

BIDDING AND CONTRACT DOCUMENTS

FOR

**RESERVOIR 3
TANK REPAIRS**

BID OPENING DATE & TIME: March 25, 2021 at 2:00pm



Prepared for:

CITY OF PALMER
231 W. Evergreen Avenue
Palmer, Alaska 99645
(907) 745-3271

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March 2021

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

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CITY OF PALMER STANDARD SPECIFICATIONS, DATED 2018, MAY BE
DOWNLOADED FROM THE CITY WEBSITE AT WWW.CITYOFPALMER.ORG.

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

I

INVITATION TO BID

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CITY OF PALMER

Invitation to Bid

Palmer Reservoir 3 Tank Repairs

Description of Work: This project will perform repairs to extend the life of the existing Reservoir 3 steel water tank located adjacent to the Glenn Highway in Palmer, Alaska. Project includes leak repair as more fully described in the Contract Documents. Estimated construction cost is less than \$75k.

Sealed bids, in single copy, for furnishing all labor, equipment and materials and performing all work for the above project are hereby invited. Bids will be opened publicly and read at Palmer City Hall, 231 W. Evergreen Avenue, Palmer, Alaska on **March 25, 2021 at 2:00pm.**

A pre-bid meeting will be held at the above address on **March 9, 2021 at 10:00am** with a site visit to follow.

This is a bonded, public works project. Contractors are required to be licensed by the City and State and shall comply with Title 36 wage rates. Each Bid shall be accompanied by bid guarantee of \$2,000, in the form of a certified check or cashier's check. Successful bidder will be required to provide separate performance and labor and material payment bonds each in the amount equal to 100% of the contract price.

Contract Documents will be available starting **March 2, 2021** in electronic format only. Documents may be downloaded at www.cityofpalmer.org or a CD may be picked up from Palmer Public Works at 1316 S. Bonanza Street, Palmer. There is no fee for Contract Documents.

For additional info, contact the Palmer Public Works office at (907) 745-3400.

The City reserves the right to reject any or all bids and to waive irregularities or informalities in any of the bids when in its best interest.

John Moosey
City Manager

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

II

SPECIAL PROVISIONS

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

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CITY OF PALMER
PALMER RESERVOIR 3 TANK REPAIRS

SPECIAL PROVISIONS

SECTION 95.01 LOCATION AND SCOPE

The Work included under this Contract consists of furnishing all labor, materials, equipment, supervision, and other facilities necessary to successfully complete the Work set forth in the Contract Documents. It shall be the responsibility of the bidder to prepare his/her bid so that all materials and/or fittings shall harmoniously conform to the intent of the Contract Documents.

Below are the schedules of Work that are presented in the Bid Proposal of this Contract:

SCHEDULE DESCRIPTION

- | | |
|---|---|
| A | Base Bid – Reservoir 3 Leak Repairs, as further described in the Scope of Work under Part XV of these specifications. |
|---|---|

SECTION 95.02 REFERENCE TO CITY OF PALMER STANDARD SPECIFICATIONS

This Contract is subject to and hereby incorporates by reference the 2018 City of Palmer Standard Specifications, hereinafter referred to as CPSS; the Alaska Traffic Manual - Manual on Uniform Traffic Control Devices (MUTCD), with the Alaska supplement latest edition; and the International Building Code, latest edition adopted by City of Palmer. When conflicts exist between CPSS and MUTCD, the requirements of CPSS and these Special Provisions shall govern.

SECTION 95.03 TIME OF COMPLETION

Work under this Contract shall be “substantially complete,” as defined by CPSS Section 10.05 Control of Work, Article 5.34 Substantial Completion on or before July 1, 2021.

Final Acceptance of the work shall be obtained on or before July 15, 2021. Award of this Contract is expected at the April 13, 2021 City Council meeting.

**SECTION 95.04 MODIFICATIONS AND/OR ADDITIONS TO CITY OF PALMER
SPECIFICATIONS**

The following listed provisions of CPSS are amended as hereinafter stated:

A. DIVISION 10 STANDARD GENERAL PROVISIONS

SECTION 10.05 CONTROL OF WORK

Article 5.27 Liquidated Damages

Delete the entire first paragraph and substitute the following:

The Owner may withhold from any progress payment the sum of \$1,000.00 per day as Liquidated Damages for each and every calendar day that the Reservoir remains out of service beyond the time set forth in the Scope of Work. The Owner may withhold from any progress payment the sum of \$500.00 per day as Liquidated Damages for each and every calendar day that Substantial Completion is delayed beyond the Substantial Completion Date. After substantial completion, the Owner may withhold out of any progress payment the sum of \$500.00 per day as Liquidated Damages for each and every calendar day that Final Acceptance is delayed beyond the Contract Completion Date. If no money is due Contractor, the Owner shall have the right to recover said sums from Contractor, the Surety, or both.

Article 5.34 Substantial Completion

Delete the last paragraph and substitute the following:

For the work to be considered Substantially Complete: all reservoir components shall be fully operational, seams identified for repair shall be coated and cured in accordance with the Contract Documents and manufacturer recommendations, and the reservoir shall be leak free, fully disinfected, and in service.

SECTION 10.06 LEGAL RELATIONS AND RESPONSIBILITIES

Add the following new Article 6.19 Payments to Contractors and Subcontractors:

Article 6.19 Payments to Contractors and Subcontractors

Payment to Contractors and Subcontractors shall comply with the provisions of Alaska Statute 36, Section 36.90, Article 3 entitled "Public Construction Contract Payment."

SECTION 10.07 MEASUREMENT AND PAYMENT

Article 7.7 Final Payment

Add the following to the end of the Article:

Additional administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:

1. Evidence of completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.

3. Proof that incomplete Work has been completed and accepted by the Owner.
4. Transmittal of required Project construction records to the Owner's Representative.
5. Removal of temporary facilities and services, of surplus materials, rubbish, and similar elements
6. Approved red lines for record drawings

B. DIVISION 60 STANDARD CONSTRUCTION SPECIFICATIONS FOR WATER SYSTEMS

SECTION 60.01 GENERAL

Article 1.2 Applicable Standards

Add the following:

Pipe and appurtenances in contact with potable water shall comply with ANSI/NSF Standard 61, latest edition, as approved by the National Sanitation Foundation (NSF) Underwriter Laboratories or an equivalent organization that evaluates products using ANSI/NSF Standard 61.

Add the following new Section:

SECTION 60.22 RESERVOIR 3 REPAIRS

Article 1.1 General

This item consists of all work required to perform the repair work described in the Contract Documents.

Article 1.2 Measurement

Tank Coating Repair shall include all interior seams located within the bottom four (4) feet of the tank. Tank Coating Repair shall be measured on a lump sum basis and shall include all labor, equipment, materials, supervision, and other related work as further described in the Contract Documents. This item shall also include furnishing all additional coating materials, listed in Specification Section 09 97 00 Article 2.3A, required to complete Additional Repairs as Directed in their entirety. Any unopened coating material containers furnished under this bid item shall become property of the Owner.

Measurement for Additional Repairs as Directed shall be per linear foot of seam coating completed beyond Tank Coating Repair, as directed by the Engineer. Completed length shall be rounded up to the nearest half-foot increment. Work shall include all labor, equipment, supplementary materials, supervision, and other related work as further described in the Contract Documents.

Article 1.3 Basis of Payment

Payment for this Work shall be in accordance with Division 10, Section 10.07 – Measurement and Payment, and shall constitute full payment for all Work as described in the Contract Documents.

Payment shall be made under the following items:

| | |
|--------------------------------|-------------|
| Tank Coating Repair | Lump Sum |
| Additional Repairs as Directed | Linear Foot |

Reservoir 3 Repairs are further defined in Supplemental Specifications, Scope of Work, and Details.

END OF SPECIAL PROVISIONS

CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

SUPPLEMENTED SPECIFICATIONS

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SECTION 09 97 00 – SPECIAL COATINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Special coating for steel tanks and reservoirs used for the containment of potable water. Special coating rapidly cures to form a seamless, abrasion resistant, and potable water approved waterproof liner.
2. Coatings, thinners, accelerators, inhibitors, etc., specified or required as part of a complete system specified in this Section.
3. Surface preparation requirements.
4. Disinfection of the tank after coating.

B. References:

1. American National Standards Institute (ANSI)/National Sanitation Foundation (NSF)
 - a. Standard 60 – Drinking Water Treatment Chemicals
 - b. Standard 61 – Drinking Water System Components – Health Effects
2. ASTM International (ASTM):
 - a. C836 – High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
 - b. C957 – High Solids Content, Cold-Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface
 - c. D36 – Softening Point of Bitumen (Ring-and-Ball Apparatus)
 - d. D412 – Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers – Tension
 - e. D624 – Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
 - f. D648 – Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
 - g. D751 – Coated Fabrics

-
- h. D822 – Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus
 - i. D2240 – Rubber Property – Durometer Hardness
 - j. D4060 – Abrasion Resistance of Organic Coatings by the Taber Abraser
 - k. E96 – Water Vapor Transmission of Materials
3. American Water Works Association (AWWA):
 - a. C652-19– Disinfection of Water Storage Facilities
 - b. D102-17 – Coating Steel Water Storage Tanks
 - c. D103-19 – Factory-Coated Bolted Carbon Steel Tanks for Water Storage
 4. National Bureau of Standards (NBS):
 - a. Certified Coating Thickness Calibration Standards.
 5. 40 CFR, Part 63, Subpart M – National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products
 6. The Society for Protective Coatings (SSPC)/NACE International (NACE):
 - a. SP1, Solvent Cleaning
 - b. SP3, Power Tool Cleaning
- C. Quality Assurance
1. Provide a written statement attesting that applicator has been instructed on proper preparation, mixing, and application procedures for special coatings specified.
 2. Applicator shall have a minimum of 10 years experience in application of similar products on similar projects.
 - a. Provide References for a minimum of three (3) different projects completed in last five (5) years with similar scope of work.
 - b. Include name and address of project, size of project in value (coating) and contact person.

1.2 DEFINITIONS

- A. Installer or Applicator: The person actually installing or applying the product in the field at the Project site.

- B. Total Dry Film Thickness (TDFT): Thickness of a coat of cured paint measured in mils (1/1000 inch)
- C. Approved Factory Finish: Finish on a product in compliance with the finish specified in the Specification Section where the product is specified.
- D. Corrosive Environment: Immersion in, or not more than 6 inches above, or subject to condensation, spillage, or splash of a corrosive material such as water, wastewater, or chemical solution; or exposure to corrosive, caustic, or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions with a pH range of 5 to 9.
- E. Highly Corrosive Environment: Immersion in, or not more than 6 inches above, or subject to condensation, spillage, or splash of a highly corrosive material such as water, wastewater, or chemical solution; or exposure to high corrosive, caustic or acidic agent, chemicals, chemical fumes, chemical mixtures, or solutions with a pH range below 5 or above 9.
- F. Finished Area: An area that is indicated in the Contract Documents to be painted.
- G. Immersion Surface: Any surface immersed in water or some other liquid.
- H. Special Coating: Epoxies, urethanes, vinyl ester, waterborne vinyl acrylic emulsions, acrylates, silicones, alkyds, acrylic emulsions, and any other coating listed as a special coating.

1.3 SUBMITTALS

- A. Applicator experience qualifications.
- B. List of equipment and application plan for special coating system. Include coating system schedule. Coating system schedule shall include coating manufacturer, coating system data sheets, technical data sheets, surface preparation, application, recommended dry film thickness for each coating application, and curing.
- C. Notice of Reservoir Repair Operations. Submit Notice of Reservoir Repair Operations a minimum of 15 days prior to beginning work that requires the reservoir to be taken offline. The notice shall be a written request to the Engineer stating when the Contractor plans to begin tank repairs. A work plan detailing all procedures associated with repairs shall accompany this notice. The work plan shall include a daily schedule.
- D. Potable Water Certification: Submit certification that coating has been classified by ANSI certified laboratory to ANSI/NSF 61 in tanks, reservoirs, pipes and joints.
- E. Warranty: Submit manufacturer's standard warranty.
- F. Daily reports from application and curing periods that note work areas and environmental conditions.

1.4 JOB CONDITIONS

- A. Equipment: Contractor shall provide such modern plant and equipment as may be necessary in the opinion of the Engineer to perform in a satisfactory and acceptable manner, and in accordance with the specifications, all work required of the Contractor.
- B. Overspray and Dust Abatement: Contractor shall furnish all labor, equipment and means required and shall carry out protective measures wherever and as often as necessary to prevent his operations from producing overspray or dust in amounts damaging to property or causing a nuisance. Contractor shall be responsible for any damage resulting from overspray or dust originating from his operations. The abatement measures shall be continued until all surface preparation and painting is completed. Overspray and dust abatement shall be incidental to the cost of coating application.
- C. Power: Contractor shall provide at his own expense all necessary power required for his operations under the contract.
- D. Regulatory Requirements: Comply with environmental regulations.

1.5 WARRANTY

- A. Provide a 5-year material and 1-year labor warranty. Obtain material warranty from manufacturer.

1.6 GUARANTEE

- A. Contractor shall guarantee that the entire work under this contract will fully meet all requirements as to quality of workmanship and of materials furnished by him. Contractor agrees to make, at his own expense, any repairs or replacements made necessary by defective materials or workmanship supplied by him which have become evident within one year after the Notice of Acceptance of the Work is filed, and to restore to full compliance with the requirements of these specifications any part which, during said one year period, is found to be deficient with respect to any provisions of this specification. Contractor shall make all repairs and replacements promptly, upon receipt of written orders for same from Engineer. If Contractor fails to make the repairs and replacements promptly, Owner may do the work and Contractor and his surety shall be liable to Owner for the cost thereof.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Special Coatings: Manufacturers offering products complying with the requirements of these specifications are listed below. Alternate suppliers will be considered, subject to review of the Engineer:
 - 1. C.I.M. Industries, Inc., 23 Elm Street, Peterborough NH 03458. Phone (603) 924-9481. Toll Free (800) 543-3458. Fax (603) 924-9482.

2. Approved Alternate

2.2 MATERIALS

- A. General: All products submitted shall conform to federal, state, and local requirements limiting the emission of volatile organic compounds. Specific information may be secured through the local office of the Air Pollution Control Officer.
- B. Color Pigments: Pure, non-fading, applicable types to suit the substrates and service indicated.
- C. Paint Coordination: Provide finish coats that are compatible with prime paints used. Review other sections of these Specifications in which prime paints are to be provided to ensure compatibility. Provide barrier coats over incompatible primers or remove and reprime as required. Notify the Engineer in writing of any anticipated problems arising from using specified coating systems with substrates primed by others.
- D. Material Quality:
 - 1. Provide the best quality grade of the various types of coatings as regularly manufactured by acceptable coating materials manufacturers. Materials not displaying the manufacturer's identification as a standard, best grade product will not be acceptable. Proprietary names used to designate colors or materials are not intended to imply that products of the named manufacturers are required to the exclusion of equivalent products of other manufacturers, but are used to establish the intended finish type and quality. Equivalent products of other manufacturers may be used upon proper submittal and acceptance; however, proof of replacement materials being readily available at future dates from established, nationally-recognized sources is required.
 - 2. Provide complete coating system produced by the same manufacturer. Use only thinners approved by the coating manufacturer, and use only within recommended limits.
- E. Heavy metals including lead, chromates and mercury are not permitted. Any coating containing toxins that require hazardous waste treatment or disposal are not permitted.
- F. HPIC Specific Requirements:
 - 1. Alternate contrasting colors for each coat shall be used to facilitate inspection and to prevent incomplete coverage of each coat.

2.3 IMMERSED STEEL SURFACES

A. Schedule:

| Service Area | Surface Prep. | Primer | Patching Material | Finish Coat |
|---|---------------|-------------------|-----------------------|---|
| All interior metal to metal, bolted lap seams located within bottom 4 feet of reservoir | SSPC – SP 3 | CIM Bonding Agent | CIM 1000 Trowel Grade | C.I.M. 1061 @ 60 mils wet film thickness |

The product numbers listed above refer to materials as manufactured by C.I.M. Industries, Inc. These products shall establish a minimum standard of quality. Materials of comparable quality, limited to those manufacturers listed above, may be substituted.

B. Bonding Agent: CIM VOC Compliant Bonding Agent. Organo-silane compound dispersed in acetone. Ensures a continuous and uniform bond between surfaces. Use the bonding agent over non-porous surfaces such as steel, except where primer has been installed. Do not use where solvent cleaners are prohibited.

1. Potable Water Service: Classified for potable water contact in tanks, reservoirs, pipes, and joints in accordance with ANSI/NSF 61.
2. Solids by Volume: Less than 1 percent.
3. Volatile Organic Compounds (VOC): 0.0 pounds per gallon (0 g/l).

C. Patching Material: CIM 1000 Trowel Grade. Liquid applied, chemical and corrosion resistant urethane elastomer, chemically thickened to allow trowel application with minimum sag. Use as a crack filler and for application to vertical surfaces and cold joints.

1. Potable Water Service: Classified for potable water contact in tanks, reservoirs, pipes, and joints in accordance with ANSI/NSF 61 up to 180 degrees F (82 degrees C).
2. Elastomeric Waterproofing, ASTM C836 and C957: Exceeds all criteria.
3. Solids by volume: 89 percent.
4. Volatile Organic Compounds (VOC): 0.74 pounds per gallon (88 g/L).
5. Mullen Burst Strength, ASTM D751, 50 mils in CIM Scrim: 150 pounds per square inch.
6. Tear Strength, ASTM624, Die C: 150 pounds per inch.
7. Tensile Strength, ASTM D412, 100-mil sheet: 800 pounds per square inch.
8. Extension to Break, ASTM D412: 300 percent.

9. Recovery from 100 Percent Extension:
 - a. After 5-minutes: 98 percent.
 - b. After 24-hours: 100 percent.
 10. Coating Performance, Crack Bridging:
 - a. 10 Cycles at minus 15 degrees F (minus 26 degrees C): Greater than 1/8-inch.
 - b. After Heat Aging: Greater than 1/4-inch.
 11. Coating Performance, Weathering, ASTM D 822: 5000 hours: no cracking.
 12. Softening Point, ASTM D36: Greater than 325 degrees F (160 degrees C).
 13. Deflection Temperature, ASTM D648: below minus 60 degrees (minus 50 degrees C).
 14. Service Temperature: minus 60 degrees F to 220 degrees F (minus 50 degrees C to 105 degrees C).
 15. Hardness, ASTM D2240, Shore A, 77 degrees F (25 degrees C): 60.
 16. Permeability to Water Vapor, ASTM E96, Method E, 100 degrees F (38 degrees C), 100-mil sheet: 0.03 perms.
 17. Abrasion Resistance, Weight Loss, ASTM D4060: 1.2 mg.
 18. Adhesion to Concrete, Dry, Elcometer: 350 pounds per square inch.
 19. Color: Black.
- D. Special Coating: CIM 1061. Two-component, high solids, elastomeric asphalt modified urethane. Designed for spray, squeegee, or roller application.
1. Potable Water Service: Classified for potable water contact in tanks, reservoirs, pipes, and joints in accordance with ANSI/NSF 61 up to 180 degrees F (82 degrees C).
 2. Elastomeric Waterproofing, ASTM C836 and C957: Exceeds all criteria.
 3. Solids by volume: 88 percent.
 4. Volatile Organic Compounds (VOC): 0.75 pounds per gallon (90 g/l).
 5. Mullen Burst Strength, ASTM D751, 50 mils in CIM Scrim: 150 pounds per square inch.
 6. Tear Strength, ASTM D624, Die C: 180 pounds per inch.
 7. Tensile Strength, ASTM D412, 100-mil sheet: 1000 pounds per square inch.
 8. Extension to Break, ASTM D412: 350 percent.

9. Recovery from 100 Percent Extension:
 - a. After 5-minutes: 98 percent.
 - b. After 24-hours: 100 percent.
10. Coating Performance, Crack Bridging:
 - a. 10 Cycles at minus 15 degrees F (minus 26 degrees C): Greater than 1/8-inch.
 - b. After Heat Aging: Greater than 1/4-inch.
11. Coating Performance, Weathering, ASTM D 822: 5000 hours: no cracking.
12. Softening Point, ASTM D36: Greater than 325 degrees F (160 degrees C).
13. Deflection Temperature, ASTM D648: below minus 60 degrees (minus 50 degrees C).
14. Service Temperature: minus 60 degrees F to 220 degrees F (minus 50 degrees C to 105 degrees C).
15. Hardness, ASTM D2240, Shore A, 77 degrees F (25 degrees C): 65.
16. Permeability to Water Vapor, ASTM E96, Method E, 100 degrees F (38 degrees C), 100-mil sheet: 0.03 perms.
17. Abrasion Resistance, Weight Loss, ASTM D4060: 1.2 mg.
18. Adhesion to Concrete, Dry, Elcometer: 350 pounds per square inch.
19. Color: Black.

PART 3 - EXECUTION

3.1 GENERAL

- A. Submit Notice of Reservoir Repair Operations. Owner will be responsible for draining the tank prior to repairs. Owner will be responsible for system operation and pressure maintenance during repairs.
- B. All materials of a coating system, including primer and finish coats, shall be produced by the same coating manufacturer. Thinners, cleaners, driers, and other additives shall be as recommended by the coating manufacturer of the particular coating.
- C. Coat all exposed surfaces, whether or not designated in "Schedules", except where the natural finish of the material is specifically noted as a surface not to be coated. Where items or surfaces are not specifically mentioned, coat these the same as adjacent or similar materials or areas, or as directed by the Engineer. If color or finish is not designated, Contractor shall notify

the Engineer of these items. Engineer will select the color or finish from standard colors available for the materials systems specified.

3.2 EXAMINATION

- A. Contractor shall remove all debris, including the sacrificial anode remains, from the bottom of the reservoir prior to beginning work. It is the responsibility of the Contractor to inspect and provide substrate surfaces that are prepared in accordance with these Specifications and the printed directions and recommendations of the coating manufacturer whose product is to be applied.

3.3 PROTECTION OF MATERIALS NOT TO BE PAINTED

- A. Remove, mask, or otherwise protect hardware, lighting fixtures, switchplates, aluminum surfaces, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not intended to be painted. Provide drop cloths to prevent paint materials from falling on or marring adjacent surfaces. Protect working parts of mechanical and electrical equipment from damage during surface preparation and painting process. Openings in motors shall be masked to prevent paint and other materials from entering the motors.

3.4 ENVIRONMENTAL CONDITIONS

- A. All materials of the coating system shall not be applied in temperatures exceeding the manufacturer's recommended maximum and minimum allowable, nor in dust, smoke-laden atmosphere, damp or humid weather.
- B. Apply when the surface is a minimum 50 degrees F (10 degrees C) and a minimum of 5 degrees F (3 degrees C) above dew point., unless otherwise permitted by the paint manufacturer's printed instructions.
- C. Do not apply coating system in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces; unless otherwise permitted by the coating manufacturer's printed instructions.
- D. Application may be continued during inclement weather, only if the areas and surfaces to be coated are enclosed and heated within the temperature limits specified by the coating manufacturer during application and drying periods.
- E. Do not apply coating system when temperature and humidity conditions can reasonably be predicted to change from manufacturer's application limitations prior to the elapse of adequate drying time.

3.5 SAFETY

- A. Coating shall be performed in strict accordance with the safety recommendations of the coating manufacturer; with the safety recommendations of the National Association of Corrosion

Engineers contained in the publication, Manual for Painter Safety; federal, state, and local agencies having jurisdiction.

3.6 PAINT MIXING

- A. Multiple-component coatings shall be prepared using all of the contents of the container for each component as packaged by the paint manufacturer. No partial batches will be permitted. Multiple-component coatings that have been mixed shall not be used beyond their pot life. Contractor shall provide small quantity kits for touch-up painting and for painting other small areas. Only the components specified and furnished by the paint manufacturer shall be mixed. No intermixing of additional components for reasons of color or otherwise, even within the same generic type of coating, will be permitted.
- B. Coating materials shall be kept sealed when not in use.

3.7 LOCATION WHERE COATING IS PERFORMED

- A. Surface preparation and coating shall be done at the project site.

3.8 PREPARATION OF SURFACES

- A. General:
 - 1. Perform preparation and cleaning procedures in strict accordance with the coating manufacturer's instructions and as herein specified for each particular substrate condition.
 - 2. Remove all hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish painted; or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary for the complete painting of the items and adjacent surfaces. Following completion of painting of each space or area, reinstall the removed items by workmen skilled in the trades involved.
 - 3. Clean surfaces to be coated before applying coating system or surface treatments. Remove oil and grease prior to mechanical cleaning. Program the cleaning and coating so that contaminants from the cleaning process will not fall onto wet, newly-coated surfaces.
- B. Preparation of Steel Surfaces:
 - 1. Minimum surface preparation shall be per the coating schedule or as otherwise recommended by the coating manufacturer. Remove all oil and grease in accordance with the Solvent Cleaning requirements outline in this section.
 - 2. Coating Time: Coat any bare steel within 8 hours or before flash rusting occurs.

3. Sharp edges, surface defects, or protrusions shall be ground flat and smooth. Any welded areas shall be sanded before coating.
 4. Abrasion: Mechanically abrade 8 inches on each side of the joint. Achieve minimum 3 mil surface profile.
- C. Solvent Cleaning: Solvent cleaning shall consist of removal of foreign matter within the abraded area such as oil, grease, soil, drawing and cutting compounds, and any other surface contaminants by the use of Methyl Ethyl Ketone, Xylene, or similar materials and methods which involve a solvent or cleaning action. This method conforms with Steel Structures Painting Council SP1.

3.9 APPLICATION OF COATING SYSTEM

A. General:

1. Manufacturer's written instructions for applying each type of special coating shall be furnished the Engineer prior to application. Cleaned surfaces and all coats shall be inspected prior to the succeeding coat. Schedule such inspection with the Engineer in advance. Apply all coatings in strict accordance with the coating manufacturer's recommendations, as reviewed by the Engineer. Sufficient time shall be allowed between coats to assure thorough drying of previously applied coating.
2. Apply additional coats when undercoats, stains, or other conditions show through the final coat until the coating is of uniform finish, color, and appearance. Give special attention to ensure that all surfaces including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

B. Application:

1. Apply bonding agent in accordance with manufacturer's instructions to cleaned steel surfaces.
2. Apply special coating in accordance with manufacturer's instructions.
3. Keep material containers tightly closed until ready for use.
4. Keep equipment, air supplies, and application surfaces dry.
5. Mix and apply when special coating is above 60 degrees F (15 degrees C).
6. Do not use adulterants, thinners, or cutback solutions.
7. Blend and mix 2-component materials in accordance with manufacturer's instructions. Do not hand mix components.
8. Maintain air supply for material spray application free of oil and water in accordance with ASTM D4285.
9. Apply special coating directly to a clean and dry surface.

-
10. Apply a 6 to 12-inch wide strip of joint cover sheet over cracks over 1/8-inch wide, non-working joints, and edges. Adhere center joint cover sheet over all joints by applying a tack coat of the special coating.
 11. Apply sufficient special coating to achieve 60-mils wet film thickness for containment of potable water.
 12. Joint Lines:
 - a. Prepare for joint lines should rain or other conditions require work stoppage or extended delay.
 - b. Install joint lines clean and straight. Install overlap 6-inches minimum to ensure an impervious joint.
 - c. Severely abrade with wire brush or sandpaper and apply bonding agent to all areas where the special coating has cured beyond its recoat window.
 13. Recoating:
 - a. Recoat the special coating system within the recoat window to obtain maximum interlayer adhesion to build specific thickness.
 - b. Immersion Service: Minimize areas to be recoated outside the recoat window, except at joint lines.
 - c. Non-Immersion Service: Severely abrade with wire brush or surface grinder, apply bonding agent, and recoat, if special coating has cured more than the recoat window. Acceptable adhesion can only be achieved through aggressive abrading.
- C. Film Thickness:
1. Coverage is listed as either total minimum dry film thickness in mils (DFT) or the spreading rate in square feet per gallon (SFPG). Per coat determinations are listed as DFT or SFPG. The number of coats is the minimum required irrespective of the coating thickness. Additional coats may be required to obtain the minimum required paint thickness, depending on method of application, differences in manufacturers; products, and atmospheric conditions. Maximum film build per coat shall not exceed the coating manufacturer's recommendations.
 2. Metal surfaces shall be visually inspected to ensure proper and complete coverage has been attained.
 3. Particular attention shall be given edges, angles, flanges, etc. Where insufficient film thicknesses are likely to be present, ensure proper millage in these areas.
- D. Curing
1. Cure special coating in accordance with manufacturer's instructions.

2. Curing Time: Allow sufficient time for solvents to evaporate from the cured special coating before placing into service.
3. Receive approval of cured coating by Engineer.

E. Damaged Coatings:

1. Damaged coatings, pinholes, and holidays shall have the edges feathered and repaired in accordance with the recommendations of the paint manufacturer, as reviewed by the Engineer.
2. Repair of fusion bonded coatings to be as recommended by the original applicator. Liquid repair kits to be provided for this purpose by the applicator, as recommended by the coating manufacturer.
3. All finish coats, including touch-up and damage-repair coats shall be applied in a manner which will present a uniform texture and color-matched appearance.

F. Unsatisfactory Application

1. If the item has an improper finish color, or insufficient film thickness, the surface shall be cleaned and top coated with the specified paint material to obtain the specified color and coverage. Specific surface preparation information to be secured from the coating manufacturer and the Engineer.
2. All visible areas of chipped, peeled, or abraded paint shall be hand- or power-sanded feathering the edges. The areas shall then be primed and finish coated in accordance with the Specifications. Depending on the extent of repair and its appearance, a finish sanding and topcoat may be required by the Engineer.
3. Work shall be free of runs, bridges, shiners, laps, or other imperfections. Evidence of these conditions shall be cause for rejection.
4. Any defects in the coating system shall be repaired by the Contractor per written recommendations of the coating manufacturer.
5. Leave all staging up until the Engineer has inspected the surface or coating. Staging removed prior to approval by Engineer shall be replaced.

3.10 SHIPPING, STORAGE, AND HANDLING

A. Shipping

1. Deliver materials to the site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
2. Do not deliver material to site more than one month before use.

B. Storage:

1. Store the material in accordance with manufacturer's instructions.
2. Store materials indoor in an area well ventilated and protected from damage.
3. Do not store material near open flame, sparks, or hot surfaces.
4. Store materials on raised platforms and covered by waterproofing covers.
5. Keep material containers closed.

C. Handling: Protect materials during handling and application to prevent damage.

3.11 SCHEDULING COATING

- A. Apply the first coat material to surfaces that have been cleaned, pretreated, or otherwise prepared for coating as soon as practicable after preparation and before subsequent surface deterioration.
- B. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

3.12 MINIMUM COATING THICKNESS

- A. Apply each material at not less than the manufacturer's recommended spreading rate to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

3.13 PRIME COATS

- A. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat to assure a finish coat with no burn-through or other defects due to insufficient sealing.

3.14 CLEANUP

- A. All cloths and waste that might constitute a fire hazard shall be placed in closed metal containers or destroyed at the end of each day. Upon completion of the work, all staging, scaffolding, and containers shall be removed from the site or destroyed in a legal manner. Paint spots, oil, or stains upon adjacent surfaces and floors shall be completely removed, from the site or destroyed in a legal manner. Paint spots, oil, or stains upon adjacent surfaces and floors shall be completely removed, and the entire job left clean and acceptable to the Engineer.
- B. Upon completion of coating work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

3.15 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against any damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting as acceptable to the Engineer.
- B. At the completion of work of other trades, touch up and restore all damaged or defaced painted surfaces.

3.16 DISINFECTION

Finished tank shall be disinfected in accordance with AWWA C652, Method 2. Two or more successive sets of samples, taken at 24-hours intervals, shall indicate microbiologically satisfactory water before the facility is placed into operation.

- A. Disinfection of Water Contact Surfaces and Filling of Water Storage Tanks:
 - 1. Do not disinfect water contact surfaces or fill water storage tanks until application of coating systems is complete, coatings have fully cured, and field quality control inspection is complete.
 - 2. Allow number of days in accordance with manufacturer's instructions and as directed by Engineer for full cure of coating systems on water contact surfaces before flushing, disinfecting, or filling with water.
 - 3. Use AWWA C 652 Method 2 for disinfection of interior wetted surfaces.
 - 4. The tank shall be filled with clean water furnished by Owner.
- B. Bacteriological Testing:
 - 1. Upon completion of the disinfection process, Contractor shall arrange for bacteriological testing of water samples in accordance with AWWA C652. The tank shall not be put into service until safe test results are obtained.

3.17 FIRST ANNIVERSARY INSPECTION

- A. Owner will set date for one-year inspection of coating systems.
- B. Owner will be responsible for draining the tank prior to inspection. Owner will be responsible for system operation and pressure maintenance during the inspection and repair, if any.
- C. Inspection shall be attended by Owner, Engineer, Applicator, and Coating Manufacturer's representative.
- D. Repair deficiencies in coating systems as determined by Engineer in accordance with Coating Manufacturer's instructions.

END OF SECTION

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

III

SUBMITTAL LIST

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

SUBMITTAL LIST

Job #: _____

Contractor: _____

| Submittal Number | Rev. | Description |
|------------------|------|--|
| 1 | | DOL Notice of Public Work |
| 2 | | Proposed Disposal Sites |
| 3 | | List of Construction Equipment |
| 4 | | Construction Schedule and updates |
| 5 | | List of Substitutions |
| 6 | | Schedule of Values (Division 10, Article 5.3) |
| 7 | | Notice of Reservoir Repair Operations |
| 8 | | Application for Payment – Progress and Final |
| 9 | | Bi-weekly Certified Payroll |
| 10 | | Safety Plan |
| 11 | | Contractor's Quality Control Plan |
| 12 | | Contractor's Quality Control Testing Results |
| 13 | | Contractor's Daily Reports |
| 14 | | Red Line Drawings |
| 15 | | DOL Notice of Completion of Public Work |
| 16 | | Release of Liens, Statement Concerning Claims |
| 17 | | Certificate of Compliance (Section 10.07, Article 7.7) |
| 18 | | Consent of Surety to Final Payment |
| 19 | | Contract Completion and Acceptance Certificate |
| | | |
| | | ***See Technical Specifications for Required Product Data and Quality Control Submittals*** |
| | | |
| | | |
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| | | |
| | | |
| | | |
| | | |
| | | |

NOTE: The above list of submittals is not all inclusive. In addition to the above, the Contractor is required to comply with all submittal requirements as required or identified in the plans, specifications, CPSS, or as directed by the Engineer.

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

V

EQUAL OPPORTUNITY BIDDING AND REPORTING REQUIREMENTS

(NOT USED)

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

VI

MBE/WBE SPECIFICATIONS

(NOT USED)

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

VII

MINIMUM RATES OF PAY

EXHIBIT A - STATE OF ALASKA TITLE 36 WAGE RATES

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Laborers' & Mechanics' Minimum Rates of Pay

Labor for the project must be paid at the prevailing wage rates listed in the Alaska Department of Labor & Workforce Development, Laborers' & Mechanics' Minimum Rates of Pay, Wage & Hour Administration Pamphlet no 600.

The state of Alaska wage rates can be obtained at:

<http://www.labor.state.ak.us/lss/pamp600.htm>

Use the rates that are in effect ten days prior to Bid Opening.

A paper copy of the wage rates will be included in the executed Contract.

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

VIII

CONTRACT

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CITY OF PALMER
PALMER RESERVOIR 3 TANK REPAIRS
CONSTRUCTION CONTRACT

THIS CONTRACT, between the **City of Palmer**, herein called the **Owner**, and:

_____, an Individual, Partnership, Joint Venture, Sole Proprietorship, Corporation, incorporated under the laws of the State of Alaska, its successors and assigns, hereinafter called the Contractor, is effective the date of the signature of the Owner on this document.

WITNESSETH: That the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the City, hereby covenants and agrees to furnish and deliver all materials and to do and perform all the work and labor required in the construction of the **Palmer Reservoir 3 Tank Repairs** at the prices bid by the Contractor for the respective estimated quantities aggregating approximately the sum of:

_____ Dollars (\$_____), and such other items as are mentioned in the original Proposal, which Proposal and prices named, together with the Contract Documents, and City of Palmer Standard Specifications for Streets, Drainage and Utilities dated **2018** are made a part of this Contract and accepted as such, the project being situated as follows:

A portion of the Cedar Hills Subdivision as more particularly described in the Contract Documents, located in Palmer, Alaska.

It is distinctly understood and agreed that no claim for additional work or materials, done or furnished by the Contractor and not specifically herein provided for, will be allowed by the Owner, nor shall the Contractor do any work or furnish any material not covered by this Contract, unless such work is ordered in writing by the Owner. In no event shall the Owner be liable for any materials furnished or used, or for any work or labor done, unless the materials, work or labor are required by the Contract or on written order furnished by the Owner. Any such work or materials which may be done or furnished by the Contractor without written order first being given shall be at the Contractor's own risk, cost and expense and the Contractor hereby covenants and agrees to make no claim for compensation for work or materials done or furnished without such written order.

The Contractor further covenants and agrees that all materials shall be furnished and delivered and all labor shall be done and performed, in every respect, to the satisfaction of the Owner, on or before: July 15, 2021. It is expressly understood and agreed that in case of the failure on the part of the Contractor, for any reason, except with the written consent of the Owner, to complete the furnishing and delivery of materials and the doing and performance of the work before the aforesaid date, the Owner shall have the right to deduct from any money due or which may become due the Contractor, or if no money shall be due, the Owner shall have the right to recover

_____ dollars
(\$_____) per day for each calendar day elapsing between the time stipulated for the completion and the actual date of completion in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.

The bonds given by the Contractor in the sum of \$_____ Payment Bond, and \$_____ Performance Bond, to secure the proper compliance with the terms and provisions of this contract, are submitted herewith and made a part hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Contract and hereby agree to its terms and conditions

CONTRACTOR

Name of Contractor

Signature

Date

Name and Title

(Corporate Seal)

CITY OF PALMER

CITY MANAGER (Signature)

Date

Typed Name

CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

IX

CONTRACT PERFORMANCE AND PAYMENT BONDS

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CITY OF PALMER

Palmer Reservoir 3 Tank Repairs

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____ as Principal, and _____ of _____ as Surety, firmly bound and held unto the _____ in the penal sum of _____ Dollars (\$ _____), good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the _____, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into written contract with said _____, on the _____ of _____ A.D. 20____, for construction of: **Palmer Reservoir 3 Tank Repairs** said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligations is such that if the said Principal shall well and truly perform and complete all obligations and work under said contract and if said principal shall reimburse upon demand of the **City of Palmer** any sums paid to him which exceed the final payment determined to be due upon completion of the project, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____, this _____ day of _____ A.D., 20____.

Principal:

By: _____

By: _____

Surety:

By: _____

By: _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Authorized Representative – City of Palmer

Date

INSTRUCTIONS

1. This form, shall be used whenever a performance bond is required. There shall be no deviation from this form without approval from the Owner.
2. The full legal name and business address of the Principal and Surety shall be inserted on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety, the amount of obligation shall be entered in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Owner.
5. The bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g. an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.

CITY OF PALMER

Palmer Reservoir 3 Tank Repairs

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____ as Principal, and _____ of _____ as Surety, firmly bound and held unto the _____ in the penal sum of _____ Dollars (\$ _____), good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the _____, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into written contract with said _____, on the _____ of _____ A.D. 20____, for construction of: **Palmer Reservoir 3 Tank Repairs** said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligations is such that if the said principal shall comply with all requirements of law and pay, as they become due, all just claims for labor performed and materials and supplies furnished upon or for the work under said contract, whether said labor be performed and said materials and supplies be furnished under the original contract, any subcontract, or any and all duly authorized modifications thereto, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____, this _____ day of _____ A.D., 20____.

Principal: _____

By: _____

By: _____

Surety: _____

By: _____

By: _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Authorized Representative
City of Palmer

Date

INSTRUCTIONS

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required. There shall be no deviation from this form without approval from the Owner.
2. The full legal name and business address of the Principal and Surety shall be inserted on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety, the amount of obligation shall be entered in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Owner.
5. The bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g. an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.

CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

X

CERTIFICATE OF INSURANCE

(submit original certificate)

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

XI

BID BOND

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

XII

BIDDER'S CHECKLIST

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BIDDER'S CHECKLIST
INSTRUCTIONS TO BIDDER

I. GENERAL

Bidders are advised that, notwithstanding any instructions or implications elsewhere in this Invitation to Bid, only the documents shown and detailed on this sheet need be submitted with and made part of their bid. Other documents may be required to be submitted after bid time, but prior to award. Bidders are hereby advised that failure to submit the documents shown and detailed on this sheet shall be justification for rendering the bid nonresponsive. Evaluation of bids for responsiveness shall be accomplished in accordance with Palmer Municipal Code.

II. REQUIRED DOCUMENTS FOR BID

NOTE: "Only the following listed items as marked with an "X" are required to be completely filled out and submitted with the bid."

- Bid proposal consisting of pages BP-1 and BP-2.
- Erasures or other changes made to the Bid Proposal Sheet must be initialed by the person signing the bid.
- Two identical sets of descriptive literature, brochures, and/or data must accompany the bid where specifically requested or when in support of an "or equal" offer.
- Bid bond, certified check, cashiers check, money order or cash shall be submitted with the bid in the amounts indicated.
- All Addenda issued shall be acknowledged in the space provided on the Bid Proposal sheet or by manually signing the Addenda sheet and submitting it prior to the bid opening in accordance with Palmer Municipal Code.
- Bidder Qualification Form
- MBE/WBE Compliance Statement

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

XIII

BID PROPOSAL

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**BID PROPOSAL
(CERTIFICATION)**

TO: CITY OF PALMER
CITY HALL
231 WEST EVERGREEN AVENUE
PALMER, ALASKA 99645

SUBJECT: Invitation to Bid No. _____

PROJECT TITLE: **Palmer Reservoir 3 Tank Repairs**

Pursuant to and in compliance with subject Invitation to Bid, and other Contract documents relating thereto, the bidder hereby proposes to furnish all labor and materials and to perform all Work for the construction of the above-referenced project in strict accordance with the Contract documents at the prices established in the Bid Proposal, Page BP-2, submitted herewith.

The bidder agrees, if awarded the Contract, to commence and complete the Work within the time specified in the Contract documents.

The bidder acknowledges receipt of the following Addenda:

| | |
|---------------------------|---------------------------|
| Addendum No. & Date _____ | Addendum No. & Date _____ |
| Addendum No. & Date _____ | Addendum No. & Date _____ |
| Addendum No. & Date _____ | Addendum No. & Date _____ |

Enclosed is Bid Bond in the amount of _____
(Percentage of Bid)

Type of Business Organization

The bidder, by checking the applicable box, represents that it operates as:

a corporation incorporated under the laws of the State of Alaska a joint venture
 an individual a partnership a nonprofit organization

If a partnership or joint venture, identify all parties on a separate page.

Bidder/Company Name

Alaska Contractor's License
Number: _____

Address of Bidder

Employer's Tax Identification
Number: _____

Telephone Number _____

Signature

**CITY OF PALMER
PALMER RESERVOIR 3 TANK REPAIRS
BID PROPOSAL**

Base Bid - Reservoir 3 Tank Repairs

| Item No. | Spec. No. | Work Description | Estimated Quantity | Unit Price | Total Bid Price |
|----------|-----------|---|--------------------|------------|-----------------|
| 1 | 60.22 | Tank Coating Repair Per Lump Sum | 1 | \$ - | |
| 2 | 60.22 | Additional Repairs (Additional as Directed) Per Linear Foot | 100 | | |

Total

CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

XIV

FORMS FOR BIDDING

- 1. BIDDER QUALIFICATION FORM**
- 2. LIST OF SUBCONTRACTORS AND SUPPLIERS**

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BIDDER QUALIFICATION FORM

The Bidder shall submit the data requested below as part of the bid package.

Contractor Business Name: _____

Business Address: _____

Years in business as contractor under above business name: _____

List six or more important or similar construction projects completed by Bidder with date, approximate cost, and name and phone number of project engineer or owner (use additional pages as required):

Project: _____

Project: _____

Owner: _____

Owner: _____

Date: _____ Cost: _____

Date: _____ Cost: _____

Contact Name: _____

Contact Name: _____

Contact Phone: _____

Contact Phone: _____

Project: _____

Project: _____

Owner: _____

Owner: _____

Date: _____ Cost: _____

Date: _____ Cost: _____

Contact Name: _____

Contact Name: _____

Contact Phone: _____

Contact Phone: _____

List other construction projects your firm will be working on or anticipate working on between April 1, 2021 and November 1, 2021. _____

List major equipment to be used on this project and indicate if owned or rented: _____

Have you received firm quotes & delivery times for major materials for this project? _____

Have you ever failed in any material way to perform your obligations under any contract with the City or other government agency? _____ If so, provide details.

(signed)

(title)

(date)

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SUBCONTRACTORS & SUPPLIERS LIST

The Successful Bidder shall submit the data requested below by the end of the second business day following Bid opening. Use additional pages as required.

Contractor Business Name: _____

Business Address: _____

List all Subcontractors and Suppliers who will be performing more than 1/2 of 1% of the total cost of this project.

Business Name: _____ Trade: _____

Address: _____ Contractor's License #: _____

_____ Telephone: _____

Contact: _____ FAX: _____

Business Name: _____ Trade: _____

Address: _____ Contractor's License #: _____

_____ Telephone: _____

Contact: _____ FAX: _____

Business Name: _____ Trade: _____

Address: _____ Contractor's License #: _____

_____ Telephone: _____

Contact: _____ FAX: _____

Business Name: _____ Trade: _____

Address: _____ Contractor's License #: _____

_____ Telephone: _____

Contact: _____ FAX: _____

Business Name: _____ Trade: _____

Address: _____ Contractor's License #: _____

_____ Telephone: _____

Contact: _____ FAX: _____

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

XV

SCOPE OF WORK AND DETAILS

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CITY OF PALMER

Scope of Work

Palmer Reservoir 3 Tank Repairs

This project will perform repairs to extend the life of the existing 250,000 gallon Reservoir 3 bolted steel water tank located adjacent to the Glenn Highway in Palmer, Alaska. Tank Repair will consist of the installation of a special coating system along designated interior seams as defined in the Contract Documents and shown in the following details.

The Work of Project is defined by the Contract Documents and generally consists of the following:

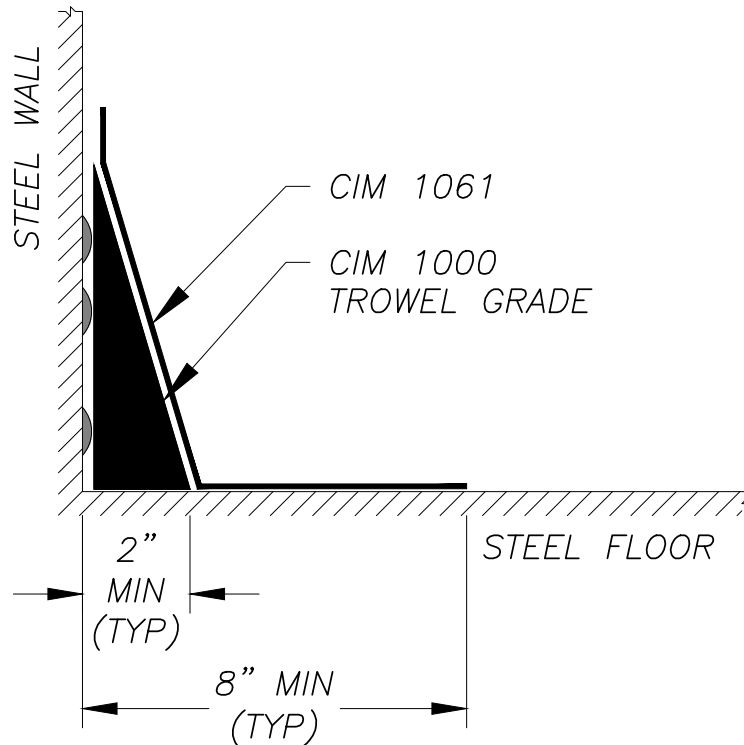
1. Surface preparation and application of the Special Coating system to all interior seams located within the bottom four (4) feet of the reservoir. Cumulative length of seams is estimated at 850 linear feet.
2. Surface preparation and application of the Special Coating system to additional seams as directed by the Engineer. Cumulative length of additional coating is estimated at 100 linear feet.
3. Disinfection and testing in accordance with AWWA C652-19.
4. All other work indicated on the Plans and in these Specifications.

Period of Performance:

Reservoir 3 shall not be taken out of service for a period greater than 21 calendar days.

All work shall be complete by July 15, 2021.

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GENERAL NOTES:

1. REMOVE ANY EXISTING CAULKING BACK TO STEEL PLATE.
2. MINIMUM SURFACE PREPARATION SHALL BE PER THE COATING SCHEDULE OR AS OTHERWISE RECOMMENDED BY THE COATING MANUFACTURER.
3. MECHANICALLY ABRADE 8 INCHES OF STEEL ON EACH SIDE OF JOINT. ACHIEVE MINIMUM 3 MIL SURFACE PROFILE.
4. SOLVENT WIPE ABRADED AREA WITH METHYL ETHYL KETONE, OR XYLENE.
5. APPLY CIM BONDING AGENT TO PREPPED STEEL SURFACE (600 SF PER GAL).
6. APPLY CIM 1000 TROWEL GRADE A MINIMUM OF 2" ON EITHER SIDE OF SEAM, COATING BOLT HEADS.
7. ALLOW CIM TROWEL GRADE TO CURE FOR AT LEAST 12 HOURS.
8. APPLY CIM 1061 TO A MINIMUM THICKNESS OF 60 WET MILS (MULTIPLE COATS WILL BE NECESSARY). MAXIMUM FILM BUILD PER COAT SHALL NOT EXCEED THE COATING MANUFACTURER'S RECOMMENDATIONS.
9. MANUFACTURER REQUIREMENTS MUST BE MET AT ALL TIME DURING APPLICATION.

HDL ENGINEERING
Consultants LLC

civil - geotechnical - surveying - environmental - material testing

ANCHORAGE
907.564.2120

MAT-SU
907.746.5230

3335 Arctic Boulevard, Suite 100 Anchorage, AK 99503
AECL861 www.HDLalaska.com

RESERVOIR 3 TANK REPAIRS
FLOOR TO WALL SEAM
CITY OF PALMER
PALMER, ALASKA

DATE: DECEMBER 2020

DRAWN BY: LRK

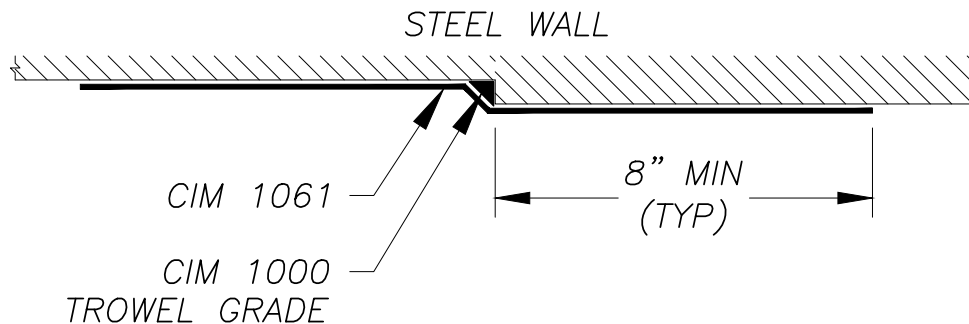
SHEET: 1 OF 3

SCALE: NTS

CHECKED BY: CJB

JOB NO.: 20-006

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GENERAL NOTES:

1. VERTICAL SEAM IS SHOWN, HORIZONTAL SEAM IS SIMILAR.
2. REMOVE ANY EXISTING CAULKING BACK TO STEEL PLATE.
2. MINIMUM SURFACE PREPARATION SHALL BE PER THE COATING SCHEDULE OR AS OTHERWISE RECOMMENDED BY THE COATING MANUFACTURER.
3. MECHANICALLY ABRADE 8 INCHES OF STEEL ON EACH SIDE OF JOINT. ACHIEVE MINIMUM 3 MIL SURFACE PROFILE.
4. SOLVENT WIPE ABRADED AREA WITH METHYL ETHYL KETONE, OR XYLENE.
5. APPLY CIM BONDING AGENT TO PREPPED STEEL SURFACE (600 SF PER GAL).
6. APPLY CIM 1000 TROWEL GRADE TO ALL PLATE TRANSITIONS.
7. ALLOW CIM TROWEL GRADE TO CURE FOR AT LEAST 12 HOURS.
8. APPLY CIM 1061 TO A MINIMUM THICKNESS OF 60 WET MILS (MULTIPLE COATS WILL BE NECESSARY). MAXIMUM FILM BUILD PER COAT SHALL NOT EXCEED THE COATING MANUFACTURER'S RECOMMENDATIONS.
9. MANUFACTURER REQUIREMENTS MUST BE MET AT ALL TIME DURING APPLICATION.

HDL ENGINEERING
Consultants LLC

civil - geotechnical - surveying - environmental - material testing

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AECL861 www.HDLalaska.com

RESERVOIR 3 TANK REPAIRS
WALL SEAM
CITY OF PALMER
PALMER, ALASKA

DATE: DECEMBER 2020

DRAWN BY: LRK

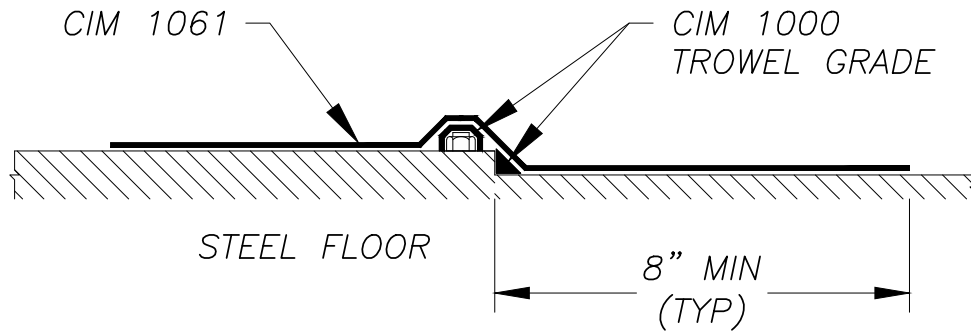
SHEET: 2 OF 3

SCALE: NTS

CHECKED BY: CJB

JOB NO.: 20-006

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GENERAL NOTES:

1. REMOVE ANY EXISTING CAULKING BACK TO STEEL PLATE.
2. MINIMUM SURFACE PREPARATION SHALL BE PER THE COATING SCHEDULE OR AS OTHERWISE RECOMMENDED BY THE COATING MANUFACTURER.
3. MECHANICALLY ABRADE 8 INCHES OF STEEL ON EACH SIDE OF JOINT. ACHIEVE MINIMUM 3 MIL SURFACE PROFILE.
4. SOLVENT WIPE ABRADED AREA WITH METHYL ETHYL KETONE, OR XYLENE.
5. APPLY CIM BONDING AGENT TO PREPPED STEEL SURFACE (600 SF PER GAL).
6. APPLY CIM 1000 TROWEL GRADE TO ALL BOLTS AND PLATE TRANSITIONS.
7. ALLOW CIM TROWEL GRADE TO CURE FOR AT LEAST 12 HOURS.
8. APPLY CIM 1061 TO A MINIMUM THICKNESS OF 60 WET MILS (MULTIPLE COATS WILL BE NECESSARY). MAXIMUM FILM BUILD PER COAT SHALL NOT EXCEED THE COATING MANUFACTURER'S RECOMMENDATIONS.
9. MANUFACTURER REQUIREMENTS MUST BE MET AT ALL TIME DURING APPLICATION.

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RESERVOIR 3 TANK REPAIRS
FLOOR SEAM
CITY OF PALMER
PALMER, ALASKA

DATE: DECEMBER 2020

DRAWN BY: LRK

SHEET: 3 OF 3

SCALE: NTS

CHECKED BY: CJB

JOB NO.: 20-006

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CITY OF PALMER

PALMER RESERVOIR 3 TANK REPAIRS

EXHIBIT B

**RESERVOIR INSPECTION REPORT
(PAGES 1-14 ONLY)**

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MEMORANDUM

DATE: June 24, 2020
TO: Alycia Anderson
FROM: Chris Bowman, P.E.
RE: Palmer Reservoir 3 Inspection

This memo presents the findings and recommendations resulting from the April 15, 2020 Palmer Reservoir 3 inspection conducted by HDL Engineering Consultants, LLC (HDL), American Marine International (AMI), and Vision Subsea, LLC (VSS).

Meeting Location and Attendees

Date/Time: 8:45 AM – 4:00 PM
Location: Reservoir 3 Palmer, Alaska

Attendees:

- Alycia Anderson – City of Palmer
- Matt Midget – City of Palmer
- Joshua Hankin-Foley – Vision Subsea, LLC
- Adrian Dumas – American Marine International
- Michael Ruiz – American Marine International
- Chris Bowman, P.E. –HDL
- Jenah Laurio – HDL

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- GEOTECHNICAL ENGINEERING
- TRANSPORTATION ENGINEERING
- ENVIRONMENTAL SERVICES
- PLANNING
- SURVEYING & MAPPING
- CONSTRUCTION ADMINISTRATION
- MATERIAL TESTING
- REAL ESTATE SERVICES

1.0 Introduction

The City of Palmer's Reservoir 3 is a 60-foot high by 30-foot diameter, factory coated, bolted steel tank with a nominal capacity of 250,000 gallons. Reservoir 3 was constructed in 1980 primarily to serve the Cedar Hills subdivision. A tank inspection was performed in 1997, which resulted in the removal of vegetation around the foundation of the reservoir, installation of a screen on the overflow pipe, and modifications to the access ladder to protect against vandalism. Several other modifications have been made to the Reservoir including reconfiguring of overflow piping to avoid glaciation on the nearby Glenn Highway, minor welding repairs on the tank interior, and recoating of the exterior insulation system. Exact dates for these modifications are unknown but discussions with City staff indicate that no major work has been completed on the reservoir for nearly 20 years besides painting of the exterior insulation.

On April 15, 2020, HDL, the City of Palmer, AMI, and VSS performed exterior and interior inspection of Reservoir 3. The focus of the inspection was to assess the interior condition of coatings and appurtenances, general compliance with national codes and standards, including the American Waterworks Association (AWWA) Standard D103 *Factory-Coated Bolted Carbon Steel Tanks for Water Storage*, and to find the cause of a small leak near the base of the reservoir. Interior inspection was conducted via remotely operated submersible vehicle (ROV) operated by VSS with support from AMI and HDL. Exterior inspection was conducted solely by HDL.

2.0 Inspection Procedure

Prior to inspection, HDL and AMI prepared an inspection procedure based on AWWA Manual M42, Appendix C *Inspecting and Repairing Steel Tanks for Water Storage*. The procedure was submitted to Palmer one week prior to the scheduled tank inspection date to ensure adequate time to make any operational changes necessary to protect the City's water system and to notify any affected users. The complete inspection procedure is attached to this memo.

Inspection personnel arrived on-site at approximately 8:45 am on April 15, 2020. As a preventative measure to comply with Alaska's COVID-19 Health Mandates, personnel recorded their body temperatures, participated in a short briefing on social distancing, and set up a hand washing station. AMI also provided N-95 masks and hand sanitizer.

HDL's Chris Bowman, PE and Jenah Laurio performed an exterior inspection of the reservoir and site improvements while AMI and VSS prepared to launch the ROV into the reservoir. AMI representatives Michael Ruiz and Adrian Dumas, and VSS representative Joshua Hankin-Foley prepared a disinfection station for the ROV and umbilical, in compliance with ANSI/AWWA C652-19 *Disinfection of Water Storage Facilities*.

Photographs of the Reservoir exterior were taken with a 12-megapixel iPhone camera. Interior photographs were taken with a GoPro® camera or captured from the ROV recording. Selected photographs have been included within the body of this memo with additional photographs and the complete video file provided separately.

3.0 Exterior Inspection

The Reservoir's exterior is insulated with urethane foam with a paint coating to guard against ultraviolet degradation. The insulation limits the ability to inspect the exterior of the tank itself. The insulation and coating was vandalized on numerous occasions and was recently recoated. Birds have damaged the insulation by creating small circular holes. There is also damage from weathering and signs of minor deterioration. These damaged sections of insulation could allow moisture to enter the insulation and eventually cause severe damage during freeze-thaw cycles.



Figure 1: Insulation damage from birds



Figure 2: Insulation deterioration

3.1 Leakage

City staff had been monitoring a small leak near the base of the Reservoir for approximately 6 months prior to the inspection. The leak is located approximately 80 degrees west of south near the access manway on the tank exterior. At the time of the inspection, water was leaking at a rate of approximately 5 gallons per minute (gpm). Further discussions on the leak investigation is in Section 4.



Figure 3: Reservoir leakage at tank exterior

3.2 Overflow

The original reservoir overflow pipe was an interior pipe which exited on the east side of the tank, discharging onto vegetation that sloped downwards towards the Glenn Highway. This system was decommissioned following several overflow instances that caused severe glaciation on the highway.

A replacement overflow was constructed to exit the access hatch on the roof of the reservoir and discharge via polyvinyl chloride (PVC) piping attached to the reservoir exterior, eventually



Figure 4: In-use overflow pipe

draining to low ground to the northwest of the reservoir. The overflow pipe appears to be in good condition with no evidence of cracks or leakage.

The overflow discharge pipe transitions from PVC to corrugated high-density polyethylene (HDPE) pipe below grade. The discharge pipe appears to be in good condition. A bird screen has been installed at the discharge location to protect the system from animal entry. ANSI/AWWA D103-19 specifies that outfall pipes must terminate a minimum of 24 inches above the ground; an accurate measurement was not recorded due to the presence of snow/ice at the time of inspection. Additionally, D103-19 specifies that the pipe end should be fitted with a down-turned elbow and screen, or flap/duckbill valve, and discharge over a drainage inlet or a splash block, none of which were present.



Figure 5: Overflow pipe discharge

The abandoned overflow pipe is still installed on the interior of the reservoir and will be discussed in Section 4.

3.3 Ladder and Balcony

The tank ladder is enclosed by a metal cage that has several missing bolts. A landing is installed roughly three-quarters up the ladder. The floor of the landing appears to be in good condition but Palmer staff indicate that the landing is not stable. The ladder does not include



Figure 6: Access ladder and balcony

a center-mounted safe climbing device, and does not have a tether point or balcony at the top. It was also mentioned during the inspection that the ladder is shaky.

3.4 Roof

Photos of the roof were taken by City personnel separately from the inspection. The roof insulation is in poor condition, particularly around the overflow pipe/access hatch.



Figure 7: Reservoir roof



Figure 8: Overflow roof connection

3.5 Exterior Reservoir Features Not Evaluated

The condition of the exterior steel panels and anchor bolts/chairs, including the condition of coatings and any evidence of pitting or corrosion, was unable to be evaluated due to the presence of the exterior insulation.

3.6 Site Conditions

Site security is maintained by a 6-foot tall chain-link fence with barbed wire. A vehicle gate provides access to the west side of the site. The fence is easily climbed and the barbed wire has been pulled away from the fence in several areas, resulting in vandalism of the Reservoir on multiple occasions.



Figure 9: Perimeter fencing

Although there are no power requirements at the site, an old electrical service meter is located on the east side of the Reservoir. The meter box is in extremely poor condition and the meter face was broken.



Figure 10: Electrical service meter

4.0 Reservoir Interior Inspection

The ROV was deployed twice during the course of the inspection via the roof access hatch. Joshua Hanik-Foley controlled the ROV on the ground, and Adrian Dumas managed the umbilical from the roof. During the inspection, a dive log of the ROV movement was recorded (attached).

During the first ROV deployment, imagery was captured of the inlet, wall panels, floor, and center column structure. The recording began at 10:51 am and ended at 2:03 pm. The ROV moved up and down the seams of each wall panel. Rust patches and minor spots of corrosion and deteriorated caulking were visible. Larger rust patches were marked so the area could be easily located for further investigation during the second deployment.

After the initial investigation was complete, the ROV was removed for fitment of a round wire brush to allow for probing and inspection of areas identified during the initial inspection phase, and to capture interior photos of the roof. The recording began at 3:05 pm and ended at 3:29 pm. The water inside of the tank was clear, providing good visibility of the interior features.

Overall, the reservoir interior appeared to be in fair condition, with the exception of corrosion associated with the leakage identified in Section 3. A thin, brown biofilm was present on most horizontal surfaces, which is not uncommon in reservoirs and other continually wetted structures.

4.1 Inlet/Outlet

The water inlet/outlet valve was corroded and covered with biofilm. The valve did not appear to be missing any bolts and appeared to be functioning as intended. The inlet/outlet pipe and connection to the valve was in good condition with some corrosion present on the inlet tee. The inlet riser was constructed of PVC pipe with a stainless steel repair coupling used to make the material transition.



Figure 11: Inlet/outlet piping and check valve

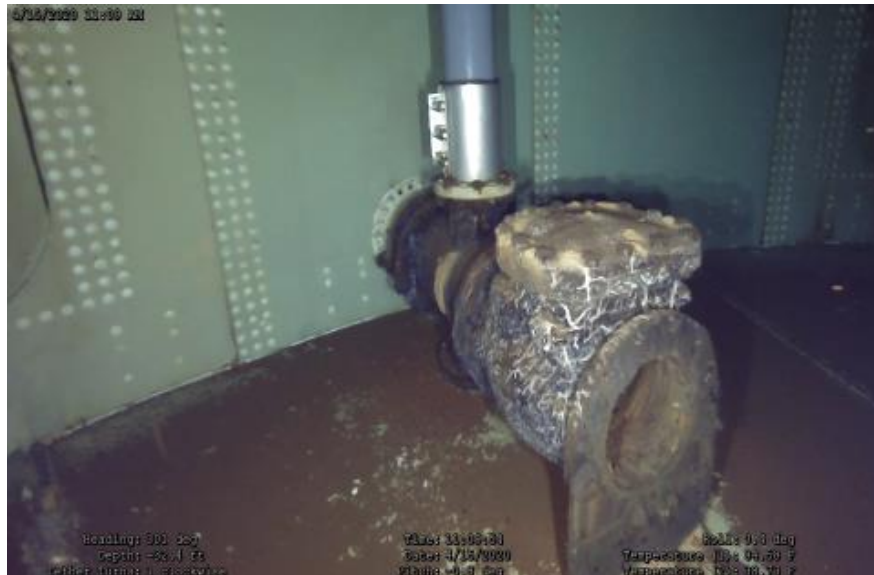


Figure 12: Inlet/outlet piping and check valve

Minor corrosion was present on the inlet piping support brackets. It also appeared that the brackets had been welded to the tank shell without repairing the coating, resulting in additional corrosion.



Figure 13: Inlet pipe support

4.2 Wall Panels/Seams

The seams running in the vertical direction of the tank were used as reference points for the inspection. A total of forty (40) seams were counted. The inspection began on Seam #2 and ended on Seam #1. Nearly all of the wall seams showed minor signs of corrosion, and there were scattered patches of caulking throughout the reservoir.



Figure 14: Typical seam corrosion



Figure 15: Example of caulking in seams

4.3 Floor

Caulking was used to line the tank seams between the floor and wall. Portions of the caulking showed deterioration.

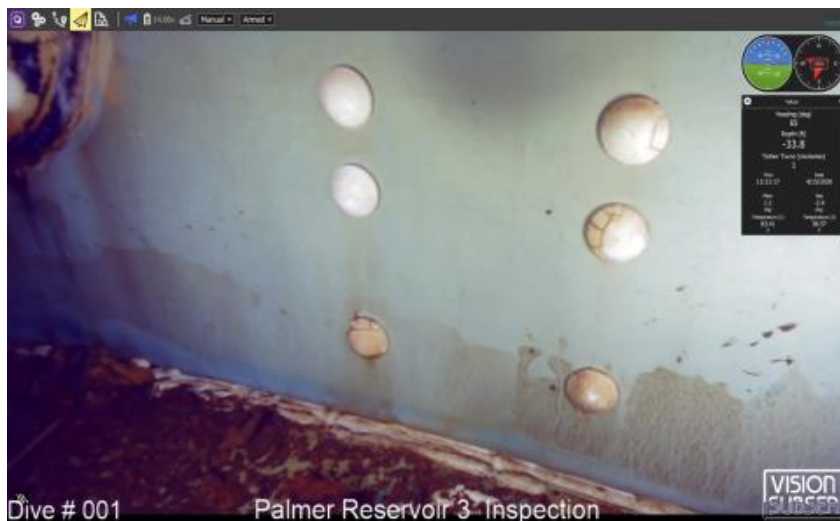


Figure 16: Typical floor/wall seam

Near the access manway, there appeared to be a hole in the caulking and a severely rusted bolt. During the second ROV deployment, a circular brush was used to examine the area. A thick layer of rust and sediment had covered this area. When rust and sediment were brushed away from this area, it appeared from exterior observation that the water flow rate from the leak temporarily decreased, indicating that this was likely the source of the leak.

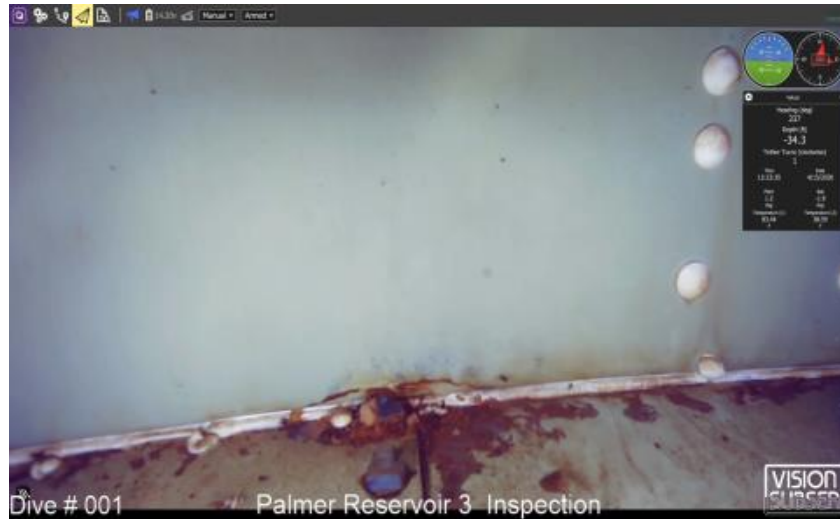


Figure 17: Area of leakage

During the floor inspection, four large piles of grey material were found along the quadrants of the reservoir floor. A circular brush attached to the ROV was used to probe the material. Each pile contained remainders of a thin metal rod and a connection point. It was concluded that the piles were the remains of the sacrificial anodes of a cathodic protection system.

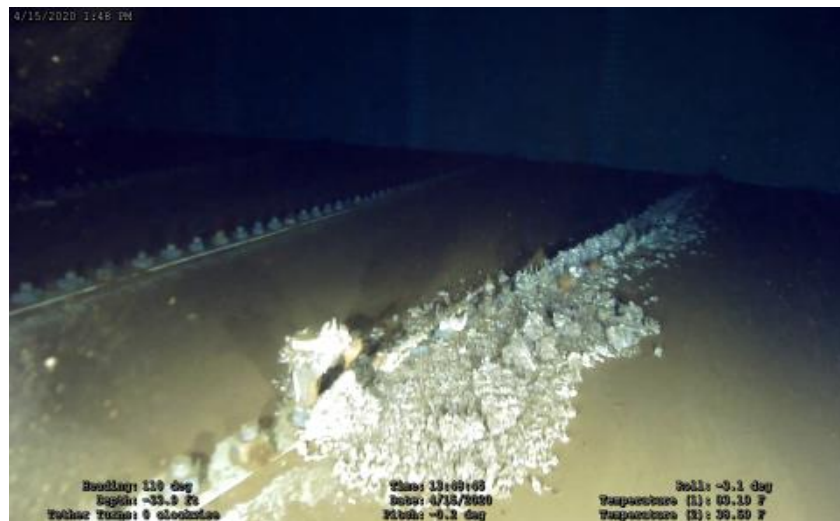


Figure 18: Typical sacrificial anode remains

4.4 Center Column

The column support was off-center at the bottom of the reservoir. The structure appeared to be in good condition; however, tools were not available to check the column for plumb.



Figure 19: Center Column

4.5 Roof

The roof of the reservoir consists of overlapping metal plates that have been bolted together and are supported by structural steel beams. The water level inside the tank had dropped significantly before the inspection of the roof was performed. VSS took imagery of the roof using a GoPro, which was secured to the top of the ROV during the second deployment. The roof structure appeared to be in good condition with minor scattered patches of rust along the seams. The upper panels of the walls also had water stains. The protective coating of the roof is likely compromised, based on flaking of the coating when the ROV tether brushed against the side of the access hatch. This indicates that the interior roof coating has likely begun to delaminate from the reservoir structure.



Figure 20: Roof with walls visible

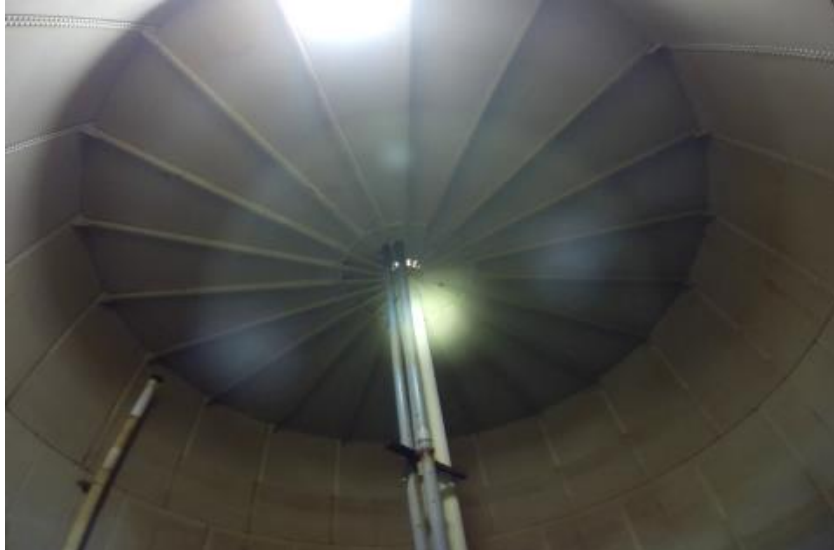


Figure 21: Roof with center column visible

4.6 Other Observations

Inside of the reservoir, the decommissioned overflow pipe was still intact. The overflow connection to the wall has rusted, and the supporting pipe connections were severely rusted as well.



Figure 22: Decommissioned overflow to tank connection