



City of Grand Junction Field Report

25-Sep-24

Underwater Cleaning & Inspection
4,000,000 Gallon
South Tank
Potable Water Storage Tank

Submitted To:

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EXTERIOR ROOF

Safety Rail

Satisfactory Y ☒ X N ☐

Coating Fair condition

Welds Good condition

Corrosion 1% Y ☒ X N ☐

Coating

Satisfactory Fair ☒ X N ☐

Oxidized Y ☒ X N ☐

Pitting Y ☐ N ☒ X

Delamination Y ☒ X N ☐

Corrosion Y ☒ X N ☐

Seams/Welds Good-fair condition

Low Spots Y ☒ X N ☐

Cathodic Protection Plates None

Conclusion/Discrepancies: Roof coating is slightly oxidized. There numerous areas of low spots along the roof panel weld seams. Roof has low spots allowing water to pool causing dealmination of the coating in a few areas. Recommend touching up these areas before the delamination becomes worse.



ACCESS HATCH

Satisfactory Y ☒ X N ☐

Coating

Corrosion Y ☐ N ☒ X

Proper Design Y ☒ X N ☐

Locked Y ☒ X N ☐

Gasket Y ☒ X N ☐

Hinge

Hatch Size 3 FT X 3 FT

Conclusion/Discrepancies Both the access hatch and gasket are in good condition.



VENTS

Satisfactory Y ☒ X N ☐

Coating Aluminum

Corrosion % Y ☐ N ☒ X

Proper Design Y ☒ X N ☐

Screens Y ☒ X N ☐

Sealed Edges & Seams Y ☒ X N ☐

Cap/Cover Y ☒ X N ☐

Conclusion/Discrepancies Both the vent and screen are in good condition.



EXTERIOR SHELL

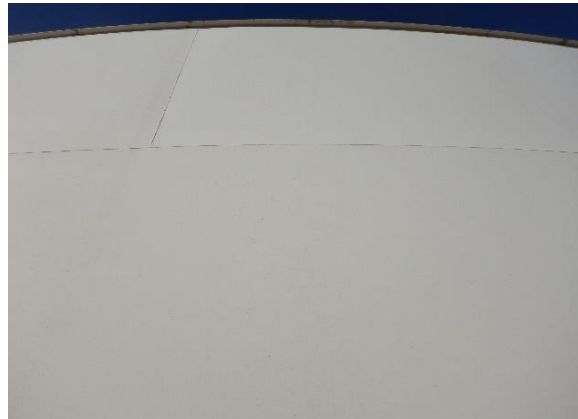
Rings

Chime	Good condition
2nd Weld Ring	Good condition
3rd Weld Ring	Good condition
4th Weld Ring	
5th Weld Ring	
Ring(s) 4 in all	
Wall to Roof Seam	Good condition

Coating

Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Oxidized	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Delamination	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>

Conclusion/Discrepancies Shell coating is slightly oxidized no other issues noted.



EXTERIOR LADDER

Construction	Coated steel
Satisfactory	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

Coating

Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Oxidized	Y	<input type="checkbox"/>	N	<input type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Delamination	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	% Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>

Welds/Joints	Good condition
Supports	Good condition
Safety Cage/Climb	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

Conclusion/Discrepancies Slight oxidation was noted. Ladder is in good condition and safe for use.



OVERFLOW STRUCTURE

Coating

Satisfactory	Y	<input type="checkbox"/>	N	<input type="checkbox"/>
Oxidized	Y	<input type="checkbox"/>	N	<input type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input type="checkbox"/>
Delamination	Y	<input type="checkbox"/>	N	<input type="checkbox"/>
Corrosion	% Y	<input type="checkbox"/>	N	<input type="checkbox"/>

Welds/Joints	
Supports	

Screens	Y <input type="checkbox"/> N <input type="checkbox"/>
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Attachments

Foundation

Conclusion/Discrepancies Internal



866-789-3483

FOUNDATION

Concrete Slab/Ring Retention

Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Cracking	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Spalling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Exposed Aggregate	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Erosion Undermining	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>

Seismic Restraints

Corrosion	Y	<input type="checkbox"/>	N	<input type="checkbox"/>
Tight	Y	<input type="checkbox"/>	N	<input type="checkbox"/>

Conclusion/Discrepancies Concrete retention ring has superficial cosmetic cracks.



MANWAY ENTRIES

Coating

Satisfactory	Fair	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Oxidized	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Delamination	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	1% Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>

Welds/Joints Good condition

Conclusion/Discrepancies Minor surface corrosion was noted. Slight oxidation of the coating was noted.



MANUAL LEVEL INDICATOR

Target in place	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Staff Gauge Readable	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Accurate	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Cable / Hardware	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Corrosion	% Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Operation	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>

Conclusion/Discrepancies: No issues noted.



INTERIOR ROOF

Coating

Satisfactory	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Cracking	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Peeling	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	5% Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Seams/Welds	Good-fair condition			

Trusses

Coating delamination

Gussets

Good-fair condition

Coating

Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Cracking	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Peeling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	5% Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>

Vent Penetration

Good-fair condition

Roof Hatch

Good-fair condition

Conclusion/Discrepancies: Corrosion was noted where the roof panels rest on top of the trusses
Coating is delaminating from the roof panels exposing the undercoat.



INTERIOR SHELL

Coating

Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Cracking	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Peeling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	5% Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Seams/Welds	Good-fair condition			

Rings

Chime	Good condition			
2nd Weld Ring	Good condition			
3rd Weld Ring	Good condition			
4th Weld Ring				
5th Weld Ring				
Ring(s)	4 in all			
Wall to Roof Seam	Good-fair condition			

Baffle/Support Walls

None

Conclusion/Discrepancies: Minor corrosion where the shell and roof meet in the corner weld.



SUPPORT COLUMNS

Coating

Satisfactory	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Cracking	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Peeling	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	5% Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>

Seams/Welds Good condition

Floor/Base Plates Good condition

Construction Coated steel

Conclusion/Discrepancies: A few of the columns

have extensive cracking and delamination of the coating.



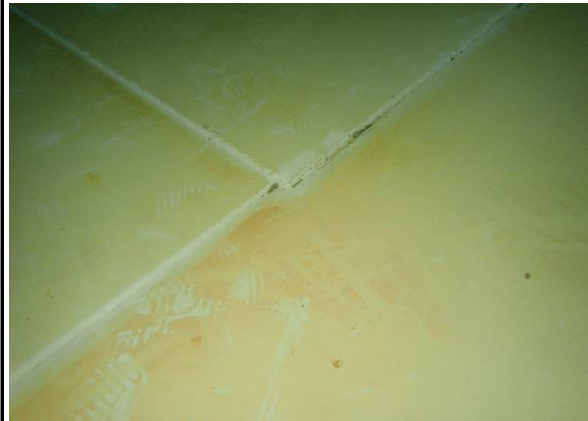
FLOOR

Coating

Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Cracking	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Peeling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	% Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>

Seams/Welds Good condition

Conclusion/Discrepancies: Floor and coating are in good condition. No issues noted.



Sediment Depth 1/16"

MANWAY ENTRIES

Coating

Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Cracking	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Peeling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>
Corrosion	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>

Seams/Welds Good condition

Conclusion/Discrepancies: No issues noted.



LADDER

Construction		Coated steel			
Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Coating					
Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Cracking	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Peeling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Corrosion	% Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Seams/Welds		Good condition			
Safety Cage/Climb	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Conclusion/Discrepancies: Ladder is in good condition and safe for use.					



OVERFLOW

Location		8 o'clock			
Coating					
Satisfactory	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Blistering	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Cracking	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Peeling	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Holidays	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Pitting	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Corrosion	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	
Seams/Welds		Good condition			
Conclusion/Discrepancies: No issues noted.					



MANUAL LEVEL INDICATOR

Float	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Guide Wires	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Guide Wire Anchors	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Cable / Hardware	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Corrosion	1% Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Operation	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
Conclusion/Discrepancies: Minor corrosion on the hardware.					



APPURTENANCES

Influent

Coating

Satisfactory	Y	X	N	
Blistering	Y		N	X
Cracking	Y		N	X
Peeling	Y		N	X
Holidays	Y		N	X
Pitting	Y		N	X
Corrosion	1% Y	X	N	
Seams/Welds	Good condition			

Conclusion/Discrepancies: Minor surface corrosion on the exterior lip of the pipe.

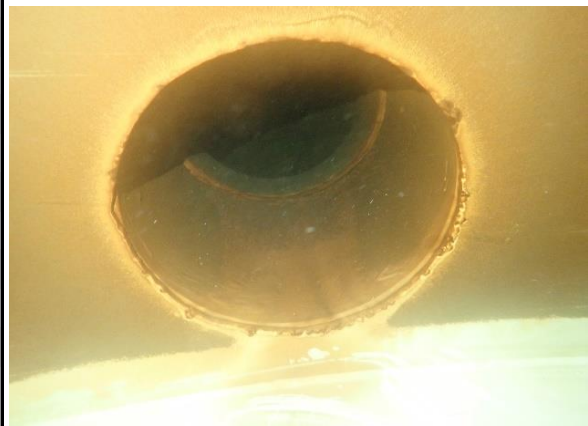


Effluent

Coating

Satisfactory	Y	X	N	
Blistering	Y		N	X
Cracking	Y		N	X
Peeling	Y		N	X
Holidays	Y		N	X
Pitting	Y		N	X
Corrosion	1% Y	X	N	
Seams/Welds	Good-fair condition			

Conclusion/Discrepancies: Minor corrosion on the exterior lip of the pipe.



Drain

Coating

Satisfactory	Y	X	N	
Blistering	Y		N	X
Cracking	Y		N	X
Peeling	Y		N	X
Holidays	Y		N	X
Pitting	Y		N	X
Corrosion	1% Y	X	N	X
Seams/Welds	Good condition			

Conclusion/Discrepancies: Minor corrosion in interior of the drain pipe.



Conclusion

Based on the results of this underwater inspection and the cleaning which took place, it appears this tank is in full operational condition and should continue to provide a reliable water storage capacity for potable water use with proper maintenance.

Recommendations

PDI concurs with the recommendations of AWWA that all potable water reservoirs or storage tanks be cleaned and inspected at least every five years and in some cases, depending upon source waters, type and quantities of sediment, and presence (or lack thereof) of cathodic protection systems, more frequently.

The following recommendations are made to provide continued, uninterrupted service of your water storage tank:

- 1 Your tank should be inspected and cleaned every five years, as suggested by the AWWA. Routine inspections and cleanings provide ample time to perform remedial repairs to abnormalities discovered before having a chance to become problematic.
- 2 Exterior roof has numerous low areas a few of the low areas are allowing water to pool causing the coating to delaminate recommend touching up these areas to prevent additional corrosion and possible pitting of the steel.
- 3 Interior roof coating is cracking and large areas of coating delamination was noted corrosion is starting to set in recommend recoating the interior roof.