RESOLUTION 25-21

A RESOLUTION TO AUTHORIZE THE EMERGENCY REPAIRS, INSTALLATION AND PAYMENT OF CITY HALL WATER STORAGE TANK

WHEREAS, the City of Spring Hill Water Treatment Plant staff maintains all water storage tanks in the City; and

WHEREAS, the City Hall Water Storage tank experienced a technical failure on November 21st, 2024, causing significant damage; and

WHEREAS, staff requested authorization for emergency repairs with estimates of the repairs totaling $250,000; and

WHEREAS, the total initial estimated cost of $250,000.00 will be funded from budget amendment no. 2, FY 2024-2025 budget for repairs; and

WHEREAS, funding for the repairs, installation and payment of the City Hall water tank will be expensed in the 2024-2025 budget year from 410-52100-52691

NOW, THEREFORE, BE IT RESOLVED, that the City of Spring Hill Board of Mayor and Aldermen

1. Authorize the repairs and installation of the City Hall Water Tank
2. Approve payment to Currens Construction at a total cost not to exceed of $250,000.00

Passed and adopted by the Board of Mayor and Aldermen of the City of Spring Hill, Tennessee, on the 21st day of January 2025.

Jim Hagaman, Mayor

ATTEST:

April Goad, City Recorder

LEGAL FORM APPROVED:

Patrick Carter, City Attorney

REQUEST: ***Approval of Resolution 25-21***

SUBMITTED BY: **Jeremy Vanderford, Water Plant Superintendent,**
Jessica Weaver, Utility Director

DATE: **January 21st, 2025**

RE: **To approve the repairs, installation, and payment of City Hall Water Storage Tank.**

ATTACHMENTS: Photos of damages and estimates.

PURPOSE:

To approve Resolution 25-21 to approve emergency repairs, installation and payment of the City Hall water Storage tank.

BACKGROUND:

The City of Spring Hill City Hall Water Storage Tank experienced a technical failure in its operation on November 21st, 2024. The City Hall water tank was being operated under routine operating conditions the morning of November 21st when staff was contacted by city hall staff advising the tank was overflowing into the back of city hall parking lot. The telemetry reflected the tank was filling but not full. This is a mechanical failure of the pressure transducer. Typically, this mechanical failure is a simple equipment changeout and is a non-issue as all City water tanks and the tower have overflow pipes to carry the excess water to designated areas. Staff discovered that the City Hall tank overflow pipe rusted to a point of causing a full blockage of the pipe at the overflow screen not allowing the water to release from the overflow pipe which in turn caused the top weld seam to fail. The water pressure also caused the ceiling beams to shift as well as the roof to come untacked. The City Hall tank was sandblasted and repainted in 2016. It has been inspected by third-party vendors every 5 years since it was constructed. The inside of the tank overflow pipe appears to have excessively deteriorated since the last inspection. Reasons for the excessive deterioration are unknown at this time.

Staff contacted two outside vendors to complete inspections. Mid-South Tank Consultants provided a detailed assessment of the tank failures. The report is attached. Currens Construction has been recommended by Thomas and Hutton as well as Mid-South Tank Consultants to complete the repairs with repairs to be completed prior to spring water demands.

FINANCIAL IMPACT:

This will be funded from FY 2024-2025 budget amendment no. 2 funds at a not to exceed cost of $250,000.00.

STAFF RECOMMENDATION:

Staff recommends approval of Resolution 25-21 to approve repairs, installation and payment of the repairs to City Hall Water Storage Tank at a total cost not to exceed $250,000.00 from the budget amendment no. 2 funds line item 410-52100-52691.

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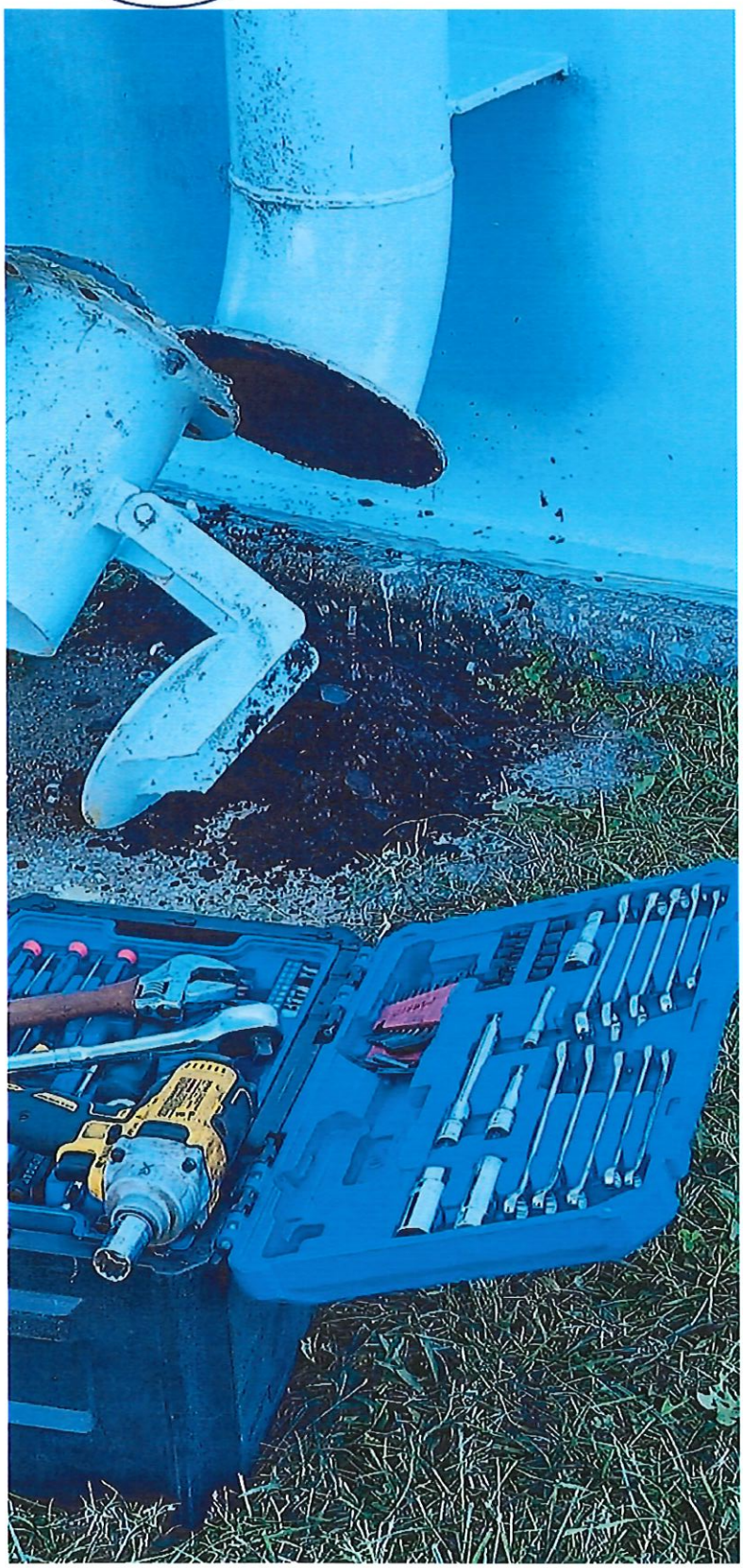

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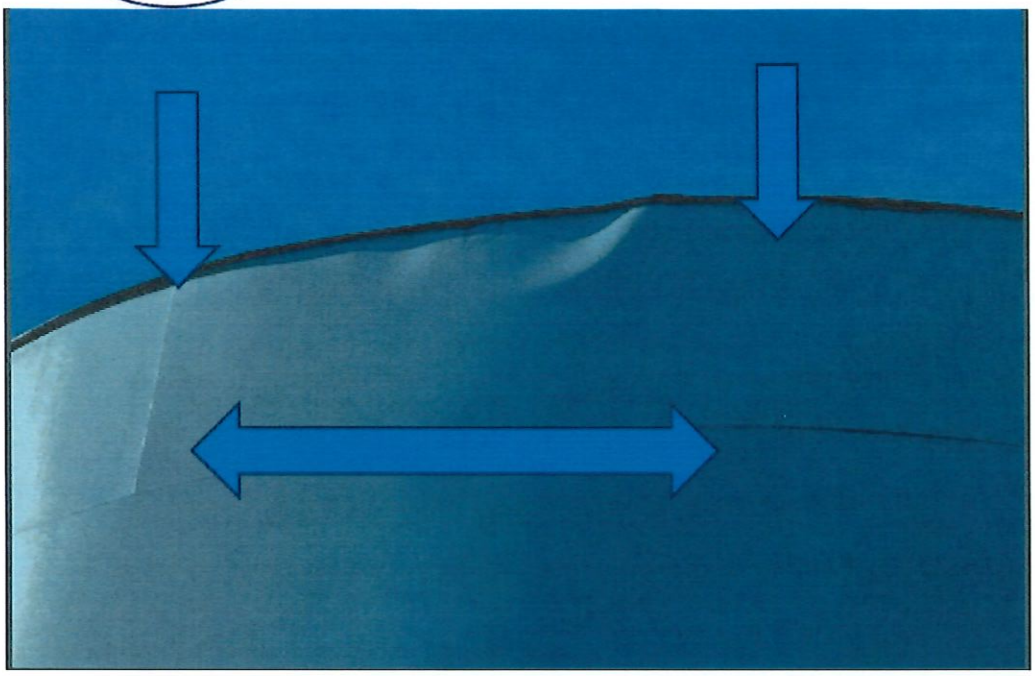

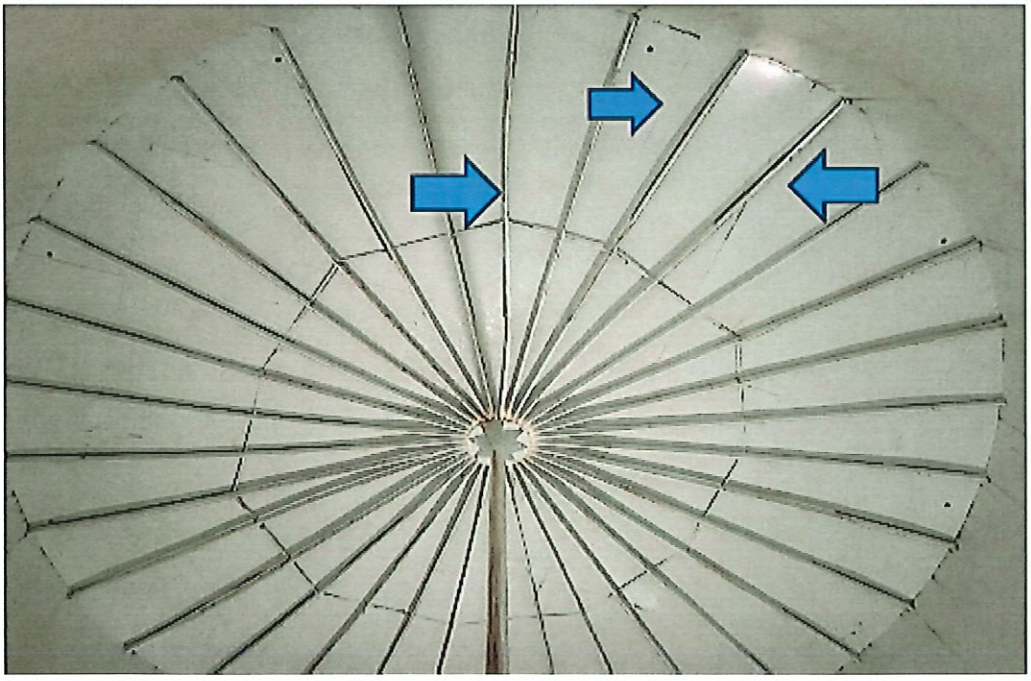

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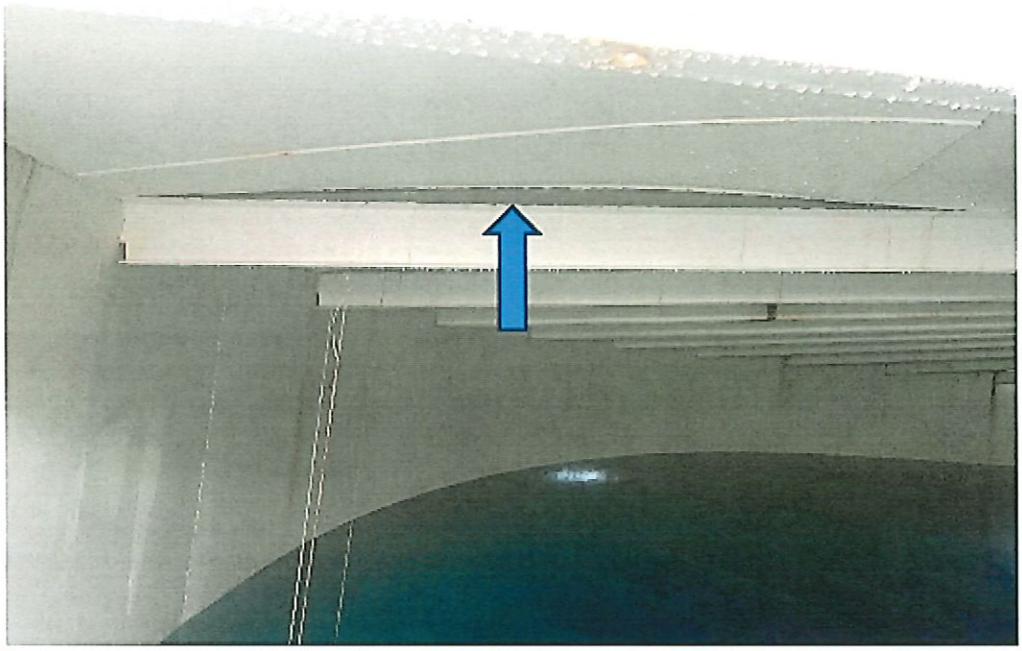

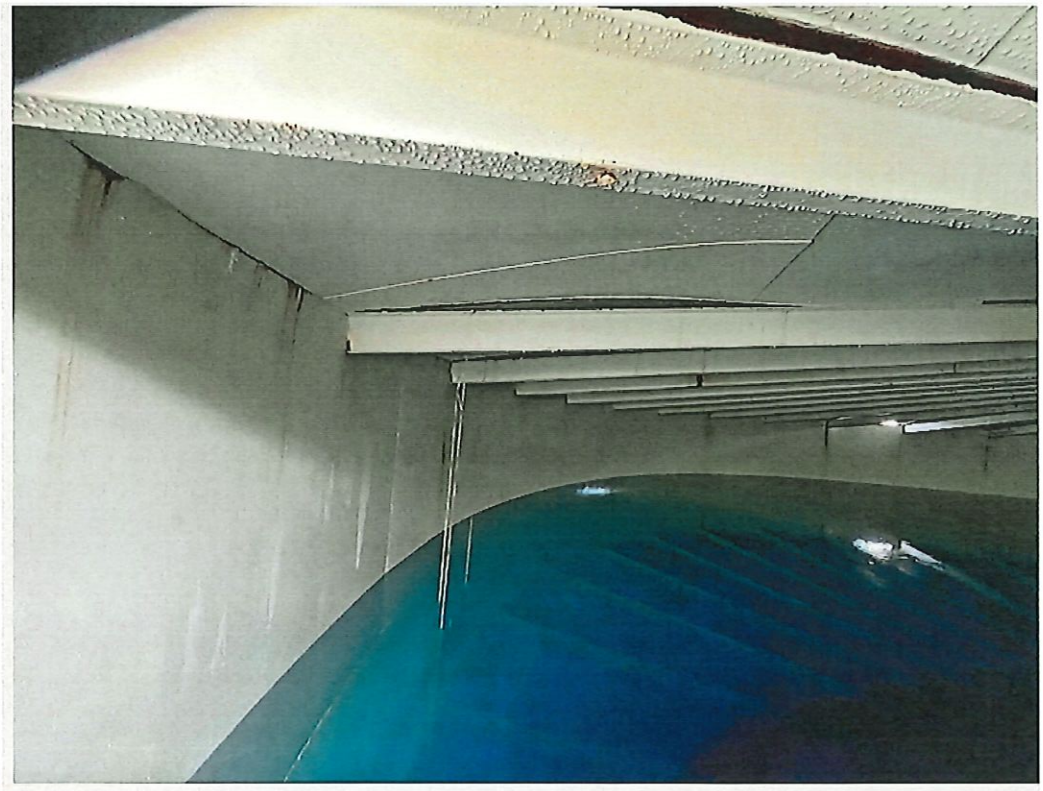

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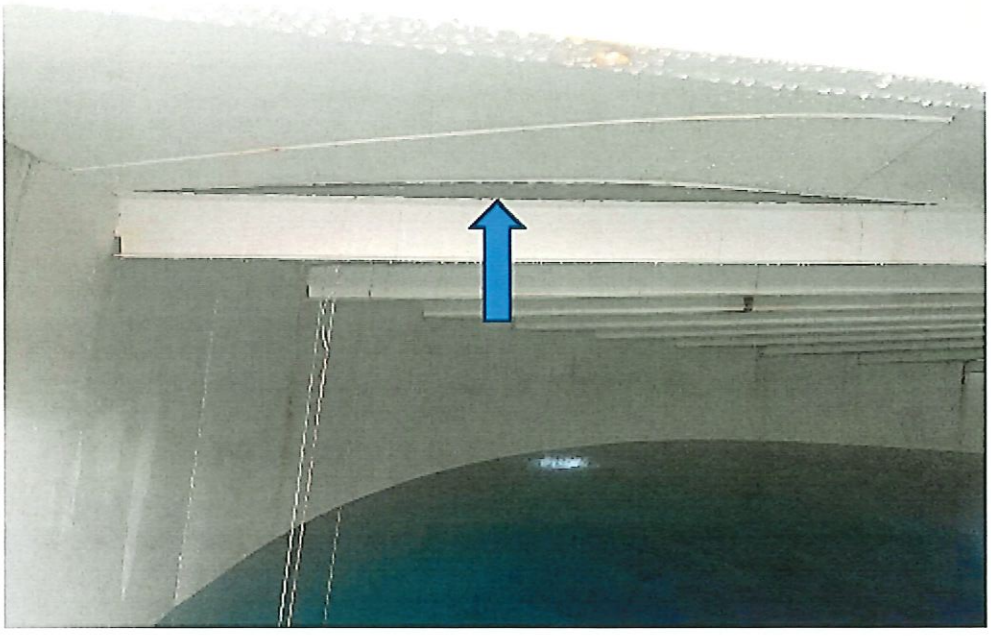

CURRENS CONSTRUCTION SERVICES, LLC

P.O. Box 492
1025 Danville Road
Harrodsburg, KY 40330
www.currensconstruction.com

January 21, 2025

Transmitted via Email

Mayor Jim Hagaman
City of Spring Hill, TN
199 Town Center Parkway
Spring Hill, TN 37174

RE: Emergency Repairs Proposal – City Hall 1MG Ground Supported Water Storage Tank

Dear Mayor Hagaman,

Currens Construction Services, LLC (Currens) is pleased to offer you the following proposal for the emergency repairs on the City's 1MG City Hall Ground Storage Tank located at 199 Town Center Parkway in Spring Hill, TN. Our pricing is based on the "Spring Hill City Hall Ground Storage Tank Repair" Recommendations from Mid-South Tank Consultants. A copy of this repair procedure is attached to our proposal. All work is expected to be completed in Spring 2025.

SCOPE OF WORK:

- Remove and replace shell wall panel and rolled rim angle as necessary to correct damage.
- Remove and replace the outer roof panel as necessary to correct damage.
- Remove and replace specified roof beams.
- Install new lateral angle braces between all roof beams.
- Prepare and paint all new and damaged steel members in accordance with the manufacturer's recommendations. Finish colors to generally match the existing finish coat colors on tank.
- Caulk all roof seams with Sika-Flex 1A upon completion of painting.
- Remove and replace existing exterior overflow piping with 8" Schedule 80 PVC and install a new flap gate discharge.

ASSUMPTIONS AND EXCLUSIONS:

- We will invoice NET 30 days for work completed monthly.
- Any value engineering (VE) or additional scope items will be negotiated and added to this agreement as a change order.
- Exclusions include:
    - Performance and Payment Bonds were not included.

TOTAL LUMP SUM NOT TO EXCEED PRICE: $214,680.00

CURRENS CONSTRUCTION SERVICES, LLC

P.O. Box 492
1025 Danville Road
Harrodsburg, KY 40330
www.currensconstruction.com

Thank you for the opportunity to provide this pricing. Please give us a call with any questions and/or concerns.

Thank you,

Kyle Gibson

Kyle Gibson, PE
Project Manager

Mayor Jim Hagaman
City of Spring Hill, TN

1-21-2025
Date

SPRING HILL CITY HALL GROUND STORAGE TANK REPAIR

1. **Remove an 8' x 12' section of the #6 upper shell where the rupture occurred causing the panel to warp including the rolled rim angle. Install a new ¼" thick 8' x 12' upper shell panel and rim angle.**

2. **Cut the roof panel weld seams to allow the warpage in the panels to be removed.**

3. **Remove and replace three 8" roof support channel beams. The channel beams on each side of the failed point and a third beam that has a double curve shall be replaced. (See attached photos)**

4. **Remove and replace a 6' x 10' section of the outer roof panel where the failure occurred. The new panel shall be ¼" thick.**

5. **Install new lateral braces between all 32 channel beams. The braces shall be made from 2½" x 2½" x ¼" steel angle. The new lateral supports shall be installed 4' from the shell and shall be welded to the existing and three new roof support channels. All support channels shall be moved back into proper alignment.**

6. **The roof panels shall be stitch welded to the roof support channels. Three-inch-long welds should be made every 3' on alternating sides of the channel beam flanges to remove the warpage from the roof panels and to control the gap between the roof panels and beams thus minimizing the amount of caulking required.**

7. **All newly installed steel members and areas damaged by welding shall be blasted per SSPC-SP10 on the interior and SSPC-SP6 on the exterior. The interior coating system shall consist of a zinc primer and two coats of epoxy. The exterior coating system shall**

consist of a zinc primer, a urethane intermediate coat, and a finish coat of fluorourethane.

8. **After application of the protective coating system the joints between the roof panels and the roof support channels and the lateral supports shall be sealed with Sika-Flex 1A.**

9. **Remove the existing exterior portion of the steel overflow pipe. Install a new 8" diameter schedule 80 PVC overflow pipe with a flap valve at the discharge point. Install an insect screen between bolted pipe flanges.**

Photo shows an overall view of the area of the upper shell that was damaged during the overfilling event.

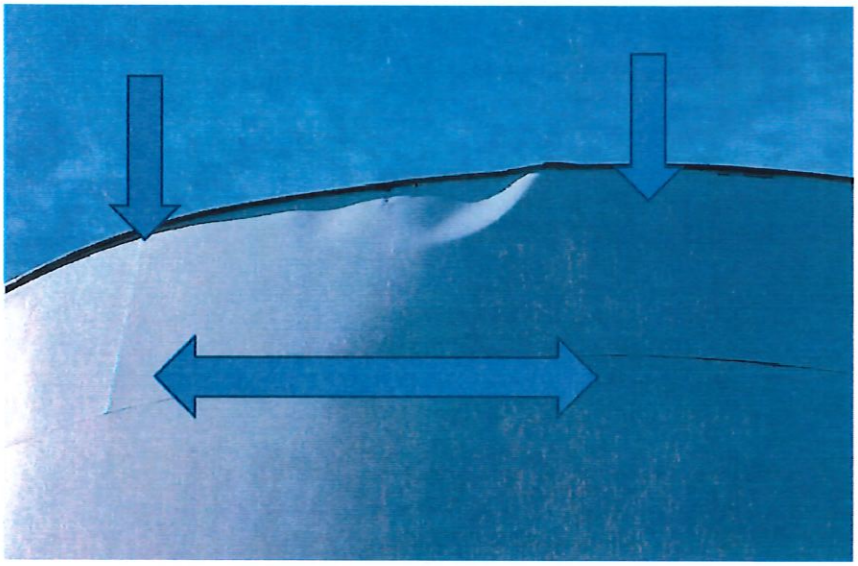

Photo shows an approximation of the area where the damaged upper shell panel will be removed and replaced.

Photo shows an approximation of the area where the warped roof panel will be removed and replaced.

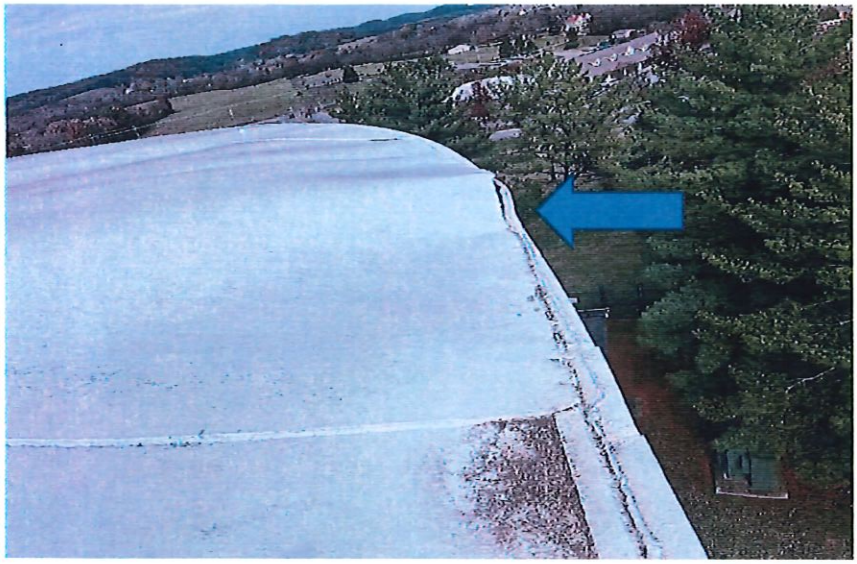

Photo shows another view of the damaged roof panel and the ripped roof to rim angle weld seam.

Photo shows the warping of the existing roof panels. The panels seams should be cut to allow the warped panels to settle along the roof support beams.

Photo shows another view of the warping along the roof panels.

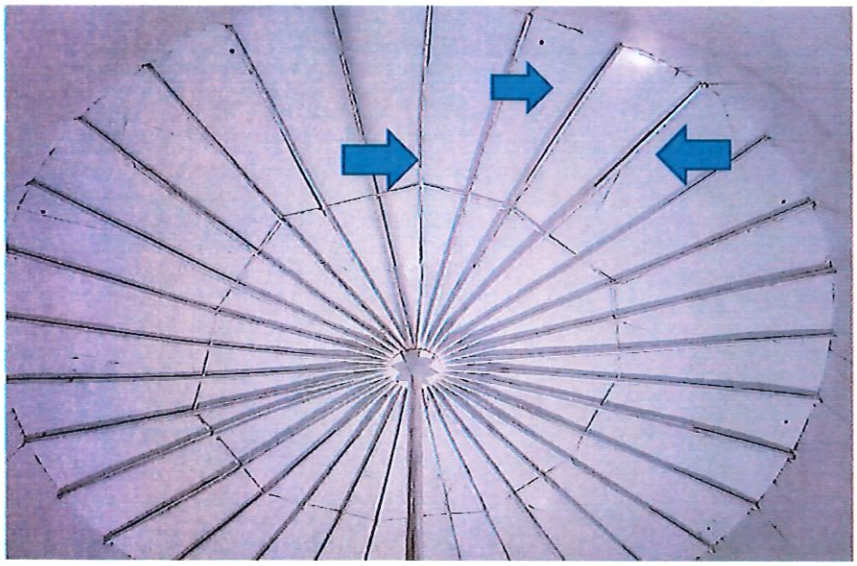

Photo shows the three damaged roof beams that will be removed and replaced.

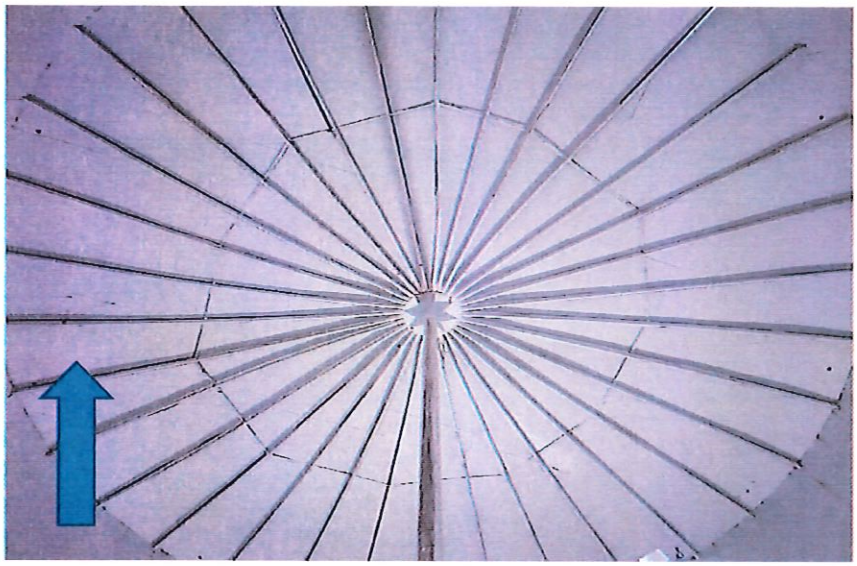

Photo shows an overall view of the roof structure and the area where new lateral bracing will be installed throughout the tank circumference.

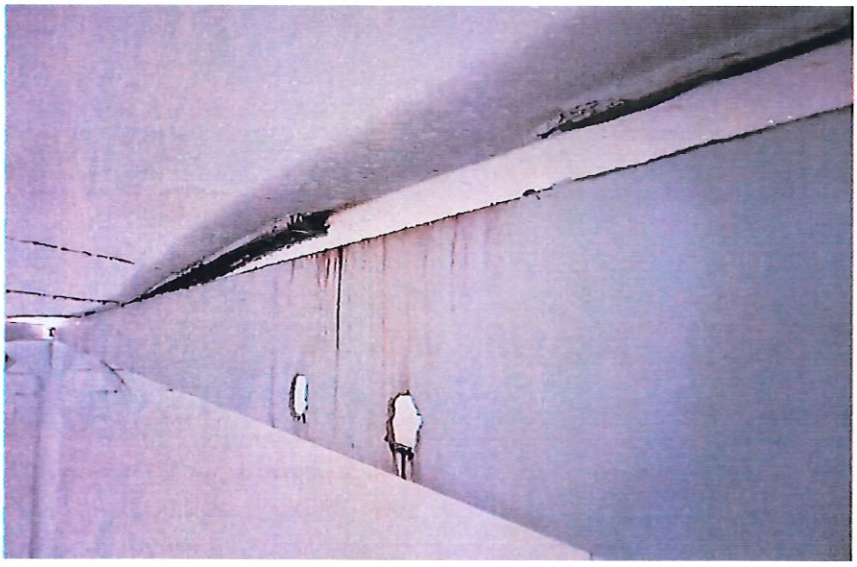

Photo shows and example of the warped roof panels lifted away from the roof support beam.

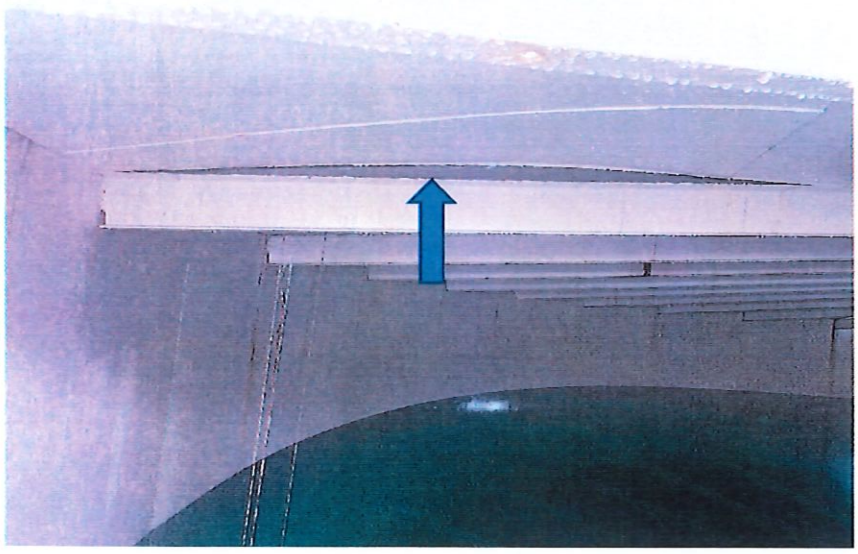

Photo shows another view of the warped roof panel above the roof support beams.

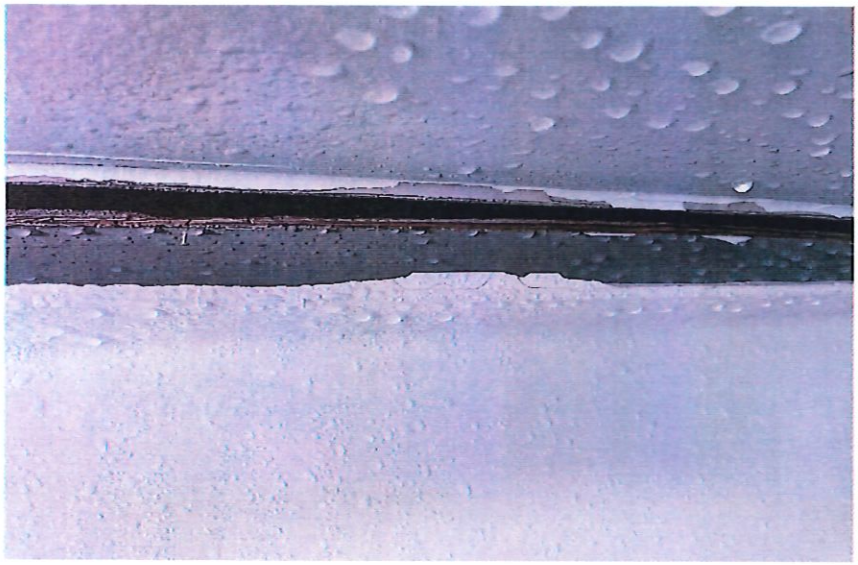

Photo shows an area where the roof panels have pulled away from the roof supports. The panels will be pulled back down the beam flange and stitch welded in place.

Photo shows an example of the roof beam to outer wall connection.