previous change orders:		Substantial Completion	8/11/2026
		Final Completion	9/19/2026
		Increase/Decrease from Change Orders (days)	
		Change Order 1	0
		Total	0
Net Change from Previous Change Orders:	\$ -	Contract times with all approved change orders	
Contract Price prior to this change order:	\$ 5,750,000.00		
Net change from this change order	\$ (137,199.00)	Substantial Completion	8/11/2026
Contract Price incorporating this change order	\$ 5,612,801.00	Final Completion	9/19/2026

Recommended:	Accepted:	Accepted:
By Engineer:	By Owner:	By Contractor:
Jones Petrie Rafinski Corp	Town of Bristol	Phoenix
		
Signature	Signature	Signature
<u>Senior Project Engineer</u>	<u>Town Manager</u>	<u>SR Project Manager</u>
Title	Title	Title
2025-09-23		9/24/25
Date	Date	Date

Project: Town of Bristol Water System Improvements
Change Order No. 1

Change Order Worksheet
Attachment 1

Contractor: Phoenix

ITEM NO.	DESCRIPTION	Previous Contract Quantity	Revised Contract Quantity	Unit	Previous Contract Unit Price	Revised Contract Unit Price	Increase	Decrease	Revised Contract Value
	1 Proposed Water Tower Construction	1	1	LSUM	\$4,188,000.00	\$4,345,801.00	\$ 157,801.00	\$ -	\$4,345,801.00
	2 Existing Water Tower Demolition	1	1	LSUM	\$120,000.00	\$120,000.00	\$ -	\$ -	\$120,000.00
	3 Dewatering	1	1	LSUM	\$65,000.00	\$65,000.00	\$ -	\$ -	\$65,000.00
	4 Water Tower Interior Improvements	1	1	LSUM	\$750,000.00	\$750,000.00	\$ -	\$ -	\$750,000.00
	5 Existing Tower Site Restoration	1	1	LSUM	\$45,000.00	\$45,000.00	\$ -	\$ -	\$45,000.00
	6 Freedom Powder Site Improvements	1	0	LSUM	\$220,000.00	\$220,000.00	\$ -	\$ (220,000.00)	\$0.00
	7 Freedom Powder Site Restoration	1	0	LSUM	\$75,000.00	\$75,000.00	\$ -	\$ (75,000.00)	\$0.00
	8 Mobilization & Demobilization, Max 5%	1	1	LSUM	\$287,000.00	\$287,000.00	\$ -	\$ -	\$287,000.00
Total									\$5,612,801.00
Total Increase							\$ 157,801.00		
Total Decrease								\$ (295,000.00)	
Net change this change order									\$ (137,199.00)
Contract Price prior to this change order									\$ 5,750,000.00
Current Contract Price									\$ 5,612,801.00

Bristol Water Improvements Contract B
Change Order 1
September 22, 2025

Description of Change:

Due to the new well and increased capacity from this well field, IDEM requested an increase to the log-4 disinfection time. As the Town does not have a Treatment Plant and Clearwell to satisfy this requirement it was proposed to use the elevated tank to serve as a chlorine contact tank to meet the requirements of disinfection. This scope includes an additional pipe to serve as the inlet. This pipe is C900 pipe in the yard from the effluent pipe from the chemical building as shown on C101 and C103A. The pipe is DIP when under the Tower and SS pipe up to the tank above, shown on M102. The new pipe will have fittings and instruments as shown on M102. A tank level instrument will be added to the top of the tank to serve as a high-high alarm and shall turn off all pumps just before the tank reaches the high level overflow depth.

Add: Check Valve Spec, see attached.

Updates: C101, C103, M104

Add: Line B on C103A, M102

Credit: C103: 10 LF and 2 45s in yard due to the pipe alignment change

Add the following to 40 92 13:

1. Level Monitoring on Top of the Tank, LIT-TANK

- a. LIT Rosemount 5408, or equal, flanged, with local display and 4-20mA output.
- b. Tank Manufacturer to include a port with flange on the top of the tank within the handrail.
- c. Level instrument and transmitter will include a 4-20 mAdc analog output signal for use by the control system for monitoring of water tower level. The 4-20 mAdc flow signal will be linear. Input the 4-20 mAdc flow signal to the PLC. Transmit the instantaneous signal to the OITs for display on the HMI screens.
- d. Transmitter shall include Hart protocol signal over 4-20 mA output. Signal and power transmission shall be provided on a single pair of wires. Operating ambient temperature limits shall be at least -40°C to +82°C. Transmitter is to include digital display for local reading.
- e. Range shall be at least 50-ft.
- f. PLC shall monitor the 4-20 mAdc output signal from each instrument and shall make the information available on the HMI screens.
- g. Allow the operator to choose alarm set points. High set point to turn off pumps and alert to operators.
- h. Follow all related requirements in 40 92 13.

Credit:

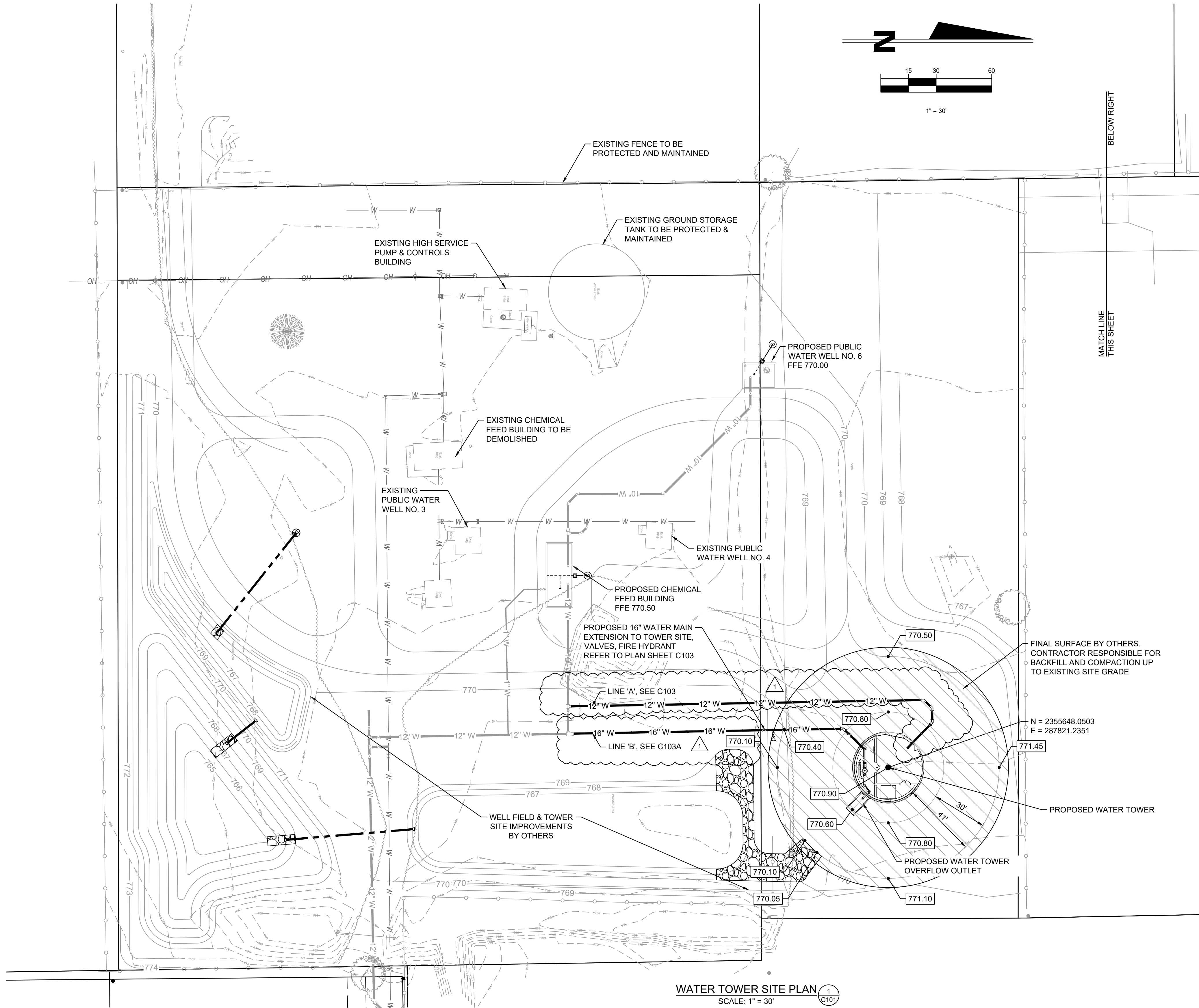
Remove Pay Items

6 Freedom Powder Site Improvements: \$220,000.00

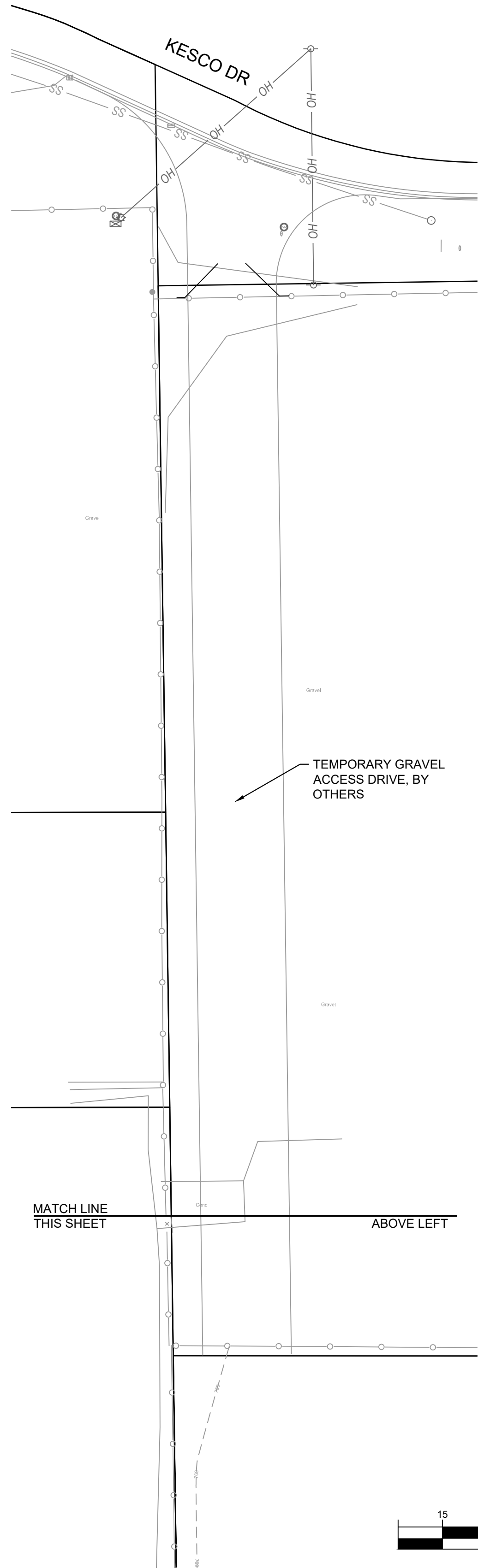
7 Freedom Powder Site Restoration: \$75,000.00



File: J:\Projects\2023 Projects\2023-0005107_Design\Engineering\Plans\Contract B - New 1 MG Elevated Water Tank\C101 - Tower & Well Site Improvements.dwg Saved By:jfaglesong



WATER TOWER SITE PLAN (1)
SCALE: 1" = 30' (C101)



TOWN OF BRISTOL WATER SYSTEM IMPROVEMENTS PROJECT - CONTRACT B		TOWN OF BRISTOL		BRISTOL, IN	
DESIGNED BY: DK REVIEWED BY: BBK		ADDRESS		TOWER & WELL SITE IMPROVEMENTS	
DRAWN BY: DK REVIEWED BY: BBK		DATE: FEBRUARY 2024		JOB NUMBER: 2023-0005	
SCALE: AS NOTED		C101		C101	
JONES PETRIE RAFINSKI		Fort Wayne, IN p. 260.422.2322		South Bend, IN p. 514.232.4388	
REV 1		CHANGE ORDER #1 DESCRIPTION		BY JF	
DATE 07/31/24		BY JF		DATE 07/31/24	

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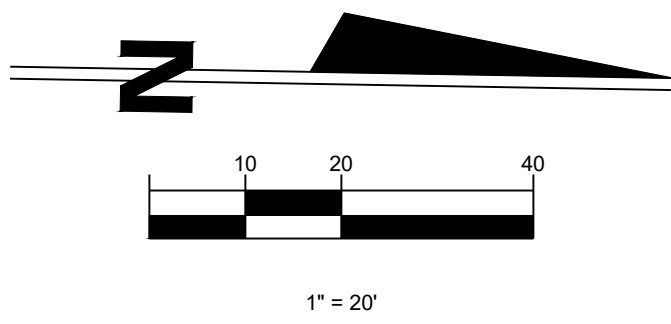
- ## NOTES

1. WATER MAIN PIPE SHALL BE C900 PVC DR 18 OR HDPE DIPS DR 11, AS NOTED IN THE PLANS.
2. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ALONG THE ROAD, SWALES, CULVERTS, CURB & CUTTER, AND STORM SEWERS MUST BE RESTORED & MAINTAINED TO PROVIDE POSITIVE DRAINAGE.
3. ALL BITUMINOUS PAVEMENT, CONCRETE, AND GRAVEL DRIVE RESTORATION TO BE RESTORED TO THE PAVEMENT SECTION OUTLINED IN THE PROJECT DETAILS.
4. CONTRACTOR TO MAINTAIN A MINIMUM 18-INCH VERTICAL AND 10-FOOT HORIZONTAL SEPARATION BETWEEN PROPOSED WATER MAIN AND SANITARY AND/OR STORM SEWERS. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 8-FOOT HORIZONTAL SEPARATION FROM ALL STORM AND SANITARY STRUCTURES.
5. WHERE 18-INCH VERTICAL AND 8-FOOT HORIZONTAL SEPARATION FROM UTILITY CROSSINGS CANNOT BE MAINTAINED, CONTRACTOR SHALL INSTALL WATER MAIN SO THAT A FULL STICK OF WATER MAIN PIPE SHALL BE CENTERED AT THE CROSSING, THUS MAXIMIZING THE DISTANCE BETWEEN THE PIPE JOINTS AND THE CROSSING OF THE EXISTING UTILITY.
6. CONTRACTOR SHALL PRESSURE TEST AND DISINFECT WATER MAIN PIPE PER PROJECT SPECIFICATIONS AND CURRENT AWWA STANDARDS.
7. ALL WATER MAIN FITTINGS TO BE RESTRAINED JOINT UNLESS OTHERWISE NOTED. WATER MAIN PIPE SHALL BE RESTRAINED JOINT IN ACCORDANCE WITH THE RESTRAINED LENGTH TABLE IN THE PROJECT DETAILS. ALL FITTING JOINTS SHALL BE OF THE MECHANICAL JOINT TYPE FOR PVC & FUSED JOINTS FOR HDPE PIPE.

LEGEND

- | | | | |
|---|------------------------------|---|--------------------------------|
|  | EXISTING WATER METER |  | EXISTING BURIED TELEPHONE LINE |
|  | EXISTING FIRE HYDRANT |  | EXISTING BURIED ELECTRIC LINE |
|  | EXISTING VALVE |  | EXISTING OVERHEAD UTILITY LINE |
|  | EXISTING WATER LINE |  | EXISTING WATER LINE ABANDON |
|  | EXISTING SANITARY SEWER LINE |  | PROPOSED WATER LINE |
|  | EXISTING GAS LINE |  | PROPOSED FIRE HYDRANT ASSEMBLY |
|  | EXISTING FIBER OPTIC LINE |  | PROPOSED WATER VALVE |

R	REMOVE
P	PROTECT
A	ABANDON EXISTING WATER MAIN

 $1'' = 20$

TOWN OF BRISTOL WATER SYSTEM
IMPROVEMENTS PROJECT - CONTRACT B

TOWN OF BRISTOL
BRISTOL, IN

PLAN & PROFILE - WATER TOWER SITE
STA. 400+00 TO STA. 403+50 - LINE 'A'

DESIGNED BY: DK
REVIEWED BY: BBK
DRAWN BY: DK
REVIEWED BY: BBK

DATE: FEBRUARY
2024

JOB NUMBER: 2023-0005

SCALE: 1" = 20'
1" = 5'

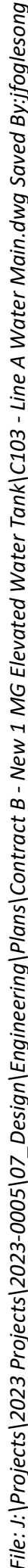
C103

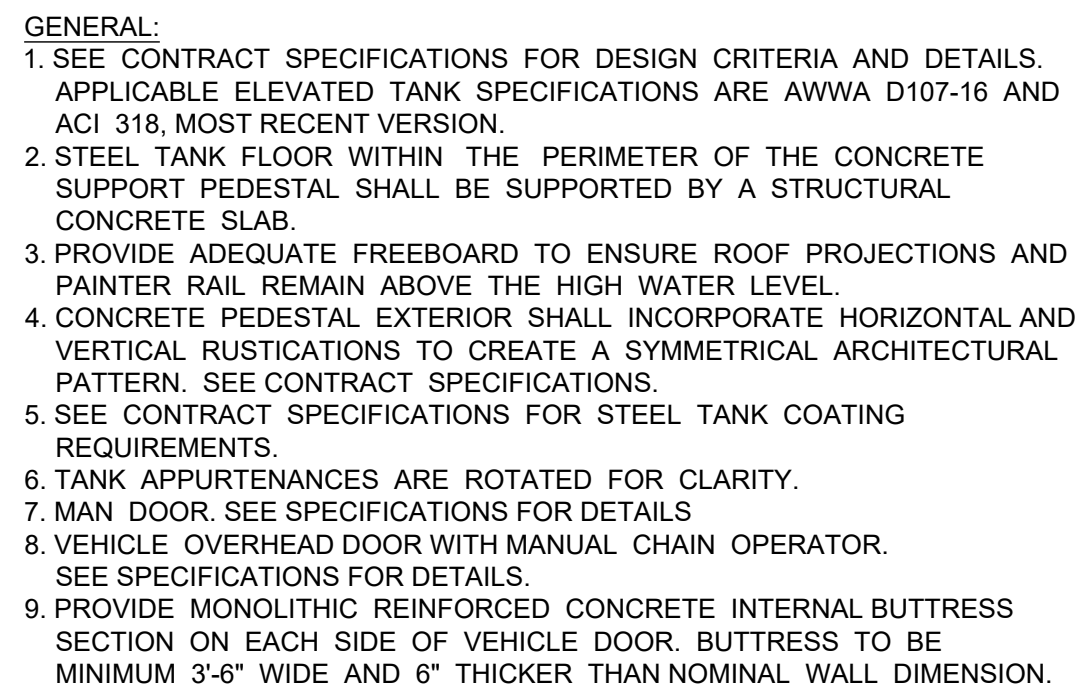
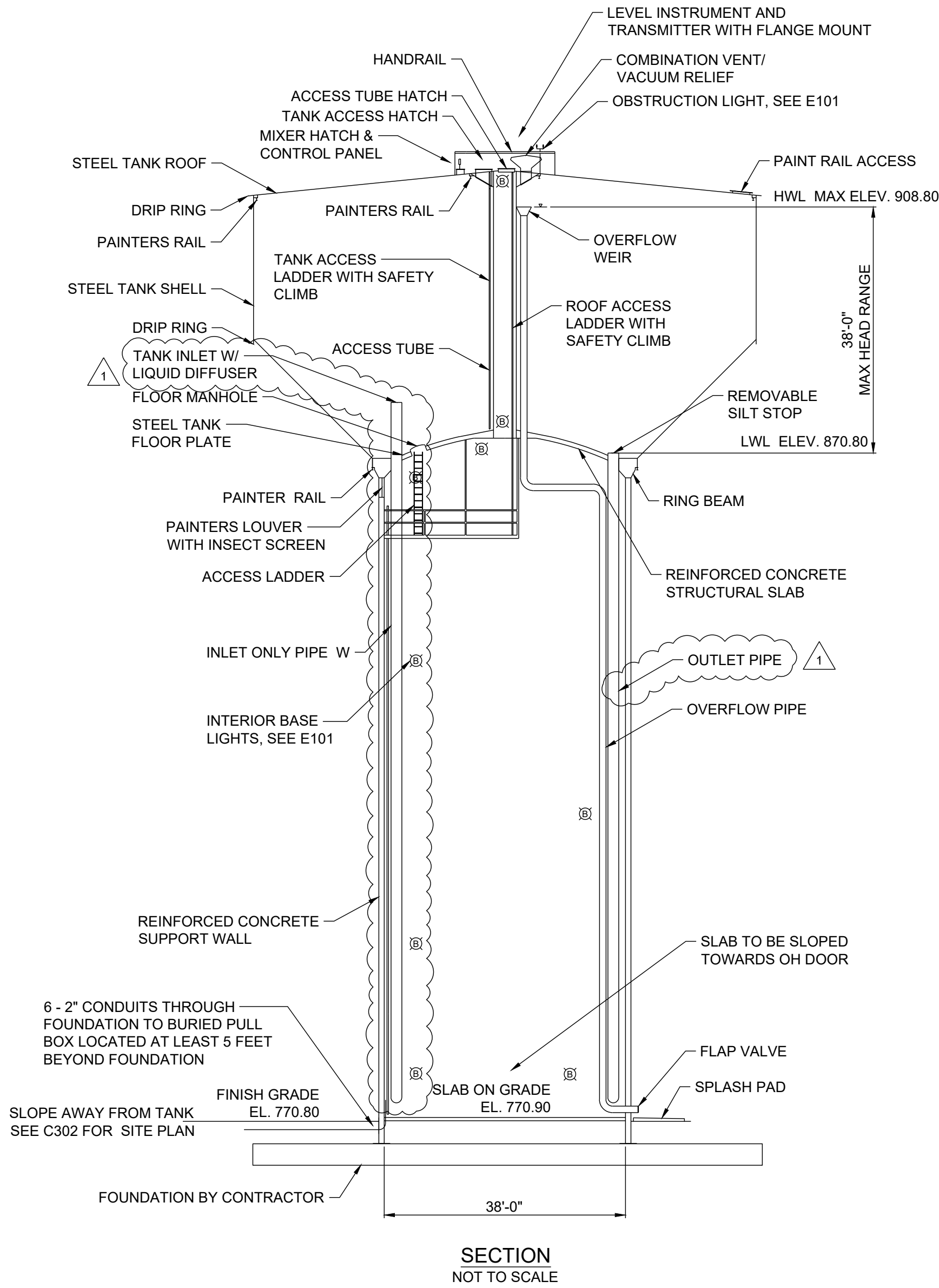
REV	4	CHANGE ORDER #1	JF	07/31/24
	3	ADDENDUM #3	BBK	03/19/24
		DESCRIPTION	BY	DATE
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br JONES
PETRIE
RAFINSKI

Fort Wayne, IN
p: 260.422.2522

South Bend, IN
p: 574.232.4388





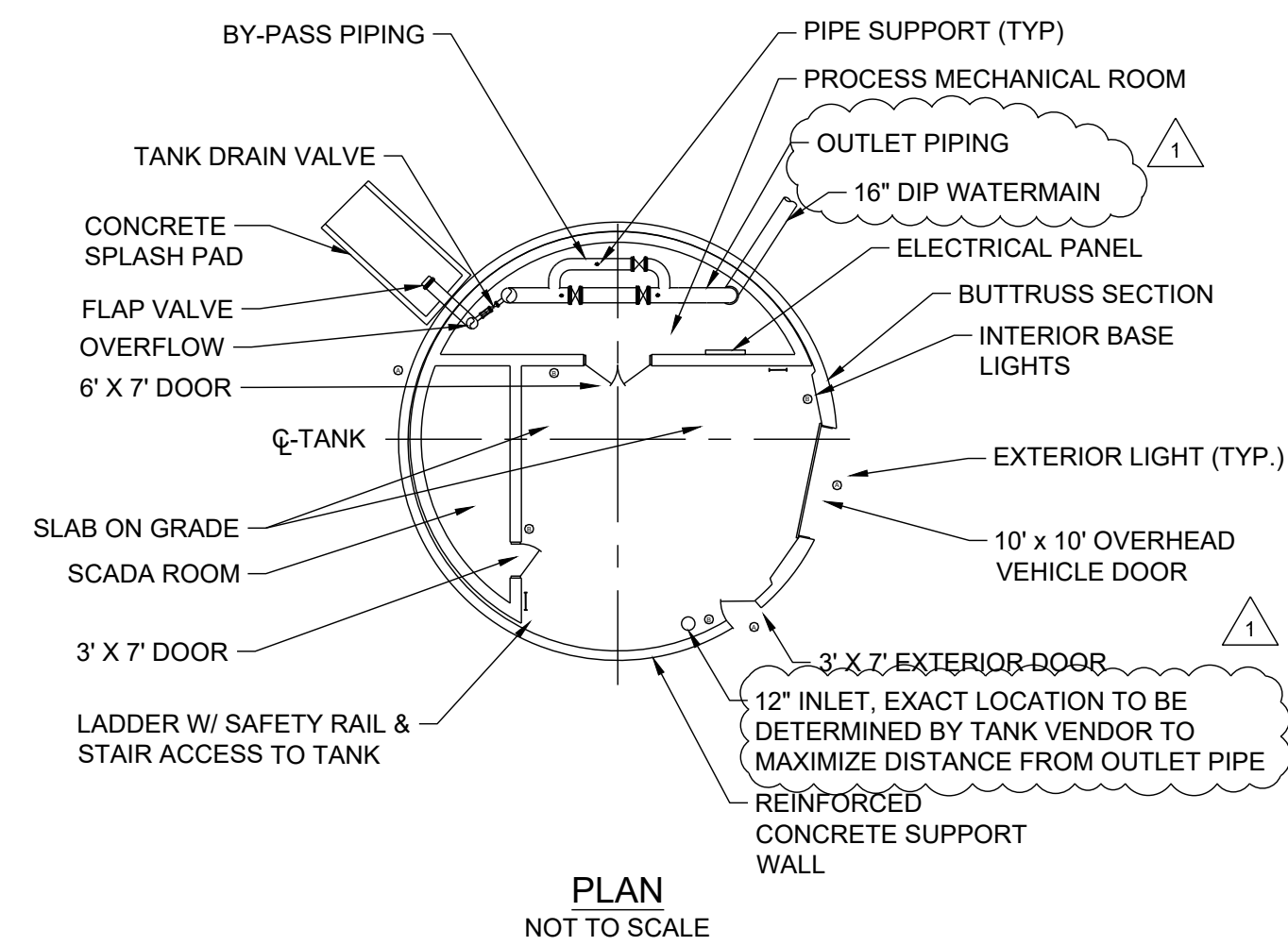
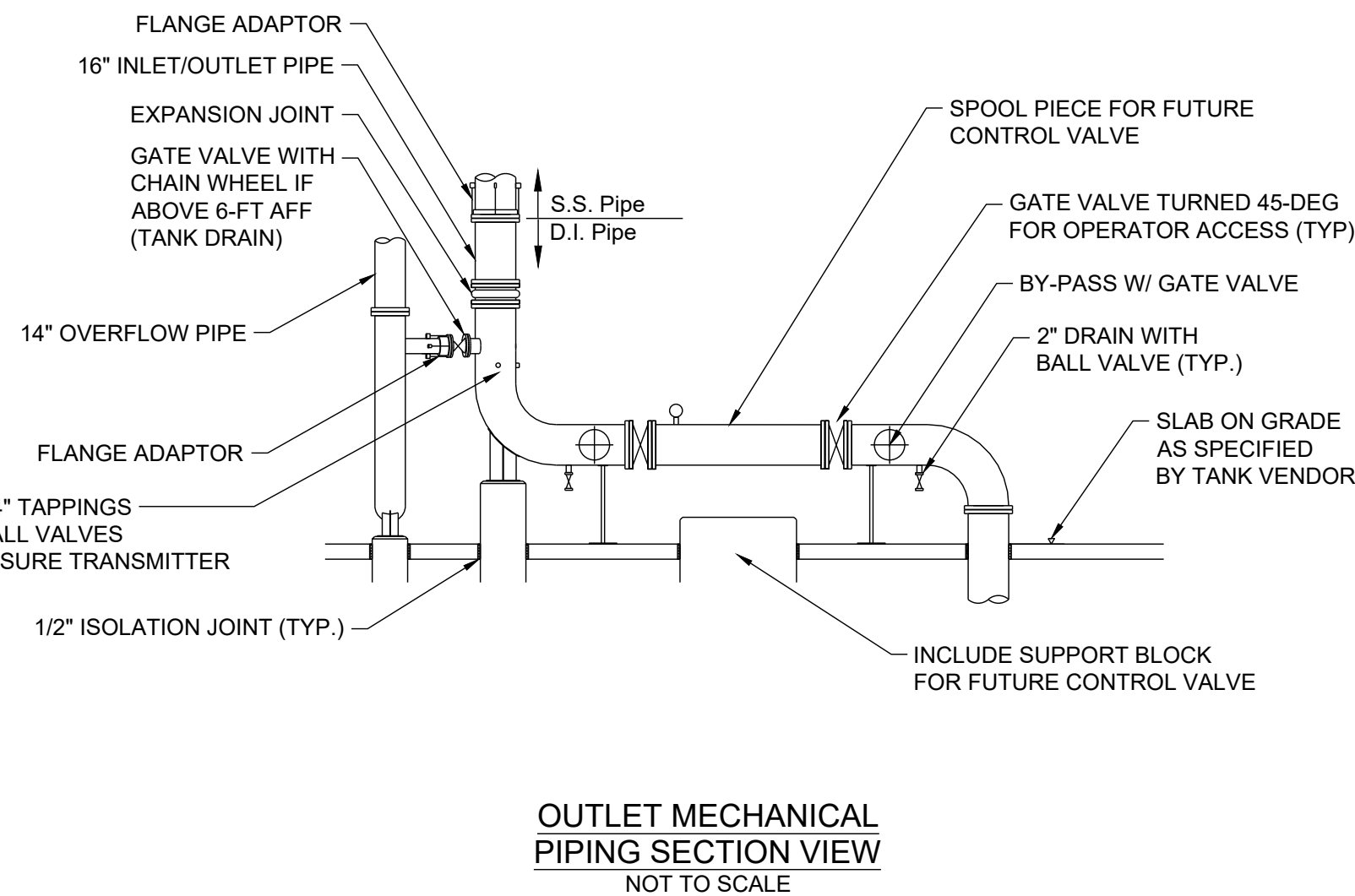
1. REFER TO THE GEOTECHNICAL REPORT FOR RECOMMENDATIONS REGARDING ALLOWABLE BEARING CAPACITY.
2. DESIGN LOADS IN ACCORDANCE WITH AWWA D107 (LATEST VERSION).
3. DESIGN CONCRETE FOUNDATION IN ACCORDANCE WITH ACI 318 (LATEST VERSION).

1. PROVIDE A 6" THICK 4000 PSI CONCRETE FLOOR ON COMPACTED GRANULAR FILL REINFORCED WITH #4 BARS AT 12" CENTERS EACH WAY.
2. PROVIDE 1/2" ISOLATION JOINT BETWEEN FLOOR AND WALL AND AT ALL FLOOR PENETRATIONS. CAP WITH SELF LEVELING SEALANT.
3. SAWCUT CONTROL JOINTS 1 1/2" DEEP AT 20 FEET MAXIMUM CENTERS.
4. SLOPE LAIR MINIMUM 1:5% TO VEHICLE DOOR FOR DRAINAGE.
5. ALL EXPOSED FORM SURFACES SHALL RECEIVE A SMOOTH CAST FORM FINISH AND ALL UNEXPOSED FORMED SURFACES SHALL RECEIVE A ROUGH FORM FINISH. ALL EXPOSED UNFORMED SURFACES SHALL RECEIVE A TROWEL FINISH AND ALL UNEXPOSED UNFORMED SURFACES SHALL RECEIVE A FLOAT FINISH.

1. INLET/OUTLET AND OVERFLOW PIPING WITHIN THE CONCRETE PEDESTAL SHALL TRANSITION FROM DUCTILE IRON IN THE TOWER BASE TO 304L STAINLESS STEEL, AS NOTED.
2. PROVIDE HANGERS, BRACKETS, AND THRUST RESTRAINT AS REQUIRED. SEE SPECIFICATION FOR SLOPE AND DESIGN TO ACCOMMODATE MAXIMUM FILL RATE. SEE CONTRACT SPECIFICATION.
3. REMOVABLE SILT STOP SHALL BE 6 INCHES ABOVE TANK FLOOR.
5. PROVIDE EXPANSION JOINT ON INLET/OUTLET RISER TO ACCOMMODATE MAXIMUM POTENTIAL DIFFERENTIAL MOVEMENT.
6. CONNECT RISER AND OVERFLOW WITH A VALVED LATERAL FOR TANK DRAINING.
7. PROVIDE THRUST RESTRAINT AND SUPPORT AS REQUIRED.
8. INSTALL 3 PC. 3/4" TAPPINGS COMPLETE WITH BRONZE BALL VALVE AND PLUG ON INLET/OUTLET PIPE.
9. INLET/OUTLET PIPE TO BE INSULATED AND CLAD WITH ALUMINUM JACKET WHEN REQUIRED FOR FREEZE PROTECTION. SEE SPECIFICATION.

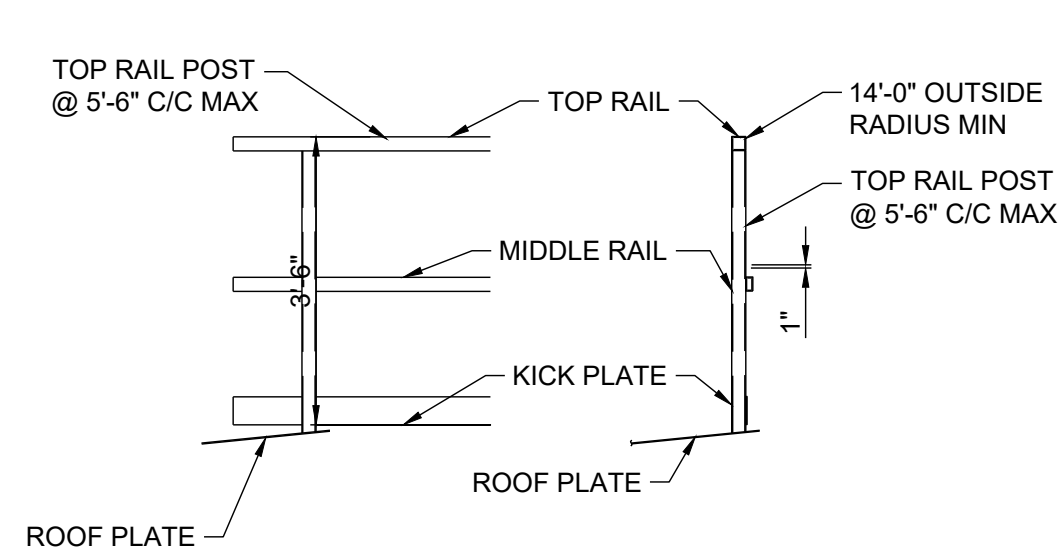
1. MOUNT INTERIOR BASE LIGHTS 8'-8" ABOVE SLAB ON GRADE.
2. MOUNT EXTERIOR LIGHTS AS NOTED ON E101.
3. STAIR LIGHTING SHALL BE AS NOTED ON E101.
4. LIGHTING ON UPPER PLATFORM AS NOTED ON E101.
5. OBSTRUCTION LIGHT TO BE LOCATED 12 INCHES ABOVE HIGHEST POINT ON TANK.

1. ALL LADDERS AND LANDINGS SHALL BE GALVANIZED.
2. PROVIDE ALUMINUM SAFETY RAILS ON ALL LADDERS.
3. LADDERS FALL ARREST SYSTEMS SHALL COMPLY WITH ANSI Z359 AND OSHA.
4. ROOF ACCESS TUBE AND TANK ACCESS HATCHES SHALL BE NO LESS THAN 30" SQUARE.
5. A REMOVABLE ALUMINUM LOUVER SHALL BE INSTALLED AT THE UPPER LANDING FOR ACCESS TO THE EXTERIOR PAINTER RAIL.

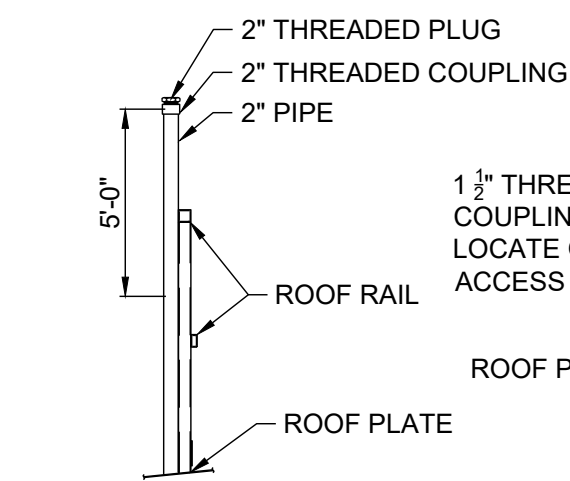


M102	SCALE: NOT TO SCALE	JOB NUMBER: 2023-0005	DATE: FEBRUARY 2024	DESIGNED BY: DK REVIEWED BY: BBK	TOWN OF BRISTOL ADDRESS BRISTOL, IN	JONES PETRIE RAFINSKI South Bend, IN p: 574.232.4388 Fort Wayne, IN p: 260.422.2522 Elkhart, IN p: 574.293.7762	1	CHANGE ORDER 1	REV	The concepts, designs, plans, details and other information as shown on this document are the sole property of JPR and were created, developed, and presented for use on this specific project. All rights reserved. No other use, reproduction, or distribution of these documents is allowed without the written permission of JPR. © 2012 JPR. All Rights Reserved.							

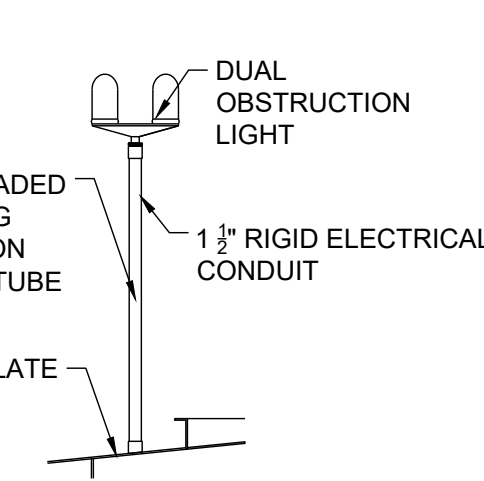
MIXING SYSTEM DETAILS



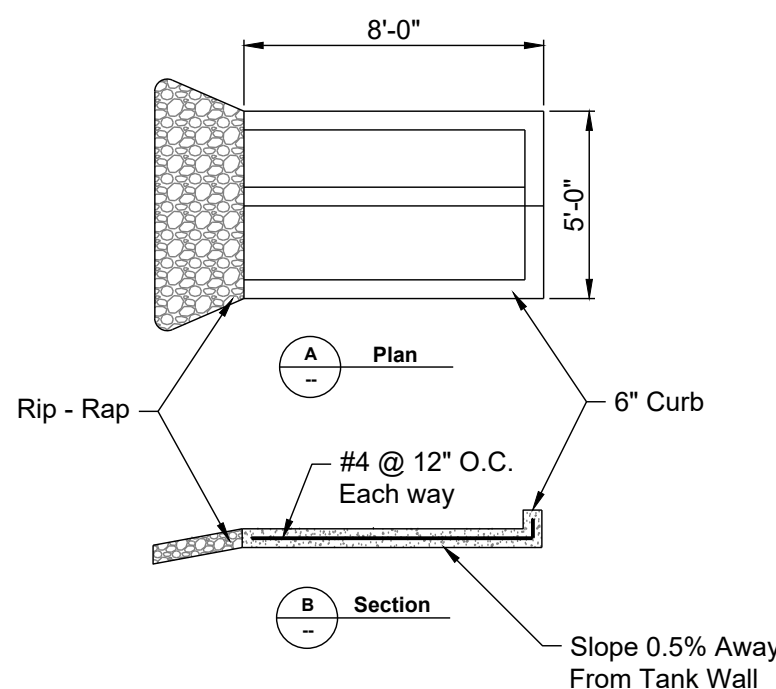
ROOF RAIL DETAILS



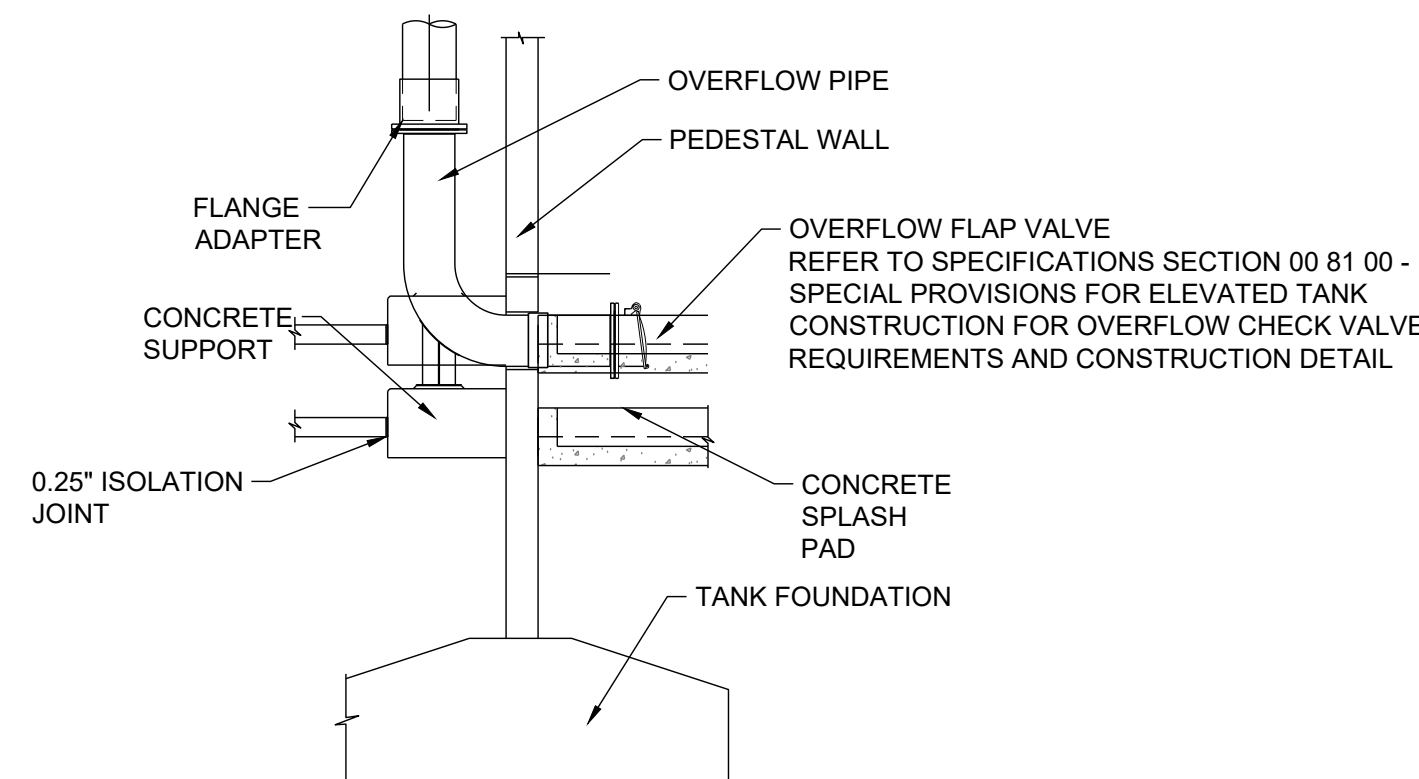
ANTENNA MOUNT
(Coordinate with Vendor)



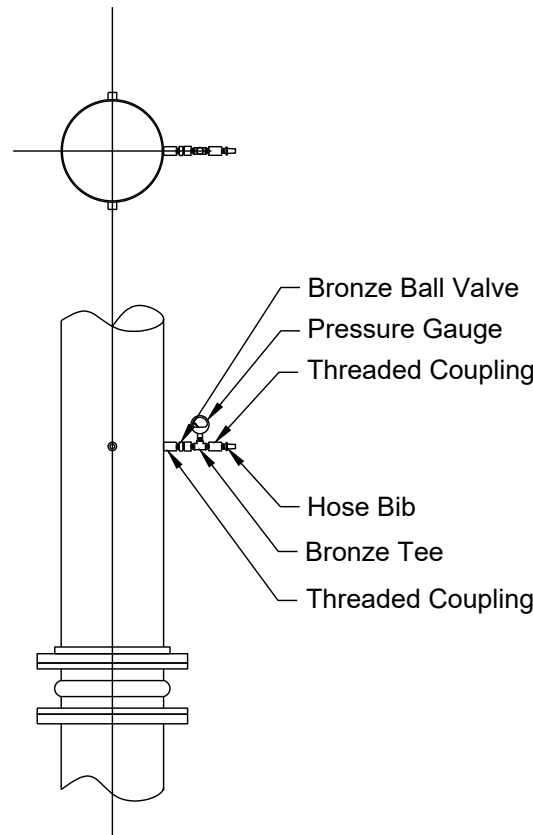
OBSTRUCTION LIGHT MOUNT



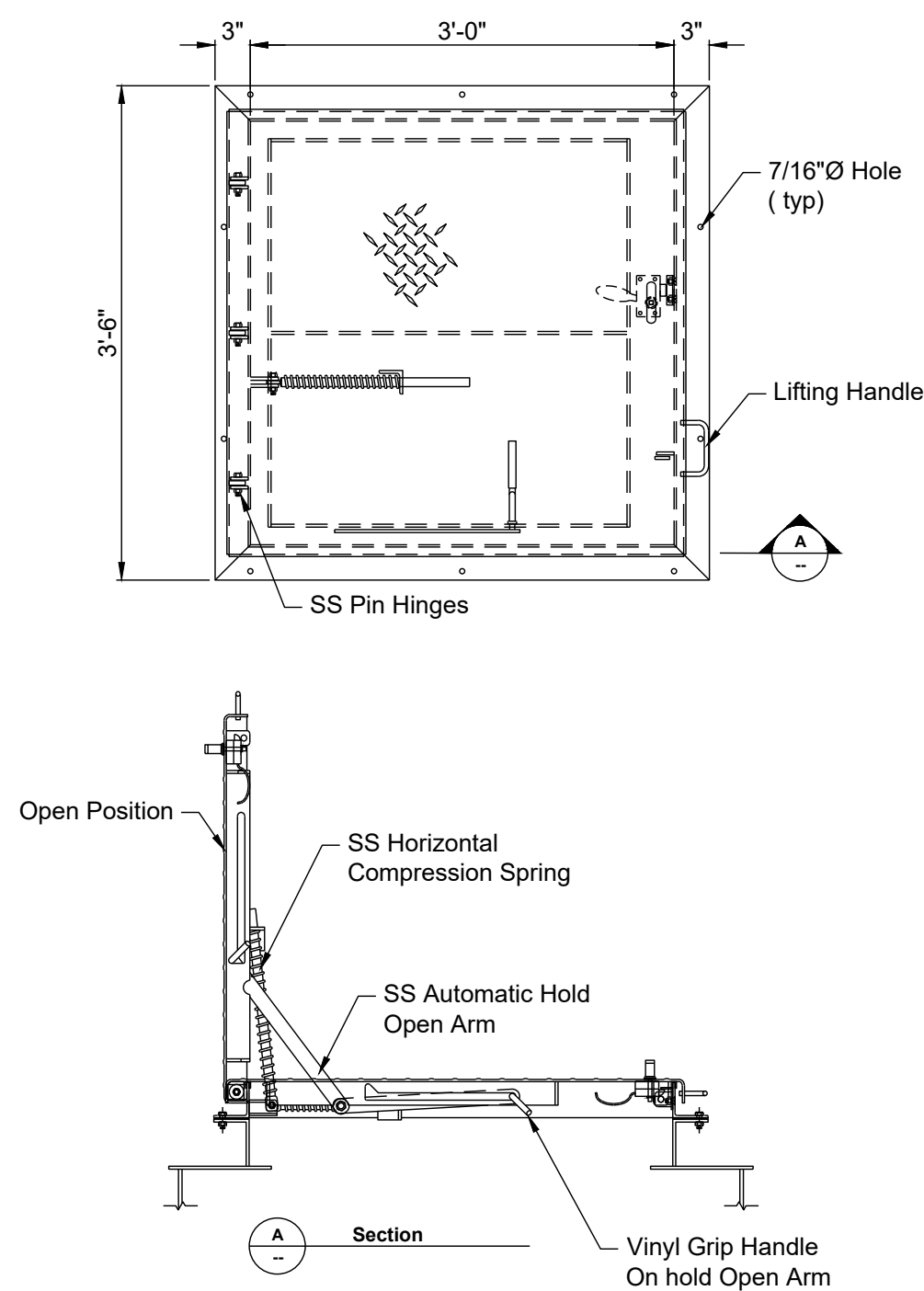
SPLASH PAD DETAILS



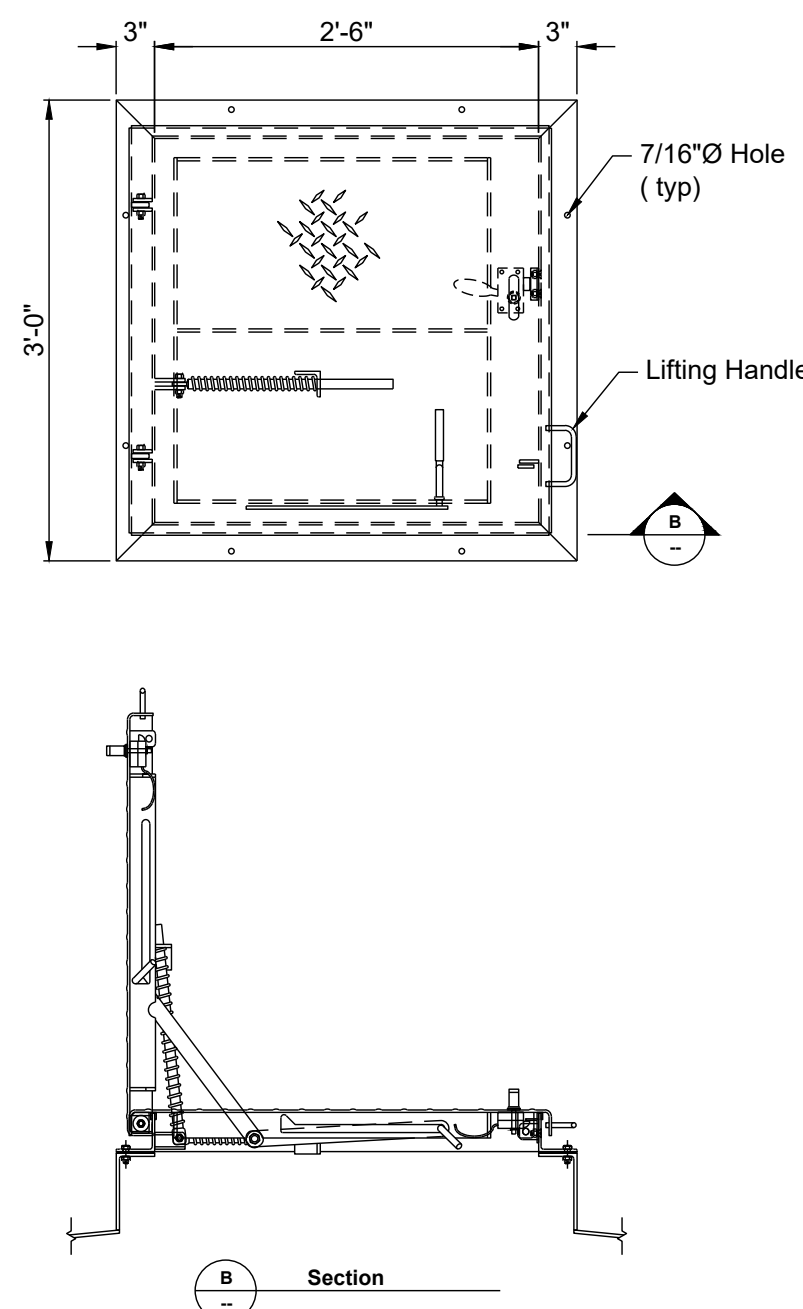
OVERFLOW DETAILS



PRESSURE GAUGE DETAILS



HATCH DETAILS
36" x 36"



HATCH DETAILS
30" x 30"

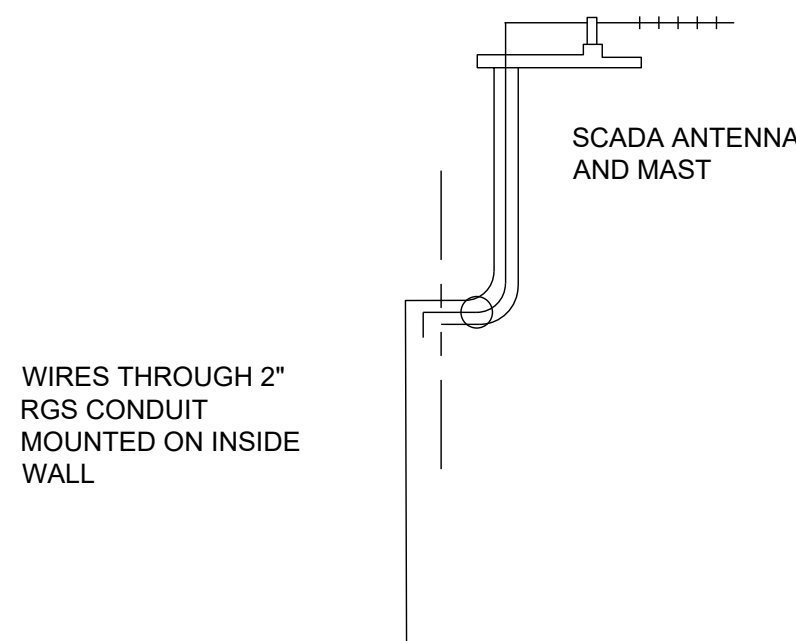
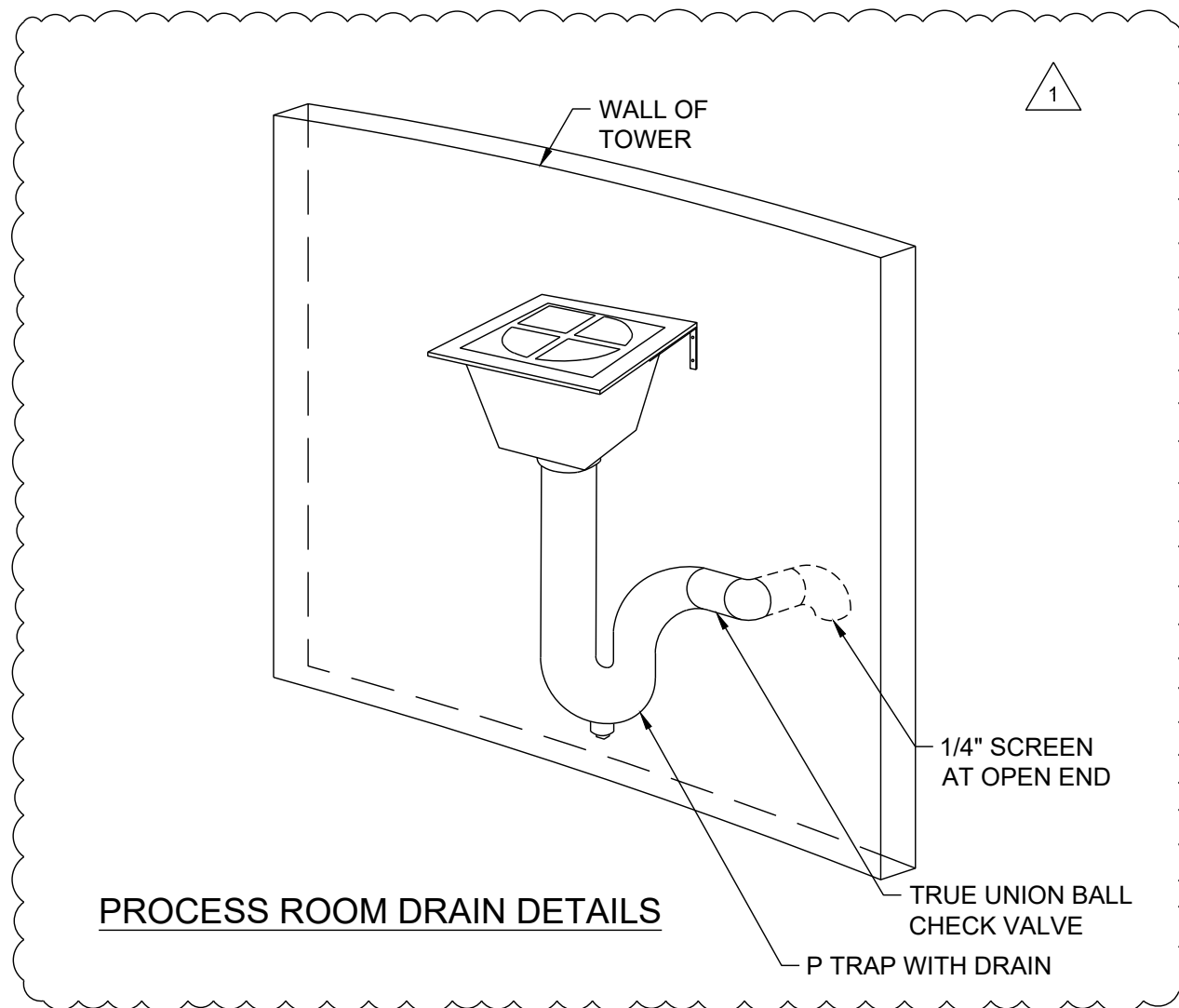
NOTES:

ROOF VENT

1. PROVIDE A STAINLESS STEEL ROOF VENT LOCATED NEAR THE CENTER OF THE ROOF THAT SHALL HAVE SUFFICIENT CAPACITY TO PASS AIR, SO THAT THE ROOF DESIGN FLOW RATE OF AIR ENTERING OR LEAVING THE TANK, EXCESSIVE PRESSURE/VACUUM WILL NOT DEVELOP.
2. THE OVERFLOW PIPE SHALL NOT BE CONSIDERED A TANK VENT.
3. THE VENT SHALL BE CONSTRUCTED TO PREVENT THE ENTRANCE OF BIRDS, INSECTS OR CONTAMINATING MATERIALS. THE VENT CAN BE EASILY DISMANTLED FOR CLEANING WITH A LOCKING MECHANISM TO PREVENT ACCESS TO THE TANK.
4. REFER TO SPECIFICATIONS SECTION 00 81 00 - SPECIAL PROVISIONS FOR ELEVATED TANK CONSTRUCTION, DETAIL DRAWING 01A, 01B, 01C AND 01D FOR CONSTRUCTION DETAILS.

ANTENNA AND MAST (TYP)

1. INSTALL FOR SCADA AND FIRE/EMS. COORDINATE WITH VENDORS FOR EQUIPMENT AND ATTACHMENT REQUIREMENTS AND TANK MOUNTING DETAIL
2. CONDUITS TO BE INSTALLED ON THE INSIDE FACE OF THE TANK SUPPORT WALL
3. INSTALL THREE (3) ADDITIONAL 2" PVC CONDUIT STUBS THROUGH THE TANK WALL FOR FUTURE USE. CAP



ANTENNA AND MAST (TYP) DETAILS

M104	SCALE:	NOT TO SCALE	JOB NUMBER: 2023-0005 DATE: FEBRUARY 2024	DESIGNED BY: DK REVIEWED BY: BBK	TOWN OF BRISTOL WATER SYSTEM IMPROVEMENTS PROJECT - CONTRACT B		JONES PETRIE RAFINSKI	South Bend, IN p. 574.232.4388 Fort Wayne, IN p. 260.422.2522	Elkport, IN p. 574.293.7762	The concepts, designs, plans, details and other information as shown on this document are the sole property of JPR and were created, developed, and presented for use on this specific project. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of JPR. © 2012 JPR. All Rights Reserved.	1	CHANGE ORDER 1	JF	07/31/24
	ADDRESS	TOWN OF BRISTOL		BRISTOL, IN	WATER TOWER DETAILS						REV	DESCRIPTION	BY	DATE

SECTION 400565.23 - SWING CHECK VALVES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Swing check valves **3 inches** and larger.
- B. Related Requirements:
 - 1. Section **099000 - Painting and Coating**: Coating and touchup of shop-primed surfaces with primer.
 - 2. Section 220523 - General-Duty Valves for Plumbing Piping: Miscellaneous plumbing valves as required by Project.
 - 3. Section 400551 - Common Requirements for Process Valves: Basic materials and methods related to valves commonly used for process systems.

1.2 REFERENCE STANDARDS

- A. American Water Works Association:
 - 1. AWWA C508 - Swing-Check Valves for Waterworks Service, 2-In. Through 24-In. (50-mm Through 600-mm) NPS.
- B. ASME International:
 - 1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 - 2. ASME B16.11 - Forged Fittings, Socket-Welding and Threaded.
 - 3. ASME B16.42 - Ductile Iron Pipe Flanges and Flanged Fittings: Classes 150 and 300.
- C. ASTM International:
 - 1. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 2. ASTM A536 - Standard Specification for Ductile Iron Castings.
 - 3. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
 - 4. ASTM B148 - Standard Specification for Aluminum-Bronze Sand Castings.
- D. NSF International:
 - 1. NSF 61 - Drinking Water System Components - Health Effects.
 - 2. NSF 372 - Drinking Water System Components - Lead Content.
- E. SSPC - The Society for Protective Coatings:
 - 1. SSPC SP 6 - Commercial Blast Cleaning.



1.3 COORDINATION

- A. Section 013000 - Administrative Requirements: Requirements for coordination.
- B. Coordinate Work of this Section with piping and equipment connections as specified in other Sections **and as indicated on Drawings**.

1.4 PREINSTALLATION MEETINGS

- A. Section 013000 - Administrative Requirements: Requirements for preinstallation meeting.
- B. Convene minimum **one week** prior to commencing Work of this Section.

1.5 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit manufacturer's catalog information, indicating materials of construction and compliance with indicated standards.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Source Quality-Control Submittals: Indicate results of **factory** tests and inspections.
- E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- F. Qualifications Statement:
 - 1. Submit qualifications for manufacturer.

1.6 CLOSEOUT SUBMITTALS

- A. Section 017000 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record actual locations of piping, valves and other appurtenances, connections, and **centerline** elevations.

1.7 QUALITY ASSURANCE

- A. Materials in Contact with Potable Water: Certified according to NSF 61 and NSF 372.
- B. Perform Work according to State of Indiana Department of Environmental Management and 10 State standards.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum **three** years' **documented** experience.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store materials according to manufacturer instructions.
- D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Protect valves and appurtenances by storing off ground.
 - 3. Provide additional protection according to manufacturer instructions.

1.10 EXISTING CONDITIONS

- A. Field Measurements:
 - 1. Verify field measurements prior to fabrication.
 - 2. Indicate field measurements on Shop Drawings.

1.11 WARRANTY

- A. Section 017000 - Execution and Closeout Requirements: Requirements for warranties.
- B. Furnish **five**-year manufacturer's warranty for swing check valves.

PART 2 - PRODUCTS

2.1 SWING CHECK VALVES

- A. Manufacturers:
 - 1. **DeZurik, Val-Matic, Mueller Co.**
 - 2. Substitutions: Permitted as pre-approved equal
- B. Description:
 - 1. Type: Swing, resilient seated, with outside lever and adjustable **weight**.



2. Size: 3 inches (76 mm) and larger.
3. Comply with AWWA C508.
4. Working Pressure: 200 **psig**.
5. Maximum Fluid Temperature: 60 **deg. F**
6. Flow Area: Full open[, **equal to connecting nominal pipe diameter**.
7. Check Valves 6 Inches and Larger: Furnish with adjustable air cushion chambers.
8. Mounting: Horizontal or vertical.
9. End Connections: **Flanged, ASME B16.1**

C. Materials:

1. Body and Cover: **Cast iron, ASTM A126.**
2. Disc: **Bronze, ASTM B62.**
3. Seat: Field replaceable, **aluminum-bronze, ASTM B148.**
4. Chamber and Plunger: **Bronze, ASTM B62.**
5. Hinge Pin and Key: **Stainless steel.**
6. Packing and O-Ring: **Buna-N.**
7. Rubber Components: **Buna-N.**
8. Connecting Hardware: **Type 304** stainless steel.

D. Finishes: As specified in Section 400551 - Common Requirements for Process Valves.

2.2 SOURCE QUALITY CONTROL

A. Section 014000 - Quality Requirements: Requirements for testing, inspection, and analysis.

B. Testing:

1. Hydrostatically test check valves at twice rated pressure according to AWWA C508.
2. Permitted Leakage at Indicated Working Pressure: None.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify that field dimensions are as indicated on **Shop** Drawings.
- C. Inspect existing flanges for nonstandard bolt-hole configurations or design, and verify that new valve and flange mate properly.

3.2 PREPARATION

- A. Section 017000 - Execution and Closeout Requirements: Requirements for installation preparation.



- B. Thoroughly clean valves before installation.
- C. Surface Preparation:
 - 1. Touch up shop-primed surfaces with primer as specified in Section **099000 - Painting and Coating**.
 - 2. Solvent-clean surfaces that are not shop primed.
 - 3. Clean surfaces to remove loose rust, mill scale, and other foreign substances by **power wire brushing**.
 - 4. Prime surfaces as specified in Section **099000 - Painting and Coating**.

3.3 INSTALLATION

- A. According to AWWA C508 and manufacturer instructions.
- B. Dielectric Fittings: Provide between dissimilar metals.

3.4 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements: Requirements for inspecting and testing.
- B. Inspection:
 - 1. Inspect for damage to valve lining or coating and for other defects that may be detrimental as determined by Architect/Engineer.
 - 2. Repair damaged valve or provide new, undamaged valve.
 - 3. After installation, inspect for proper supports and interferences.
- C. Pressure Testing: As indicated in piping schedule.

3.5 CLEANING

- A. Section 017000 - Execution and Closeout Requirements: Requirements for cleaning.
- B. Keep valve interior clean as installation progresses.
- C. After installation, clean valve interior of soil, grit, loose mortar, and other debris.

END OF SECTION 400565.23