City of Portsmouth
Department of Public Works

ADDENDUM NUMBER 1

RFQ #26-23
ENGINEERING SERVICES
LAFAYETTE WATER STORAGE TANK PRESSURE ZONE ASSESSMENT

The addendum forms part of the original document marked: RFQ #26-23, Engineering Services, Lafayette Water Storage Tank Pressure Zone Assessment. Acknowledge this addendum within your proposal. Failure to do so may subject bidder to disqualification.

The following questions have been asked and answered as follows:

Question 1: Are design plans or as-built drawings of the Lafayette Water Storage Tank available for review?

Answer 1: Complete drawings of the Lafayette Water Storage Tank are not available. Included in this addendum are scanned excerpts from shop drawings and as-built sketches.

Question 2: Can the existing hydraulic model be reviewed?

Answer 2: The existing model is not available for review. Please document all assumptions made relative to the level of effort anticipated for model calibration, improvements, and run scenarios. The scope of modeling efforts will be established with the selected consultant.

Question 3: Please provide the map attachment referenced in the RFQ.

Answer 3: Map of project area is included in the addendum.

Question 4: Please provide Lafayette Tank inspection reports.

Answer 4: Inspection reports from 2012 and 2018 are included in this addendum.

Question 5: Page 1 – Funding states "The Qualification Statement must include a detailed project budget at or below a total cost of $100,000 to complete the scope of work." Please confirm if the detailed project budget should be incorporated into the *Project Schedule and Level of Effort* or if a project budget should be submitted separately.

Answer 5: The detailed project budget should be incorporated into the *Project Schedule and Level of Effort* section. The budget does not need to be submitted separately.

Question 6: Could you provide a list of the other RFQ holders?

Answer 6: The RFQ was available for download from the City of Portsmouth website, so we do not have a complete list of the RFQ holders.

Question 7: Is the preliminary $100,000 budget inclusive of the NHDES funds?

Answer 7: No, the NHDES funds have not been awarded at this time, so the $100,000 budget only includes allocated City funds.

Question 8: What is the format of the existing water quality data?

Answer 8: Water quality data is maintained in an Access database and Excel spreadsheets.

Question 9: What is the proposed project schedule?

Answer 9: The schedule on Page 3 is accurate. Please disregard the statement on Page 5 that a final report will be delivered within three months after the project completion. And note: The level of effort and final schedule will vary based on the negotiated scope and work tasks.

Question 10: Which Innovyze software package is the model currently in?

Answer 10: Version 10.7.1

Question 11: When was the model last updated? How much construction has occurred within the system since the last model update and calibration? What is the current calibration status of the model? Are the requested model updates system wide, or limited to the study area?

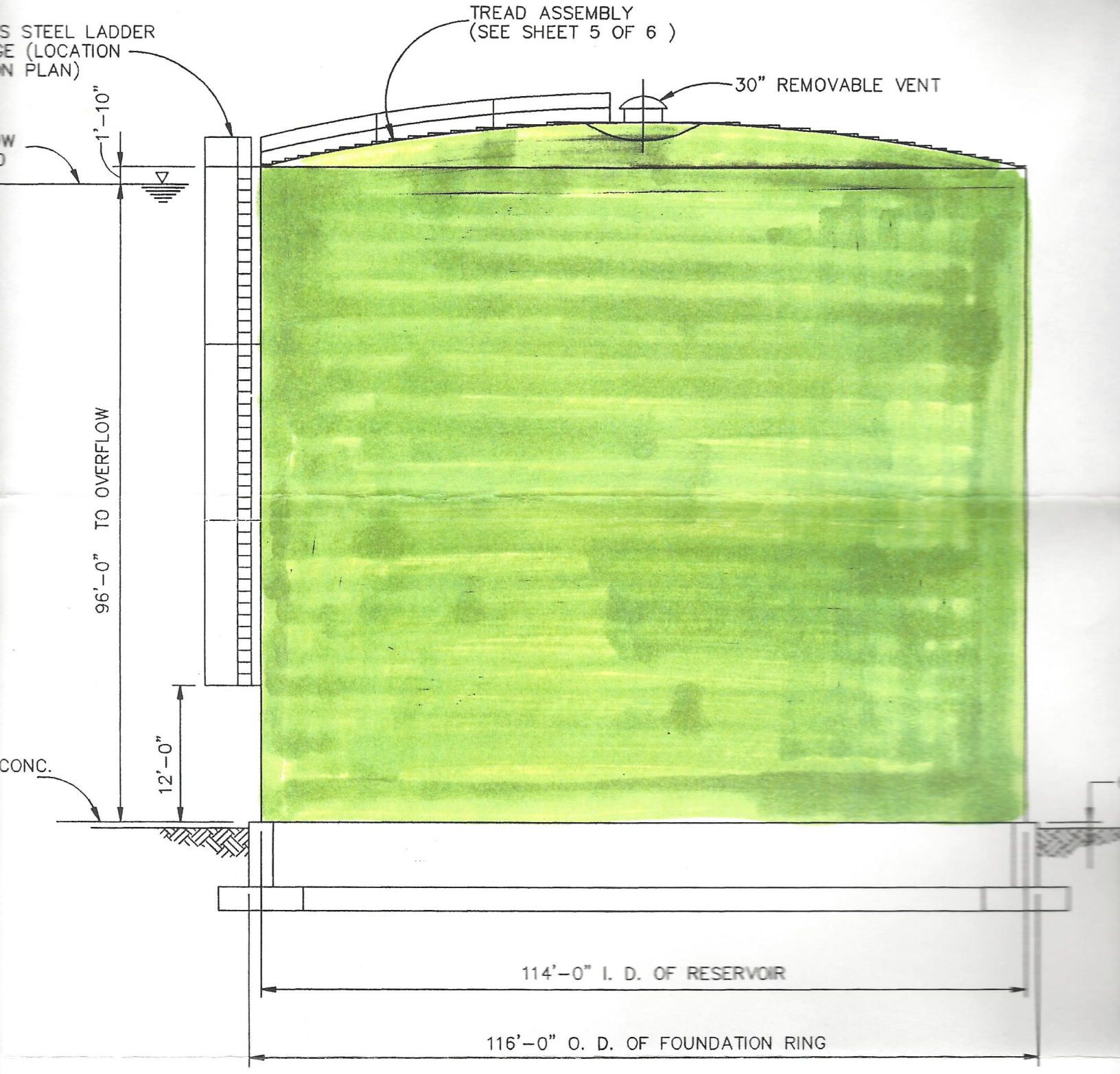
Answer 11: The model is updated as needed for specific project areas around the city. There has been some construction in this project area since the model was last calibrated. The model updates for this project are not intended to extend beyond the project area. It is understood that the extent of the model updates and calibration for this project will need to be evaluated and the work scope negotiated to meet the overall needs of this project and the available budget.

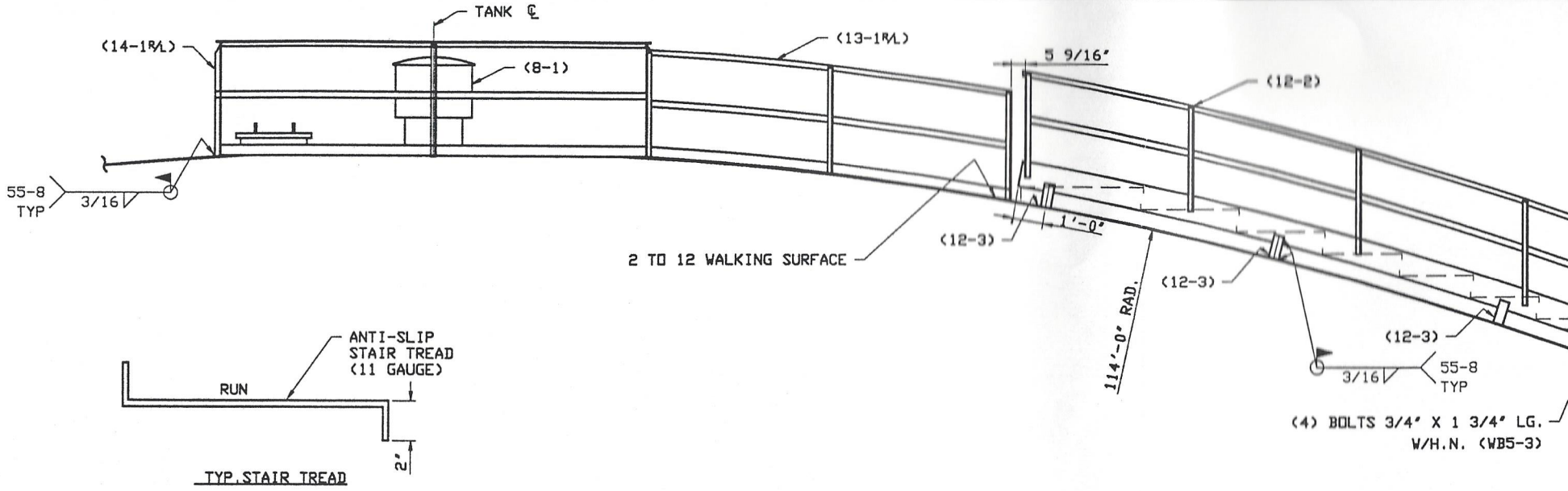
Question 12: Is the system growth analysis for the tank are an update to a previous analysis or a new analysis? Will this work include a vacant land analysis and assignment of development potential?

Answer 12: This is a new analysis. This will not include a vacant land analysis or assignment of development potential.

Question 13: What is the extent of GIS layer updates? Will this update be based on existing information in available record drawings, or will it require field collection of data points for gate valves, hydrants and services? Approximately how many record drawings or linear footage within the system requires updates? Are the request for GIS updates city-wide, or limited to the study area?

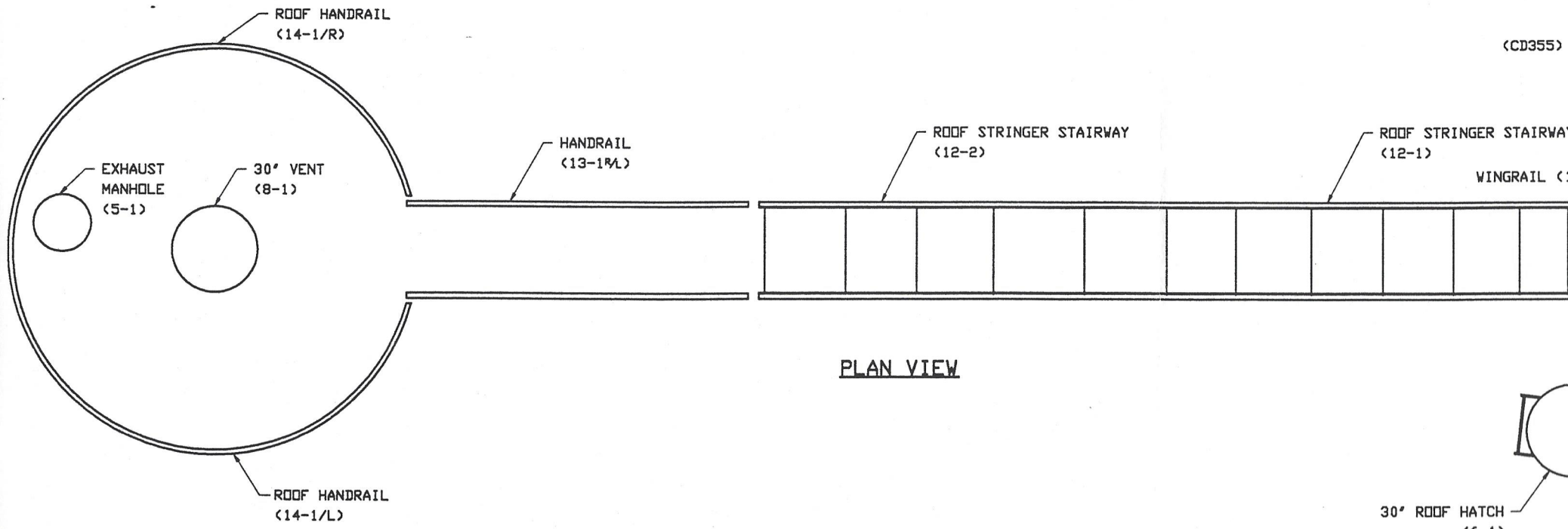
Answer 13: The City's GIS system is up-to-date. Only minor GIS updates are anticipated. Please state your assumptions in your RFQ.


S STEEL LADDER
E (LOCATION
N PLAN)
TREAD ASSEMBLY
(SEE SHEET 5 OF 6)
30" REMOVABLE VENT
1'-10"
96'-0" TO OVERFLOW
12'-0"
CONC.
114'-0" I. D. OF RESERVOIR
116'-0" O. D. OF FOUNDATION RING



TYP.STAIR TREAD

(CD355)



PLAN VIEW

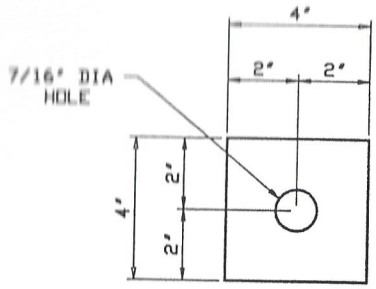
ROOF STRINGER ASSEMBLY & LADDER

(CD355)

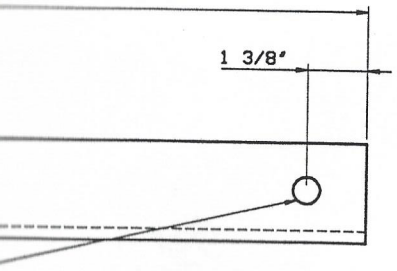
8		1		PL 1/4 X 3 3/8	3'-8 3/16		CROP		STK	
9										
10	1		15-4	PAINTER'S PAD						
11		1		L 6 X 6 X 1/2	0'-8		4	11	-	
12										
13	4		15-5	GROUNDING LUGS						
14		4		PL 3/8 X 4	0'-4		CROP		STK	
15										
16	2		15-6	PLAQUE MOUNTING ANGLES						
17		2		L 3 X 3 X 1/4	2'-0	304 S.S.	4	17	-	
18										
19	70		15-7	SUPPORT ANGLES						
20		70		L 6 X 6 X 1/2	0'-3		4	11	-	
21										
22										
23										
24										

MATERIAL SPECS	PLATE	A36	PIPE	FITTINGS
UNLESS NOTED	SHAPES	A36 U.N.	FLGS.	BOLTS

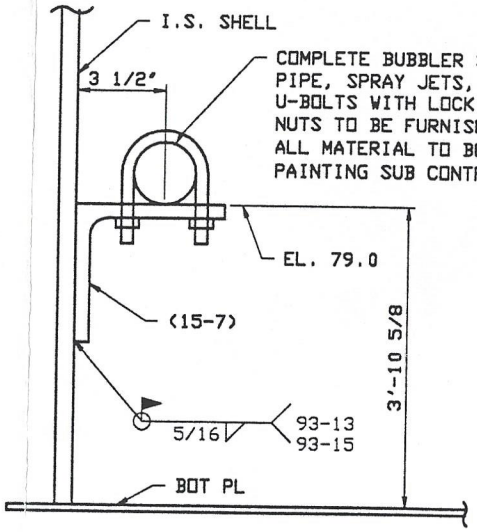
BAR (15-2)



GROUNDING LUG (15-5)

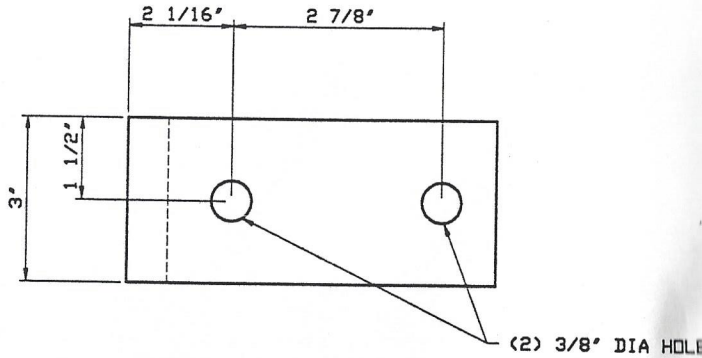


S (15-6)



SEE DRAWING E10 FOR (15-7) LOCATIONS

BUBBLER SYSTEM SUPPORTS



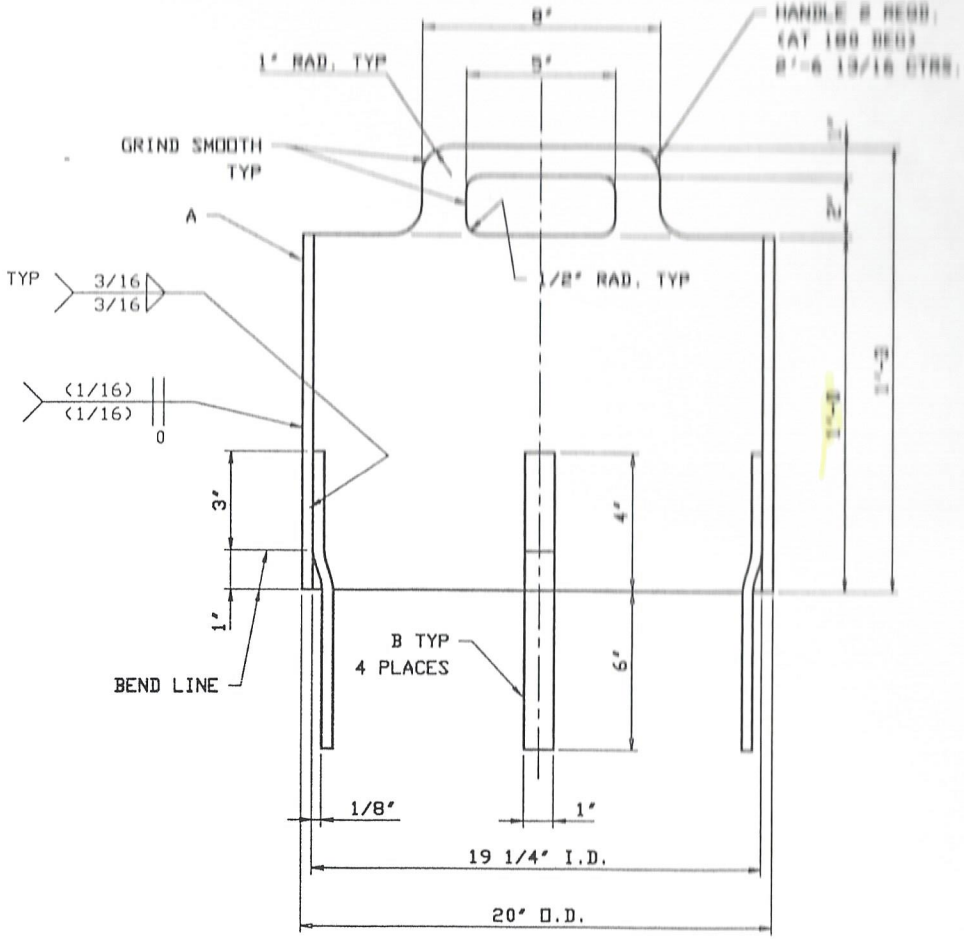
SUPPORT ANGLES (5-7)

OPEN HOLES NOTED
ERECTION REF. E1,E9,E10
WELD SPECS. AWWA APP'C'
ES- N.A.

CERTIFIED FOR CONFORMANCE TO PLANS AND SPECIFICATIONS
BY Emery E. Edmiston

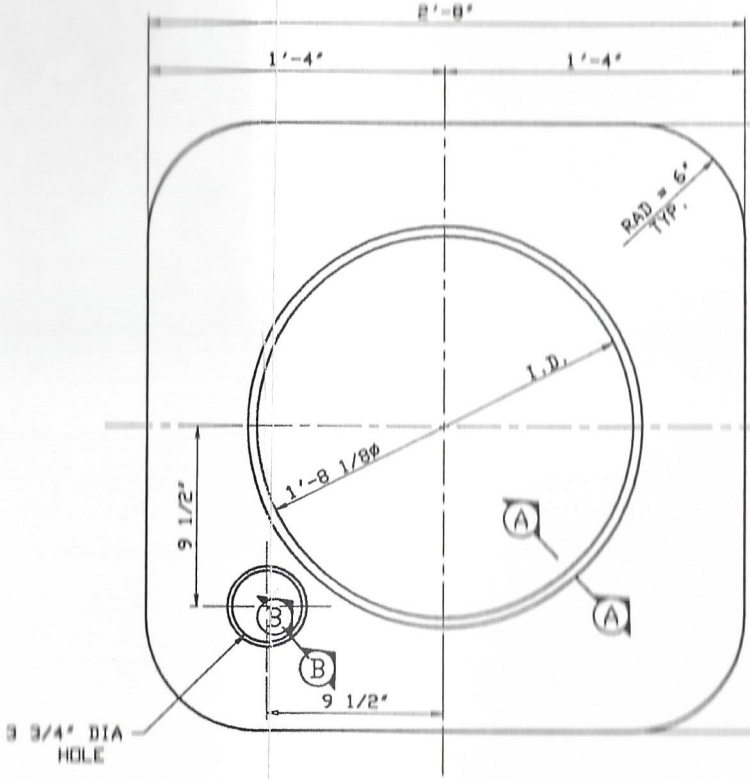
PDM PITT-DES MOINES, INC.

PITT-DES MOINES, INC.
ENGINEERS - FABRICATORS - CONTRACTORS
CITY OF PORTSMOUTH
(1) 114'-0 DIA X 97'-10 FBDR TK
PORTSMOUTH, NH
MISC DETAILS
DWG. PREPARED AT 13 | FABRICATED AT 13
BY | DATE



(1) SILT STOP (16-1)

MATERIAL SPECS UNLESS NOTED	PLATE A SHAPES



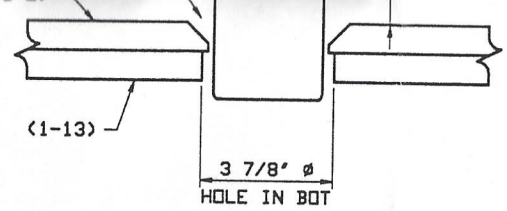
REPAD (16-2)

SHOP WELD PROCEDURES FOR THIS DRAWING UNLESS OTHERWISE NOTED	
SMAW	68-5M
FCAW	76-33V
SAW	82-33B

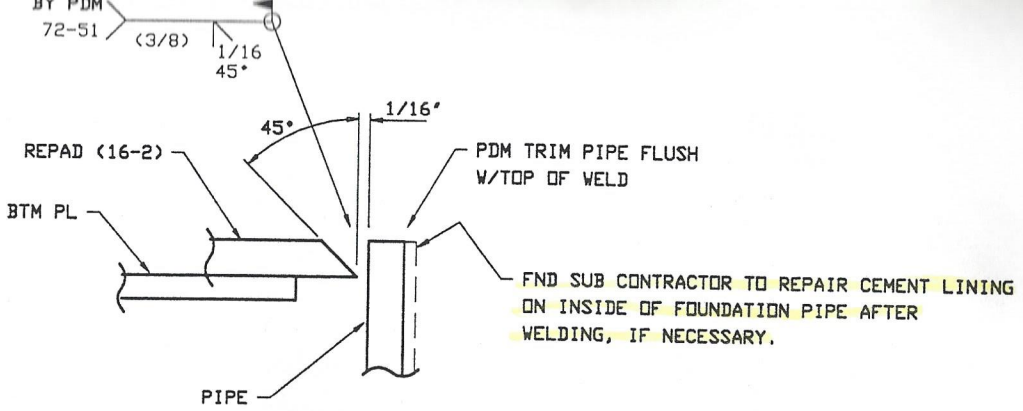
OPEN HOLES: AS NOTED
ERECTION REF.: E1
WELD SPECS.: AWWA APP'C'
EIS-: N.A.

CERTIFIED FOR CONFORMANCE TO PLANS AND SPECIFICATIONS
BY Emory E. Edmiston
DATE 8/31/94

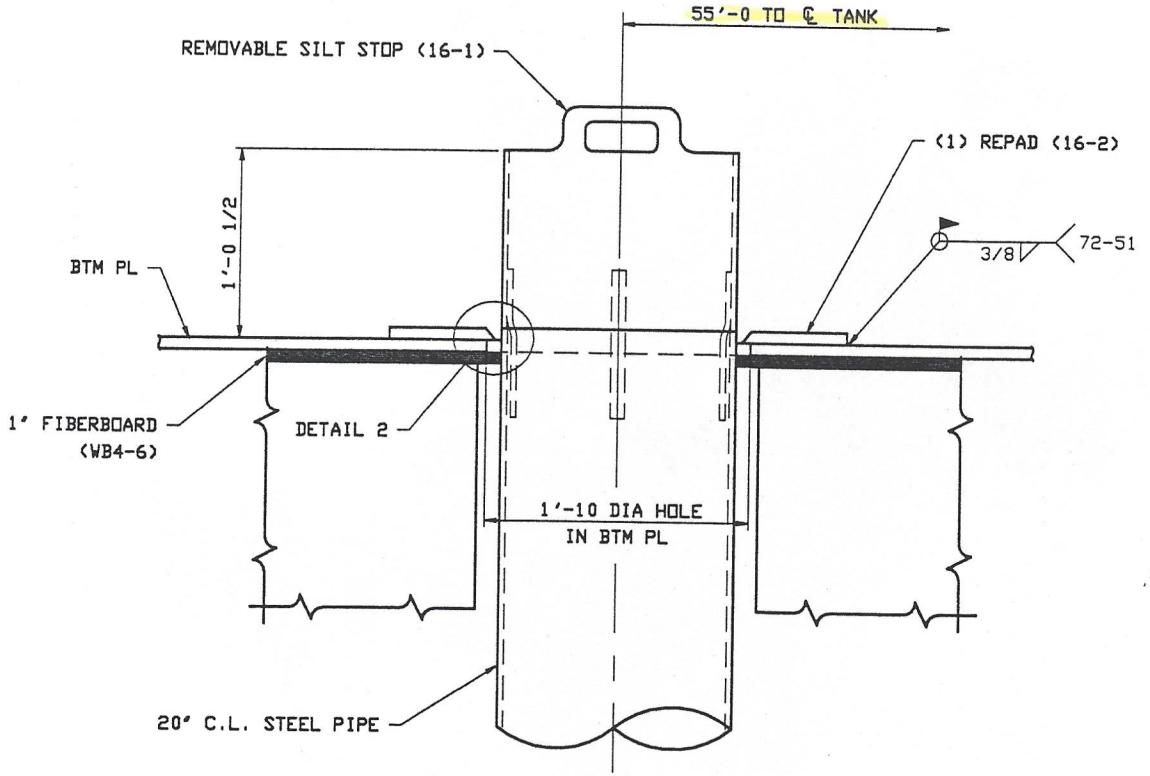
NO	REVISION DESCRIPTION	BY



SECTION A-A



DETAIL 2



DETAIL 1

EL PIPE
BY
OR

OPEN HOLES AS NOTED								PITT-DES MOINES, INC. ENGINEERS – FABRICATORS – CONTRACTORS
ERECTION REF. E1								CITY OF PORTSMOUTH
WELD SPECS. AWWA APP"C"								(1) 114'-0 DIA X 97'-10 FBDR TK
EB= N.A.								PORTSMOUTH, NH

Portsmouth Water Division
700 Islington Street
PORTSMOUTH, NEW HAMPSHIRE 03801

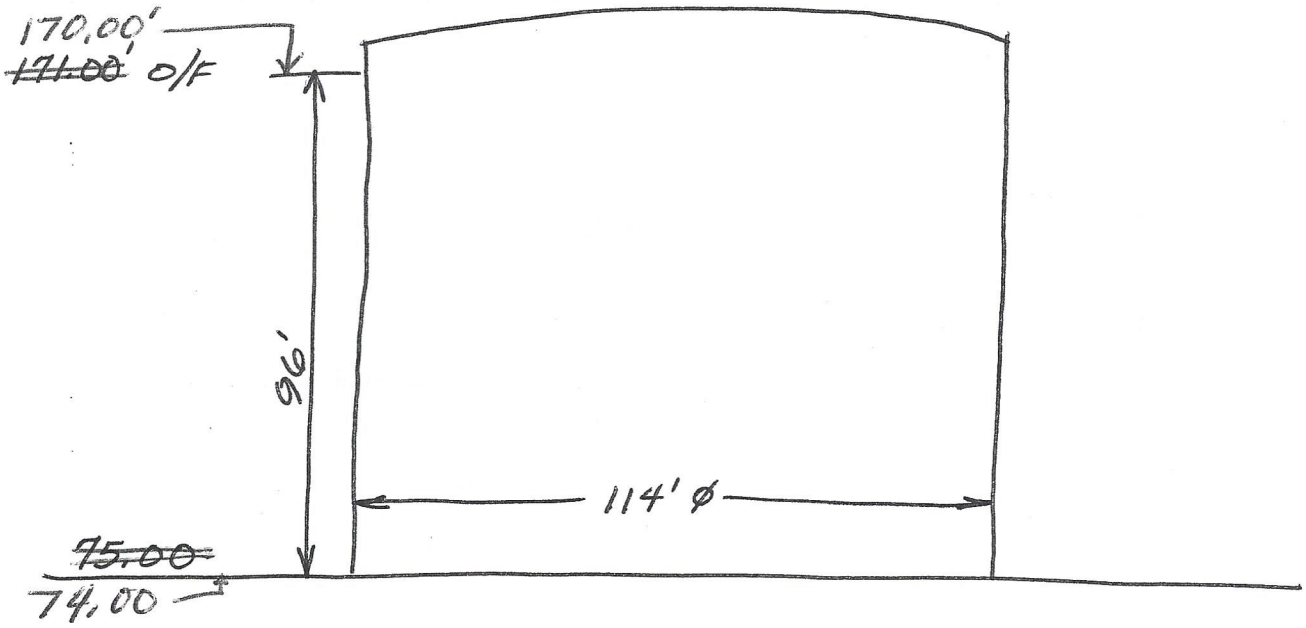
JOB _____

SHEET NO. _____ OF _____

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

SCALE _____



LAFAYETTE RD TANK.

CONSTRUCTED: - 1995

ERECTED BY: PITT DESMOINES

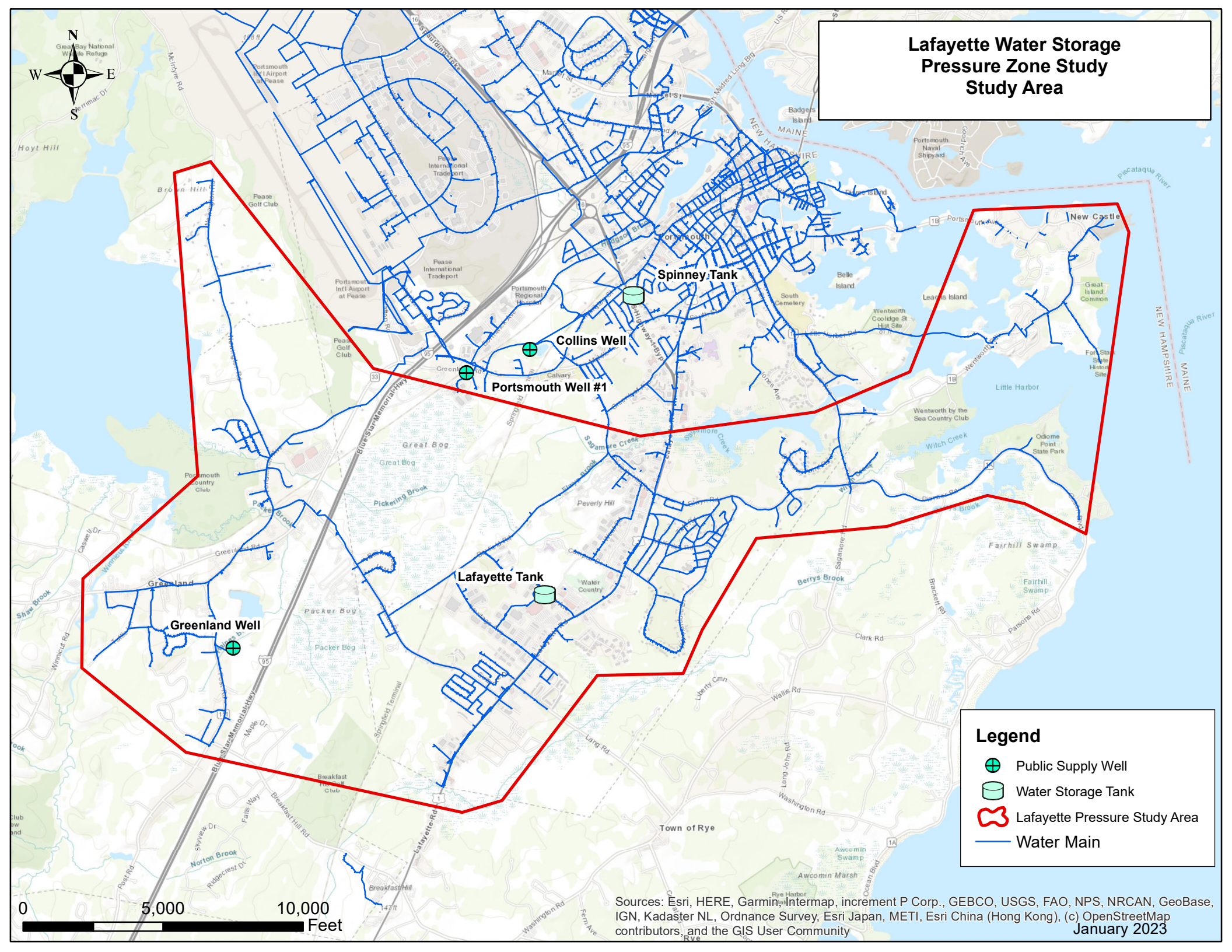
CONSTRUCTION - WELDED STEEL.

CAPACITY = 7,500,000 GAL.

ENGINEER = WHITMAN & HOWARD

ON 9/12/01 - CONC. FOUNDATION ELEVATION ~~CONFIRMED~~ IS 74.00' THROUGH LEVEL LOOP FROM B.M. ON HERITAGE AVE DESIGNATION = INDU

12/18/01


Lafayette Water Storage
Pressure Zone Study
Study Area
Spinney Tank
Collins Well
Portsmouth Well #1
Lafayette Tank
Greenland Well
Legend
Public Supply Well
Water Storage Tank
Lafayette Pressure Study Area
Water Main
0
5,000
10,000
Feet
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
January 2023

Utility Service Co.
INCORPORATED
128 Elm St
Bridgewater, MA 02324
508-279-9965
508-279-9948 Fax

The Lafayette Rd 7.5MG Ground Storage Tank Inspection Report

City of Portsmouth, NH

Prepared For:

Peter Valinski, P.E.
Tighe & Bond, Inc.
53 Southampton Rd
Westfield, MA 01085

Prepared By:

David L. Merithew
Utility Service Co., Inc.
Merithew Service Center

Inspection Performed June 14, 2012

INTRODUCTION

On June 14, 2012 Utility Service Co., Inc. (USCI) conducted a visual inspection of the Lafayette Rd 7.5MG ground storage tank. The purpose of the inspection was to determine the condition of the **coatings** and **structure**, and evaluate the tank for compliance with current **sanitation** guidelines, **safety** & **security** regulations and guidelines in accordance with AWWA, OSHA, and related state and federal agencies. The information contained herein is as accurate as could be obtained by USCI personnel at the time of the inspection. No other assurance or warranty is expressed or implied. We assume no responsibility for any errors or omissions in this report, but will attempt to resolve concerns with the content of this report upon request.

Any estimates or opinions with respect to tank rehabilitation provided by USCI in this report are based on our experience and qualifications as consultants and represent our best judgment as experienced and qualified consultants familiar with the potable water tank construction industry. Since USCI has no control over costs of labor, materials, equipment or services furnished by others or over competitive bidding or market conditions, it cannot guarantee that proposals, bids or actual project costs or construction costs will not vary from any estimates or opinions of costs prepared by USCI.

Since the condition of the storage facility will change over time, the accuracy of the condition of the storage facility described herein will decrease with time. This report can no longer be considered accurate when the date for re-evaluation specified in the recommendations has been reached or after one year if immediate tank remediation is recommended. Once the specified timeframe has elapsed, the storage facility should be re-inspected to determine the current conditions at that time.

SUMMARY

The protective coatings along the exterior and interior surfaces of the subject tank are still providing an acceptable level of protection to their respective surfaces and should continue to do so for at least an additional 5 more years. However, do to the presence of scattered rust tubercles along the interior shell surfaces, consideration should be given to re-inspecting the subject tank early 2015 in order to reassess prevailing conditions and ascertain whether or not there has been any significant furtherance in overall degradation or metal loss along the shell surfaces. During the next inspection consideration should also be given to de-watering the tank in order to remove all existing sediment in order to thoroughly assess the floor surfaces and possibly perform spot maintenance to interior surfaces in order to prevent any furtherance in metal loss of already exposed substrate surfaces as well further extend the service life of the existing coatings.

There are, however, several immediate concerns that should be address so soon as possible in order to ensure the continued sanitary condition of the tank as well as its safety and security.

SANITARY RECOMMENDATIONS

New stainless steel screening should be installed within the finial vent assembly as soon as feasible to do so in order to ensure the continued sanitary condition of the tank.

The stone riprap area in which the overflow pipe discharges to should be excavated so as to increase separation between the end of the pipe and ground level to at least 12".

SAFETY & SECURITY RECOMMENDATIONS

If functionality of the FAA obstruction lighting is required then repairs should be made as soon as feasible to do so. At a minimum, the lights will require new globes and light bulbs however the entire system should be checked for functionality.

Consideration should be given to either installing additional slats in between the existing vertical slats along the bottom two sections of ladder cage and a lockable gate at the opening of the bottom section of ladder cage or removing at least the bottom two sections of cage and installing a hinged, lockable gate which completely encapsulates at least 8' of access ladder in order to prevent unauthorized access.

The estimated cost for the work outlined above would be Four Thousand Seven Hundred ($4,700.00) dollars.

WATER STORAGE TANK INSPECTION REPORT

Date: 6/14/12	Project: 127128	Task: 001.001	
Tank Name: Lafayette Rd Tank			
Location: 113 Constitution Ave	City: Portsmouth	State: NH	
Capacity: 7,500,000 gallons	Tank Type: GST	Construction: Welded Steel	Shell Rings: (12) 8'3"
HWL: 96'	Diameter: 114'	Yr Built: 1995	By: PDM	Contract:
Owner: City of Portsmouth, NH	Contact: Peter Valinski, T&B	Phone: 413-572-3231	PWS ID:
Inspector: Chad Merithew	NACE#: 8874	Standard: AWWA Guidelines	☒ Evaluation ☐ Update

EXTERIOR TANK CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Roof	Coatings? ☐ Poor ☐ Fair ☒ Good	YES	The roof is equipped with a series of (16) rigging couplings all secured with threaded steel plugs. The couplings are in good structural condition, with only minor corrosion of the steel plugs noted. REPAIRS: No immediate repairs to the roof plate surfaces are required.
	Adhesion Test? ☐ Poor ☐ Fair ☒ Good	YES	
	Steel?: ☒Welded ☐Riveted ☐Bolted	YES	
	Actionable corrosion / deterioration?	NO	
	Rigging holes sealed?	YES	
	Other unsealed penetrations present?	NO	
	Is roof perimeter watertight?	YES	
	Paint Type: Acrylic Polyurethane	Lead : 27 mg/Kg	Chromium: 48 mg/Kg / DFT: avg 8.17 mils
	Coatings: The coatings on the exterior roof are in very good condition, with the exception of scattered areas of severe top coat weathering and minor areas of coating delamination to either an intact prime coat or the steel substrate which is currently exhibiting a light to medium grade of rusting with additional areas of weathering and incomplete finish coat application resulting in scattered areas of exposed intermediate and/or primer. Localized areas of corrosion was also noted on the substrate primarily due to cracking or delamination of the coating on isolated areas of the roof plates or more commonly along scattered areas of the weld seams. The total extent of failure to the substrate and subsequent rusting is affecting less than 1% of the entire roof surfaces. The roof plate surfaces and appurtenances are also heavily chalked. Overall, the roof coatings remain in sound condition, with only minor coating touchup required in order to preserve the structural steel. Structural: The roof plates and weld seams remain in sound structural condition, with only minor corrosion and no significant metal loss noted.		
Roof Vent(s)	Design meets state standards?	YES	The existing vent meets basic design requirements with a large overlapping cover to protect the opening from the elements, but the protective screen has been torn away and there is nothing to prevent contamination of the water supply. There is significant coating failure and corrosion visible along the cap support framework beneath the vent shroud. REPAIRS: The vent should be disassembled and a new screen installed around the vent housing as soon as possible.
	Screen intact? Mesh: Fine mesh	NO	
	Actionable corrosion / deterioration?	YES	
	Freeze resistant? Material: Mild Steel	NO	
	Vacuum pallet functional?	NA	
	Is finial stub flanged? Stub OD: 30"	NO	
	Resists: ☐ Birds ☐ Insects ☐ Dust	NO	
Roof Access	At least two hatches to WC present?	YES	The roof is equipped with (2) 30"Ø roof hatches that meet recommended design requirements. There is some coating failure and corrosion present, particular along the secondary hatch assembly. REPAIRS: A lock was installed on the primary roof hatch. The lock on the second roof hatch was heavily corroded and did not open. No additional lock was available therefore it was not removed or replaced.
	Primary meets state standards?	YES	
	Additional meet state standards? No.: 1	YES	
	All roof access points secured?	YES	
	Confirmed padlocks functional?	NO	
	Cell equipment affects roof access?	NO	
Shell	Coatings? ☐ Poor ☐ Fair ☒ Good	YES	The shell coatings were found to be in good condition, with acceptable adhesion at all interfaces. There are (4) 4"×4" grounding tabs welded to the bottom shell ring that are in good condition, but are not in use.
	Adhesion Test? ☐ Poor ☐ Fair ☒ Good	YES	
	Steel?: ☒Welded ☐Riveted ☐Bolted	YES	
	Actionable corrosion / deterioration?	NO	

Utility Service Co., Inc. – Merithew Service Center
128 Elm St, Bridgewater, MA 02324 508-279-9965

	Unsealed penetrations present?	NO	REPAIRS: No repairs required at this time.		
	Logo present?	NO			
	Any leakage observed?	NO			
	Paint Type: Acrylic Polyurethane	Lead : 27 mg/Kg	Chromium: 48 mg/Kg	DFT: avg 6.61 mils	
	Coatings: The shell coatings were found to be in very good condition, with less than 0.5% light to medium corrosion taking place primarily along the lower shell rings. The observed coating degradation is likely due to abrasion damage and not to any inherent failure of the coating performance. There is also some minor coating degradation and surface corrosion evident along the outer edge of the floor plate extension. The lower 8 shell rings are experiencing light to medium soiling and there are areas of overcoat application on the bottom shell ring, likely to cover graffiti. The shell surfaces are also moderately chalked. Structural: The exterior shell and knuckle plates and weld seams are in sound structural condition, with no evidence of extensive corrosion, metal loss or leakage. The cellular antennas and cable trays secured the shell surfaces have had no significant effect on the tank structure.				
Shell Access	At least two manholes present?	YES	The shell is equipped with (3) 24"Ø shell manholes each secured with perimeter retention bolts that are further protected with bolted security shrouds. The security shrouds are each secured with bolts at the top and bottom of the two-part assemblies. The manholes all appear to be in sound condition, with no leakage evident. REPAIRS: No repairs are required.		
	Primary meets state standards?	YES			
	Additional meet state standards? No.: 2	YES			
	Structural damage / leakage visible?	NO			
	Secondary manhole security present?	YES			
	Cell equipment affects shell access?	NO			
Overflow	Type: Full Meets state standard?	YES	The overflow pipe extends from the roof perimeter weir box to ground level where it passes into a flange assembly connecting it to a ductile iron pipe that extends below ground at the tank perimeter. The pipe extends to the site perimeter where it discharges at ground level into a stone riprap area. The discharge opening is screened. REPAIRS: The overflow pipe discharge should be raised 12"-24" above ground level in accordance with AWWA recommendations.		
	Weir box sealed/secured? External	YES			
	Actionable corrosion / deterioration?	NO			
	Unsealed penetrations? Pipe OD: 20"	NO			
	Outlet at 12"-24" above grade?	NO			
	☒ Screen ☐ Flapper meet standards?	YES			
	Screen intact? Mesh: Wide mesh	YES			
	Is screen/flapper accessible for repair?	YES			
	☐Drain/Basin ☒Riprap ☐Splash pad	YES			
Foundation	Foundation? Type: Concrete Ringwall	YES	The concrete ringwall was found to be in very good condition, with only minor weathering of the top face resulting in exposure of large aggregate. There is some soiling of the grout at the floor plate to foundation junction, but it remains largely intact with only one small, isolated area of failure of both the elastomeric sealer as well as the cement grout located in behind the sealer. REPAIRS: No repairs required at this time.		
	Anchor bolts present? No.:	NO			
	Actionable corrosion / deterioration?	NA			
	Undermining of foundation noted?	NO			
	Asphalt or stone apron present?	YES			
	Does grade promote good site drainage?	YES			
	Encroachment of vegetation?	NO			

INTERIOR TANK CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS		
Int. Roof	Raised? Type: Self-supporting Dome	YES	The roof plates as well as the roof support structure appear to be in sound structural condition with no metal loss observed from either the roof hatch or the ROV. In addition all roof lap seams as well as the junctions of the roof plates to the support rafters appear to be seal welded. REPAIRS: No repairs required at this time		
	Coatings? ☐ Poor ☐ Fair ☒ Good	YES			
	Actionable corrosion / deterioration?	NO			
	Light leaks visible from interior?	NO			
	Roof to shell junction sealed?	YES			
	Rafters: Type: L-angle No:50		Compression: Type: C-channel w/ x-bracing No:1		
	Paint Type: Epoxy	Lead : 110 mg/Kg	Chromium: 27 mg/Kg	DFT: avg 11.35 mils	
	Coatings: The majority of the roof plate surfaces were found to be in good condition, with light to medium rusting present and affecting less than 1% of the inner roof plate weld seams and rafter junctions. The remaining coatings along the roof plates also appeared to be exhibiting sound adhesion at all interfaces with no evidence of any blistering or delamination taking place. The roof support rafters are experiencing localized areas of cracked coatings, delamination and light to medium surface corrosion along as much as 3-5% of the surfaces with light rust staining				

	emanating down the ends of the rafters and onto the adjacent shell surfaces. The majority of this breakdown was observed along the top face of the lower rafter flange along the outer ends of the visible rafters as well as the welded junctions with the shell. Structural: All interior face of all roof plate lap seams appear to be seal welded. The roof rafters also appear to be seal welded to the interior face of the roof plates. The roof plate surfaces, rafters and compression ring all appear to be structurally sound, with only surface corrosion and no significant metal loss noted at least as observed from the roof hatch and the ROV.			
Int. Shell & Floor	Coatings? ☐ Poor ☐ Fair ☒ Good	YES	The shell surfaces appear to be in sound structural condition with no significant metal loss observed. The bottom shell ring is equipped with a circulation and/or chlorine injection line consisting of what appears to be 2" dia. PVC piping extending up out of the inlet/outlet line then traveling horizontally along the interior peripheral of the bottom shell ring. The pipe is bolted in place by means of U-bolts attached to L-angle clips welded to the shell interior. The piping is equipped with a series of nozzles equally spaced along the length of the pipe. The referenced assembly appears to be intact however functionality could not be confirmed. REPAIRS: No repairs appeared to be required	
	Actionable corrosion / deterioration?	YES		
	Cathodics? Type:	NO		
	Mixing System? Type:	NO		
	Water Quality Good? Turbidity Light	YES		
	Staining present? Degree Moderate	YES		
	Floor sediment visible? 1± inches	YES		
	Is the tank equipped with a floor drain?	YES		
	Is a silt stop present? Removable	YES		
	Paint Type: Epoxy	Lead : 110 mg/Kg	Chromium: 27 mg/Kg	DFT: NR mils
	Coatings: The interior shell surfaces were in generally very good condition, with the majority of all surfaces adequately protected by the existing paint system. Isolated areas of large blistering was observed along the mid and lower shell rings indicating reduced coating adhesion along these surfaces. A subset of the blisters in these localized areas has ruptured resulting in exposure of the substrate and small to medium sized rust tubercle formation along the plate surfaces. In some cases, the degree of corrosion does suggest at least minor metal loss has occurred. Overall, this condition affects less than 5% of the shell surfaces as well as 10% of the L-brackets brackets which support the circulation line. In addition to the areas of observed blistering, there were also scattered areas of pinpoint corrosion and rust tubercle formations, primarily along weld seams. This condition appeared to be the result of voids in the applied coating system rather than adhesion failure of the paint system and is occurring along less than 5% of the shell plate weld seams. The floor surfaces are covered with as much as 1" of sediment which obscured visual assessment of these surfaces. However there was no evidence of any rust tubercles protruding up through the silt layer or other disturbances which would suggest any significant coating failure of corrosive activity was taking place. There was however evidence of light to medium rusting as well as a few isolated areas of small to medium size rust tubercles taking place along less than 1% of the shell to floor corner weld. Structural: Overall, the interior shell plate surfaces and weld seams appear to be in good condition, with the vast majority of all surfaces showing no signs of metal fatigue. While relatively minor in total area, the areas of observed corrosion and rust tubercle formations along the interior shell likely represent at least minor metal loss along the associated surfaces that could result in significant pitting of the weld seams if left unchecked for any significant period of time.			

TANK SAFETY CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Roof	Is there a roof ladder / stair present?	YES	The roof is equipped with a stairway extending from a roof perimeter platform to the center roof area. The stair is equipped with safety handrails along both sides. REPAIRS: The FAA lights on the roof did not have any bulbs or globes installed. Repairs are needed if functionality is required.
	Is there a guardrail system present?	YES	
	Safety climb system?	NA	
	Are the roof FAA lights operational?	NO	
Exterior Access	Ladder(s) have continuous stretch >20ft?	NO	The alternating shell access ladders are stainless steel, however the ladder cage and the four transition platforms are made from mild steel. Each ladder section is less than 24' in length and therefore do not require safety climb systems. All surfaces were found to be structurally sound, with less than 1% light to medium corrosion observed along components of the platforms and handrail surfaces. REPAIRS: The base of the shell ladder should be equipped with a security gate to limit access to the upper tank surfaces.
	Safety climb system?	NO	
	Is ladder equipped with a cage?	YES	
	Are there rest platforms present?	YES	
	Actionable corrosion / deterioration?	NO	
	Is ladder equipped with a security gate?	NO	
	Does ladder terminate ≥12' above grade?	YES	

Interior Access	Ladder(s) have continuous stretch >20ft?	NA	The interior water chamber is not equipped with an access ladder. REPAIRS:
	Safety climb system?	NA	
	Is ladder equipped with a cage?	NA	
	Actionable corrosion / deterioration?	NA	
	Pilasters / ornamental structure present?	NA	

SITE CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Tank	Any signs of vandalism / forced entry?	NO	Tank security appears to be very good, with no evidence of recent unauthorized access. Portions of the bottom shell ring however have been over coated in the past to cover graffiti. REPAIRS:
	Is there any graffiti paint or etchings?	NO	
	Is there any stone damage present?	NO	
	Signs of unauthorized access to the roof?	NO	
Perimeter Security	Is site equipped with a security fence?	YES	The site security fence appears to be in good condition, but is partially extending into the tree line which may allow it to be circumvented by unauthorized personnel. REPAIRS:
	Any signs of damage to the fence?	NO	
	Gates secured with functional locks?	YES	
	Are any intrusion alarms operational?	NO	
Valve Vault/ Pump House	Tank equipped with vault / pump house?	NO	The tank site does not have a pump house or valve vault. REPAIRS:
	Is the vault / pump house secured?	NA	
	Pipe Coatings? ☐Poor ☐Fair ☐Good	NA	
	Is valve pit free of standing water?	NA	

OPERATOR SURVEY: Operator onsite? ☒ Name: Patrick Crimmins *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Sample Tap	Sample tap functional? Shell Box	YES	The sample tap is located within an insulated utility box mounted to the tank shell. REPAIRS:
	Acceptable design? Other Acceptable	YES	
	Chlorine injection system present?	NR	
	Sample tap upstream of injection system?	NA	
Tank History	Sanitary inspection in previous year?	NR	
	AWWA inspection in past 5 years?	NR	
	Recent tank maintenance? Year:	NR	
	Recent permit required modifications?	NR	
Site	Within 50' of a sewer / storm drain?	NO	
	Tank valves regularly exercised?	NO	
	☒ SCADA ☐ Cathodic monitoring?	YES	

TANK DISINFECTION: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Tank	Chlorine residual known? ppm	NO	No tank disinfection was performed in conjunction with the inspection. The ROV and thether cord were disinfected prior to entering the tank.
	Chlorine added? Amount: gallons	NO	

Utility Service Co., Inc. – Merithew Service Center
128 Elm St, Bridgewater, MA 02324 508-279-9965

NH-Portsmouth Lafayette Rd 7.5MG GST 06.14.12 DFT

Readings - Interior Roof

Reading	Time & Date	Coat 1 (mil)
1	12:28:52 PM 6/14/2012	11.4
2	12:28:54 PM 6/14/2012	13.5
3	12:28:56 PM 6/14/2012	13.3
4	12:28:58 PM 6/14/2012	14.7
5	12:29:01 PM 6/14/2012	10.8
6	12:29:04 PM 6/14/2012	12.1
7	12:29:06 PM 6/14/2012	8.8
8	12:29:09 PM 6/14/2012	9.9
9	12:29:11 PM 6/14/2012	7.7
10	12:29:13 PM 6/14/2012	11.2
11	12:29:15 PM 6/14/2012	13.6
12	12:29:18 PM 6/14/2012	10.3
13	12:29:20 PM 6/14/2012	10.5
14	12:29:30 PM 6/14/2012	15.7
15	12:29:35 PM 6/14/2012	6.7

Summary - Interior Roof

Reading	Time & Date	Coat 1 (mil)
Max		15.70
Min		6.70
Mean		11.35
StdDev.		2.53

Annotations - Interior Roof

Gage Model: 6000FS3
Gage S/N: 65311
Probe Model: FS
Probe S/N: 43279
User:
Part:
Substrate:

NH-Portsmouth Lafayette Rd 7.5MG GST 06.14.12 DFT

Readings - Exterior Roof

Reading	Time & Date	Coat 1 (mil)
1	12:38:04 PM 6/14/2012	6.4
2	12:38:06 PM 6/14/2012	5.0
3	12:38:08 PM 6/14/2012	10.7
4	12:38:11 PM 6/14/2012	6.4
5	12:38:13 PM 6/14/2012	10.2
6	12:38:15 PM 6/14/2012	8.7
7	12:38:17 PM 6/14/2012	10.1
8	12:38:20 PM 6/14/2012	7.8
9	12:38:22 PM 6/14/2012	6.3
10	12:38:24 PM 6/14/2012	5.1
11	12:38:26 PM 6/14/2012	8.3
12	12:38:28 PM 6/14/2012	7.8
13	12:38:30 PM 6/14/2012	9.2
14	12:38:32 PM 6/14/2012	10.4
15	12:38:35 PM 6/14/2012	10.2

Summary - Exterior Roof

Reading	Time & Date	Coat 1 (mil)
Max		10.70
Min		5.00
Mean		8.17
StdDev.		1.97

Annotations - Exterior Roof

Gage Model: 6000FS3
Gage S/N: 65311
Probe Model: FS
Probe S/N: 43279
User:
Part:
Substrate:

NH-Portsmouth Lafayette Rd 7.5MG GST 06.14.12 DFT

Readings - Exterior Shell

Reading	Time & Date	Coat 1 (mil)
1	2:25:13 PM 6/14/2012	6.6
2	2:25:16 PM 6/14/2012	6.4
3	2:25:18 PM 6/14/2012	7.2
4	2:25:21 PM 6/14/2012	8.1
5	2:25:23 PM 6/14/2012	6.2
6	2:25:25 PM 6/14/2012	5.0
7	2:25:29 PM 6/14/2012	7.4
8	2:25:31 PM 6/14/2012	5.0
9	2:25:33 PM 6/14/2012	6.4
10	2:25:36 PM 6/14/2012	7.3
11	2:25:39 PM 6/14/2012	7.1
12	2:25:46 PM 6/14/2012	6.4
13	2:25:48 PM 6/14/2012	7.1
14	2:25:50 PM 6/14/2012	5.9
15	2:25:53 PM 6/14/2012	7.0

Summary - Exterior Shell

Reading	Time & Date	Coat 1 (mil)
Max		8.10
Min		5.00
Mean		6.61
StdDev.		0.86

Annotations - Exterior Shell

Gage Model: 6000FS3
Gage S/N: 65311
Probe Model: FS
Probe S/N: 43279
User:
Part:
Substrate:

Eastern Analytical, Inc.

professional laboratory & drilling services

Regina Arthur
Utility Service Co., Inc.
PO Box 1350
Perry , GA 31069-1330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 111516
Client Identification: Lafayette Tank
Date Received: 6/22/2012

Dear Ms. Arthur :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw — 6.26.12 — 3

Lorraine Olashaw, Lab Director | Date | # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **111516**

Client: **Utility Service Co., Inc.**

Client Designation: **Lafayette Tank**

Temperature upon receipt (°C): 23.5 **Received on ice or cold packs (Yes/No): N**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
111516.01	SBK 27101 Interior	6/22/12	6/15/12	solid		Adheres to Sample Acceptance Policy
111516.02	SBK 27101 Exterior	6/22/12	6/15/12	solid		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **111516**

Client: **Utility Service Co., Inc.**

Client Designation: **Lafayette Tank**

Sample ID:	SBK 27101 Interior	SBK 27101 Exterior
Lab Sample ID:	111516.01	111516.02
Matrix:	solid	solid
Date Sampled:	6/15/12	6/15/12
Date Received:	6/22/12	6/22/12
Chromium	**27**	**48**
Lead	**110**	**27**

Analytical Matrix	**Units**	**Date of Analysis**	**Method**	**Analyst**
SolAsRec	mg/kg	6/25/12	6020	DS
SolAsRec	mg/kg	6/25/12	6020	DS

111516

UTILITY SERVICE
CHAIN - OF - CUSTODY RECORD

TYPE SAMPLE: PAINT CHIPS (PAINT CHIPS, SPENT ABRASIVE, SOIL) STATE: NH

1. TANK INFO:	Lafayette Tank 7.5MG GST	2. CUSTOMER / LOCATION:	City of Portsmouth, NH
3. NAME OF SAMPLER:	Scott B Kelley EMPLOYEE DEPT #: 864	4. SIGNATURE: Scott B. Kelley	5. DATE: 06/21/12
6. RETURN ADDRESS:	UTILITY SERVICE CO., INC. ATTN: REGINA ARTHUR / LARA ANDERSON P O BOX 1350 PERRY, GA 31069	**RETURN COPY OF THIS RECORD WITH RESULTS**	

7. SAMPLE NO.		8. SAMPLE REMOVAL DATA			9. ANALYSIS REQUESTED	
		DATE	TIME	SPECIFIC LOCATION	LEAD	OTHER (ARSENIC, CADMIUM, CHRONIUM)
SBK 27101	INTERIOR	06/15/12	13:30:00 PM	ROOF	X	Chromium
SBK 27101	EXTERIOR	06/15/12	11:30 AM	ROOF	X	Chromium
SBK 27101	ADDT'L	06/15/12	N/A	SBK 6/21/12 N/A	X	Chromium

10. SAMPLES RELINQUISHED BY:			11. SAMPLES RECEIVED BY:		
NAME	Date	Time	NAME	DATE	TIME
Scott B Kelley Scott B. Kelley	06/21/12	5:33 PM	Kathleen Norian Kelley		
Kathleen Norian Kelley	06.22.12	0940			

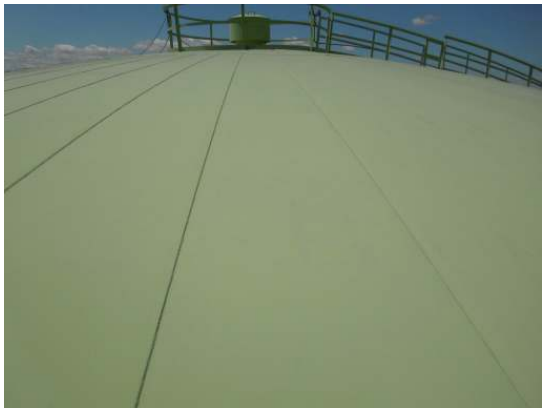
UTILITY SERVICE COMPANY INC.
WATER TANK MAINTENANCE

rarthur@utilityservice.com REGINA ARTHUR (478) 988-5234
laraanderson@utilityservice.com LARA ANDERSON (478) 988-5274
FAX: (478) 987-2991

235 no ice

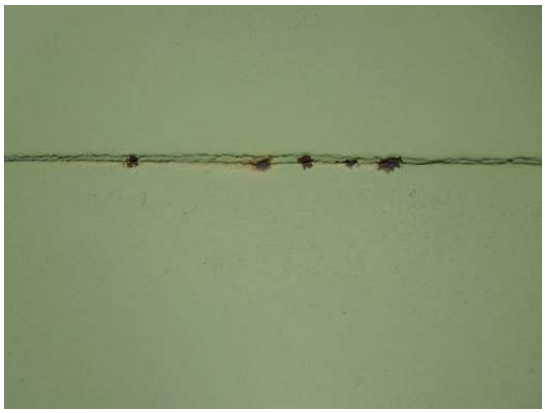
Lafayette Rd 7.5MG GST Portsmouth, NH
Inspection performed on June 14, 2012


Overall view of tank exterior


The majority of the roof coating is in sound condition with little degradation observed


The exterior roof coating is weathered but exhibits little corrosion


Shows scattered areas of exposed prime coat due to severe weathering of the top coats on the roof plates


Localized areas of medium grade corrosion is present along several roof plate weld seams


Shows a localized medium grade rust spot on center roof plate within the handrails

Lafayette Rd 7.5MG GST Portsmouth, NH
Inspection performed on June 14, 2012

Shows the coatings on the finial vent cap are in good condition and there is evidence of old graffiti

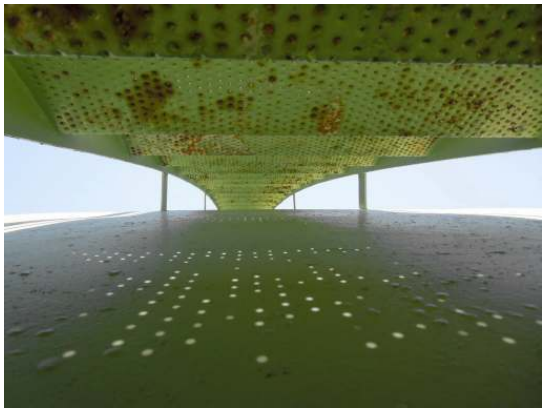
Shows medium to heavy grade rust on the vent framework and the screen is not covering the opening

The FAA light bulbs and globes are missing and the functionality is in question

Tha majority of the coatings on the roof handrail system is in sound condition

Shows areas of rust bleed through where the handrail coatings are heavily weathered

The majority of the coatings on the stair and handrail system are in good condition



The coatings on the underside of the roof stair treads are exhibiting extensive rust formation along the edges of the punched holes

The majority of the coatings on the platform and handrails along the outer edge of the roof are in good condition

Shows localized area of corrosion on the handrail surfaces adjacent to the shell ladder

SCADA and whip antennas and associated coax cables are attached to the upper platform handrails

The primary roof hatch is enclosed with a handrail assembly for safety while accessing the tank interior

The coatings on the interior faces of the primary roof hatch are in generally good condition

The roof hatch covers are equipped with spring hinges

Shows areas of degraded coating on the secondary roof hatch neck exposing medium to heavy grade rust

There is light rust located on the rigging coupling plugs

The outer edge of the roof is collecting dirt and there is minor light rust on the outer edge of the lip extension

Shows a localized area of rust on the underside of the roof overhang

The majority of all shell surfaces are in very good condition with little coating degradation noted

The majority of all shell surfaces are soiled and covered with algae growth

Shows little if any coating degradation occurring along the shell plates

The lowe rshell surfaces are exhibiting the greatest degree of soiling and algae growth

There is evidence of overcoat application on the bottom shell ring most likely to cover graffiti markings

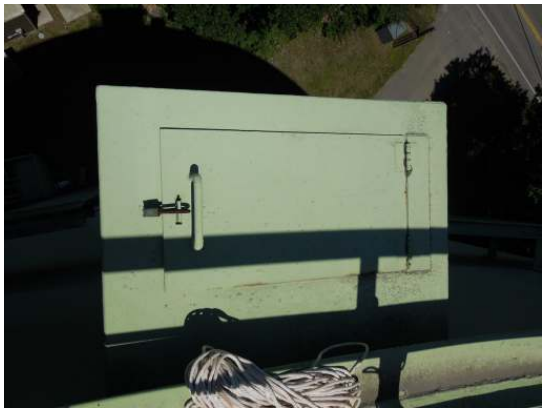
Cross hatch adhesion testing on the bottom shell ring did not reveal any adhesion issues at that location

There is a series of unused ground lugs welded to the bottom shell ring which are showing medium to heavy rust formation where the coating is damaged

Shows medium to heavy grade surface rust along the floor plate extension

The majority of the grout between the foundation and floor plate extension is in sound condition

The top of the foundation is weathered to the point that the stone aggregate is exposed



The weir box is secured with a hinged cover and lock

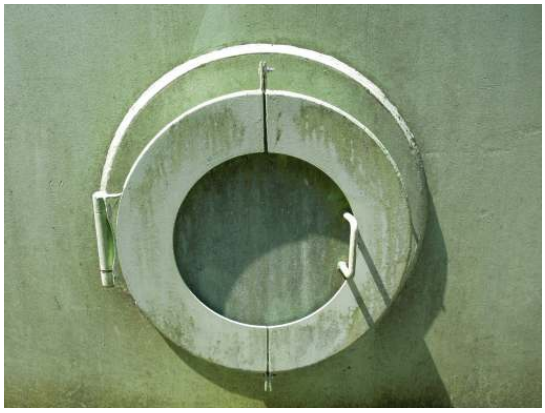
The exterior face of the weir box is soiled but does not exhibit any significant coating degradation

Coax cables are attached to the overflow pipe do not appear to have damaged the coating in any way

Lafayette Rd 7.5MG GST Portsmouth, NH
Inspection performed on June 14, 2012

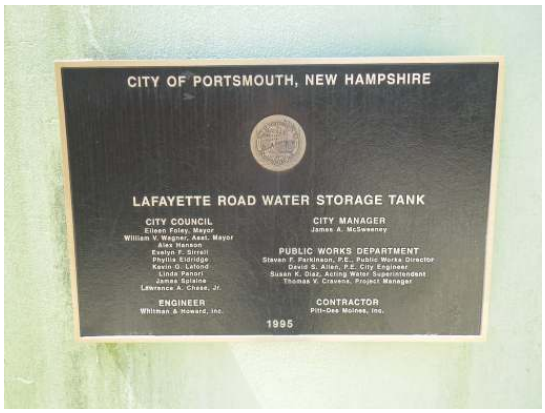
The overflow pipe is connected to underground piping which travels below grade before exiting at ground level

Shows an intact screen present on the underground portion of the overflow pipe where it exits the ground



The shell manhole assemblies are equipped with secondary securing shrouds covering the perimeter bolts

The coatings on the shell hatch assemblies appears to be in good condition with little degradation noted



There is an ID plate attached to the tank

The tank is equipped with a series of offset ladders and platforms which appear to be in good condition

The shell ladders are uncoated stainless steel but the cage and platforms are painted mild which are in good condition

Shows miscellaneous conduits and coax cables behind the shell ladder at the top of the tank

The coatings on the underside of the ladder platforms are in sound condition with little degradation observed

The shell ladder terminates approximately 10' above grade and is not equipped with a security gate

The telemetry box attached to the bottom shell ring appears to be in good condition

Shows miscellaneous equipment within the telemetry box

There is an asphalt drive around the perimeter of the tank

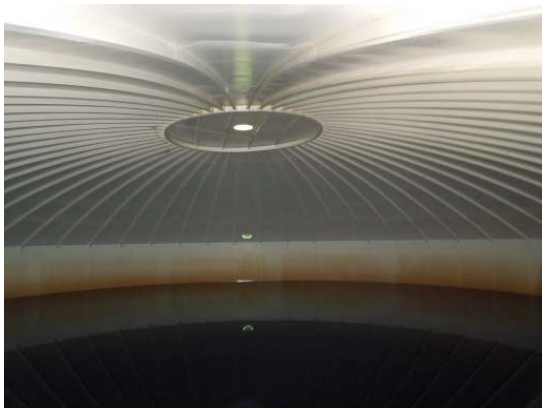
There is a series of cellular antennae and coax cable trays attached to the tank exterior

The antenna mounts are secured to the tank by stud welded bolts.

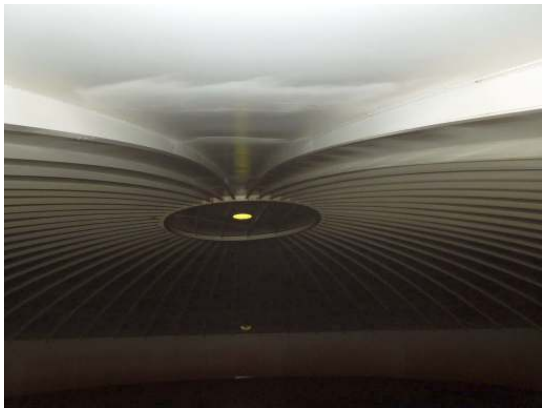
The coatings on the horizontal portion of the enclosed cable trays is delaminating exposing the underlying bright metal surface

The majority of the overflow pipe is covered with coax cables and mounting brackets

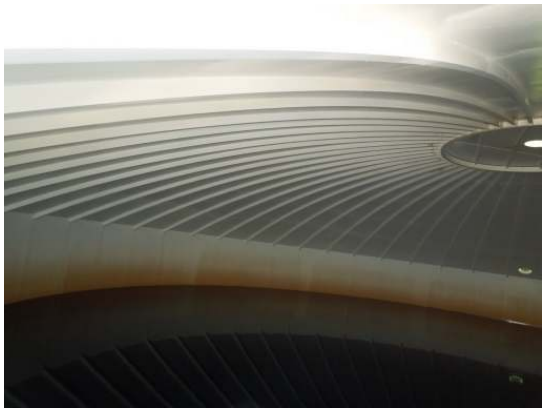
Shows bundles of coax cables prior to entering an underground conduit



The majority of the coatings on the underside of the roof are in good condition except for the center section exhibiting scattered light rust formation



No significant coating degradation was observed on the interior roof surfaces



Shows the majority of the roof coatings are in good condition with little degradation taking place

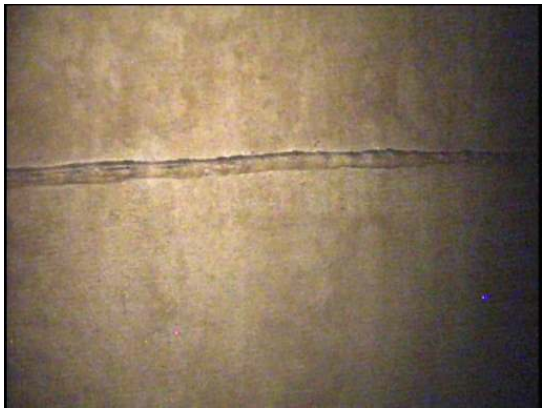
The shell surfaces above water level are stained from deposits in the water supply

Corrosion along the ends of the rafters is staining the adjacent shell surfaces

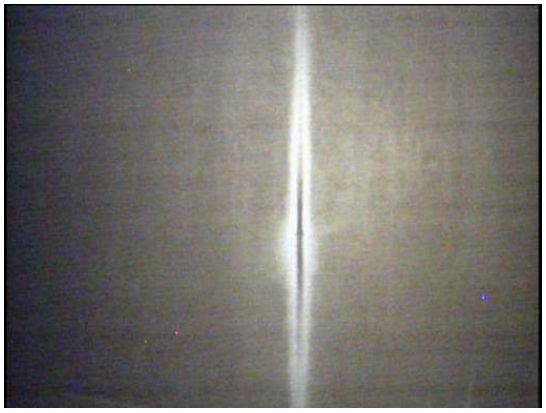
Shows scattered areas of corrosion on the ends of the rafters where welded to the shell

Coating degradation on the ends of the rafters has resulted in medium to heavy rust formation adjacent to the shell plate

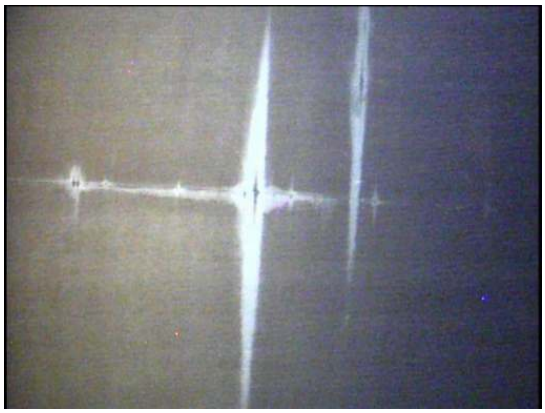
The coating on the interior faces of the weir box is in only fair to poor condition with extensive degradation noted



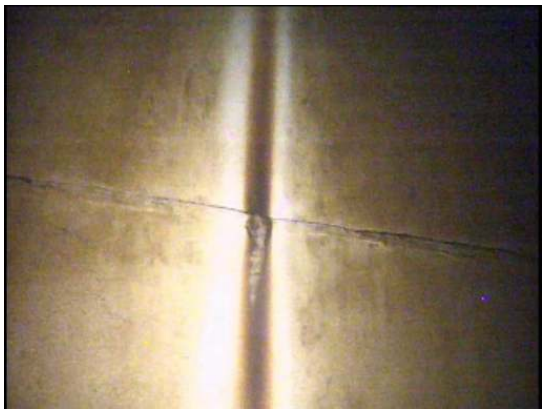
Interior shell coatings below water level are stained but exhibit little degradation



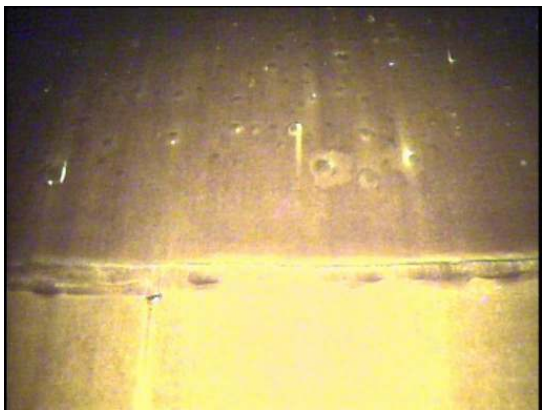
Shows an isolated area of rust and small tubercle formation on the shell surfaces below water



Shows scattered areas of rust and small tubercle formations on the shell surfaces below water



Shows an isolated area of rust and small tubercle formation on the shell surfaces below water



Shows an area of blistering on the shell surfaces below water

Shows an area of unbroken blistering on the shell surfaces

The majority of the coating below water level is in good condition

There are localized areas of corrosion on the weld seams below water level

Shows a small cluster of broken blisters exposing light to medium rust on the exposed substrate

Shows areas of blistering and corrosion on the shell plates adjacent to the floor

Shows one of two shell manhole assemblies exhibiting staining as well as areas of corrosion

Shows corrosion along the neck portion of one of the shell manhole assemblies

Shows what appears to be PVC piping attached to brackets adjacent to one of the shell manhole assemblies

There is PVC tubing and a series of nozzles attached to the bottom shell ring

The PVC tubing is attached to brackets on the interior bottom shell ring with stainless steel u-bolts

There is corrosion on the underside of the PVC support brackets

A paint brush has been left inside the tank after past maintenance operations

The floor is covered with a uniform layer of silt estimated to be approximately 1-2 inches deep

The rigging lug on the floor appears to be intact but there is evidence of heavy corrosion along the center hole

The coatings on the fill pipe silt trap and adjacent floor surfaces are stained

There is a PVC tube entering the side of the silt trap which then travels down the fill pipe

There is a PVC tube entering the side of the silt trap which then travels down the fill pipe

Utility Service Company Inc
Scott Kelley
24 Fellows Rd
Brentwood, NH 03833
Mob: (603) 724-8226
Fax: (478) 987-2991
SKelley@utilityservice.com

Lafayette Rd Tank
7,500,000 Gallon Ground Storage Tank
Inspection Report

City of Portsmouth, NH

Prepared For:
Portsmouth Public Works
680 Peverly Hill Rd
Portsmouth, NH 0380

Inspection Performed July 20, 2018

TANK DATA

TANK NAME:	Lafayette Rd Tank				
TANK DESIGN:	Ground Storage	**CONSTRUCTION TYPE:**		Welded Steel	
LOCATION:	Constitution Ave				
	CITY:	Portsmouth		**STATE:**	NH
CAPACITY:	7,500,000 gallons	**HEIGHT:**	96‘	**DIAMETER:**	114‘
BUILDER:	PDM	**YEAR:**	1995	**CONTRACT #**	
EXT. COATING:	Acrylic Polyurethane	**LEAD:**	27 mg/kg	**CHROMIUM:**	48 mg/kg
INT. COATING:	Epoxy	**LEAD:**	110 mg/kg	**CHROMIUM:**	27 mg/kg
INSPECTOR(S):	MA Service Center		**DATE:**	July 20, 2018	

SUMMARY

The overall structural and sanitary condition of the subject tank is in very good condition with no remedial work required at this time. The protective coatings along the exterior and interior surfaces of the subject tank continue to provide an acceptable level of protection to their respective surfaces, and based on the rate of degradation since the last inspection of 2012, should continue to do so for at least an additional 5 more years. However, due to the slight furtherance in metal loss observed along scattered rust tubercles along the interior shell surfaces, consideration should be given to re-inspecting the subject tank early 2021 to reassess prevailing conditions and ascertain whether or not there has been any significant furtherance in metal loss along the shell surfaces. At that time, it is anticipated that a maintenance schedule for the interior surfaces of the tank should be established.

SANITARY RECOMMENDATIONS

The stone riprap area in which the overflow pipe discharges to should be excavated so as to increase separation between the end of the pipe and ground level to at least 12".

SAFETY & SECURITY RECOMMENDATIONS

If functionality of the FAA obstruction lighting is required, then repairs should be made as soon as feasible to do so. At a minimum, the lights will require new globes and light bulbs, however the entire system should be checked for functionality.

WATER STORAGE TANK INSPECTION REPORT

Date: 7/20/18	Project: 139341	Task: 1.01		
Tank Name: Lafayette Rd Tank				
Location: 113 Contitution Ave	City: Portsmouth	State: NH		
Capacity: 7,500,000 gallons	Tank Type: GST	Construction: Welded Steel		Shell Rings: 12
HWL: 96'	Diameter: 114'	Yr Built: 1995	By: PDM	Contract: NR
Owner: City of Portsmouth	Contact: Brian Goetz	Phone: 603-427-1530		PWS ID: NR
Inspector: Geoffrey Hall	NACE#: 27243	Standard: AWWA Guidelines	☒ Evaluation ☐ Update	

EXTERIOR TANK CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Roof	Coatings? ☐ Poor ☐ Fair ☒ Good	YES	The roof was found to be in sound structural and sanitary condition with no aggressive corrosion, metal loss, or unsealed penetrations evident. The roof is equipped with (16) rigging couplings which were also found to be intact and adequately sealed with threaded steel plugs. Most cell antennas are attached to the center roof corral with a few additional antennas at the top of the ladder. REPAIRS: No repairs required at this time.
	Adhesion Test? ☐ Poor ☐ Fair ☒ Good	YES	
	Steel?: ☒Welded ☐Riveted ☐Bolted	YES	
	Actionable corrosion / deterioration?	NO	
	Rigging holes sealed?	YES	
	Other unsealed penetrations present?	NO	
	Is roof perimeter watertight?	YES	
	Paint Type: Acrylic Polyurethane	Lead : 27 mg/Kg	Chromium: 48 mg/Kg — DFT: NR mils
	Coatings: The coatings on the exterior roof plates and appurtenances are still in very good condition with at least 98% of the coatings still intact and providing sound protection to the underlying steel surfaces. The remaining surfaces are exhibiting scattered areas of severe top coat weathering and minor areas of coating delamination, both resulting in the exposure of intact primer and/or the steel substrate which is currently exhibiting a medium to heavy grade of rusting. There are also additional areas of weathering and incomplete finish coat application resulting in scattered areas of exposed intermediate and/or primer. This degradation and rusting was reported during our last inspection of 2012 and has not significantly progressed since then. The coatings along the roof plate surfaces and appurtenances were also noted to be heavily chalked. There is a significant amount of painted graffiti along the roof surfaces which was not present during our last inspection. This graffiti has not been detremental to the underlying coatings, although its presence does indicate that there has been unauthorized access to the roof of the tank. Overall, the roof coatings still remain in sound condition, with only minor coating touchup required in order to preserve the integrity of the coatings and the underlying steel. The lead and chromium results are from previous testing performed during our last inspection of 2012. No additional coating application has been performed along the exterior of the tank. Structural: The overall structural integrity of the roof plate surfaces appears to be very good with no measureable metal loss or any other visible deficiencies currently taking place.		
Roof Vent(s)	Design meets state standards?	YES	The roof is equipped with a center finial vent assembly consisting of a 30" Ø center stub welded directly to the roof with the venting area completely shrouded by a removeable vent cap. The center stub is additionally secured with a galvanized wide mesh type screen with 0.25" openings. The referenced screening is intact and adequately secured in place by banding straps. REPAIRS: The upper framework of the vent opening requires cleaning and recoating to preserve steel integrity.
	Screen intact? Mesh: Wide mesh	YES	
	Actionable corrosion / deterioration?	YES	
	Freeze resistant? Material: Mild Steel	NO	
	Vacuum pallet functional?	NA	
	Is finial stub flanged? Stub OD: 30"	NO	
	Resists: ☒ Birds ☐ Insects ☐ Dust	YES	
Roof Access	At least two hatches to WC present?	YES	The roof is equipped with (2) 30"Ø roof hatches that meet recommended design requirements and are both intact and in good structural and sanitary condition. There is some coating failure and corrosion present, particular along the primary hatch assembly, however this rusting is minor and has not resulted in any measureable metal loss.
	Primary meets state standards?	YES	
	Additional meet state standards? No.: 1	YES	
	All roof access points secured?	YES	
	Confirmed padlocks functional?	NO	
	Cell equipment affects roof access?	NO	

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			REPAIRS: The lock on the second roof hatch was heavily corroded and did not open, though it was not removed or replaced at this time.
Shell	Coatings? ☐ Poor ☐ Fair ☒ Good	YES	The overall structural and sanitary condition of the tank shell appears to be very good with no aggressive corrosion, metal loss, open penetrations, or leaks evident. It appears the previous antennas around the top ring have been eliminated, most cell antennas are now attached to the center roof perimeter handrail assembly. REPAIRS: No repairs are required at this time.
	Adhesion Test? ☐ Poor ☐ Fair ☒ Good	YES	
	Steel?: ☒Welded ☐Riveted ☐Bolted	YES	
	Actionable corrosion / deterioration?	NO	
	Unsealed penetrations present?	NO	
	Logo present?	NO	
	Any leakage observed?	NO	
	Paint Type: Acrylic Polyurethane	Lead : 27 mg/Kg	Chromium: 48 mg/Kg / DFT: NR mils
	Coatings: The coatings along the shell exterior surfaces are still in very good condition with very little, if any, progression in overall degradation since our last inspection. At least 99% of the coatings are still providing sound protection to the steel substrate while the remaining surfaces are exhibiting medium to heavy rusting which is taking place primarily along the lower shell rings. The observed corrosion is primarily due to abrasion damage and not to any inherent failure of the coating. There is also some minor coating degradation and surface corrosion evident along the outer edge of the floor plate extension, as shown in the attached photographs. The coax cables and cable tray present along the top shell ring during our last inspection has been removed and the top ring overcoated. The lower (8) shell rings are experiencing light to medium soiling resulting from air pollution and mildew growth. This soiling, though unsightly, still does not appear to be adversely affecting the underlying coatings. During our last inspection the bottom shell ring was also reported to have been overcoated most likely to cover graffiti, although since the last inspection additional graffiti has been applied to the bottom ring. Structural: The overall structural integrity of the shell surfaces appears to be very good with no significant metal loss evident.		
Shell Access	At least two manholes present?	YES	The shell is equipped with (3) 24"Ø shell manholes each secured with perimeter retention bolts that are further protected with bolted security shrouds. The security shrouds are each secured with bolts at the top and bottom of the two-part assemblies. The manholes all appear to be structurally sound and in generally good condition with no significant degradation evident. REPAIRS: No repairs appear to be required.
	Primary meets state standards?	YES	
	Additional meet state standards? No.: 2	YES	
	Structural damage / leakage visible?	NO	
	Secondary manhole security present?	YES	
	Cell equipment affects shell access?	NO	
Overflow	Type: Full Meets state standard?	YES	The overflow pipe extends from the roof perimeter weir box which is equipped with locked access hatch, to ground level where it passes into a flange assembly connecting it to a ductile iron pipe that extends below ground at the tank perimeter. The pipe then extends to the site perimeter where it discharges at ground level into a stone riprap area. The discharge opening is fitted with a perforated metal screen which is intact and structurally sound. The overflow assembly is in good structural and sanitary condition. There is no longer any antenna cables attached to the overflow. The overflow assembly appears to have been recently recoated. REPAIRS: Consideration should be given to elevate the discharge opening of the overflow pipe 12" to 24" above grade or installing an air gap within the vertical leg of the pipe.
	Weir box sealed/secured? External	YES	
	Actionable corrosion / deterioration?	NO	
	Unsealed penetrations? Pipe OD: 20"	NO	
	Outlet at 12”-24” above grade?	NO	
	☒ Screen ☐ Flapper meet standards?	YES	
	Screen intact? Mesh: Other	YES	
	Is screen/flapper accessible for repair?	YES	
	☐Drain/Basin ☒Riprap ☐Splash pad	YES	
Foundation	Foundation? Type: Concrete Ringwall	YES	The concrete ringwall was found to be in very good condition, with only minor weathering of the top face resulting in exposure of large aggregate. There is some soiling of the grout at the floor plate to foundation junction, but it remains largely intact with only one small, isolated area of failure of both the elastomeric sealer as well as the cement grout located in behind the sealer. REPAIRS: No repairs required at this time.
	Anchor bolts present? No.:	NO	
	Actionable corrosion / deterioration?	NA	
	Undermining of foundation noted?	NO	
	Asphalt or stone apron present?	YES	
	Does grade promote good site drainage?	YES	
	Encroachment of vegetation?	NO	

INTERIOR TANK CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Int. Roof	Raised? Type: Dome w/ Rafters	YES	The underside of the roof as well as the roof to shell junction appears to be in sound structural and sanitary condition with no evidence of any aggressive corrosion, metal loss, or open penetrations evident. REPAIRS: No repairs required.
	Coatings? ☐ Poor ☐ Fair ☒ Good	YES	
	Actionable corrosion / deterioration?	NO	
	Light leaks visible from interior?	NO	
	Roof to shell junction sealed?	YES	
	Rafters: Type: L-angle No:50		Compression: Type: C-channel w/ x-bracing No:1
	Paint Type: Epoxy	Lead : 110 mg/Kg	Chromium: 27 mg/Kg / DFT: 9.2-27.3 mils
	Coatings: The coatings along the underside of the roof plates as well as the roof support structure are still in very good condition with at least 98.5% of the coating still intact and providing sound protection to the underlying steel surfaces. The remaining surfaces are exhibiting scattered areas of coating degradation resulting in the exposure of the steel substrate and medium to heavy rusting, the majority of which was found along roof rafters and junctions between the rafters and roof plates. The majority of this deterioration was observed and reported in 2012 and has not significantly progressed in its overall extent or severity since then. The lead and chromium levels noted above were established from the samples procurred and tested in 2012. Structural: The roof plates as well as the visible surfaces of the roof support structure appear to be in very good structural condition with no appreciable degradation of metal loss evident at least as viewed from the roof hatch and the ROV.		
Int. Shell & Floor	Coatings? ☒ Poor ☒ Fair ☐ Good	YES	The shell surfaces appear to be in sound structural and sanitary condition with no significant metal loss observed. The bottom shell ring is equipped with a bubbler system consisting of what appears to be 2" Ø PVC piping extending up out of the inlet/outlet line then traveling horizontally along the interior peripheral of the bottom shell ring. The pipe is bolted in place by means of U-bolts attached to L-angle clips welded to the shell interior. The piping is equipped with a series of nozzles equally spaced along the length of the pipe. The referenced assembly appears to be intact, though functionality could not be confirmed. REPAIRS: Support brackets could use cleaning and recoating in the near future.
	Actionable corrosion / deterioration?	YES	
	Cathodics? Type:	NO	
	Mixing System? Type:	NO	
	Water Quality Good? Turbidity Light	YES	
	Staining present? Degree Moderate	YES	
	Floor sediment visible? 1-3 inches	YES	
	Is the tank equipped with a floor drain?	YES	
	Is a silt stop present? Removable	YES	
	Paint Type: Epoxy	Lead : NR mg/Kg	Chromium: NR mg/Kg / DFT: NR mils
	Coatings: The protective coatings along the interior surfaces of the shell are still in generally good condition with at least 90% of the coating intact and providing an acceptable level of protection to the steel substrate, as shown in the attached photographs and enclosed video. The remaining surfaces, however, are exhibiting scattered areas of blistering along the mid and lower shell rings some of which have already ruptured, resulting in exposure of the substrate and small to medium sized rust tubercle formations. In some cases, the degree of corrosion suggests that at least minor metal loss has occurred. This condition was observed during our last inspection and appears to have only slightly progressed in severity since then. Overall, this condition affects less than 5% of the shell surfaces as well as 10-15% of the L-brackets brackets which support the bubbler system. In addition to the areas of observed blistering, there were also scattered spots of medium to heavy rusting and rust tubercle formations, primarily along both vertical and horizontal weld seams. As previously reported, this condition appeared to be the result of voids in the applied coating system rather than adhesion failure of the paint system and is still occurring along less than 5% of the shell weld seams. The floor surfaces are covered with as more than 1" of sediment which impeded visual assessment of these surfaces. There was no evidence of any rust tubercles protruding up through the silt layer or other disturbances which would suggest any significant coating failure or corrosive activity was taking place. There was, however, evidence of medium to heavy rusting as well as a few isolated areas of small to medium size rust tubercles taking place along less than 1% of the shell to floor corner weld, as shown in attached photographs. Structural: The overall structural integrity of the shell surfaces appears to be very good, however there is evidence of potential metal loss in the from of slight to moderate pitting along both main plate surfaces as well as weld seams. This metal loss still appears to be a minor condition and does not represent an immediately actionable level.		

TANK SAFETY CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Roof	Is there a roof ladder / stair present?	YES	The roof is equipped with a stairway extending from a roof perimeter platform to the center roof area. The stair is equipped with safety handrails along both sides. The stairway assembly is intact, structurally sound, and in generally good condition. REPAIRS: The FAA lights on the roof did not have any bulbs or globes installed. Repairs are needed if functionality is required.
	Is there a guardrail system present?	YES	
	Safety climb system?	NA	
	Are the roof FAA lights operational?	NO	
Exterior Access	Ladder(s) have continuous stretch >20ft?	NO	The alternating shell access ladders are stainless steel and remain in excellent condition. The ladder cage and the four transition platforms are made from mild steel and are also in sound structural condition. There evidence of scattered areas of coating degradation and rusting taking place along 1% of the platforms, handrails, and ladder cage surfaces as shown in attached photographs. The bottom opening of the ladder cage is fitted with a hinged, lockable gate to help prevent unauthorized access. Each ladder section is less than 24' in length and therefore do not require safety climb systems. REPAIRS: No repairs required at this time.
	Safety climb system?	NO	
	Is ladder equipped with a cage?	YES	
	Are there rest platforms present?	YES	
	Actionable corrosion / deterioration?	NO	
	Is ladder equipped with a security gate?	YES	
	Does ladder terminate ≥12' above grade?	YES	
Interior Access	Ladder(s) have continuous stretch >20ft?	NA	The interior of the tank is not equipped with an access ladder nor is one required or recommended. REPAIRS: NA
	Safety climb system?	NA	
	Is ladder equipped with a cage?	NA	
	Actionable corrosion / deterioration?	NA	
	Pilasters / ornamental structure present?	NA	

SITE CONDITIONS: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Tank	Any signs of vandalism / forced entry?	YES	Mark reported there was an incident of intrusion and graffiti on the roof. He said the person was identified and caught. Some areas on the bottom ring where graffiti was painted out now have graffiti re-applied. REPAIRS: No remedial repairs required.
	Is there any graffiti paint or etchings?	YES	
	Is there any stone damage present?	YES	
	Signs of unauthorized access to the roof?	YES	
	Any damage to ground equipment?	YES	
Perimeter Security	Is site equipped with a security fence?	YES	The site security fence appears to be in good condition, but is partially extending into the tree line which may allow it to be circumvented by unauthorized personnel. REPAIRS: Consideration should be given to cutting back the tree line.
	Any signs of damage to the fence?	NO	
	Gates secured with functional locks?	YES	
Valve Vault/ Pump House	Tank equipped with vault / pump house?	NO	There is no pump house or valve vault on site. REPAIRS: NA
	Is the vault / pump house secured?	NA	
	Pipe Coatings? ☐Poor ☐Fair ☐Good	NA	
	Is valve pit free of standing water?	NA	

OPERATOR SURVEY: Operator onsite? ☐ Name: *YES / NO / NOT REVIEWED (NR) / NOT APPLICABLE (NA)*

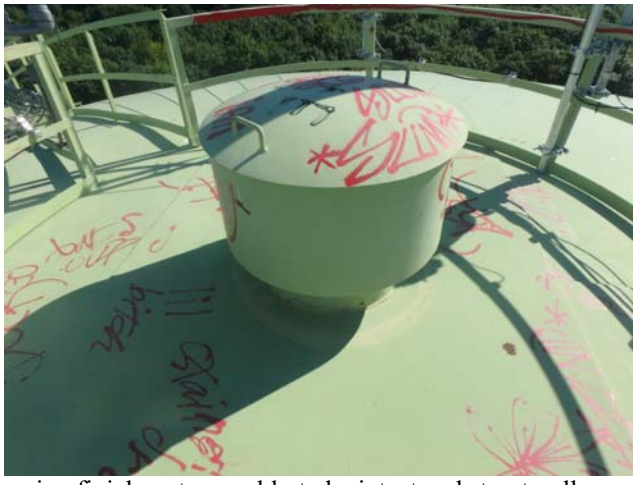
TANK AREA	ITEM OF CONCERN	STATUS	COMMENTS
Sample Tap	Sample tap functional? Shell Box	YES	The sample tap is located within an insulated utility box mounted to the tank shell. REPAIRS: No repairs required.
	Acceptable design? Other Acceptable	YES	
	Chlorine injection system present?	NR	
	Sample tap upstream of injection system?	NA	
Tank History	Sanitary inspection in previous year?	NR	Subject tank was completely inspected in 2012 with a cell inspection also performed in 2013.
	AWWA inspection in past 5 years?	YES	
	Recent tank maintenance? Year:	NR	
	Recent permit required modifications?	NR	
Site	Within 50' of a sewer / storm drain?	NO	

	Tank valves regularly exercised?	NO	
	☒ SCADA ☐ Cathodic monitoring?	YES	
Disinfection	Chlorine residual known? ppm	NO	The ROV and its umbillical cord was disinfected with a 200ppm chlorine solution prior to entering the tank.
	Chlorine added? Amount: gallons	NO	

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

Overall view of the 7.5MG Standpipe located in Portsmouth, NH

Showing commemorative plaque mounted to the shell of the tank



Showing finial vent assembly to be intact and structurally sound

Showing finial vent screen to be intact and adequately secured in place

Showing finial vent screen to be intact and adequately secured in place

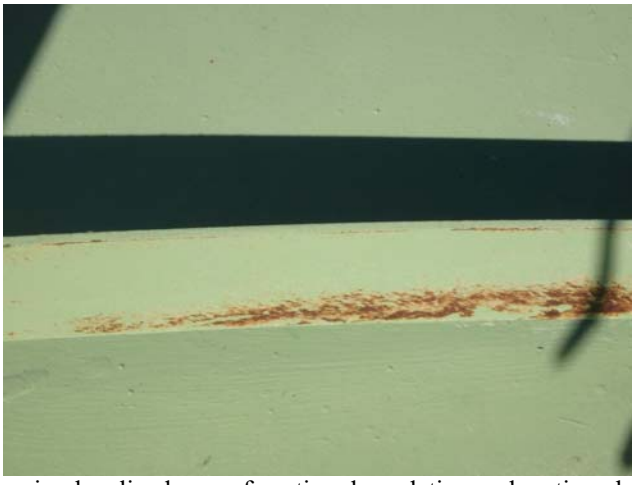
Showing extensive coating failure and rusting along the interior surfaces of the finial vent stub

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

Showing additional graffiti applied to the exterior of the roof since our last inspection

Showing handrail assembly surrounding the center of the roof to be intact and structurally sound

Showing handrail assembly surrounding the center of the roof to be intact and structurally sound



Showing localized area of coating degradation and rusting along toe plate of center handrail

Showing one of many antennas attached to the roof center handrail assembly

Showing FAA obstruction lighting missing bulbs and globes

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

Showing assortment of antennas mounted to the roofs center handrail assembly

Showing coatings along the roof stairway assembly to be in generally good condition

Showing coatings along the roof stairway assembly to be in good condition with only minor rusting evident

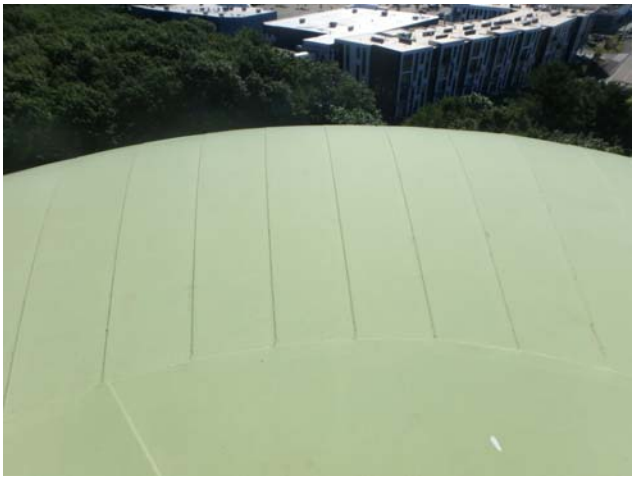
Showing roof stairway assembly to be intact and structurally sound

Showing antenna coax cables attached to the side of the roof stairway assembly

Showing coatings along the roof exterior surfaces to be in generally good condition

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

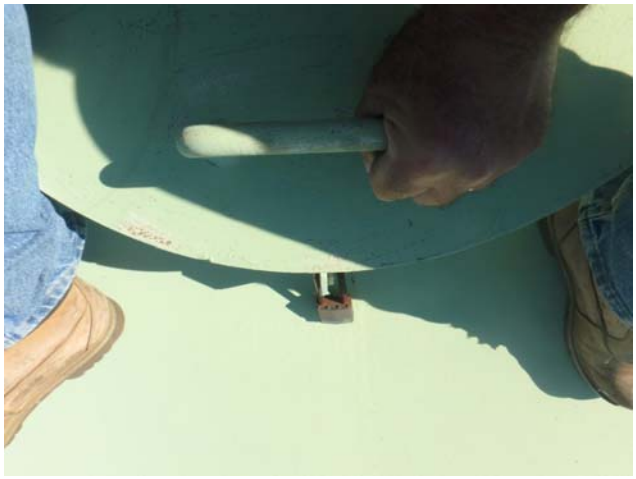
Showing coatings along the roof exterior surfaces to be in generally good condition



Showing coatings along the roof exterior surfaces to be in good condition with minimal degradation evident

Showing coatings along the roof exterior surfaces to be in generally good condition

Showing secondary roof hatch assembly to be in good structural and sanitary condition



Showing secondary roof hatch cover closed and locked prior to and after this inspection

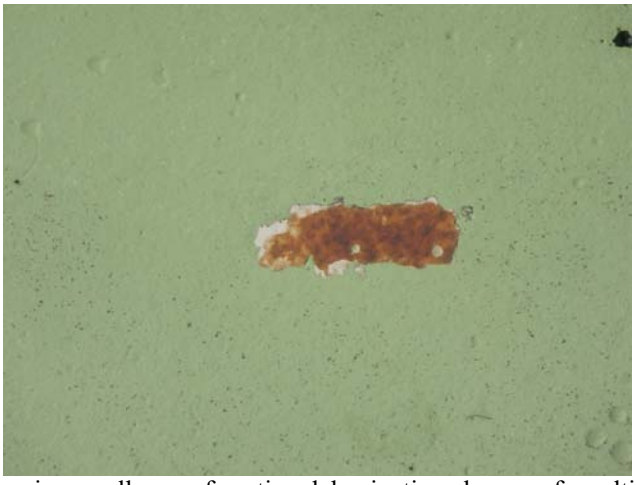
Showing coatings along the roof exterior surfaces to be in generally good condition

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

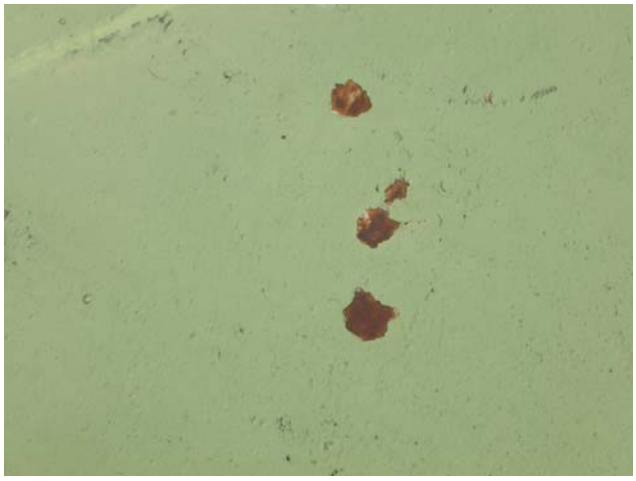
Showing new graffiti applied to the exterior of the roof since our last inspection

Showing minor coating degradation and rusting along exterior of the roof

Showing minor coating degradation and rusting along exterior of the roof



Showing small area of coating delamination along roof resulting in the exposure of the steel substrate and minor rusting



Showing additional areas of delaminated coating and rusting along the exterior of the roof

Showing additional areas of delaminated coating and rusting along the exterior of the roof

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

Showing roof rigging coupling to be intact, structurally sound and sealed by a threaded steel plug

Showing junction between roof plates and rim angle to be sealed and in sound structural condition

Showing junction between roof plates and rim angle to be sealed and in sound structural condition

Showing primary roof hatch to be intact and structurally sound

Showing coatings along primary roof hatch to be in good condition with minimal degradation and rusting evident

Showing cover of the primary roof hatch closed and locked post inspection

Showing top access platform to be intact, structurally sound and in generally good condition

Showing top access platform to be intact, structurally sound and in generally good condition

Showing localized area of coating degradation and rusting along platform handrail

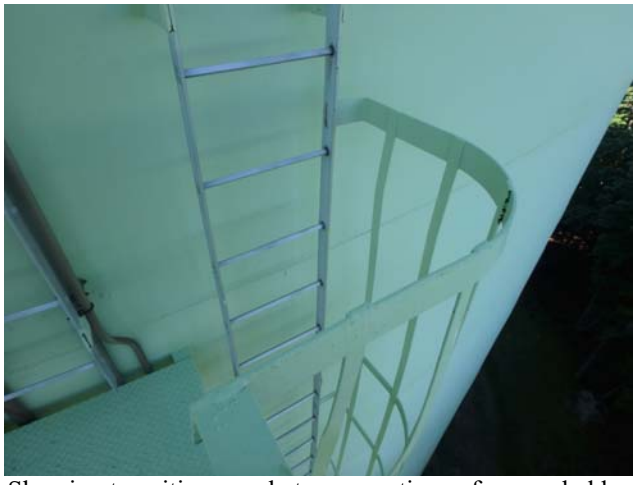
Showing platform handrail to be intact and structurally sound

Showing stainless steel access ladder to be intact and structurally sound

Showing shell stainless steel access ladder to be intact and structurally sound


Showing conduit impeding clearance in behind shell access ladder


Showing shell access ladder platform to be intact, structurally sound and in generally good condition


Showing transition area between sections of access ladder enclosed by handrail and access ladder cage


Showing lower sections of stainless steel access ladders to be intact and structurally sound


Showing presence of a small, active bee nest attached to a section of shell access ladder


Showing minor coating degradation and rusting along one of the shell access ladder platforms

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

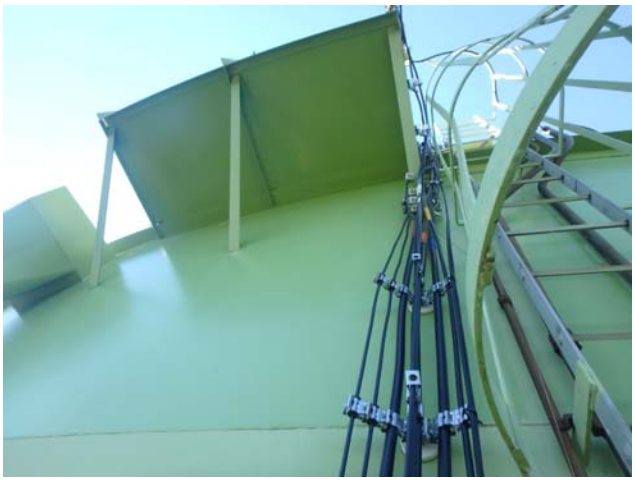
Showing minor coating delamination and rusting along one of the shell access ladder platforms

Showing additional section of shell access ladder to be intact and structurally sound

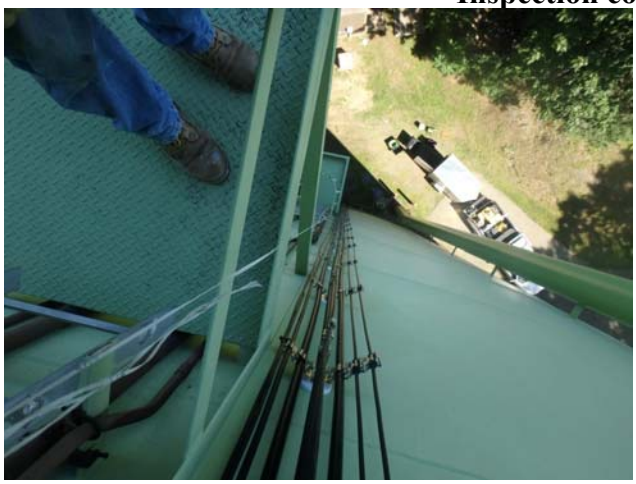
Showing bottom section of shell access ladder assembly to be intact , structurally sound and in good condition

Showing security gate at bottom of access ladder cage to be closed and locked post inspection

Showing shell access ladder terminating approximately 10' above grade



Showing run of antenna cables attached to the shell of the tank by magnetic mounts



Showing run of antenna cables attached to the shell of the tank by magnetic mounts

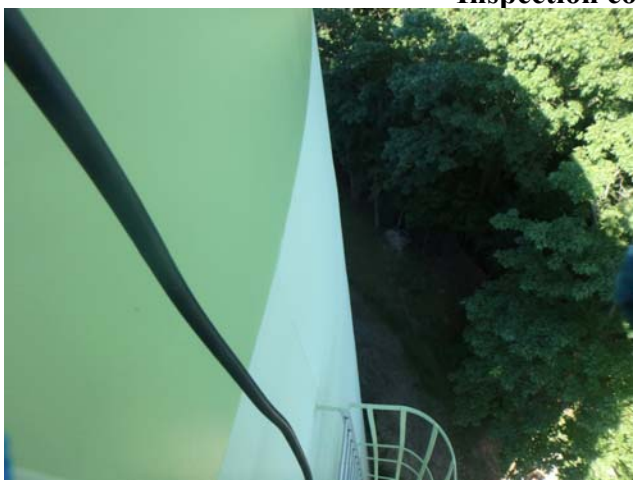
Showing entire ladder cage assembly to be intact and structurally sound

Showing run of antenna cables and grounding wires attached to the shell of the tank by magnetic mounts

Showing antenna cables extending down into a capped underground conduit

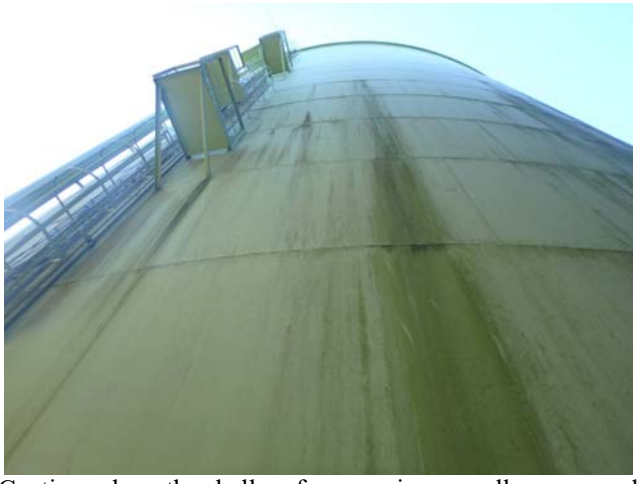
Showing ground wire magnetically mounted to the shell of the tank

Showing ground wire magnetically mounted to the shell of the tank



Coatings along the upper shell rings are in very good condition with minimal degradation evident

Coatings along the middle shell rings are in very good condition however heavily soiled

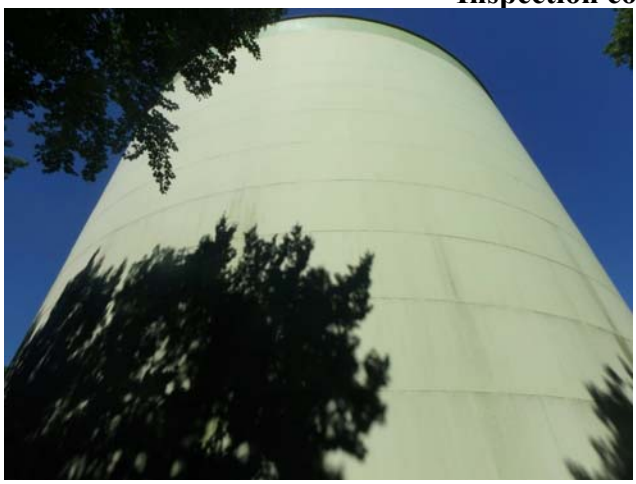


Coatings along the shell surfaces are in generally very good condition however heavily soiled

Coatings along the shell surfaces are in generally very good condition however heavily soiled

Coatings along the shell surfaces are in generally very good condition however heavily soiled

Coatings along the shell surfaces are in generally very good condition with minimal degradation evident



Coatings along the shell surfaces are in generally very good condition with minimal degradation evident

Showing isolated areas of coating failure resulting in exposure of the substrate and heavy rust

Showing additional painted graffiti aplied to shell since last inspection

Showing additional painted graffiti aplied to shell since last inspection

Showing overall condition of the shell coatings to be very good

Showing the 1st of (3) shell manholes all of which appear intact and structurally sound

Showing typical condition of coatings along all (3) shell manholes

Showing telemetry box housing miscellaneous electrical and monitoring equipment

Showing the presence of a pressure gauge and a sample tap located within the telemetry box

Showing a water level indicator located within the telemetry box

Showing the telemetry box cover closed and locked post inspection

Showing coating along the lower shell rings to be in generally good condition

Showing the 2nd of (3) shell manholes all of which appear intact and structurally sound

Showing coatings along the floor plate extension to be in generally very good condition

Showing junction between floor plate extension and foundation to be effectively sealed

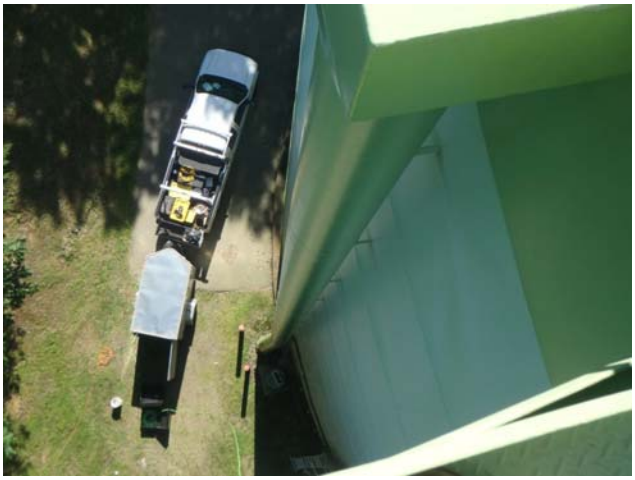
Showing concrete foundation to be in generally very good condition

Showing the 3rd of (3) shell manholes all of which appear intact and structurally sound

Showing weir box hatch cover closed and locked pre and post inspection

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

Showing overflow assembly to be intact, structurally sound and in good condition



Showing antenna cables removed and overflow assembly recoated since our last inspection

Showing overflow assembly to be intact, structurally sound and in good condition

Showing overflow assembly to be intact, structurally sound and in good condition

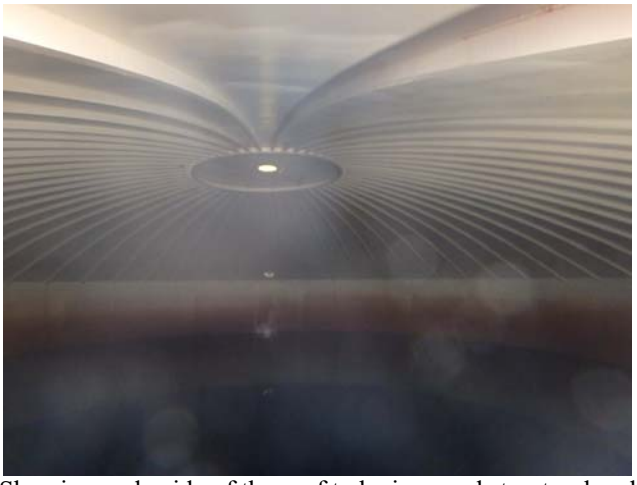
Showing overflow pipe entering directly into underground piping

Showing dischage opening of overflow pipe embedded with area of rip rap

Showing discharge opening of overflow pipe fitted with a perforated metal screen

Showing minor degradation and rusting along floor plate extension

Showing foundation to be intact and in generally very good condition



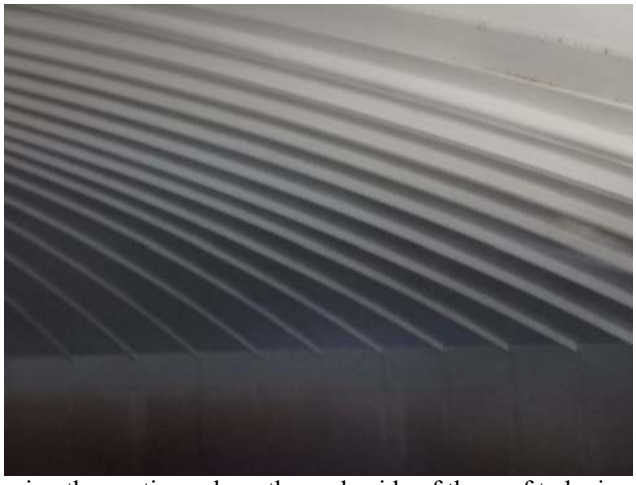
Showing underside of the roof to be in sound structural and sanitary condition

Showing only minor coating degradation and rusting along outer junction with shell and along rafter attachment points

Showing only minor coating degradation and rusting along outer junction with shell and along rafter attachment points

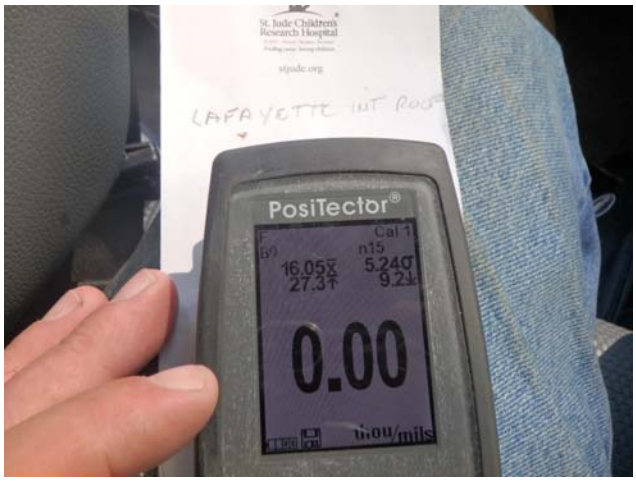
Showing evidence of very minor rusting along the underside of the roof

Showing the coatings along the underside of the roof to be in very good condition with only minimal degradation evident



Showing the coatings along the underside of the roof to be in very good condition with only minimal degradation evident

Showing evidence ofg minort coating degradation and rusting along underside of roof and junction with rafter

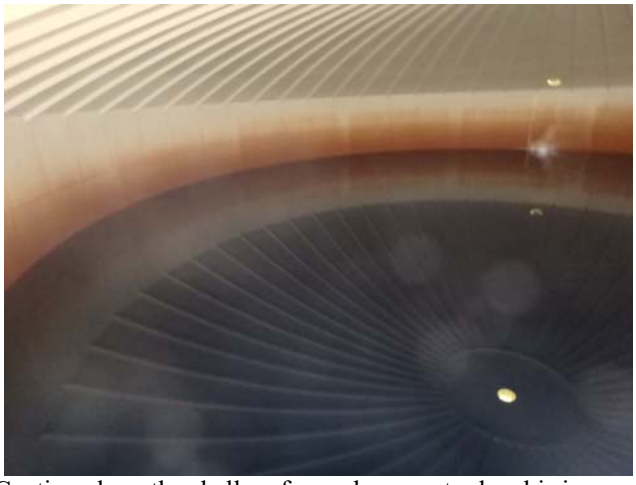


Showing coating thickness along underside of roof ranging from 9.2 to 27.3 mils along areas measured

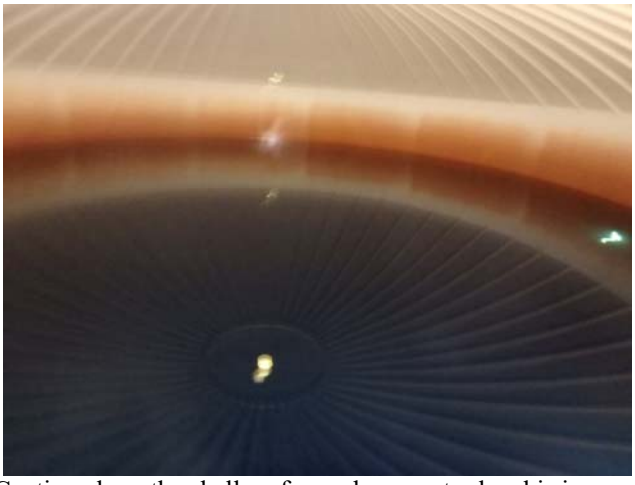
Showing evidence of localized rusting taking place where rafters attach to shell

Showing evidence of extensive coating failure and rusting taking place along the interior of the weir box

Coating along the shell surfaces above water level is in good condition with only staining evident



Coating along the shell surfaces above water level is in good condition with only staining evident



Coating along the shell surfaces above water level is in good condition with only staining evident

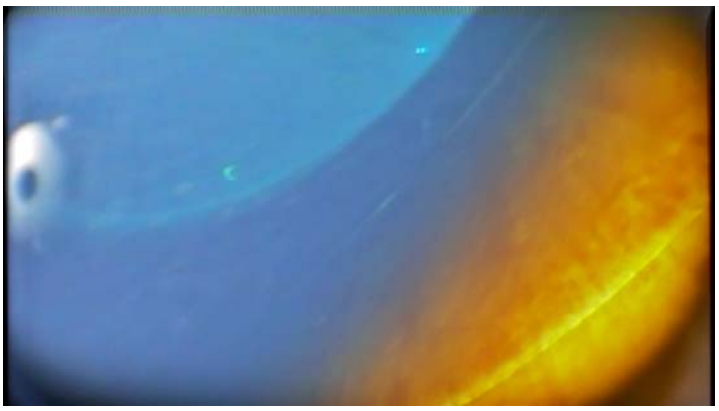
Coating along the shell surfaces above water level is in good condition with only staining evident

The coating along the underside of the roof appears to be in generally good condition with minimal degradation evident

Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident

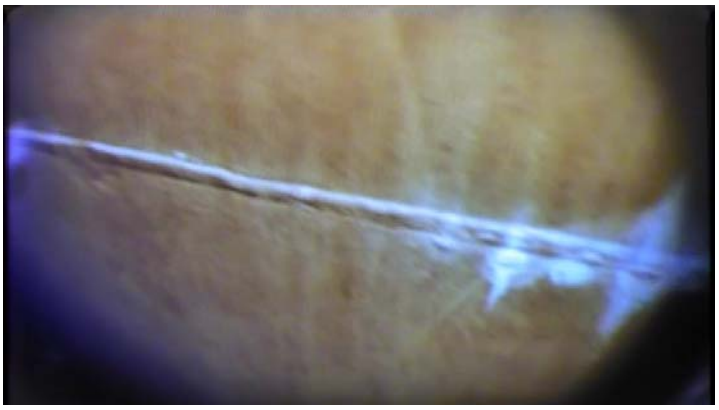
Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident

Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident



Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident

Showing localized area of medium to heavy rusting along upper shell surfaces

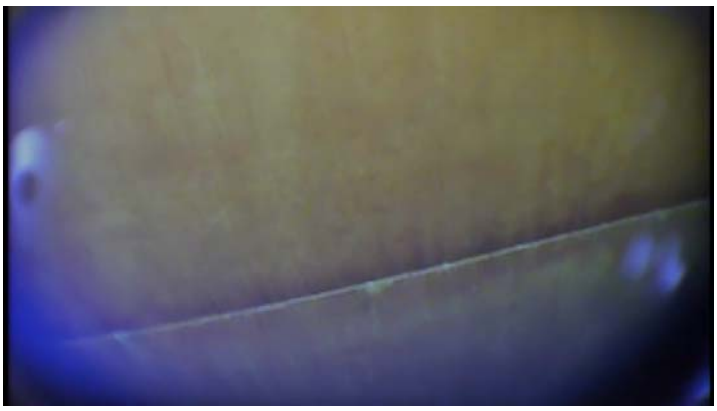


Showing coating along the shell surfaces to be in good condition

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

Showing isolated areas of small to medium rust tubercle formation along the upper shell rings

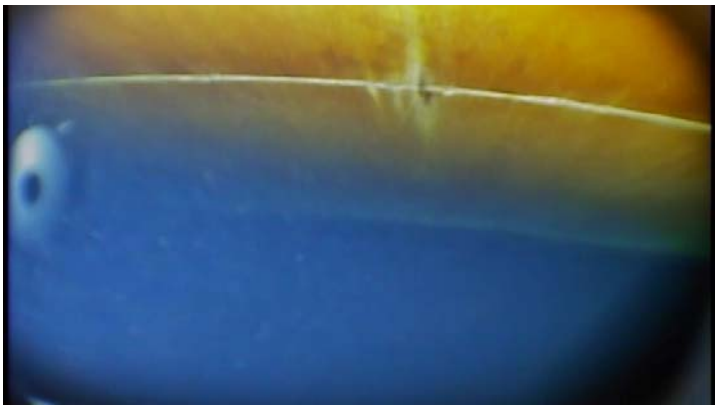
Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident



Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident

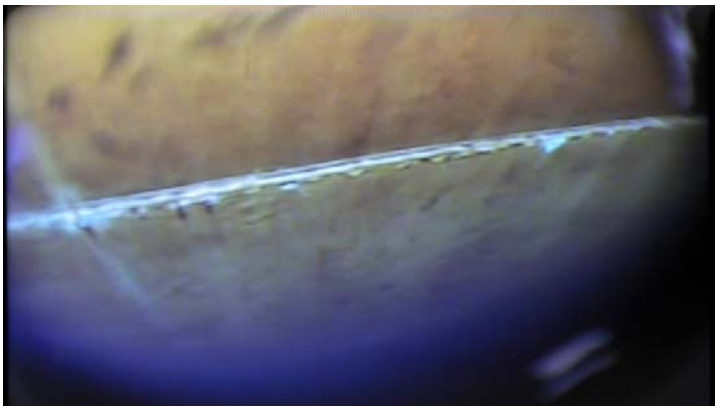
Coating along the upper shell surfaces appears to be in good condition with only heavy staining evident

Showing evidence of minor degradation and rusting along vertical weld seam

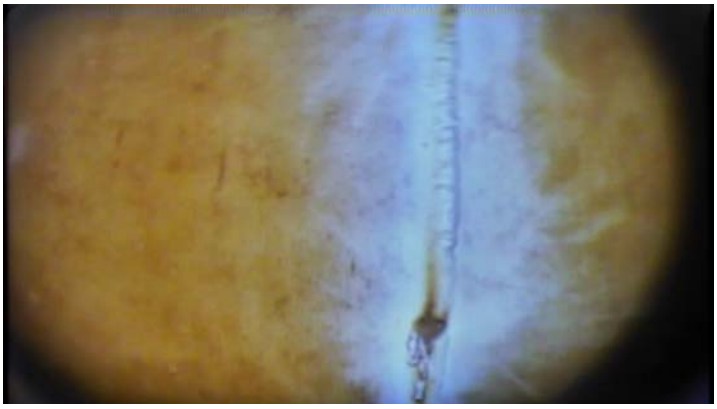


Showing isolated areas of small rust tubercle formations along interior weld seams

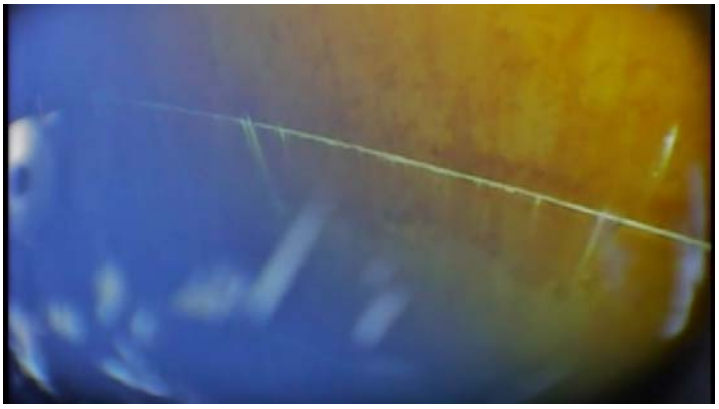
Showing isolated areas of small rust tubercle formations along interior weld seams



Showing isolated areas of small rust formations along interior weld seams of the shell



Showing isolated area of small rust tubercle formation along interior vertical weld seam



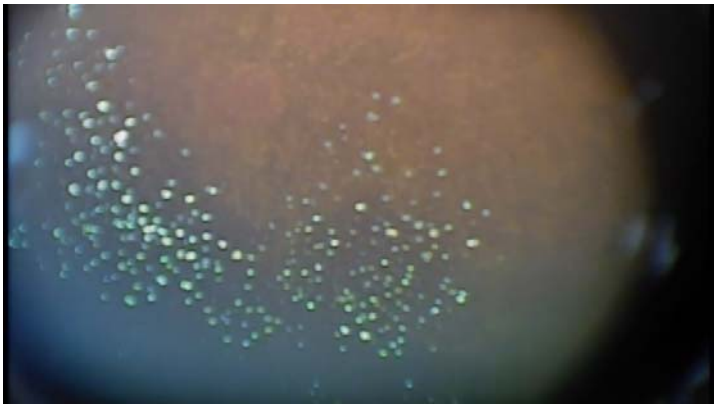
Showing isolated areas of small rust tubercle formations along interior horizontal weld seam

Showing isolated area of rust formation along interior horizontal weld seam

Showing isolated area of rust formation along interior horizontal weld seam

Showing isolated areas of small blisters along interior horizontal weld seam

Showing coatings along the shell interior to be in generally good condition



Showing localized area along the shell interior exhibiting small but dense blstering

Showing evidence of blistering and scattered rusting along the interior surfaces of the bottom shell ring

Showing evidence of blistering and scattered rusting along the interior surfaces of the bottom shell ring

Showing evidence of blistering and scattered rusting along the interior surfaces of the bottom shell ring

Showing evidence of blistering and scattered rusting along the interior surfaces of the bottom shell ring

Showing the bubbler system to be intact however not active

Showing the bubbler system along the interior of the bottom shell ring to be intact and in visually good condition

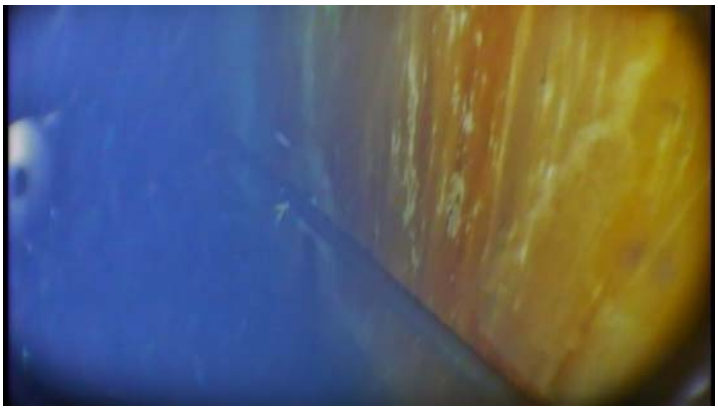
Showing the bubbler system along the interior of the bottom shell ring to be intact and in visually good condition

Showing the interior face of the 1st of (3) shell manholes to be intact and structurally sound

Showing evidence of heavy corrosion along the bottom edge of the manhole neck

Lafayette Rd 7.5MG GST located in Portsmouth, NH
Inspection conducted on 07.20.18

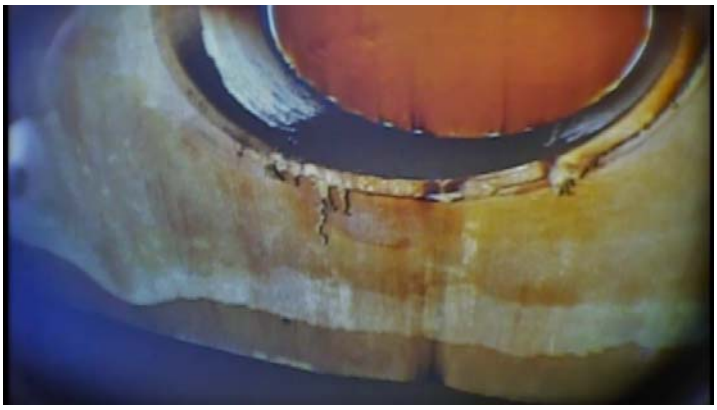
Showing evidence of heavy corrosion taking place along bubbler support brackets



Showing additional coating degradation and rusting taking place along the interior of the bottom shell ring

Showing additional section of the bubbler system to be intact and in visually good condition

Showing the interior face of the 2nd of (3) shell manholes to be intact and structurally sound



Showing the bottom edge of this manhole neck also exhibiting heavy corrosion

Showing evidence of heavy corrosion taking place along bubbler support brackets

Lafayette Rd 7.5MG GST located in Portsmouth, NH
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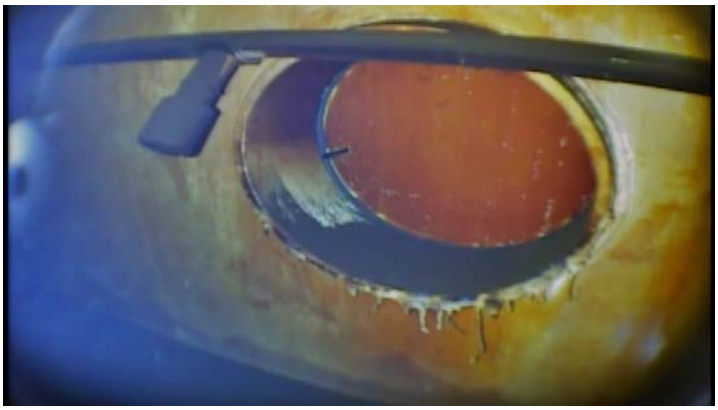
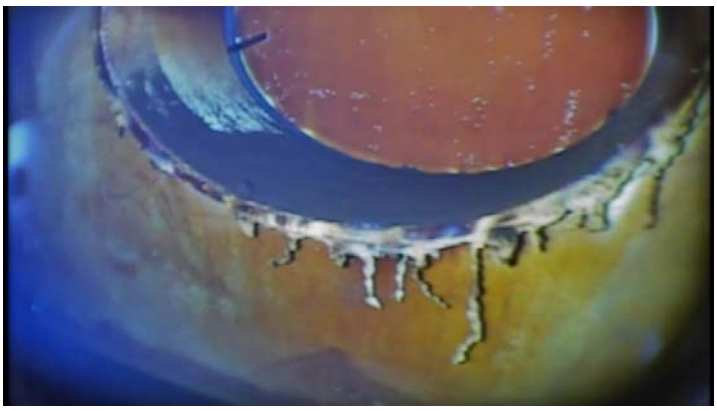
Showing additional coating degradation and rusting along the interior of the bottom shell ring



Showing the interior face of the 3rd of (3) shell manholes to be intact and structurally sound



Showing extensive corrosion also taking place along the bottom edge of this manhole neck

Showing heavy corrosion along the opening of a bottom ring penetration

Showing heavy corrosion along the opening of a bottom ring penetration

Showing section of bubbler system extending down to floor level

Lafayette Rd 7.5MG GST located in Portsmouth, NH
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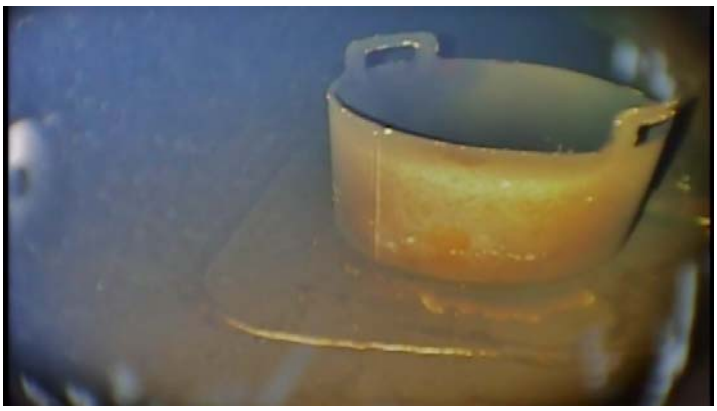
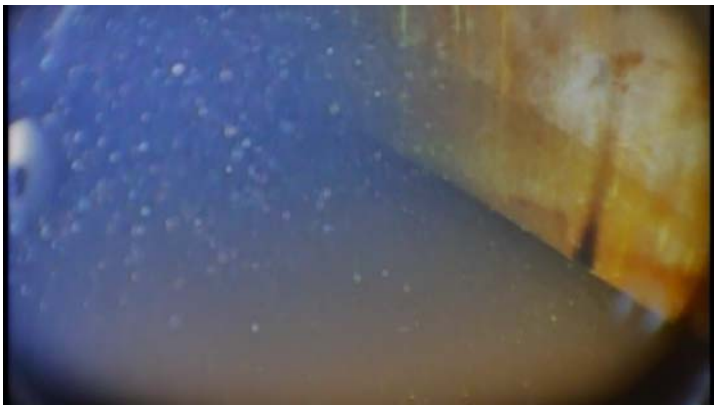
Showing feed line to bubbler system extending through site trap and down fill line

Showing feed line to bubbler system extending through site trap and down fill line



Showing silt trap atop inlet/outlet line to be properly seated

Showing scattered areas of heavy rusting along the shell to floor junction



Showing scattered areas of heavy rusting along the shell to floor junction

Showing floor covered with a uniform layer of sediment which impeded view of the floor surfaces

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Showing what appearts to be a sealed control cabinet for the obstruction lighting

Showing the support building for the antennas atop the roof of the tank

Showing available room around the perimeter of the tank

Showing available room around the perimeter of the tank

Showing entrane throught the site perimeter fence to be gated

Showing the gate within the perimeter fence closed and locked post inspection

Lafayette Rd 7.5MG GST located in Portsmouth, NH
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Showing the gate within the perimeter fence closed and locked post inspection