

ADDENDUM NO. 1

CONTRACT DOCUMENTS & SPECIFICATIONS

August 23, 2024

PROJECT: 100,000 Gallon Elevated Water Storage Tank W&A Project No.: W1005-006-01 FY22 SFRF Grant No.: GA-0010391

OWNER: Town of Iron City

BID DATE: Thursday, August 29, 2024, at 11:00 AM 2:00 PM

1. <u>CONTRACT DOCUMENTS – Section 00111, Advertisement for Bids</u>:

The Bid Time has been changed to 2:00 PM Thursday, August 29, 2024.

2. <u>CONTRACT DOCUMENTS – Section 009900, Painting and Finishing:</u>

Please remove and replace the Painting and Finishing Specification with the attached Water Tank Painting Specification.

END ADDENDUM NO. 1

PART 1 PAINTING

1.01 GENERAL

The items covered by this Section include cleaning, abrasive blast cleaning and painting of all interior and exterior steel surfaces. Work also includes disinfection of the tank after coating.

1.02 REFERENCE STANDARDS

Work performed and materials used must comply with the latest revisions of the following standards:

- A. AWWA (American Water Works Association) D102-21 Standard for Welded Steel Tanks for Water Storage, latest revision.
- B. AWWA D102-21 Standard for Painting Steel Water Storage Tanks.
- C. AWWA C652 Standard for Disinfection of Water Storage Facilities.
- D. NSF (National Sanitation Foundation) 600 Materials in contact with Potable Water.
- E. Steel Structures Painting Council Manual Volume 1 Good Painting Practice,
- F. Steel Structures Painting Council Manual Volume 2 Systems and Specifications.

1.03 SUBMITTALS

Before beginning of the work the contractor shall provide the Engineer with the following information:

- A. Name of the protective coating supplier and manufacturers data for the paint systems being used.
- B. A listing of the specific products proposed for use including but not limited to: abrasive materials, paint, solvents, thinners, etc.
- C. Product data sheets for each of the proposed materials.
- D. Samples of the color specified for owner approval.
- E. The successful bidder shall be prepared to submit upon demand a list of at least five tanks of comparable size, design and use in which the coating system which he

proposes to use has been successfully installed by him and has given satisfactory service.

1.04 QUALITY CONTROL

- A. Only paint and painting materials as specified shall be used.
- B. Paint shall be delivered in the original factory sealed, labeled, and unbroken containers bearing the designated name, specification number, color, directions for use, manufacturer and date of manufacture.
- C. All manufacturers' instructions shall be carefully followed in the preparation, application, curing or drying and handling of the paint.
- D. All prime, intermediate and finish coating materials shall be applied in different color shades.
- E. Paint shall be stored in a location that is protected from the elements, well ventilated and free from excessive heat or open flame sources. No other inflammable materials shall be stored in this area. Proper fire prevention practices shall be exercised.
- F. The contractor shall obtain the Inspector's written approval of the steel surface preparation and of each coat of paint, before applying succeeding coats. Such approval will not relieve the contractor of his obligations under the contract. Inspections may be waived by written notice to the contractor.
- G. The contractor shall record environmental conditions, at the beginning of each daily operation, thirty minutes before painting beings and every hour during painting operations, on the attached Environmental Conditions Report.
- H. Painting shall be performed by skilled painters using the materials and methods specified.
- I. Paint cans shall be subject to inspection by the Engineer.
- J. All coatings must be acceptable to the Georgia Department of Natural Resources.

1.05 HEALTH AND SAFETY

The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities. Up to date Material Safety Data Sheets shall be available on site for all products used. Workers shall wear proper protection devices. Where ventilation is used, all equipment shall be explosion proof. Temporary ladders and scaffolding systems shall conform to applicable safety requirements. It shall be the responsibility of

the Contractor to adequately protect, shield or cover all structure, machinery, equipment and openings as required to prevent damage or contamination from the work procedures. The work area shall be kept clean at all times, consistent with the type of work being performed.

1.06 TESTING

Dry Coating thickness measurements shall be made using a Magnetic Gauge. Tolerances to be in accordance with SSPC-PA 2 Measurement of Dry Coating Thickness with Magnetic Gauges. Additional coats shall be applied as required to obtain the specified thickness. The Contractor will be required to perform Holiday Testing as soon as the work is sufficiently cured according to the manufacturer's recommendations. All pinholes and other deficiencies will be repaired. Contractor shall provide an approved paint film thickness gauge and check film thickness as required by the authorized representative of the tank owner.

1.07 SITE CONDITIONS

The Contractor shall ensure that surface and ambient conditions are in accordance with the manufacturer's instructions immediately prior to and during application and for the period of curing. No paint shall be applied when the surrounding air temperature as measured in the shade is above or below the manufacturer's specifications. No paint shall be applied when the temperature of the surface to be painted is below manufacturer's recommended application temperature. Painting shall not be applied to wet or damp surfaces or when the ambient temperature is less than 5 degrees above the dew point.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Specified products are those manufactured by TNEMEC Co. are specified as the standard of quality required for use on this project.
- B. Equivalent products by Carboline or PPG are acceptable, providing they meet or exceed all performance criteria of the specified materials. No products shall be considered that would decrease film thicknesses or offer a change in generic type of coasting specified.
- C. Before submitting a bid based on a coating other than the specified, submit to the Engineer for approval at least 10 days prior to the bid date, all pertinent data on the substitution coating including performance data as determined by an independent testing laboratory. Failure to submit such data for approval 10

days prior to the Bid date will result in automatic rejection of the substitution coating and compulsory use of the specified coasting system.

D. Products for each specified function and system shall be of a single manufacturer.

2.02 MATERIALS

- A. Rust–inhibitive, zinc-rich urethane interior (potable water) primer: TNEMEC Series 94 HYDRO-ZINC OR EQUAL
- B. Polyamide epoxy potable water intermediate and finish: TNEMEC Series N140-1255 and Series 21 OR EQUAL
- C. Low temperature, fast-cure polyamide epoxy intermediate and finish: TNEMEC Series N140F-1255 and N140F-15BL POTA-POX PLUS (fast-cure) OR EQUAL
- D. Solventless epoxy filler and surfacer for pit repairs: TNEMEC Series 215 FILLER AND SURFACER OR EQUAL
- E. Urethane exterior intermediate coating: TNEMEC Series 1095-Color Eudur-Shield OR EQUAL
- F. Fluoropolymer Polyurethane Topcoat: TNEMEC Series 700-Color Hydroflon OR EQUAL
- G. Flexible urethane caulking: SIKA-FLEX 1A or equal.

2.03 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

PART 3 SURFACE PREPARATION

3.01 INTERIOR SURFACE PREPARATION

Remove all oil or greasy contamination from the surface prior to blast cleaning. All interior wet surfaces shall be abrasive blast cleaned to a SSPC SP-10 Near White Finish with a surface profile compatible with the paint manufacturer's recommendations. Interior dry surfaces shall be cleaned to a SSPC SP-6 Commercial Finish. Immediately after blasting and before any rusting occurs, apply one coat of shop primer as per the interior paint specifications.

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3.02 EXTERIOR SURFACE PREPARATION

Remove all oil or greasy contamination from the surface prior to blast cleaning. All surfaces shall be abrasive blast cleaned to a SSPC SP-6 Commercial Finish with a surface profile compatible with the paint manufacturer's recommendations. Immediately after blasting and before any rusting occurs, apply one coat of shop primer as per the exterior paint specifications.

3.03 FIELD SURFACE PREPARATION

After erection and prior to field touch up, all surfaces shall be cleaned to remove all surface contamination including oil, grease, dust, dirt and foreign matter. Weld slag, weld spatter and other sharp or rough projections shall be removed. All rusted, abraded and unpainted areas on the interior wet area shall be abrasive blast cleaned to a near white finish in accordance with SSPC SP-10. All other rusted, abraded and unpainted areas shall be either abrasive blast or mechanically cleaned to a SSPC SP-6 Commercial Finish.

3.04 PAINT APPLICATION

Coating materials to be applied in successive coats as specified by the manufacturer to attain the required dry film thickness for each system. Coatings to be applied without sags, foreign materials contamination or blemishes. The paint coatings shall be **Tnemec** or an approved equal. The contractor shall submit the manufacturer's coating system to the engineer for approval.

Equivalent materials of other manufacturers may be substituted on approval of the owner's representative. Request for substitution shall include manufacturer's literature for each product, generic type for each material, descriptive information, and ASTM performance criteria test data. No request for substitution shall be considered that would change generic, decrease dry film thickness and/or number of coats and ASTM performance criteria that isn't equal to the standard of quality listed within the specification.

All paints shall be stirred and mixed until there is a complete blending of the entire contents of the container before use and stirring shall be repeated as required to prevent separation of the pigment vehicle. All surfaces to be painted shall be prepared in a proper manner with the objective of obtaining a clean, smooth, dry surface free from dirt, grease, mill scale, rust, cracks, ridges, holes, dust, etc.

All painting will be performed in a workmanlike manner, by workmen experienced in their craft, and in strict accordance with the directions of the paint manufacturer. The paint shall be applied at the approximate rate specified by the manufacturer for the dry coating thickness indicated for each coat. The method of application (spray, brush, roller) recommended by the paint manufacturer must be followed. Paint must be evenly applied no matter what method of application is used. Where thinning is

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necessary and permitted, only the products and quantities recommended by the manufacturer shall be used.

Painters shall protect, by covering, surfaces that might otherwise be damaged by drippings or splashing of paint.

All painting shall be done under suitable conditions by skilled painters. Paint shall be applied only when the air temperature is at or above 40°F. No paint shall be applied during wet or foggy weather, or upon damp surfaces of metal coated by frost.

Where the required minimum dry film thickness is not achieved by application of the number of coats specified, additional coats will be required at the contractor's expense to achieve the minimum dry film thickness specified.

3.05 SHOP PRIME

Apply prime coat after blast cleaning and prior to flash rusting. If rust appears as a result of delay in primer application the surface shall be reblasted to specified surface preparation. A six-inch strip of blasted uncoated bare steel shall be left between the primed area and the edge of the steel plate.

PART 4 COATING SYSTEMS

4.01 INTERIOR COATING (WET AREA)

- A. Interior Surface Preparation: Remove all visible oil, grease, soil, dirt and other soluble contaminants in accordance with SSPC-SP1. All interior surfaces shall be abrasive blast cleaned by Near White Blast Cleaning in accordance with the recommended methods outlined in the Society for Protective Coatings' Specification SSPC-SP10 (NACE No. 2). A surface profile of 1.5 to 2.5 mils is required.
- B. **Prime Coat:** Immediately after blasting and before any rusting occurs (12 hours maximum) apply TNEMEC Series 94-H2O HYDRO-ZINC OR EQUAL at a dry film thickness of 2.5 to 3.5 mils to all interior steel surfaces
- C. Seams: All roof lap seams, and any other gapped or skip weld seams shall be caulked after priming with Sika-Flex 1A.
- D. Field Stripe Coat: Apply one complete coat of TNEMEC Series N140-1255 Beige * POTA-POX OR EQUAL to all weld seams at a dry film thickness of 2.0 to 3.0 mils.

- E. **Field Finish Coat:** Apply one complete coat of TNEMEC Series 21 POTA-POX OR EQUAL at a dry film thickness of 12.0 to 14.0 mils.
- F. **Total Interior DFT** should average 14.5-17.5 dry mils

*NOTE: TNEMEC Series N140F POTA-POX PLUS OR EQUAL may be used when the air, material or surface temperature is anticipated to be between $35^{\circ}F$ and $60^{\circ}F$ during application and/or curing.

4.02 EXTERIOR COATING

- A. **Exterior Surface Preparation**: All exterior steel surfaces shall be abrasive blast cleaned by Near-White Blast Cleaning in accordance with the recommended methods outlined in the Society for Protective Coatings' Specification SSPC-SP10 (NACE No. 3).
- B. **Prime Coat**: Immediately after blasting and before any rusting occurs (8 hours minimum), apply one coat of TNEMEC Series 94-H2O HYDRO-ZINC OR EQUAL to all bare steel surfaces at a dry film thickness of 2.5 to 3.5 mils.
- C. Intermediate Coat: Apply one coat of TNEMEC Series 1095 OR EQUAL-Color at a dry film thickness of 2.0 to 3.0 mils. Colr shall be lighter than the finish color
- D. **Finish Coat and Graphics:** Apply TNEMEC Series 700-Color Hydroflon* OR EQUAL at a dry film thickness of 2.0 to 3.0 mils. Color shall be specified by the Engineer prior to start of construction.
- E. **Exterior Dry Film** Thickness shall average 6.5-9.5 mils dry
- F. **Color:** The color shall be chosen by the City Council prior to application of finish coat.

*NOTE: TNEMEC Series 44-710 URETHANE ACCELERATOR OR EQUAL may be used when the air, material or surface temperature is anticipated to be between 35°F and 55°F during application and/or curing.

4.04 **GRAPHICS**

A. The Base Bid for Graphics shall be include all costs associated with the placement of "Pavo" on two sides of the tanks bowl assembly in a color to be selected by the Owner prior to construction.

4.05 VENTILATION

The contractor shall provide ventilation while cleaning and painting the interior surfaces of the tank which shall be adequate to remove fumes sufficiently to prevent the injury of any workman and to eliminate the possibility of accumulation of volatile gases within the tank.

PART 5 CLEANLINESS

5.01 GENERAL

The contractor and all workmen employed by him, shall conduct all operations in a clean and sanitary manner. No nuisance of any kind shall be committed in the tank. The workmen shall either use proper waste receptacles or leave the tank whenever necessity arises.

No one shall work in the tank if he has been under a physician's care within a seven (7) day period prior to entering or working in the tank. No person shall be allowed to work in the tank who has an abnormal temperature or gives evidence of illness. The owner shall reserve the right to have its own agent to judge the physical fitness or unfitness of any person to enter or work in said tank. No deviation from the requirement will be permitted.

After completion of painting, remove all traces of splashed materials, paint droppings, and spots from finished and adjacent surfaces.

PART 6 DISINFECTION & TESTING

6.01 GENERAL

After the storage tank has thoroughly cured, water and chlorine shall be added to the storage facility in amounts such that initially the solution will contain 50-mg/L available chlorine and will fill approximately 5 percent of the total storage volume. This solution shall be held in the storage facility for a period of not less than 6 h. The storage facility shall then be filled to the overflow level by flowing potable water into the highly chlorinated water. It shall be held full for a period of not less than 24 h. All highly chlorinated water shall then be purged from the drain piping. Following this procedure, and subject to satisfactory bacteriological testing and acceptable aesthetic quality, the remaining water may be delivered to the distribution system.

Chlorine shall be added to the storage facility by the method described in AWWA Section 4.1.1, 4.1.2 or 4.1.3. The actual volume of the 50-mg/L chlorine solution

shall be such that, after the solution is mixed with filling water and the storage facility is held full for 24 h, there will be a free chlorine residual of not less than 2 mg/L.

The tank shall be filled with clean water furnished by the owner, one time only. Any additional filling of the tank due to contractor's inability to obtain sufficient test results, shall be paid for at the Contractors expense.

6.02 BACTERIOLOGICAL TESTING

After the chlorination procedure is completed, and before the storage facility is placed in service, water from the full facility shall be sampled and tested for coliform organisms in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater. The testing method used shall be either the multiple-tube fermentation technique or the membrane-filter technique.

The water in the full facility should also be tested to assure that no offensive odor exists due to chlorine reactions or excess chlorine residual.

If the test for coliform organisms is negative, then the storage facility may be placed in service. If the test shows the presence of coliform bacteria, the situation shall be evaluated by a qualified engineer. In any event, repeat samples shall be taken until two consecutive samples are negative, or the storage facility shall again be subjected to disinfection.

The samples shall be taken from a sample tap on the outlet piping from the storage facility or from a sample tap connected directly to the storage facility. In either case, the operation shall be such as to ensure that the sample collected is actually from water that has been in the storage facility.

During the disinfection operation and the required sampling of water from the storage facility, it is recommended that samples be taken from water inflowing to the storage facility to determine if coliforms are present in the typical potable water source.

Samples shall be sent to the Environmental Protection Division, State Water Laboratory, (47 Trinity Avenue, S.W., Atlanta, Georgia 30334) for bacteriological analysis. If the results are unsatisfactory, the sterilization procedure must be repeated and additional samples taken until satisfactory results are obtained.

ENVIRONMENTAL CONDITIONS REPORT

Project:

DATE	TIME	AIR TEMP.	SURFACE TEMP.	HUMIDITY	DEW POINT

END OF SECTION