

**SPECIFICATIONS
AND
CONTRACT DOCUMENTS FOR**

**2026 STATELINE TANKS
RECOATING PROJECT**



**SOUTH TAHOE PUBLIC UTILITY DISTRICT
SOUTH LAKE TAHOE, CALIFORNIA**

February 2026

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SOUTH TAHOE PUBLIC UTILITY DISTRICT
2026 STATELINE TANKS RECOATING PROJECT

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DIVISION 00

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**SECTION 00 10 00
SOLICITATION**

INVITATION TO BID

The South Tahoe Public Utility District (STPUD or District) invites sealed bids by electronic submission only for the construction of the **2026 STATELINE TANKS RECOATING PROJECT** ("Project").

Electronic Bids will be received until 2:00PM, TUESDAY, MARCH 3RD, 2026. Hard copy original Bid Bond (or other acceptable form of bid security) MUST be delivered to District in advance of the Bid deadline. Bids submitted after this time will not be accepted by the electronic bidding system. All bids that have been timely received will be publicly opened and the content read aloud at the STPUD offices, Conference Room 1, located at 1275 Meadow Crest Drive, South Lake Tahoe, California. All interested parties are invited to attend. Bids shall be valid for 60 calendar days after the bid opening date, as required in the Bid Form.

The site of the work is located on DISTRICT property (APN 029-260-029 and APN 029-260-027), surrounded by California Tahoe Conservatory property and situated within Van Sickle Bi-State Park, near the City of South Lake Tahoe, in the County of El Dorado, California.

The work to be performed consists of: Full interior and exterior recoating, including removal of existing coatings, of two potable water storage tanks which store approximately 1.25-million-gallons and 2.25-million-gallons each; modification to existing ladders and fall protection systems; demolition and replacement of cathodic protection systems, replacement of miscellaneous tank hardware, minor earthwork, and site restoration.

A copy of the Contract Documents are on file and may be examined at the South Tahoe Public Utility District Offices, 1275 Meadow Crest Drive, South Lake Tahoe, California.

In order to download the Contract Documents and receive addendums and notifications when issued, Bidders must register as a vendor at the District's Vendor Portal:

<http://www.planetbids.com/portal/portal.cfm?CompanyID=21516>

Electronic bids will also be submitted through this website. Paper bids will not be accepted.

Contract Documents are available for free download on the District's Vendor Portal. For assistance in downloading these documents or registering as a vendor contact Star Glaze, Contracts Specialist at (530) 543-6205.

All bids are to be submitted electronically as required in Section 00 20 00 Instructions for Procurement. **Paper bids will NOT be accepted. Hard copy original Bid Bond must be delivered to the District in advance of the bid deadline.** After electronic bidding, each bidder shall submit their original Bid Forms to South Tahoe Public Utility District at 1275 Meadow Crest Drive, South Lake Tahoe, California by **2:00PM, THURSDAY, MARCH 5TH, 2026**.

Questions or comments regarding this Project must be submitted electronically via our electronic bidding system and must be received by the District no later than **4:00PM, TUESDAY, FEBRUARY**

24TH, 2026. Questions received after the date indicated will not be accepted. Questions submitted via telephone call, email or faxes will not be accepted. Responses from the District will be communicated via the electronic bidding system.

A mandatory Pre-Bid Conference will be held at the South Tahoe Public Utility District, Board Room, 1275 Meadow Crest Drive, South Lake Tahoe, California on FEBRUARY 17TH at 10:00 AM. Any bidder absent from the Pre-Bid Conference shall have their bid disqualified as non-responsive. A tour of the site of work will be conducted as part of the Pre-Bid Conference if weather conditions allow.

In accordance with the provisions of California Public Contract Code section 3300, the South Tahoe Public Utility District has determined that bidders shall possess a valid C33 contractor license at the time of bid opening, the Contract is awarded, and for the duration of the Contract, **provided the subcontractor responsible for Bid Items 2, 5, 6, 7, 8, 10, 13, 14, and 15 holds a valid Class A contractor's license**, as outlined in Section 00 20 00, Part 3.01 of the project specifications. Failure to possess the specified license shall render the bid non-responsive and shall act as a bar to awarding the contract to any bidder not possessing said license at the time of award. Contractors or subcontractors responsible for the surface preparation and application of protective coatings shall also possess valid Association for Materials Protection and Performance (AMPP) QP1 accreditation.

This project is subject to prevailing wage requirements. Pursuant to Labor Code section 1773, the District has obtained the prevailing rate of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the work will be performed for each craft, classification, or type of worker needed. Not less than the determined rates shall be paid to all workers employed in the performance of the contract. Such rates of wages are on file with the Department of Industrial Relations and in the office of the District and are available to any interested party upon request.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the Bidder's and its subcontractors' current registration with the Department of Industrial Relations to perform public work. Bidder shall certify that Bidder and all listed subcontractors are currently and validly registered with the Department of Industrial Relations and shall include its registration number on its bid. If awarded a Contract, the Bidder and its subcontractors of every tier shall maintain active registration with the Department of Industrial Relations for the duration of the Project. It shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements.

The California Air Resources Board ("CARB") implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulations ("Regulation") which are effective on January 1, 2024 and apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California. A copy of the Regulation is available at <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/froa-1.pdf>. Bidders are required to comply with all CARB and Regulation requirements, including, without limitation, all applicable sections of the Regulation, as codified in Title 13 of the California Code of Regulations section 2449 et seq. throughout the duration of the Project. Bidders must provide, with their Bid, a completed and signed copy of the Fleet Compliance Certification included in Section 00 41 00 Bid Forms. At the District's request, within 48 hours after the Bid Opening, Bidder must submit copies of

Bidder's and all listed subcontractors' most recent, valid Certificate of Reported Compliance ("CRC") issued by CARB. Failure to provide valid CRCs as required herein may render the Bid non-responsive.

Pursuant to the provisions in Section 6707 of the California Labor Code, each Bid submitted in response to this Invitation to Bid shall contain adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life and limb in trenches and open excavation, which shall conform to applicable safety orders for the State of California.

Pursuant to Section 22300 of the California Public Contract Code, the successful bidder may substitute securities for any moneys withheld by the District to ensure performance under the Contract as specified in Section 00 20 00.

Each bid shall be accompanied by cash, a certified or cashier's check, or bid bond secured from a surety company satisfactory to the District, the amount of which shall not be less than ten percent (10%) of the submitted bid price or as detailed in Section 00 20 00, Bid Security, Part 2.05, made payable to the South Tahoe Public Utility District as bid security.

The successful bidder will be required to furnish the District with a faithful performance bond and a labor and material payment bond each in an amount equal to 100% of the Contract Price, prior to execution of the Contract. All bonds are to be in the forms set forth herein, secured from a surety that meets all of the State of California bonding requirements, as defined in Code of Civil Procedure Section 995.120, and that is a California admitted surety insurer.

Pursuant to Public Contract Code §3400(b), if the District has made any findings designating certain materials products, things, or services by specific brand or trade name without alternative, such findings and the materials, products, things, or services and their specific brand or trade names will be set forth in Section 01 60 00, Product Requirements, of the Contract Documents.

The South Tahoe Public Utility District reserves the right to reject any or all bids, to waive any informality in a bid, and to make awards to the lowest responsive, responsible bidder in the best interest of the District. If alternate bid items are called for in the Contract Documents, the lowest bid will be determined on the basis of the base bid only.



Megan Colvey, P.E.
Director of Engineering/District Engineer
SOUTH TAHOE PUBLIC UTILITY DISTRICT

END OF SECTION

**SECTION 00 20 00
INSTRUCTIONS FOR PROCUREMENT**

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Conditions affecting award of Contract and procedures with which bidders and proposers must comply.

1.02 DEFINITIONS

- A. Terms used in these Instructions to Bidders and defined in Section 00 71 00, Contracting Definitions, shall have the meaning stipulated in such Section 00 71 00, Contracting Definitions.
- B. The electronic Bid Schedule consists of the table in the “Line Items” tab for the project on the electronic bidding system.
- C. The following additional terms used in these Instructions to Bidders shall have the meaning stipulated:
 - 1. Award: The formal acceptance of the Bid and other executed Bid Forms by the District.
 - 2. Bid: The price proposed by Bidder in the appropriate electronic Bid Schedule, completed on the electronic bidding system, for performance of the Work.
 - 3. Bidder: A person, firm, or corporation who having purchased a set of Contract Documents intends to submit a Bid and other Bid Forms to the District, or one who submits a Bid and other executed Bid Forms to the District.
 - 4. Successful Bidder: The Bidder to whom the District makes the award of the Contract for performance of the Work.

PART 2 PROCEDURES

2.01 EXAMINATION OF DOCUMENTS, SITE AND CONDITIONS

- A. Before submitting a Bid, Bidders shall carefully examine and be thoroughly familiar with the Contract Documents, visit the site of work, fully inform themselves as to all existing conditions and limitations, review those documents identified in Section 00 30 00, Information Available to Bidders, and shall include sums in the bid covering the cost of each item included in the Contract.
- B. Only the Contract Documents shall be relied upon for execution of Bids and other Bid Forms.
 - 1. Unless corroborated by the Contract Documents, statements or representations regarding the Work made prior, during, or after bidding by the District, Design Engineer, or Engineer will not be binding and shall not be considered by Bidders for preparation of Bids.

2. The District, Design Engineer, and Engineer will not be responsible for explanations or interpretations of the Contract Documents other than those issued by Addenda.
- C. Complete sets of Contract Documents shall be used by Bidders (and their respective subcontractors) to prepare Bids.
1. The District, Design Engineer, and Engineer assume no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- D. Submission of a Bid shall be considered prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of Contract Documents. The failure or neglect of a Bidder to make such examinations shall in no way relieve the Bidder from any obligations with respect to its bid or to the Contract Documents. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any provision of the Contract Documents.

2.02 PRE-BID CONFERENCE

- A. Time and Place: A mandatory pre-bid conference will be held at the time and place specified in the Section 00 10 00, Solicitation – Invitation to Bid.

2.03 ELECTRONIC BIDDING

- A. Plans and specifications may be obtained by visiting the District’s website at <http://www.planetbids.com/portal/portal.cfm?CompanyID=21516> which can also be reached on the STPUD website <https://www.stpud.us/current-bids>. Prime Bidders are advised that proposed subcontractors should obtain their own sets of Contract Documents from the District website so that they will be placed on the District’s email list for addenda. The District will not be responsible for sending addenda to any person not listed on the prospective bidder list.
- B. For a Bid to be considered responsive it must include the following parts, all submitted electronically through the online bidding system prior to the exact date and time set forth in Section 00 10 00. Forms may be submitted as a single electronic file, or separate files, at the Bidder’s discretion within the constraints of the electronic bidding system, but all parts must be present. In addition to the electronic bid, a hard copy of the bid security must be received by the District prior to the bid time and date as described in section 2.05, Bid Security.
1. Electronic Bid Schedule consisting of the table in the “Line Items” tab for the project on the electronic bidding system. A copy of the Bid Schedule is included in Section 00 41 00, Bid Forms, for reference only and need not be filled out.
 2. Section 00 41 00, Bid Forms- all forms provided (excepting the sample bid schedule) shall be completed in their entirety, including the Bid Security and long-hand signature of Bidder. Bid Forms may be printed, completed and scanned for submission, but shall not be altered or modified from their original form.

- C. Bidders are responsible for submitting and having their Bids accepted by the electronic bidding system before the closing time set forth in Section 00 10 00, Solicitation-Invitation to Bid or as changed by addenda. NOTE: Pushing the submit button on the electronic bid system may not be instantaneous; it may take time for the Bidder's documents to upload and transmit before the Bid is accepted. It is the Bidder's sole responsibility to ensure their documents are uploaded, transmitted, and arrive in time electronically. The District will have no responsibility for bids that do not arrive in a timely manner, no matter what the reason. The electronic bid system will close exactly at the date and time set forth in Section 00 10 00, Solicitation - Invitation to Bid or as changed by addenda.
- D. The three lowest Bidders (at a minimum) will be required to submit the original Bid Forms within the time stated in Section 00 10 00, Solicitation – Invitation to Bid. Failure to do so may result in rejection of the Bid. The District reserves the right to request original Bid Forms from any or all Bidders.
- E. In the case of a discrepancy between the electronic bid amount and the original Bid Forms, the electronic bid amount will be the accepted Bid.
- F. For Bids to receive consideration, they shall be made in accordance with the following instructions:
 - 1. Bidder will be required to download all contract documents, including but not limited to the Bid Forms, Specifications, Plans, and any addenda, prior to submitting a Bid.
 - 2. All notations in the Bid must be in ink or typewritten. No erasures will be permitted. Mistakes may be crossed out and corrections typed or written in with ink adjacent thereto, and must be initialed in ink by the person or persons signing the Bid.
- G. All Bids shall be made in accordance with applicable statutes of the State of California including, but not limited to, the California Government, Labor and Public Contract Codes, applicable local laws, and as specified in these Contract Documents.
- H. Bid prices shall include everything necessary for the completion of the Project and fulfillment of the Contract including, but not limited to, furnishing all materials, equipment, tools, and other facilities and all management, superintendents, labor and services, except as may be provided otherwise in the Contract Documents. Bid prices shall include all applicable federal, state, and local sales and use taxes.
- I. The District is a Public Works Awarding Body, as defined under Title 13 California Code of Regulations section 2449(c)(46). Accordingly, Bidders must submit at the District's request, within 48 hours after the Bid Opening, the most recent, valid Certificates of Reported Compliance ("CRC") for the Bidder's fleet and for the fleet(s) of its listed subcontractors (including any applicable leased equipment or vehicles). Bidder must additionally complete and submit the Fleet Compliance Certification, included in the Bid Documents. Failure to provide a CRC for the Bidder, and for all listed subcontractors, or failure to complete the Fleet Compliance Certification, may render the Bid non-responsive.

2.04 SIGNING THE BID FORM

- A. The Bid shall:
 - 1. Include the legal name of the Bidder.
 - 2. Identify the Bidder as a sole proprietor, a partnership, a corporation, or any other legal entity.
 - 3. Be signed by the person or persons legally authorized to bind the Bidder to a contract for the execution of the Work.
 - 4. Include a list of subcontractors.
- B. A Bid submitted by an agent shall have a valid Power of Attorney (Bid Certificate) attached certifying the agent's authority to bind the Bidder.
- C. The signature of all persons signing shall be in longhand.

2.05 BID SECURITY

- A. Each Bid shall be accompanied by a bid security in the form of: (a) cash, (b) certified check made payable to the District; (c) a cashier's check made payable to the District; or (d) a bid bond payable to the District, executed by the Bidder as principal and surety as obligor, in an amount not less than ten percent (10%) of the maximum amount of the Bid. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be a California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120. The bid security shall be given as a guarantee that the Bidder, if awarded the Contract, will promptly execute such Contract in accordance with the Bid and in manner and form required by these Contract Documents and will timely furnish the specified bonds. **The hard copy original bid security must be delivered to the District prior to the bid date/time for the bid to be considered responsive.**
- B. In the event a bond is submitted, the bond shall be signed by the Bidder and a corporate surety, or by the Bidder and two sureties who shall justify before any officer competent to administer an oath, in double said amount and over and above all statutory exemptions. The amount so posted shall be forfeited to said District in case the Bidder depositing the same does not, within fifteen (15) days after written notice that the contract has been awarded to him execute the agreement, provide the required insurance submittals, secure payment of workman's compensation insurance, furnish a satisfactory faithful performance bond and a labor and material payment bond each in an amount equal to one hundred percent (100%) of the Contract price.
- C. Retention of bid security:
 - 1. The bid securities of the three lowest Bidders will be retained until the Contract is awarded and signed and satisfactory bonds furnished, or other requirements completed to the reasonable satisfaction of the District.
 - 2. The bid securities of all Bidders will be returned within sixty (60) days upon award.
- D. Each Bidder shall be required to submit a copy of their bid security when submitting their electronic Bid. **The hard copy original bid security (in the acceptable forms listed in Part 2.05.A, above) MUST be delivered to the District Office in**

advance of the Bid Submission deadline specified in Section 00 10 00, Solicitation – Invitation to Bid. Additionally, an electronic Bid not accompanied by a copy of (a) cash, (b) certified check made payable to the District; (c) a cashier's check made payable to the District; or (d) a bid bond payable to the District may be rejected.

2.06 AWARD OR REJECTION OF BIDS

- A. The District reserves the right to accept or reject any or all Bids when deemed best for the public good, and to waive any Bid informality, irregularity, and nonconformity when deemed best for the public good.
 - 1. Bids shall be evaluated, in part, based on meeting the requirements of the Plans and Specifications. Bids that do not meet the requirements of the Plans and Specifications may be deemed non-responsive and rejected by the District.
- B. When Bids are not rejected, the Contract will be awarded to the lowest responsible Bidder submitting a responsive Bid.
 - 1. The low Bid will be the Bid with the lowest net total arrived at by combining the Bid lump sum prices and unit prices for the Bid Items on the electronic Bid Schedule.
 - 2. If alternate bid items are called for in the Contract Documents, then consideration for alternatives in determining the low Bid shall be as set forth in Section 00 10 00.
 - 3. When award is made, Notice of Award will be sent to the selected Bidder by certified mail.
- C. The award, when made, will be made within the time stipulated for Bids to remain subject to acceptance in Section 00 41 00.

2.07 NOTICE OF AWARD

- A. Acceptance of Award: The acceptance of the Notice of Award must be executed and returned to the District within five (5) business days of the date of the Notice of Award.
- B. Required Bonds: The successful Bidder, upon issuance of the Notice of Award, is required to execute the contract and furnish the required Payment and Performance Bonds, in the form required by the District, and evidence of insurance, stipulated below, within fifteen (15) calendar days from the date of the Notice of Award.
- C. The surety insurer shall be a California admitted surety insurer, as defined in the Code of Civil Procedure Section 995.120. All bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- D. Insurance Documents: Insurance requirements are stipulated in Section 00 73 00, Supplementary Conditions. Successful Bidder shall furnish the insurance documents required in that Section. The Contract shall not become effective until such insurance documents have been supplied to and accepted by the District. No other insurance documents shall be accepted in substitution of, nor in addition to, those specified above.

- E. Examination of Forms: The forms of Contract, which the successful Bidder as Contractor will be required to execute, and the forms of bonds which the successful Bidder will be required to furnish, shall be carefully examined by the Bidder.
 - 1. Such forms are included in these Contract Documents.
- F. Number of Copies: The Contract and the Bonds will be executed in two (2) original counterparts.

2.08 EXECUTION OF CONTRACT

- A. The Notice of Award will be issued by the District to the successful bidder and will indicate the time schedule for execution of the Contract.
 - 1. The Contract package will be mailed with the Notice of Award.
 - 2. The Contract and all required related documents including the Performance Bond, Payment Bond, Corporate Resolution, insurance submittals and other required documents, as described in the Contract Documents shall be executed, completed, and delivered to the South Tahoe Public Utility District, not later than 4:30 PM on the fifteenth (15th) calendar day following the Notice of Award of the Contract.
- B. In the event the documents submitted do not meet the requirements of the District, District staff will notify the Bidder, by telephone followed by confirmation in writing, as to how the documents are insufficient, or incomplete, and the Bidder shall have five (5) business days, from the written notification to remedy such insufficient or incomplete documents.
- C. In the event the Bidder fails to remedy insufficient or incomplete documents within five (5) business days or the Bidder fails to submit the documents within the time limitation described in preceding Paragraph B, then the Bidder may be considered to have defaulted and would thus have no further rights under and by virtue of the award of the contract. If the Bidder is found to have defaulted, then:
 - 1. The District may award the contract to the next lowest, responsible Bidder submitting a responsive Bid or rebid the project as determined by the District in its sole discretion; and
 - 2. Upon default of the Bidder the District shall have the right to collect the bid security.

2.09 NOTICE TO PROCEED

- A. Upon providing the District the executed contract, evidence of insurance and the required bonds, in compliance with the Contract Documents, the District will issue a Notice to Proceed. Notice to Proceed shall be signed within fifteen (15) calendar days from the date of the Notice to Proceed and returned to the District. No work shall proceed until said acceptance is signed and timely received by the District. All commitments, subcontracts, and materials ordered until the acceptance is received shall be at risk of Bidder.

PART 3 CONDITIONS AND INSTRUCTIONS

3.01 EXPERIENCE AND BUSINESS STANDING

- A. Qualification of Bidders: Each Bidder shall possess a contractor's license for the type of work required on this Contract, issued by the California Contractors State License Board, valid at the time of bid and time of award of Contract and for the duration of the Contract. Likewise, specialty subcontractors may also be required to possess a contractor's license for the type(s) of work required on this Contract. The class of license shall be as specified in Section 00 10 00, Solicitation - Invitation to Bid. Each Bidder shall also have no less than five (5) years experience in the magnitude and character of the work being bid. Each Bidder shall have successfully completed no less than five (5) similar type projects of the same or larger capacity and list the projects on the bid forms as required per Section 00 41 00, Bid Forms.
- B. Debarred Contractors: In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or 1777.7 of the Labor Code.
- C. Experience Statement: The District may require that Bidders under consideration for award of the Contract submit a statement setting forth that Bidder's experience.
 - 1. Along with this statement, each Bidder shall list similarly constructed projects showing total project costs, when constructed, and the names, addresses, and phone numbers of the owners.
- D. Financial Statement: Bidders may be requested to submit a financial statement, references, and other information sufficiently comprehensive to permit an appraisal of the Bidder's current financial condition. Such statement shall be in a form and substance similar to or equal to the form for that purpose developed and published by the Associated General Contractors of America
 - 1. The financial statement shall be submitted within five (5) days of receipt of the request from the District.
 - 2. If Bidder fails to timely submit a requested financial statement, or if the financial statement is not satisfactory to the District, the Bid of such Bidder may be considered non-responsive, and such Bid may be rejected by the District.
- E. Resume Statement: Bidders may be requested to submit the experience resume of the person who will be designated chief construction superintendent or onsite construction manager
 - 1. The experience resume shall be submitted within five (5) days of receipt of the request from the District.
 - 2. Where Bidder fails to timely submit a requested experience resume, or where the experience resume is not satisfactory to the District, the Bid of such Bidder may be considered non-responsive, and such Bid may be rejected by the District.

3.02 COPIES AND USE OF BIDDING DOCUMENTS

- A. Contract Documents may be obtained as stipulated in Section 00 10 00, Solicitation - Invitation to Bid.
- B. Contract Documents are made available to Bidders for the purpose of obtaining Bids for performance of the Work. No license or grant is given for other uses of the Contract Documents.

3.03 INTERPRETATION OF CONTRACT DOCUMENTS

- A. Questions: If any Bidder contemplating submitting a Bid does not understand any part of the Contract Documents, or finds discrepancies in or omissions from the Contract Documents, that Bidder shall submit to the District a written request for an interpretation or correction by the means specified in 00 10 00, Solicitation – Invitation to Bid.
- B. Interpretations or Corrections: Interpretation or correction of the Contract Documents will be made only by Addendum duly issued and a copy of such Addendum will be distributed via the electronic bidding system.
 - 1. The District will not be responsible for any other explanations or interpretations of the Contract Documents.
- C. Documents to Rely Upon: Only the Contract Documents and Addenda shall be relied upon for preparation of Bids. Statements or representations made by or on behalf of the District regarding the Project prior, during, or after the bidding will not be binding upon the District.

3.04 QUESTIONS DURING BID PERIOD

- A. Questions regarding the Contract Documents and bidding procedures shall be submitted electronically to our electronic bidding system within the time limit specified in Section 00 10 00, Invitation to Bid.
- B. The request for clarification or interpretation shall be dated and shall identify (1) the Work, (2) the statement or the drawing that is in question, (3) the documents in which they occur, (4) the reasons for which the clarification or interpretation is necessary, and (5) the name and title of the person submitting the request.
- C. Clarifications, interpretation, and correction to Contract Documents will be issued only by Addendum, as set forth in Part 3.5, below.
- D. Questions regarding the Bid Documents should be submitted to the District in sufficient time for the District to prepare a response prior to bid opening.

3.05 ADDENDA

- A. A notice that an addendum has been issued will be distributed via email to persons, firms and corporations registered as Vendors and perspective bidders for the project on our electronic bidding system. Copies of all addenda must be downloaded from our electronic bidding system before a Bidder can submit a Bid.

- B. Addenda issued during the time of bidding shall be covered in the Bid and shall become a part of the Contract Documents.
- C. Bidders shall acknowledge receipt of any and all addenda in their Bid.
- D. In accordance with Public Contract Code §4014.5, if an addendum includes material change to the project and is issued less than 72 hours before the bid date, the District must extend the deadline for the submission of bids. The District reserves the right to determine in its sole discretion whether an addendum includes material changes to the project.
- E. It is the Bidder's responsibility to determine it has received any and all Addenda prior to bidding. The Bidder is advised to contact the District prior to the Bid opening to confirm that all Addenda have been received.

3.06 BIDDERS INTERESTED IN MORE THAN ONE BID

- A. Interest in More Than One Bid: No person, firm, or corporation, under the same or different name, shall make, file, or be interested in more than one Bid for the same work unless alternate bids are called for.
 - 1. A person, firm, or corporation who has submitted a sub-bid to a bidder, or who has quoted prices on materials to a Bidder, is not disqualified from submitting a sub-bid or quoting prices to other Bidders.
- B. Rejection in Case of Collusion:
 - 1. Reasonable grounds for believing that any Bidder is interested in more than one Bid for the same work, will cause the rejection of all bids for the Work in which such a Bidder is interested.
 - 2. Any or all bids will be rejected, in the sole discretion of the District, if there is reasonable grounds for believing that collusion exists among any of the bidders.
- C. Noncollusion Declaration: Pursuant to Public Contract Code Section 7106, Bidders shall submit with their Bids the Noncollusion Declaration executed in the form included with the bid documents.

3.07 SUBSTITUTION OF SECURITIES

- A. Section 01 20 00 calls for progress payments based upon the percentage of the work completed. The District will retain a portion of each progress payment as retention as provided by the Contract Documents. At the request and expense of the successful Bidder, the District will substitute securities for the amount so retained in accordance with Public Contract Code Section 22300.
- B. Securities may be deposited with the District, or with a state or federally chartered bank as the escrow agent, who shall pay such monies to the contractor upon satisfactory completion of the contract. Securities eligible for investment shall include those listed in Section 16430 of the California Government Code, or bank or savings and loan certificates of deposit. The contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

3.08 SUBCONTRACTORS

- A. Bidders shall list, in Section 00 41 00, Bid Forms, the name, location of place of business, contractor's license number, DIR registration number, and the portion of the Work which will be performed by each Subcontractor who will furnish work or labor or render services to Bidder, as Contractor, in or about the Work, in an amount in excess of 0.5 percent of Bidder's total Bid.
- B. Circumventing by Bidder of the requirement to list subcontractors by the device of listing one subcontractor who will in turn sublet portions constituting the majority of the work covered by this Contract shall be considered a violation of the California Subletting and Subcontracting Fair Practices Act, Division 2, Part 1, Chapter 4 of the California Public Contract Code and shall subject Contractor to the penalties set forth in Sections 4110 and 4111 of said Code.
- C. Substitutions of subcontractors identified in the List of Subcontractors shall be granted only for those reasons allowed by Public Contract Code §4107.5. The procedures for substitution shall be as provided therein.
- D. Debarred subcontractors may not bid on the Project as defined in Part 3.01.B. Any contact on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the District. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.
- E. The District and the Engineer reserve the right to approve all subcontractors. Such approval shall be a consideration to the awarding of the Contract and unless notification to the contrary is given to the Contractor prior to the signing of the Contract, the list of subcontractors which is submitted with the Bid will be deemed to be acceptable.

3.09 MATERIALS AND EQUIPMENT LIST

- A. Bidders shall prepare, using the form provided in Section 00 41 00, Bid Forms, and submit with the Bid a complete list of materials and equipment, indicating manufacturer, identifying at a minimum the components included on the Materials and Equipment List in Section 00 41 00, Bid Forms.

3.10 NONRESTRICTIVE SPECIFICATION

- A. Materials and Equipment Identified by Brand or Trade Names
 - 1. Pursuant to Public Contract Code Section 3400(b) the District may make a finding that designates certain products, things, or services by specific brand or trade name. Such materials and equipment may not be substituted and are identified in the Contract Documents.
 - 2. Pursuant to Public Contract Code §3400, all brand or trade names shall be considered to be followed by the words "or equal" unless required findings have been made and noted in Section 00 10 00 – Solicitation, Invitation to Bid.

3.11 WORKERS' COMPENSATION REQUIREMENTS

- A. The Bidder should be aware that in accordance with Section 3700 of the California Labor Code, the Bidder will, if awarded a Contract, be required to secure the payment of compensation to its employees and execute the workers' compensation certificate in the form contained in these Contract Documents.

3.12 SHEETING, SHORING, AND BRACING

- A. Bidders shall state in the appropriate space on the electronic Bid Schedule, the price for sheeting, shoring, and bracing, or equivalent method meeting regulatory requirements, for the protection of life and limb in trenches and open excavation, in accordance with the requirements defined in Section 00 10 00, Solicitation – Invitation to Bid.

3.13 CONFINED SPACE ENTRY

- A. Pursuant to the provisions in General Industry Safety Orders, Article 108 (Title 8, CCR, Section 5156 et seq.) (CALOSHA), each bid submitted in response to Section 00 10 00, Solicitation - Invitation to Bid, shall contain adequate procedures, methods and personnel to complete confined space entry.

3.14 IRREGULAR BIDS

- A. Bids may be considered irregular and may be rejected as non-responsive by the District if they show any alterations of form, unauthorized additions, unauthorized conditional or alternate bids, incomplete bids, recapitulations, unbalanced prices, erasures, or irregularities of any kind.
- B. No bid will be considered unless accompanied by the Bid Security in the required type and amount.
- C. No oral, telegraphic, telephonic, or modified bid will be considered.

3.15 WITHDRAWAL OF BID

- A. Prior to Bid Opening: Any bidder may withdraw its bid via the online bidding system or by written request to the District prior to the scheduled closing time for receipt of bids.
- B. After Bid Opening:
 - 1. A bidder may withdraw its bid after the opening of bids providing the bidder can establish to the District's satisfaction that a mistake was made in preparing the bid as provided in the California Public Contracts Code.
 - a. A bidder desiring to withdraw its bid shall give written notice to the District within five (5) business days after opening of bids specifying in detail how the mistake occurred and how the mistake made the bid materially different than it was intended.
 - b. Withdrawal will be permitted for mistakes made in filling out the bid and will not be permitted for mistakes resulting from errors in judgment or

carelessness in inspecting the site of Work or in reading the Contract Documents.

3.16 BIDDING PROTEST PROCEDURES

- A. Time for Submitting Protests: A protest regarding Bid opening procedures, Bids, or the selection of the Successful Bidder shall be submitted in writing, by the protesting Bidder to the District, so that the protest is received by the District within 7 calendar days after Bid opening.
- B. Protests shall include a clear detail of the reason for the protest and the remedies sought by the Bidder submitting the protest.
- C. The District will issue a response within 7 calendar days after receipt of a protest.
- D. As condition precedent for litigation on matters covered under this Part 3.16, Bidder shall have filed a protest and allowed time for the District's response in accordance with preceding paragraphs A. through C.
- E. These bidding protest procedures are also posted on the District's website at the following address <https://www.stpud.us/bid-results>.

3.17 CONSTRUCTION SCHEDULE AND SCHEDULE OF VALUES

- A. The bidder selected by the District shall be required to prepare and submit a construction schedule in accordance with Section 01 32 00, Construction Progress Documentation.
- B. Likewise, if the Basis for the Bid was Lump Sum, as defined in Part 2.07 herein, then the successful bidder may be required by the District to submit a schedule of values for the lump sum bid items, providing a breakdown of costs of which the lump sum bid items are comprised.

3.18 CONTRACT DOCUMENTS TO SUCCESSFUL BIDDER

- A. Sets Free of Charge: The bidder to whom award is made may obtain one (1) printed set of Contract Documents for the Work at no extra cost.
- B. Additional Sets: Additional sets may be purchased at the cost of reproduction.
- C. The Contractor shall have no claim for excusable delay on account of the failure of the Engineer to deliver such Contract Documents unless the Engineer shall have failed to deliver the same within two weeks after receipt of the Notice of Award.
- D. Contract Documents will be maintained electronically by the District and made available electronically to the successful bidder throughout the duration of the Contract.

END OF SECTION

SECTION 00 30 00

INFORMATION AVAILABLE TO BIDDERS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: This Section references site information shown in the Contract Documents (i.e. existing utility locations) prepared for the District's purposes and made available to the Bidders and the Contractor for his information. Such site data is not a part of the Contract Documents notwithstanding its being bound with them or listed as among their contents.

PART 2 REQUIREMENTS

2.01 RESPONSIBILITY FOR ACCURACY OF SITE DATA

- A. Except as indicated in Section 01 73 00, Part 2.05, the Contractor is responsible for accuracy of site data; the District and Design Engineer do not guarantee their accuracy, nor their adequacy, nor their correctness, nor that data is representative of all conditions the Contractor may encounter on the project site and makes no representation as to their correctness.
- B. The Bidders and Contractor shall assume responsibility for results of acting on conclusions he draws from this data. If they choose not to accept such responsibility, they shall employ their own experts to determine additional information and they shall be responsible for results of acting on conclusions they draw from information obtained on their own initiative.

2.02 REPORTS

- A. Tank Condition Assessment Reports: Dive inspections and condition assessments of the Stateline Water Storage Tanks #1 and #2 were conducted in May 2025. These assessments were used to inform the District regarding the necessity and scope of potential tank rehabilitation. The reports evaluate both the exterior and interior conditions (both above and below the waterline) of the tanks and include recommendations for necessary improvements to ensure the continued, uninterrupted operation of the water storage tanks. These reports are located in Appendix A.

END OF SECTION

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SECTION 00 41 00

BID FORMS

BID TO

**SOUTH TAHOE PUBLIC UTILITY DISTRICT
for the Construction of
2026 STATELINE TANKS RECOATING PROJECT**

DOCUMENTS IN THIS SECTION CONSTITUTE THE BID FORMS. BIDDERS ARE TO COMPLETE AND ATTACH THE DOCUMENTS CONTAINED IN THIS SECTION AS INSTRUCTED IN SECTION 00 20 00, INSTRUCTIONS FOR BIDDERS, AND SUBMIT THE COMPLETED BID PROPOSAL PACKAGE IN ITS ENTIRETY ELECTRONICALLY PRIOR TO THE BID DEADLINE. BIDDER IS REQUIRED TO SUBMIT THE ORIGINAL DOCUMENTS CONTAINED IN THIS SECTION WITHIN THE TIME STATED IN SECTION 00 10 00, SOLICITATION – INVITATION TO BID (SEE SECTION 00 20 00, INSTRUCTIONS FOR BIDDERS, PART 2.03)

Name of Bidder: _____

Business Address: _____

Phone No: _____

To South Tahoe Public Utility District:

Pursuant to and in compliance with the Notice Inviting Bids and the other documents relating thereto, the undersigned, Bidder, being fully familiar with the terms of the Contract Documents, local conditions affecting the performance of the Contract, the character, quality, quantities, and the Scope of the Work, the cost of the Work at the place where the Work is to be done, hereby proposes and agrees to perform within the time stipulated in the Contract, including all of its component parts and everything required to be performed, and to furnish any and all of the labor, material, tools, equipment, transportation, services, permits, utilities, and all other items necessary to perform the Contract and complete in a workmanlike manner, all of the Work required in connection with the construction of said Work, all in strict conformity with the Specifications and other Contract Documents, including Addenda Nos. _____, for the prices hereinafter set forth.

Bids that are submitted via the District's electronic bidding system at the time set for opening of Bids shall be irrevocable, and may not be withdrawn for a period of sixty (60) days after the date set for the opening of the bids except as noted in Section 00 20 00, Part 3.14.

ELECTRONIC BID SCHEDULE PRICES:

All applicable sales taxes, State and/or Federal and any other special taxes, patent rights, or royalties are included in the prices quoted in this Bid.

The quantities specified are the DISTRICT's estimates and are approximate only, being given as a basis for the comparison of Bids. The DISTRICT does not, expressly or by implication, agree that the actual amount of work will correspond therewith. The total amount bid will be used to determine the lowest, responsive, responsible, Bidder.

Payment for each item will be based on the actual quantity of work performed times the item unit contract price. Determinations of the actual quantities and classifications of unit price work performed by the CONTRACTOR will be made by the DISTRICT and may be more or less than the specified, estimated quantities. Unless otherwise indicated in the Bid Item Descriptions, the unit price shall be valid for actual quantities up to 25% more than or less than the bid quantity.

All representations made by Bidder in this Bid are made under penalty of perjury.

DATED: _____

BIDDER: _____

SIGNATURE

BY: _____

TITLE: _____

INFORMATION REQUIRED OF BIDDER

DEPARTMENT OF INDUSTRIAL RELATIONS REGISTRATION:

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.

Contractor DIR Registration Number: _____

LIST OF SUBCONTRACTORS:

In compliance with the Subletting and Subcontracting Fair Practices Act Chapter 4 (commencing at Section 4100), Part 1, Division 2 of the Public Contract Code of the State of California and any amendments thereof, Bidder shall set forth below: (a) the name and the location of the place of business, (b) the California contractor license number, (c) the DIR public works contractor registration number unless exempt pursuant to Labor Code Sections 1725.5 and 1771.1, and (d) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the work or improvement to be performed under this Contract in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price. Notwithstanding the foregoing, if the work involves the construction of streets and highways, then the Bidder shall list each subcontractor who will perform work or labor or render service to the Bidder in or about the work in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If a Bidder fails to specify a subcontractor or if a contractor specifies more than one subcontractor for the same portion of work, then the Bidder shall be deemed to have agreed that it is fully qualified to perform that portion of work and that it shall perform that portion itself.

ATTACH ADDITIONAL PAGES, IF NECESSARY

	Work to be Performed	Subcontractor's CSLB License #	Subcontractor's DIR Registration #	Percent of Total Contract	Subcontractor's Name and Location of Business
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

EQUIPMENT/MATERIAL SUPPLIER LIST:

The Bidder shall indicate below which Supplier the Bidder intends to use to furnish under the Bid each item of equipment or material listed on this form by writing the supplier's name. Unless the use of alternatives for a particular item has been restricted by these Contract Documents, the Bidder may list any manufacturer whose product meets all of the requirements and technical criteria specified. The listing of more than one supplier for each equipment/material to be furnished with the words "and/or" **will not be permitted.**

Equipment/Material	Supplier	Manufacturer
1. Interior Coating System		
2. Exterior Coating System		
3. Abrasive Blast Material		

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BIDDER'S GENERAL INFORMATION:

The Bidder shall furnish the following information. Additional sheets shall be attached as required. Failure to complete Item Nos. 1 through 7, at the time of bid submittal will cause the bid to be non-responsive and may cause its rejection. Bidders shall submit Item Nos. 8 and 9 if requested by the OWNER prior to award of contract. No award will be made until all of the Bidder's General Information (i.e., Items 1 through 7, inclusive and Items 8 and 9, if requested) is delivered to and accepted by the OWNER.

(1) Bidder's Name and Address:

(2) Bidder's Telephone Number: _____

(3) Bidder's Preferred Email Address: _____

(4) Bidder's CSLB License: Primary Classification _____

State License No. _____

Expiration Date: _____

Supplemental Classifications held, if any: _____

Name of Licensee, if different from (1) above:

(5) Name of person who inspected site or proposed Work for your firm:

Name: _____ Date of Inspection: _____

(6) Name, address, and telephone number of surety company and agent who will provide the required bonds on this contract:

(7) Complete and sign the forms:

- a) Noncollusion Declaration
- b) Iran Contracting Act Certification
- c) Public Works Contractor Registration Certification
- d) Contractor's Certificate Regarding Workers' Compensation

- e) Fleet Compliance Certification
- f) Bid Bond
- g) Acknowledgement of Insurance Requirements
- h) Certification by Contractor's Insurance Broker

(8) List five (5) projects completed as of recent date involving work of similar type and complexity:

Project	Contract Price	Name, address, telephone # of Owner	Description of Bidder's Work	Completion Date
1.				
2.				
3.				
4.				
5.				

(9) The experience resume of the person who will be designated chief construction superintendent or on-site construction manager.

(10) A financial statement, references, and other information, sufficiently comprehensive to permit an appraisal of Bidder's current financial condition. The financial statement shall be in accordance with Section 00 20 00, Part 3.01.D.

**NONCOLLUSION DECLARATION TO BE EXECUTED
BY
BIDDER AND SUBMITTED WITH BID**

The undersigned declares:

I am the _____ (Position) of _____ (Firm), the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

Name of Bidder _____

Signature _____

Name _____

Title _____

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IRAN CONTRACTING ACT CERTIFICATION

(Public Contract Code section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 *et seq.*) is true and correct:

The Contractor is not:

(1) identified on the current list of person and entities engaged in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or

(2) a financial instruction that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

The City has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the City will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.

Signature: _____

Printed Name: _____

Title: _____

Firm Name: _____

Date: _____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for three years.

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PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See <http://www.dir.ca.gov/PublicWorks/PublicWorks.html> for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.¹

Name of Bidder: _____

DIR Registration Number: _____

DIR Registration Expiration: _____

Small Project Exemption: _____ Yes or _____ No

Unless Bidder is exempt pursuant to the small project exemption, Bidder further acknowledges:

1. Bidder shall maintain a current DIR registration for the duration of the project.
2. Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
3. Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

¹ If the Project is exempt from the contractor registration requirements pursuant to the small project exemption under Labor Code Sections 1725.5 and 1771.1, please mark "Yes" in response to "Small Project Exemption."

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CONTRACTOR'S CERTIFICATE REGARDING WORKERS' COMPENSATION

I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

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FLEET COMPLIANCE CERTIFICATION

Bidder hereby acknowledges that they have reviewed the California Air Resources Board's policies, rules and regulations and are familiar with the requirements of Title 13, California Code of Regulations, Division 3, Chapter 9, effective on January 1, 2024 (the "Regulation"). Bidder hereby certifies, subject to penalty for perjury, that the option checked below relating to the Bidder's fleet, and/or that of their subcontractor(s) ("Fleet") is true and correct:

- The Fleet is subject to the requirements of the Regulation. At the District's request, within 48 hours after the Bid Opening, the Bidder must submit the most recent, valid Certificates of Reported Compliance ("CRC") for the Bidder's fleet and for the fleet(s) of its listed subcontractors (including any applicable leased equipment or vehicles).
- The Fleet is exempt from the Regulation under section 2449.1(f)(2), and a signed description of the subject vehicles, and reasoning for exemption has been attached hereto.
- Bidder and/or their subcontractor is unable to procure R99 or R100 renewable diesel fuel as defined in the Regulation pursuant to section 2449.1(f)(3). Bidder shall keep detailed records describing the normal refueling methods, their attempts to procure renewable diesel fuel and proof that shows they were not able to procure renewable diesel (i.e. third party correspondence or vendor bids).
- The Fleet is exempt from the requirements of the Regulation pursuant to section 2449(i)(4) because this Project has been deemed an Emergency, as defined under section 2449(c)(18). Bidder shall only operate the exempted vehicles in the emergency situation and records of the exempted vehicles must be maintained, pursuant to section 2449(i)(4).
- The Fleet does not fall under the Regulation or are otherwise exempted and a detailed reasoning is attached hereto.

Name of Bidder: _____

Signature: _____

Name: _____

Title: _____

Date: _____

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BID BOND

KNOW ALL MEN BY THESE PRESENTS,

The makers of this bond are, _____ as Principal, and _____ as Surety, are held and firmly bound unto **SOUTH TAHOE PUBLIC UTILITY DISTRICT**, hereinafter called "Owner," in the penal sum TEN PERCENT (10%) OF THE TOTAL BID PRICE of the Principal submitted to Owner for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying bid dated _____, 20____ for **2026 STATELINE TANKS RECOATING PROJECT**.

If the Principal does not withdraw its bid within the time specified in the Contract Documents; and if the Principal is awarded the Contract and provides all documents to the Owner as required by the Contract Documents; then this obligation shall be null and void. Otherwise, this bond will remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents shall affect its obligation under this bond, and Surety does hereby waive notice of such changes.

In the event a lawsuit is brought upon this bond by said Owner and judgment is recovered, the Surety shall pay all litigation expenses incurred by the Owner in such suit, including reasonable attorney's fees, court costs, expert witness fees and expenses.

By their signature hereunder, Surety and Principal hereby confirm under penalty of perjury that Surety is an admitted surety insurer authorized to do business in the State of California.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporation.

(Corporate Seal)

Contractor/ Principal

By _____

Title _____

(Corporate Seal)

Surety

By _____

Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title _____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
 COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

Name(s) of Signer(s)

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

 Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

Title(s)

- Partner(s)
 - Limited
 - General

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Signer is representing:
 Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

Title(s)

- Partner(s)
 - Limited
 - General
- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

END OF BID BOND

ACKNOWLEDGMENT OF INSURANCE REQUIREMENTS

This Document Must Be Fully Executed By Contractor
and Submitted With The Bid

The following insurance requirements have been adopted by The South Tahoe Public Utility District hereinafter designated the "OWNER," and shall be applicable to this Contract.

Insurance Requirement Summary

The CONTRACTOR shall furnish, prior to Notice to Proceed, Insurance Certificates and Endorsements as set forth in Section 00 20 00, Part 2.08.D and Section 00 73 00, Supplementary Conditions, Part 2.01. No other insurance documents shall be accepted in substitution of, nor in addition to, those set forth in Section 00 20 00, Instructions for Procurement. Insurance requirements and coverage will be in accordance with Section 00 73 00, Supplementary Conditions, Part 2.01.

The CONTRACTOR shall not commence work under this Contract until all insurance required under this heading is obtained in a form acceptable to OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on a subcontract until all insurance required of the Subcontractor has been obtained.

I, _____, the _____
(Insert Title)
of _____
(Name of Company or Corporation or Owner)

certify that the Insurance Requirements Summary has been read and understood and that as a material consideration of our bid, we are able to provide the document and coverage specified.

Signature of President, Secretary,
Manager, Owner, or Representative

Date: _____

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CERTIFICATION BY CONTRACTOR'S INSURANCE BROKER

This Document Must be Fully Executed By Contractor's
Insurance Broker and Submitted With the Bid

I, _____, am an authorized representative of
(Individual's name and brokerage name)

_____. This company is the insurance broker
(Insurance Company)

for _____ ("Contractor").
(Contractor)

By my signature below, I hereby attest to the following:

1. I have reviewed the insurance requirements for the South Tahoe Public Utility District's **2026 STATELINE TANKS RECOATING PROJECT** ("Project"), including the requirements set forth in Section 00 73 00, Supplementary Conditions, Part 2.01 of the Contract Documents.

2. The Contractor is eligible to be insured for the policies necessary to satisfy the insurance requirements for the Project.

This certification is not intended to be binding of coverage and does not modify and/or alter the terms and conditions of the insurance policies issued to Contractor.

Date: _____
(Signature of authorized representative)

for _____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

On _____ before me, _____, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public

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DESCRIPTION OF BID ITEMS

The Bid Schedule includes the work to perform protective coating removal, protective coating application, cathodic protection modifications, and ladder safety climb modifications on two (2) potable water storage tanks including the two-year warranty period on parts, labor, and materials.

The costs for any Work shown or required in the Contract Documents, but not specifically identified as a line item are to be included in the related line items and no additional compensation shall be due to Contractor for the performance of the Work.

The estimated quantities for Unit Price items are for purposes of comparing Bids only and the District makes no representation that the actual quantities of work performed will not vary from the estimates. Final payment shall be determined by the Engineer from measured quantities of work performed based upon the Unit Price.

General Note: Distances and measurements, except elevations and structural dimensions, shall be made on horizontal planes.

Bid Schedule items 1 through 15 are presented to indicate major categories of work for the purpose of comparative bid analysis and payment breakdown for monthly progress payments. Bid Items are not intended to be exclusive descriptions of the work categories. The CONTRACTOR shall determine and include in his pricing all materials, labor, and equipment necessary to complete each Bid Item (work phase) as shown and specified in the Contract Documents whether specifically described in the following or not.

Bid Schedule A: Stateline Tank #1 (1.25 MG Tank)

Bid Item 1 – Tank 1 Mobilization and Demobilization: includes, but is not limited to: obtaining of bonds, insurance and financing, movement of equipment, materials and personnel to and from the job site, supervision, certificates, permits, submittals and RFIs, utilities, site maintenance, cleanup, dust control and work incidentals to the contract not specifically identified under the remaining items or costs incurred prior to beginning work and after completion of work on the various contract items. The cost for this item shall not exceed 10 percent (10%) of the total of Bid Schedule A without documented justification, nor shall the CONTRACTOR submit for payment of all of the funds under this item until demobilization has been completed.

The CONTRACTOR's payment for this item shall be by the lump sum.

Bid Item 2 – Tank 1 Cathodic Protection System: includes, but is not limited to: all required labor, materials, tools, equipment, disposal, and incidentals required for the demolition of the existing impressed current cathodic protection system; and all required labor, materials, tools, equipment, disposal, and incidentals required for installation of the new sacrificial anode cathodic protection system; and any associated tank repairs. The scope of associated tank repairs within this bid item would be those repairs related to the demolition and/or installation of the cathodic protection system(s) only.

The CONTRACTOR's payment for this item shall be by the lump sum.

Bid Item 3 – Tank 1 Interior Recoating: includes, but is not limited to, furnishing all labor, materials, tools, equipment, scaffolding, environmental controls (including heating and

dehumidification), testing, general cleaning, dust abatement, disposal, incidentals necessary to remove existing interior coatings, perform surface preparation (including cleaning of all residues and grease and abrasive blasting), application of a complete new interior coating system on all interior surfaces including but not limited to tank shell, floor, roof, knuckle, rafters, girders, columns, piping, and metallic appurtenances and sealing/caulking. Work shall be performed in accordance with the Drawings, Specifications, and coating manufacturer's requirements and/or recommendations.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 4 – Tank 1 Exterior Recoating: includes, but is not limited to, furnishing all labor, materials, tools, equipment, full environmental containment (tank tenting), scaffolding, environmental controls (including heating and dehumidification), testing, general cleaning, dust control, waste handling and disposal, and all incidental work necessary to remove existing exterior coatings; perform surface preparation (including tank cleaning and abrasive blasting); application of a complete new exterior coating system, and sealing/caulking. Work shall be performed in accordance with the Drawings, Specifications, and coating manufacturer's requirements and/or recommendations.

The CONTRACTOR's payment for this item shall be by the lump sum.

Bid Item 5 – Tank 1 Exterior Tank Ladder and Security Gate Modifications: includes, but is not limited to, furnishing all labor, materials, tools, equipment, shop fabrication, and incidentals to structurally modify the existing Tank #1 exterior ladder to match the exterior ladder configuration on Tank #2. Work includes extending the ladder to within 12 inches of finished grade; maintaining existing rung spacing; matching existing ladder materials, dimensions, and detailing; and modifying the existing ladder security gate as required to accommodate the revised ladder length and associated safety climb system, ensuring full functionality and compatibility with the modified ladder configuration.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 6 – Tank 1 Miscellaneous Appurtenances and Abandonments: includes, but is not limited to: all required labor, materials, tools, equipment, disposal, and incidentals required for the installation of miscellaneous appurtenances for the PROJECT, including but not limited to demolition and replacement of existing ladder fall protection system, replacement of vent screens, replacement of entry hatch gaskets, replacement of entry hatch hardware, replacement of any hardware removed during the PROJECT.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 7 - Tank 1 Erosion Control and Site Restoration: includes, but is not limited to: installing, protecting and removal of BMPs, with measures acceptable to the District and governing agencies (filter fences have been used in the past, straw bales are no longer acceptable), inspecting and maintaining BMPs on a regular basis during the course of the work, dewatering of trenches, placing stockpiled materials in areas that are not subjected to washout, flooding, or natural drainage areas. Also, the Contractor is responsible for meeting the requirements set forth in the Tahoe Regional Planning Agency Memorandum of Understanding for Public Works Providers (TRPA MOU) and all attachments contained therein, and all labor, tools, materials, and work incidentals to the contract not specifically identified. Copies of the TRPA MOU are on file at the DISTRICT offices. Includes work required to restore the site at the conclusion of work, including application of mulch ground cover, revegetation seeding, and disturbed area slope stabilization in accordance with the plans, specifications, and TRPA standards.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 8 – Tank 1 Allowance for Miscellaneous Steel Repairs: This item covers repair to existing structural and miscellaneous steel to address conditions that have not been identified in the Plans, Specifications, and Reports provided to the Contractor for bidding. The work is expected to include welding repairs to existing steel as well as welding new steel to existing corroded members, including any required prep work, labor, materials, and equipment necessary to complete the work. Contractor shall draw upon the allotted amount through the submittal and District approval of documented costs for materials, equipment, labor, and subcontractors. If the total amount is exceeded as the project progresses, the additional time and material costs will be addressed as a changed condition.

The CONTRACTOR'S payment for this item shall be on a time and materials basis, only with prior written agreement of the Engineer.

Bid Schedule B: Stateline Tank #2 (2.25 MG Tank)

Bid Item 9 - Tank 2 Mobilization and Demobilization: includes, but is not limited to: obtaining of bonds, insurance and financing, movement of equipment, materials and personnel to and from the job site, supervision, certificates, permits, submittals and RFIs, utilities, site maintenance, cleanup, dust control and work incidentals to the contract not specifically identified under the remaining items or costs incurred prior to beginning work and after completion of work on the various contract items. The cost for this item shall not exceed 10 percent (10%) of the total of Bid Schedule B without documented justification, nor shall the CONTRACTOR submit for payment of all of the funds under this item until demobilization has been completed.

The CONTRACTOR's payment for this item shall be by the lump sum.

Bid Item 10 – Tank 2 Cathodic Protection System: includes, but is not limited to: all required labor, materials, tools, equipment, disposal, and incidentals required for the demolition of the existing impressed current cathodic protection system; and all required labor, materials, tools, equipment, disposal, and incidentals required for installation of the new impressed current cathodic protection system; and any associated tank repairs and/or modifications. The scope of associated tank repairs within this bid item would be those repairs related to the demolition and/or installation of the cathodic protection system(s) only.

The CONTRACTOR's payment for this item shall be by the lump sum.

Bid Item 11 – Tank 2 Interior Recoating: includes, but is not limited to, furnishing all labor, materials, tools, equipment, scaffolding, environmental controls (including heating and dehumidification), testing, general cleaning, dust abatement, disposal, incidentals necessary to remove existing interior coatings, perform surface preparation (including cleaning of all residues and grease and abrasive blasting), application of a complete new interior coating system on all interior surfaces including but not limited to tank shell, floor, roof, knuckle, rafters, girders, columns, piping, and metallic appurtenances and sealing/caulking. Work shall be performed in accordance with the Drawings, Specifications, and coating manufacturer's requirements and/or recommendations.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 12 – Tank 2 Exterior Recoating: includes, but is not limited to, furnishing all labor, materials, tools, equipment, full environmental containment (tank tenting), scaffolding,

environmental controls (including heating and dehumidification), testing, general cleaning, dust control, waste handling and disposal, and all incidental work necessary to remove existing exterior coatings; perform surface preparation (including tank cleaning and abrasive blasting); application of a complete new exterior coating system, and sealing/caulking. Work shall be performed in accordance with the Drawings, Specifications, and coating manufacturer's requirements and/or recommendations.

The CONTRACTOR's payment for this item shall be by the lump sum.

Bid Item 13 – Tank 2 Miscellaneous Appurtenances and Abandonments: includes, but is not limited to: all required labor, materials, tools, equipment, disposal, and incidentals required for the installation of miscellaneous appurtenances for the PROJECT, including but not limited to demolition and replacement of existing ladder fall protection system, replacement of vent screens, replacement of entry hatch gaskets, replacement of entry hatch hardware, replacement of any hardware removed during the PROJECT.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 14 - Tank 2 Erosion Control and Site Restoration: includes, but is not limited to: installing, protecting and removal of BMPs, with measures acceptable to the District and governing agencies (filter fences have been used in the past, straw bales are no longer acceptable), inspecting and maintaining BMPs on a regular basis during the course of the work, dewatering of trenches, placing stockpiled materials in areas that are not subjected to washout, flooding, or natural drainage areas. Also, the Contractor is responsible for meeting the requirements set forth in the Tahoe Regional Planning Agency Memorandum of Understanding for Public Works Providers (TRPA MOU) and all attachments contained therein, and all labor, tools, materials, and work incidentals to the contract not specifically identified. Copies of the TRPA MOU are on file at the DISTRICT offices. Includes work required to restore the site at the conclusion of work, including application of mulch ground cover, revegetation seeding, and disturbed area slope stabilization in accordance with the plans, specifications, and TRPA standards.

The CONTRACTOR'S payment for this item shall be by the lump sum.

Bid Item 15 – Tank 2 Allowance for Miscellaneous Steel Repairs: This item covers repair to existing structural and miscellaneous steel to address conditions that have not been identified in the Plans, Specifications, and Reports provided to the Contractor for bidding. The work is expected to include welding repairs to existing steel as well as welding new steel to existing corroded members, including any required prep work, labor, materials, and equipment necessary to complete the work. Contractor shall draw upon the allotted amount through the submittal and District approval of documented costs for materials, equipment, crew, and subcontractors. If the total amount is exceeded as the project progresses, the additional time and material costs will be addressed as a changed condition.

The CONTRACTOR'S payment for this item shall be on a time and materials basis, only with prior written agreement of the Engineer.

END OF SECTION

**CONSTRUCTION OF
2026 STATELINE TANKS RECOATING PROJECT
FOR
SOUTH LAKE TAHOE PUBLIC UTILITY DISTRICT**

THE BID SCHEDULE IS TO BE COMPLETED ELECTRONICALLY IN THE ELECTRONIC BIDDING SYSTEM AND IS INCLUDED HERE FOR INFORMATION PURPOSES ONLY.

BID SCHEDULE: (Refer to Bid Descriptions for a more detailed description for each of the following bid items)

Item No.	Description	Quantity	Units	Unit Price	Amount
Bid Schedule A: Stateline Tank #1 (1.25 MG Tank)					
1.	Tank 1 Mobilization/Demobilization	1	LS		
2.	Tank 1 Cathodic Protection System and Associated Tank Repairs	1	LS		
3.	Tank 1 Interior Recoating	1	LS		
4.	Tank 1 Exterior Recoating	1	LS		
5.	Tank 1 Exterior Tank Ladder and Security Gate Modifications	1	LS		
6.	Tank 1 Miscellaneous Appurtenances and Abandonments	1	LS		
7.	Tank 1 Erosion Control and Site Restoration	1	LS		
8.	Tank 1 Allowance for Misc. Steel Repairs	1	LS	\$10,000	\$10,000
Bid Schedule B: Stateline Tank #2 (2.25 MG Tank)					
9.	Tank 2 Mobilization/Demobilization	1	LS		
10.	Tank 2 Cathodic Protection System	1	LS		
11.	Tank 2 Interior Recoating	1	LS		
12.	Tank 2 Exterior Recoating	1	LS		
13.	Tank 2 Miscellaneous Appurtenances and Abandonments	1	LS		
14.	Tank 2 Erosion Control and Site Restoration	1	LS		
15.	Tank 2 Allowance for Misc. Steel Repairs	1	LS	\$10,000	\$10,000

END OF BID SCHEDULE

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FOR INFORMATION PURPOSES
COMPLETE ELECTRONICALLY ONLY

SECTION 00 52 00

CONTRACT

THIS Contract, is made and entered into this _____ day of _____, 2026, by and between _____ hereinafter referred to as "Contractor," and South Tahoe Public Utility District, El Dorado County, California, hereinafter referred to as "District".

WITNESSETH

That for and in consideration of the promises and agreements hereinafter made and exchanged, the District and the Contractor agree as follows:

1. That the Contractor will furnish all labor, materials, equipment, tools, transportation, services, appliances, and appurtenances for the construction of **2026 Stateline Tanks Recoating Project, (the "Project")** in accordance with the Contract Documents therefore, adopted by the Board of Directors of the above District, as prepared in part by the District.
2. That the District will pay the Contractor progress payments and the final payment in accordance with the method set forth in the Contract Documents with warrants drawn on the appropriate fund or funds as required, according to the prices as bid and accepted, based upon the Contract Documents, as follows:

Total Bid - \$ _____ Dollars and _____ Cents.

3. The Contractor agrees to complete said work within five hundred eighty-six (586) calendar days following the issuance of the Notice to Proceed (or approved extensions thereof), and to the entire satisfaction of the District before final payment is made. Contractor also agrees that all construction activities requiring excavation, earthwork or soil material removal shall occur between May 1, 2026 and October 1, 2026, (154 calendar days) or May 1, 2027 and October 1, 2027 (154 calendar days) in accordance

with requirements of the Tahoe Regional Planning Agency (TRPA) and to the entire satisfaction of the DISTRICT before final payment is made.

Time is of the essence for this Contract. By its signature hereunder, Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.

4. In accordance with Government Code section 53069.85, Contractor will pay the DISTRICT the sum set forth in Part 2.04, Contract Time, and Liquidated Damages, of Section 00 72 00, General Conditions, of these Contract Documents, for each and every calendar day of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated Damages and not as a penalty or forfeiture. In the event this is not paid, the Contractor agrees the DISTRICT may deduct that amount from any money due or that may become due the Contractor under the Contract. This Article does not exclude recovery of other damages specified in the Contract Documents.
5. Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at the District's offices or may be obtained online at <http://www.dir.ca.gov> and which must be posted at the job site.
6. That the Contractor shall carry California Worker's Compensation Insurance and require all Subcontractors to carry California Worker's Compensation Insurance as required by the Labor Code of the State of California.
7. The Contractor shall, prior to the execution of the Contract, furnish certificates and endorsements evidencing all required insurance policies as required in Section 00 73 00, Supplemental Conditions, Part 2.01, and furnish the labor and material payment bond and faithful performance bond. If required bonds and insurance are not provided to the District, this can be considered a breach of contract.
- 8 This Formal Contract reference includes the Contract Documents, which includes the following:
Solicitation – Notice Inviting Bids

Instructions to Bidders
Information Available to Bidders
Electronic Bid Schedule
Bid Form
Formal Contract
Faithful Performance Bond
Payment (Labor and Materials) Bond
Project Definitions
General Conditions
Supplementary Conditions
General Requirements
Technical Specifications
Reports
Addenda
Plans and Drawings
Approved and fully executed Change Orders
Any other documents contained in or incorporated into the Contract, except as otherwise indicated.

The Contractor shall complete the Work in strict accordance with all of the Contract Documents, following the intent and coordination of said documents set forth in Section 00 72 00, General Conditions. All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. This Contract shall supersede any prior agreement of the parties. Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents.

IN WITNESS WHEREOF, the said CONTRACTOR and the South Tahoe Public Utility District, have caused the names of said parties to be affixed hereto, each in duplicate, the day and year first above written.

Contractor
By _____
Title

SOUTH TAHOE PUBLIC UTILITY DISTRICT

By _____

Address for Giving Notice:

Address for Giving Notice:

SOUTH TAHOE PUBLIC UTILITY DISTRICT
1275 MEADOW CREST DRIVE
SOUTH LAKE TAHOE, CA 96150

ATTEST:

Melonie Guttry, Clerk of Board
South Tahoe Public Utility District

CONTRACTOR'S LICENSE NO:

CONTRACTOR'S LICENSE EXPIRATION

DATE: _____

CONTRACTOR'S FEDERAL I.D.#:

WORKER'S COMPENSATION CERTIFICATE

(AS REQUIRED BY SECTION 1861 OF THE CALIFORNIA LABOR CODE)

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

CONTRACTOR: _____
BY: _____
TITLE: _____

END OF SECTION

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SECTION 00 61 00

BOND FORMS

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the South Tahoe Public Utility District, a public agency located in El Dorado County, California, (hereinafter designated the "Owner") has, on _____, 20__ awarded to _____, (hereinafter designated as the "Principal") a contract for the construction of **2026 STATELINE TANKS RECOATING PROJECT**, (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required under the terms of said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, WE, the Principal, and _____, as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the Owner in the penal sum of _____ dollars (\$ _____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bound Principal, or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and faithfully perform the covenants, conditions, and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one (1) year guarantee of all materials and workmanship; and shall indemnify and save harmless, Owner, its officials, officers, employees, and authorized volunteers, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by the Owner in enforcing such obligation.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of one (1) year after the acceptance of the Work by the Owner, during which time the Principal shall fail to make full, complete, and satisfactory repair and replacements and totally protect the Owner

from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of the Contractor remains. Nothing herein shall limit the Owner's rights or the Principal or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Contractor shall be, and is declared by the Owner to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly at the Owner's option:

- i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- ii. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the Owner, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Principal by the Owner under the Contract and any modification thereto, less any amount previously paid by the Owner to the Principal and any other set offs pursuant to the Contract Documents; or
- iii. Permit the Owner to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Principal by the Owner under the Contract and any modification thereto, less any amount previously paid by the Owner to the Principal and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the Owner may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal.

Surety shall not utilize Principal in completing the Project nor shall Surety accept a bid from Principal for completion of the Project if the Owner, when declaring the Contractor in default, notifies Surety of the Owner's objection to Principal's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Project.

By their signatures hereunder, Surety and Principal hereby confirm under penalty of perjury that Surety is an admitted surety insurer authorized to do business in the State of California.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

(Corporate Seal)

Contractor/ Principal

By _____

Title _____

(Corporate Seal)

Surety

By _____
Attorney-in-Fact

(Attach Attorney-in-Fact Certificate) Title _____

The rate of premium on this bond is _____ per thousand. The total amount of premium charges is \$ _____.
(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

(Name and Address of Surety) _____

(Name and Address of Agent or Representative for service of process in California, if different from above) _____

(Telephone number of Surety and Agent or Representative for service of process in California) _____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- Individual
- Corporate Officer

Title(s)

Title or Type of Document

- Partner(s)
 - Limited
 - General

Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Date of Document

Signer is representing:
Name Of Person(s) Or Entity(ies)

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

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Title or Type of Document

- Partner(s)
 - Limited
 - General

Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Date of Document

Signer is representing:
Name Of Person(s) Or Entity(ies)

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of Attorney to local representatives of the bonding company must also be attached.

END OF PERFORMANCE BOND

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PAYMENT BOND (LABOR AND MATERIALS)

KNOW ALL PERSONS BY THESE PRESENTS THAT

WHEREAS, the South Tahoe Public Utility District, a public agency located in El Dorado County, California (hereinafter designated the "Owner") has, on _____, _____, awarded to _____, hereinafter designated as the "Principal," a contract for the construction of **2026 STATELINE TANKS RECOATING PROJECT**, (the "Project"); and

WHEREAS, said Principal is required to furnish a bond in connection with said contract; providing that if said Principal, or any of its Subcontractors, shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety of this bond will pay for the same to the extent hereinafter set forth:

NOW, THEREFORE, WE, the Principal, and _____, as Surety, are held and firmly bound unto the Owner in the penal sum of _____ dollars (\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in California Civil Code Section 9100, fail to pay for any materials, provisions or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of employees of the Principal and his subcontractors pursuant to Revenue and Taxation Code §18663, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by Owner in such suit, including reasonable attorney's fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of all persons named in California Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration, or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefor, nor by any change or modification of any terms of payment or extension of time for any payment pertaining or relating to any scheme or work

of improvement herein above described, nor by any rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the Owner and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Civil Code Section 9100, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

By their signatures hereunder, Surety and Principal hereby confirm under penalty of perjury that surety is an admitted surety insurer authorized to do business in the State of California.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

(Corporate Seal)

Contractor/ Principal

By _____

Title _____

(Corporate Seal)

Surety

By _____
Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title _____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
 COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

 Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

DESCRIPTION OF ATTACHED DOCUMENT

_____ Title(s)

_____ Title or Type of Document

- Partner(s)
 - Limited
 - General

_____ Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

_____ Date of Document

Signer is representing:
 Name Of Person(s) Or Entity(ies)

_____ Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

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- Trustee(s)
- Guardian/Conservator
- Other:

Date of Document

Signer is representing:
Name Of Person(s) Or Entity(ies)

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

END OF PAYMENT BOND

END OF SECTION

SECTION 00 71 00

CONTRACTING DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Wherever the following abbreviations and terms, or pronouns in place of them, are used in the Contract Documents but not otherwise defined therein, the intent and meaning shall be interpreted as provided below.
- B. If an abbreviation on a drawing is not explained in the Contract Documents, it shall be as explained in ANSI Y1.1.
- C. The interpretation of abbreviations shall consider the context or discipline in which they are used, for example:
 - 1. FF usually means "finish floor" when referring to a floor slab.
 - 2. FF usually means "flat face" when referring to a pipe flange.
- D. Titles of Sections and Parts: Captions accompanying specification sections and parts are for convenience of reference only, and do not form a part of the Specifications.

PART 2 ABBREVIATIONS

The following abbreviations may be used in the Contract Documents:

"Bureau" - United States Bureau of Reclamation

"State" - State of California

"State Standard Specifications" - Standard Specifications issued by Caltrans. Dated January 1984, and as amended, unless a specific edition is referenced.

"TRPA" – Tahoe Regional Planning Agency

"RWQCB" – Regional Water Quality Control Board, Lahontan Region

PART 3 DEFINITIONS

Acceptance - The formal written acceptance by the District of the entire Contract which has been completed in all respects in accordance with the Specifications and any approved modifications. The formal written acceptance will be entitled "Notice of Completion and Release of Claims" (standard form will be provided by the District).

As Approved - The words "as approved", unless otherwise qualified, shall be understood to be followed by the words "by the Engineer".

As Shown, and as Indicated - The words "as shown" and "as indicated" shall be understood to be followed by the words "on the Plans".

Bid - The offer of the bidder for the work when made out and submitted on the prescribed bid form, properly signed and guaranteed.

Bid Bond - The cash, cashier's check, certified check, or bidder's bond accompanying the bid submitted by the bidder, as a guarantee that the bidder will enter into a Contract with the District for the performance of work herein described (may also be referred to as bidders security).

Bidder - Any individual, firm, partnership or corporation submitting a bid for the work contemplated, and acting directly or through a duly authorized representative.

Board of Directors or Board - The Board of Directors of the South Tahoe Public Utility District.

Claim - A separate demand by the Contractor for (i) a time extension, (ii) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (iii) an amount the payment of which is disputed by the District.

Contract - The written agreement covering the performance of the work and the furnishing of labor, materials, tools and equipment in the construction of the work. The Contract shall include all Contract Documents and supplemental agreements amending or extending the work contemplated which may be required to complete the work in a substantial and acceptable manner. Supplemental agreements are written agreements covering alterations, amendments or extensions to the Contract and include Addenda and Contract Change Orders. Said Contract shall also contain obligatory language to compensate the Contractor in an amount and times set forth herein.

Contract Documents - The Contract Documents are any or all of the documents listed in Item 12 of the Contract.

Contractor - The person or persons, firm, partnership or corporation or other entity who has entered into the Contract with the District to perform the work.

County - County of El Dorado, California.

Date of Execution of the Contract - The date on which the Contract is signed by the DISTRICT's authorized representative. Notice of Award shall be issued pursuant to the provisions of the Contract. Acceptance of Award and compliance with provisions of Notice of Award shall be completed by Contractor no later than the fifteenth day after notice.

Datum - The figures given in the Specifications or upon the drawings after the word "Elevation" or an abbreviation of it shall mean District provided information.

Days - Unless otherwise designated, days as used in the Contract Documents shall mean calendar days, and is defined as every day appearing on the calendar.

Design Engineer - The person, firm or corporation, including its principals, agents, and employees, designated by the District to prepare drawings and specifications for the work. Brent Goligoski, PE, Senior Engineer, South Tahoe Public Utility District is the design engineer for the preparation of the **2026 STATELINE TANKS RECOATING PROJECT**.

District - The South Tahoe Public Utility District, may also be referred to as the Owner and/or STPUD.

Engineer - Person or firm retained by the District, or the person designated by the District, as its Architectural or Engineering representative during the course of

construction, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.

His - "His" shall include "her" and "its".

Or Equal - The term "or equal" shall be understood to indicate that the "equal" product be the same or better than the product named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project design requirements will be made by the Engineer.

OWNER - The South Tahoe Public Utility District, may also be referred to as the DISTRICT and/or STPUD.

Plans or Specification Drawings - The term "Plans or Specification Drawings" refers to the official Plans, profiles, cross sections, elevations, details, and other working drawings and supplementary drawings, or reproductions thereof, signed by the Engineer, which show the location, character, dimensions, and details of the work to be performed. Plans may either be bound in the same book as the balance of the Contract Documents or bound in separate sets, and are a part of the Contract Documents, regardless of the method of binding.

Specifications - The term "specifications" refers to the terms, provisions, and requirements contained herein. Where standard specifications, such as those of "ASTM", "AASHTO", etc. have been referred to, the applicable portions of such standard specifications shall become a part of these Contract Documents.

STPUD - The South Tahoe Public Utility District (STPUD), may also be referred to as the District and/or Owner.

Substantial completion - the stage in the progress of the Work when the Work (or a portion thereof designated by the Contract Documents or in writing by the Owner) is sufficiently **complete** in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. Substantial completion does not constitute Acceptance.

Subcontractors - The term "Subcontractor", as employed herein, includes only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design according to the Plans or Specifications of this work, but does not include one who merely furnishes material not so worked and would be considered a supplier only.

Work - All the work specified, indicated, shown or contemplated in the Contract Documents to construct the improvements, including all alterations, amendments or extensions thereto made by Contract Change Order or other written orders of the Engineer.

Written Notice - "Written Notice" shall be deemed to have been duly served when delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail, then it shall be deemed to have been duly served two days after mailing to the last business address known to him who gives the notice.

Definitions - Whenever in the Specifications or upon the drawings the words DIRECTED, REQUIRED, PERMITTED, ORDERED, DESIGNATED, PRESCRIBED, or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended, and similarly the words APPROVED, ACCEPTABLE, SATISFACTORY,

or words of like import, shall mean approved or acceptable to, or satisfactory to the Engineer, unless otherwise expressly stated.

END OF SECTION

SECTION 00 72 00

GENERAL CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: General clauses that establish the basic rights, responsibilities and relationships of the parties to the Contract.

PART 2 DESCRIPTION

2.01 INTENT OF CONTRACT DOCUMENTS

- A. The intent of the Contract Documents is to describe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the Contract. Where the Contract Documents describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals and do all the work involved in performing the Contract in a satisfactory and workmanlike manner.
- B. The technical provisions are presented in sections for convenience. However, this presentation does not necessarily delineate trades or limits of responsibility. All sections of the Contract Documents are interdependent and applicable to the project as a whole.
- C. The Contract Documents are complementary, and what is called for in any one portion shall be binding as if called for in all other applicable portions of the Contract Documents.

2.02 CONTRACTOR'S UNDERSTANDING

- A. It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this Contract. No verbal agreement or conversation with any officer, agent or employee of the District, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

2.03 COORDINATION AND INTERPRETATION OF CONTRACT DOCUMENTS

- A. In the event of conflict between the Plans and the Specifications, the Specifications shall govern, except that, where items are shown on the Plans and are not specifically included in the Specifications, the Plans shall govern.
- B. Notwithstanding the order of precedence established above, in the event of conflicts the higher standard shall always apply.
- C. Should it appear that the work to be done or any of the relative matters are not sufficiently detailed or explained in the Contract Documents, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to them as part of the Contract. In the event of any doubt or question arising respecting the true meaning of the Contract Documents, reference shall be made to the Engineer, whose written decision thereon shall be final and conclusive.
- D. If the Contractor, in the course of the work, finds any discrepancy between the Contract Documents and the physical condition of the locality, or any errors or omissions in the Contract Documents, or in the layout as given by points and instructions, it shall be his duty to inform the Engineer in writing, and the Engineer will promptly verify the same in writing.
- E. The Contractor shall not, nor allow its subcontractors to, proceed with work with respect to which there is any uncertainty without obtaining written clarification. If Contractor performs, permits, or causes the performance of any Work which is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, it shall bear any and all costs, including, without limitation, the cost of correction as required in Parts 2.16 of this Section.
- F. Upon authorization of a change to the Work by the Engineer, the Contractor shall record such changes on the project record documents as required in Section 01 77 00, Part 2.06, and, where applicable, the changes shall be surveyed by a California Registered Land Surveyor.
- G. In the event of any discrepancy between any Plans and the figures written thereon, the figures shall be taken as correct. Detailed drawings shall prevail over general drawings.
- H. Any reference made in these Specifications or on the Plans to any specification, standard, method, or publication of any scientific or technical society or other organization shall, in the absence of a specific designation to the contrary, be understood to refer to the Specification, standard, method, or publication in effect as of the date that the work is advertised for Bids with the exception of prevailing wages, which can change after the project has been bid and awarded if updates have been published at the time of bid.

2.04 CONTRACT TIME AND LIQUIDATED DAMAGES

- A. The Contract Time shall be Five hundred eighty-six (586) calendar days from the date specified in the Notice to Proceed. All excavation or work that would disturb existing ground shall not commence until May 1 and shall be completed by October 15 of the year in which the excavation or work occurs, in accordance with requirements of the Tahoe Regional Planning Agency.
- B. In addition, for timely completion of the Project, the District requires that the Contractor meet intermediate contract deadlines to assure that the Project complies with permit requirements. The intermediate milestone dates are fixed and govern provided the NTP is issued on or before May 1, 2026. If NTP is issued after May 1, 2026, Intermediate Milestone 1 shall be adjusted day-for-day by the number of calendar days NTP issuance is delayed beyond May 1, 2026, and the District will confirm the revised milestone date by Change Order (time only).
1. Intermediate Milestone 1: **All work identified as Schedule A**, in Section 00 41 00, for the Stateline Tank #1, including inspections, touch up activities, tank disinfection, water quality testing, and return to service **shall be completed by October 1, 2026.**
 2. Intermediate Milestone 2: **All work identified as Schedule B**, in Section 00 41 00, for the Stateline Tank #2, including inspections, touch up activities, and tank disinfection, water quality testing, and return to service **shall be completed by October 1, 2027.**
- C. Contractor shall provide the District at least 7 working days notice prior to requested sampling/testing. The District will perform sampling within 2 working days of a complete and ready request, subject to access and readiness. Testing results are expected to require 4 days from time of sample collection. Delays solely attributable to District sampling/testing availability shall be excusable for purposes of milestone Liquidated Damages assessment.
- D. Pursuant to the provisions under Liquidated Damages in Section 01 35 00, Special Procedures, of these Contract Documents, two-thousand five-hundred dollars (\$2,500.00), shall be the amount of liquidated damages for every day of delay in the completion of Intermediate Milestone 1 and Intermediate Milestone 2. Seven hundred fifty dollars (\$750.00) shall be the amount of liquidated damages for every day of delay in the completion of the Work. Milestone Liquidated Damages apply until return to service is achieved; thereafter only general Liquidated Damages apply.

2.05 MEASUREMENT OF QUANTITIES

- A. Where the Contract provides for payment on a lump sum price basis, no measurement of quantity will be made. Where the Contract provides for payment on a unit price basis, the quantities of work performed will be computed by the Engineer on the basis of measurements taken by the Engineer, and these measurements shall be final and conclusive.

- B. All quantities of work computed under the Contract shall be based upon measurements by the Engineer according to United States Measurements and Weights.
- C. Methods of measurement are specified in these Specifications.

2.06 SCOPE OF PAYMENT

- A. The Contractor shall accept the compensation provided in the Contract as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work until the acceptance by the District and for all risks of every description connected with the prosecution of the work, also for all expenses incurred in consequence of the suspension or discontinuance of the work as provided in the Contract; and for completing the work according to the Specifications and Plans. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.
- B. No compensation will be made in any case for loss of anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as provided in such agreements.

2.07 PAYMENT OF TAXES

- A. The Contract prices paid for the work shall include full compensation for all taxes which the Contractor is required to pay, whether imposed by Federal, State, or local governments.

2.08 PATENTS

- A. The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated into the work, and agrees to indemnify and hold harmless the District, the Engineer, and their duly authorized representatives, from all action at law or in equity, actions of every nature for, or on account of, the use of any patented materials, equipment, devices, or processes.

2.09 CHANGES IN THE WORK

- A. The District may, at any time, by written order make changes in the work as deemed necessary by the Engineer. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the Contract an equitable adjustment will be made to the Contract and the Contract modified in writing accordingly. Such modifications are subject to approval by the Board, in accordance with Public Contract Code §20206.2 and 20206.3.

- B. Such modification will be in the form of a Contract Change Order which will describe the work to be done or the method by which the change and cost and/or time adjustment, if any, will be determined, and the time of completion of the work.
- C. The compensation to be paid for any extra work or change shall be determined in one or more of the following ways:
1. By agreed unit prices;
 2. By estimate and acceptance of an agreed upon lump sum; or
 3. By cost plus.
- The unit prices established in the Bid for a particular item shall be valid for deviations in the bid quantity within the range established in the Bid Form (Section 00 41 00).
- D. Until one of the above methods is agreed on, or if the work is to be paid for on cost plus basis, the Contractor shall keep full and complete records of the cost of such work in the form and manner prescribed by the Engineer and shall permit the Engineer to have access to such records as may be necessary to assist in the determination of the compensation payable for such work. Contractor must obtain the Engineer's permission, on a daily basis, as to the size of the crew, hours worked, and material to be used.
- E. Upon receipt of a Contract Change Order, the Contractor shall proceed with the ordered work. If ordered in writing by the Engineer, the Contractor shall proceed with the work so ordered prior to actual receipt of a Contract Change Order. A Contract Change Order executed by the Contractor and approved by the Engineer is an executed Contract Change Order as that term is used throughout this Section.
- F. A Contract Change Order may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in a Contract Change Order which has not been executed, the Contractor shall submit a written protest to the Engineer within ten (10) days after the receipt of such Contract Change Order. The protest shall state the points of disagreement, and, if possible, the quantities and cost involved. If a written protest is not submitted, payment will be made as provided in the Contract Change Order and such payment will constitute full compensation for all work included therein or required thereby. Such unprotested Contract Change Orders will be considered as executed Contract Change Orders. Contractor's disagreement with any Change Order does not relieve the Contractor from performance of the work, including extra work, promptly and expeditiously.
- G. Where the protest concerning a Contract Change Order relates to compensation, the compensation payable for all work specified or required by said Contract Change Order to which such protest relates will be determined in the same manner as provided in Part 2.10 for claims for extra work. The contractor shall keep full and complete records of the cost of such work and shall permit the Engineer to have such access thereto as may be necessary to assist in the determination of the compensation payable for such work.

- H. Where the protest concerning a Contract Change Order relates to the adjustment of time and the completion of the work, the time to be allowed therefore will be determined as provided in this Section.
- I. The consent of the Contractor's sureties shall not be required as to any change or extra work, and the liability of the Contractor's Bonds shall be increased or decreased accordingly without notice to the sureties.

2.10 EXTRA WORK

- A. If, during the performance of the Contract, it shall, in the opinion of the District or the Engineer, become necessary or desirable for the proper completion of the Contract to order work done or materials or equipment furnished which in the opinion of the Engineer are not susceptible of classification under the unit-price items in the Bidding Schedule and are not included in any item for which a lump sum is bid, the Contractor shall do and perform such work and furnish such materials and equipment. Such labor, materials and/or equipment will be classed as extra work, and shall be ordered in writing before such work is started. No extra work will be paid for unless ordered in writing. Extra work and materials will ordinarily be paid for at a lump sum or unit-price agreed on in writing by the Engineer and Contractor prior to the time when the Engineer ordered the extra work to be done. The performance of any extra work or the furnishing of extra material which, in the judgment of the Engineer, is of like character to and susceptible of classification under the unit-price items of the Contract as specified shall, if the order of the Engineer shall so provide, be paid for at the unit-price named for such work in the Bidding Schedule. Whenever, in the judgment of the Engineer, such extra work or such extra material as the case may be, is not of like character to and susceptible of classification under the unit-price items of the Contract as specified, and it is impracticable because of the nature of the work, or for any other reason, to fix the price before order for the extra work shall be issued, the Contractor shall be entitled to be paid the sum of the following costs for doing the extra work, which shall be known as the cost plus basis of payment:
 - 1. Direct Labor Cost - Charges for all of the labor furnished and used by the Contractor shall be as identified in the California Prevailing Wage Determination. Under no circumstances shall the Contractor be allowed to pay for labor, any amount that is less than the California prevailing Wage Determination. The Contractor shall be allowed to add to actual wages paid the labor surcharge set forth in the California Department of Transportation publication entitled Labor Surcharge and Equipment Rental Rates, which is in effect on the date upon which the work is performed. The surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workers, other than actual wages as defined in Section 9-1.04B1 of the California Department of Transportation Standard Specifications.
 - 2. Equipment Cost - Charges for the rental and operation of the equipment furnished and used by the Contractor shall be made for all prime construction and automotive equipment. It shall not include

charges for listed equipment or major tools with a new cost of \$500.00 or less. Equipment time charges shall be subject to the daily approval of the Engineer and evidence of such daily approval submitted with the billing. The equipment rental and operation rates used shall be at the established CalTrans rental rates. No time or charges will be allowed except when equipment is actually being used for the proper and efficient performance or completion of the extra work as authorized. A fifteen percent (15%) markup to the equipment rental and operation rates will be allowed.

3. Material Costs - Charges for the cost of materials furnished by the Contractor shall be made provided such furnishing was specifically authorized in the extra work order and the actual use verified by the Engineer. Charges shall be net cost to the Contractor delivered at the job, including all applicable sales taxes and vendor's invoice must accompany the billing along with verification of use of such materials by the Engineer. A fifteen percent (15%) markup to the materials cost will be allowed.
4. Tools, Supplies, Supervision, Overhead and Profit - A charge for major tools, supplies, home office overhead, field overhead, labor liability insurance, additional bond costs, other fixed or administrative costs that are not costs of labor used in the direct performance of the work, supervision, and profit will be allowed in the amount of thirty five percent (35%) of the total direct labor costs as defined above.
5. Work by Subcontractor - When all or any part of extra work is performed by any of the Contractor's Subcontractors, the markups for tools, supplies, additional bond costs, supervision, overhead and profit applied to the Subcontractor's actual cost of such work (determined as above) will be allowed in the amount of ten percent (10%) of the total direct labor costs, equipment costs and material costs, as defined above, to which a markup of five percent (5%) on the subcontracted portion of the extra work may be added by the Contractor.

- B. The Contractor agrees that he shall not be entitled to claim damages for anticipated profits on any portion of work that may be deleted. The amount of any adjustment for work deleted shall be estimated at the time deletion of work is ordered and the estimated adjustment will be deducted from the Contract amount by Contract Change Order.
- C. The District reserves the right to contract with any person or firm other than the Contractor for any or all extra work.

2.11 CLAIMS FOR EXTRA COSTS

- A. The Contractor shall not be entitled to the payment of any additional compensation for any cause, including any act, or failure to act, by the Engineer, or the happening of any event, thing, or occurrence, unless he shall have given the Engineer written notice of claims specified in Part 2.20 below, provided, however, that compliance with this section shall not be a prerequisite as to matters within the scope of the protest provisions in Part 2.09.

- B. Contractor shall not reserve a right to assert impact costs, extended job site costs, extended overhead, constructive acceleration and/or actual acceleration beyond what is stated in the change order for work. No claims shall be allowed of impact, extended overhead costs, constructive acceleration and/or actual acceleration due to a multiplicity of changes and/or clarifications. The Contractor may not change or modify the District's change order form in an attempt to reserve additional rights.
- C. The District's liability to Contractor for delays for which the District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the District be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs. Damages caused by unreasonable District delay, including delays caused by items that are the responsibility of the District pursuant to Government Code section 4215, shall be based on actual costs only, no proportions or formulas shall be used to calculate any delay damages. In the event of an emergency endangering life or property, the Contractor shall act as stated in Section 01 35 00, Special Procedures, Part 2.01, and after execution of the emergency work shall present an accounting of labor, materials, and equipment. The procedure for any payment that may be due for emergency work will be as specified in Part 2.09 above.

2.12 CHANGES IN CHARACTER OF WORK

- A. If an ordered change in the Contract Documents materially changes the character of the work of a Contract item from that upon which the Contractor based its Bid price, and if the change increases or decreases the actual unit costs of such changed item as compared to the actual or estimated unit cost of performing the work of said item in accordance with the Contract Documents originally applicable thereto, in the absence of an executed Contract Change Order specifying the compensation payable, an adjustment in compensation therefore will be made in accordance with the following:
 - 1. The basis of such adjustment in compensation will be the difference between the Contract unit-price to perform the work of said item or portion thereof involved in the change as originally planned and the actual unit cost of performing the work of said item or portion thereof involved in the change, as changed. Actual unit costs will be as agreed upon by the Contractor and the Engineer. If they cannot agree or if there is no unit price for the subject work, then the costs of the work will be determined by the Engineer in the same manner as if the work were to be paid for on the cost plus basis as provided in Part 2.10. Any such adjustment will apply only to the portion of the work of said item actually changed in character.
 - 2. Failure of the Engineer to recognize the change in character of the work at the time the Contract Change Order is issued shall not be construed as relieving the Contractor of its duties and responsibility of filing a written protest within the ten (10) day limit as hereinabove provided.

2.13 RIGHT TO WITHHOLD PAYMENTS

- A. In addition to all other rights and remedies of the District hereunder and by virtue of the law, the District may withhold or nullify the whole or any part of any partial or final payment to such extent as may reasonably be necessary to protect the District from loss on account of:
1. Stop Notice Claims
 2. Defective work not remedied, irrespective of when any such work was found to be defective;
 3. Claims or liens filed or reasonable evidence indicating probable filing of claims or liens including, but not limited to claims under Sections 1775, 1776, or 1777.7 of the Labor Code;
 4. Failure of the Contractor to make payments properly for labor, materials, equipment, or other facilities, or to subcontractors and/or suppliers;
 5. A reasonable doubt that the work can be completed for the balance then unearned;
 6. A reasonable doubt that the Contractor will complete the work within the agreed time limits;
 7. Liquidated Damages;
 8. Costs to the District resulting from failure of the Contractor to complete the work within the proper time, liquidated and identified in Section 01 35 00, Part 2.06;
 9. Damage to the District, work or property;
 10. Damage to another contractor or third party;
 11. Persistent failure to carry out the work in accordance with the Contract Documents;
 12. Site clean-up;
 13. Failure of Contractor to keep the project schedule and/or record ("as-built") drawings up to date;
 14. Legally permitted penalties, including governmental and regulatory fines incurred by the District as a result of delays resulting from Contractor's performance of the work as set forth in Section 01 35 00, Part 2.06; and
 15. Damages and costs incurred by the District as a result of Contractor's performance of the work, including, but not limited to, legal, engineering, inspection, superintendence, regulatory fines, and other expenses.
- B. Whenever the District shall, in accordance herewith, withhold any monies otherwise due the Contractor, written notice of the amount withheld and the reasons therefore will be given the Contractor. After the Contractor has corrected the enumerated deficiencies, the District will promptly pay to the Contractor the amount so withheld. When monies are withheld to protect the District against claims or liens of mechanics, materialmen, Subcontractors, etc., the District may at its discretion permit the Contractor to deliver a surety bond in terms and amount satisfactory to the District, indemnifying the District against any loss or expense, and upon acceptance thereof by the District, the District shall release to the Contractor monies so withheld. The surety providing the stop notice bond shall be a separate legal

entity from the surety on the performance and/or payment bonds provided for the Project.

- C. If insufficient funds have been withheld, Contractor shall promptly reimburse the District for any of the items set forth above that occur.

2.14 SECURITIES FOR MONEY WITHHELD

- A. Pursuant to section 22300 of the Public Contract Code of the State of California, Contractor may request the District to make retention payments directly to an escrow agent or may substitute securities for any money withheld by the District to ensure performance under the contract. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the District or with a state or federally chartered bank as the escrow agent who shall return such securities to Contractor upon satisfactory completion of the contract. Deposit of securities with an escrow agent shall be subject to a written agreement substantially in the form provided in section 22300 of the Public Contract Code.

2.15 GUARANTEE

- A. In addition to warranties, representations and guarantees stated in the Contract Documents, the Contractor unconditionally guarantees all materials and workmanship furnished hereunder, and agrees to replace at his sole cost and expense, and to the satisfaction of the Engineer and the District, any and all materials and/or equipment which may be defective or improperly installed.
- B. The Contractor shall repair or replace to the satisfaction of the Engineer any or all such work that may prove defective in workmanship or materials, ordinary wear and tear excepted, together with any other work which may be damaged or displaced in so doing.
- C. All work or materials which have been rejected shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no additional compensation will be allowed for such removal, replacement, or remedial work.
- D. Any work done beyond the lines and grades shown on the Plans or established by the Engineer or any extra work done without written authority will be considered as unauthorized work and will not be paid. Upon order of the Engineer, unauthorized work shall be remedied, removed, or replaced at the Contractor's expense.
- E. Upon failure of the Contractor to comply with any order of the Engineer, the District may cause rejected or unauthorized work to be remedied, removed or replaced, and may deduct the costs from any monies due or to become due the Contractor in the form of a Change Order.
- F. If deemed necessary by the District to maintain uninterrupted operation of District facilities while the defective or improperly installed materials and/or

equipment is repaired or replaced, the Contractor shall provide temporary replacement materials and/or equipment at no additional cost to the District.

- G. The Contractor must commence warranty repairs within ten (10) days after receiving written notice from the District. In the event of failure to complete such repairs within a reasonable time, the District is authorized to have the defect repaired and corrected at the expense of the Contractor who will pay the costs and charges therefor immediately upon demand, including any reasonable management and administrative costs, engineering, legal and other consultant fees incurred to enforce this section.
- H. If the Engineer deems it inexpedient for the Contractor to correct work damaged or not done in accordance with the Contract, an equitable deduction from the Contract price shall be made therefore, and such sum may be withheld by District from Contractor's payment.
- I. The Contractor must obtain and enforce on the District's behalf all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work and materials provided under the Contract.
- J. The signing of the Contract by the Contractor shall constitute execution of the above guarantees. Except as otherwise provided in this Contract, the guarantees and warranties shall remain in effect through the one-year maintenance warranty period without any expense to the District, ordinary wear and tear and unusual abuse and neglect excepted.
- K. Nothing herein shall be construed to limit the rights and remedies available to the District at law or in equity, including, but not limited to, Code of Civil Procedure section 337.15.

2.16 FINAL ACCEPTANCE AND PAYMENT

- A. The acceptance of the Work on behalf of the District will be made by the Engineer. Such acceptance by the District shall not constitute a waiver of defects. When the Work has been accepted there shall be paid to Contractor a sum equal to the contract price less any amounts previously paid Contractor and less any amounts withheld by the District from Contractor under the terms of the contract. The final five percent (5%), or the percentage specified in the notice inviting bids where the District has adopted a finding of substantially complete, shall not become due and payable until five (5) calendar days shall have elapsed after the expiration of the period within which all claims may be filed under the provisions of Civil Code section 9356. If the Contractor has placed securities with the District as described herein, the Contractor shall be paid a sum equal to one hundred percent (100%) of the contract price less any amounts due the District under the terms of the Contract.
- B. Unless Contractor advises the District in writing prior to acceptance of the final five percent (5%) or the percentage specified in the notice inviting bids where the District has adopted a finding of substantially complete, or the return of securities held as described herein, said acceptance shall operate as a release to the District of all claims and all liability to Contractor for all

things done or furnished in connection with this work and for every act of negligence of the District and for all other claims relating to or arising out of this work. If Contractor advises the District in writing prior to acceptance of final payment or return of the securities that there is a dispute regarding the amount due the Contractor, the District may pay the undisputed amount contingent upon the Contractor furnishing a release of all undisputed claims against the District with the disputed claims in stated amounts being specifically excluded by Contractor from the operation of the release. No payments, however, final or otherwise, shall operate to release Contractor or its sureties from the Faithful Performance Bond, Labor and Material Payment Bond, or from any other obligation under this contract.

- C. In case of suspension of the contract any unpaid balance shall be and become the sole and absolute property of the District to the extent necessary to repay the District any excess in the cost of the Work above the contract price.
- D. Final payment shall be made no later than 60 days after the date of acceptance of the Work by the District or the date of occupation, beneficial use and enjoyment of the Work by the District including any operation only for testing, start-up or commissioning accompanied by cessation of labor on the Work, provided that a release of liens and claims has been received from the Contractor pursuant to Civil Code section 8136. In the event of a dispute between the District and the Contractor, the District may withhold from the final payment an amount not to exceed 150% of the disputed amount.
- E. Within ten (10) calendar days from the time that all or any portion of the retention proceeds are received by Contractor, Contractor shall pay each of its subcontractors from whom retention has been withheld each subcontractor's share of the retention received. However, if a retention payment received by Contractor is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor if the payment is consistent with the terms of the subcontract.

2.17 OCCUPANCY

- A. The District reserves the right to occupy or utilize any portion of the Work at any time before completion, and such occupancy or use shall not constitute acceptance of any part of Work covered by this Contract. This use shall not relieve the Contractor of its responsibilities under the Contract.

2.18 INDEMNIFICATION

- A. To the fullest extent permitted by law, Contractor shall immediately defend (with counsel of the District's choosing), indemnify and hold harmless the District, officials, officers, agents, employees, and representatives, and each of them from and against:
 - 1. Any and all claims, demands, causes of action, costs, expenses, injuries, losses or liabilities, in law or in equity, of every kind or nature whatsoever, but not limited to, injury to or death, including wrongful

death, of any person, and damages to or destruction of property of any person, arising out of, related to, or in any manner directly or indirectly connected with the Work or this Contract, including claims made by subcontractors for nonpayment, including without limitation the payment of all consequential damages and attorney's fees and other related costs and expenses, however caused, regardless of whether the allegations are false, fraudulent, or groundless, and regardless of any negligence of the District or its officers, employees, or authorized volunteers (including passive negligence), except the sole negligence or willful misconduct or active negligence of the District or its officials, officers, employees, or authorized volunteers.

2. Contractor's defense and indemnity obligation herein includes, but is not limited to damages, fines, penalties, attorney's fees and costs arising from claims under the Americans with Disabilities Act (ADA) or other federal or state disability access or discrimination laws arising from Contractor's Work during the course of construction of the improvements or after the Work is complete, as the result of defects or negligence in Contractor's construction of the improvements.
3. Any and all actions, proceedings, damages, costs, expenses, fines, penalties or liabilities, in law or equity, of every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor.
4. Any and all losses, expenses, damages (including damages to the Work itself), attorney's fees, and other costs, including all costs of defense which any of them may incur with respect to the failure, neglect, or refusal of Contractor to faithfully perform the Work and all of Contractor's obligations under the agreement. Such costs, expenses, and damages shall include all costs, including attorney's fees, incurred by the indemnified parties in any lawsuit to which they are a party.

- B. Contractor shall immediately defend, at Contractor's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the District, its officials, officers, agents, employees and representatives. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the District, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse the District, its officials, officers, agents, employees and representatives for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code section 2782.

2.19 NO PERSONAL LIABILITY

- A. Neither the District, the Engineer, nor any of their other officers, agents, or employees shall be personally responsible for any liability arising under the Contract, except such obligations as are specifically set forth herein..

2.20 DISPUTES

- A. Except as otherwise specifically provided in the Contract Documents, the Engineer will initially decide all disputes arising under and by virtue of the Contract. A dispute will be processed and decided by the Engineer as soon as practicable after its submission and the submission or availability of any additional information necessary to its decision. If the Contractor is dissatisfied with the Engineer's decision, the Contractor may, within fifteen (15) days from the date of the Engineer's decision, file a claim following the procedures in Part 2.19 of this Section. If the Contractor fails to follow the procedures in Part 2.19 of this Section within the fifteen (15) day period, then the Engineer's decision shall be final, conclusive, and binding on the Contractor.

2.21 PROCEDURE FOR RESOLVING DISPUTES

- A. Contractor shall timely comply with all notices and requests for changes to the Contract Time or Contract Price, including but not limited to all requirements of Article 44, Changes and Extra Work, as a prerequisite to filing any claim governed by this Article. The failure to timely submit a notice of delay or notice of change, or to timely request a change to the Contract Price or Contract Time, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.
- B. Intent. Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of \$375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Article is to implement Sections 20104 et seq. and Section 9204 of the California Public Contract Code. This Article shall be construed to be consistent with said statutes.
- C. Claims. For purposes of this Article, "Claim" means a separate demand by the Contractor, after a change order duly requested in accordance with Article 44 "Changes and Extra Work" has been denied by the District, for (A) a time extension, (B) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract, or (C) an amount the payment of which is disputed by the District. Claims governed by this Article may not be filed unless and until the Contractor completes all procedures for giving notice of delay or change and for the requesting of a time extension or change order, including but not necessarily limited to the procedures contained in Article 44, Changes and Extra Work, and

Contractor's request for a change has been denied in whole or in part. Claims governed by this Article must be filed no later than the date of final payment. The claim shall be submitted in writing to the District and shall include on its first page the following in 16 point capital font: "THIS IS A CLAIM." Furthermore, the claim shall include the documents necessary to substantiate the claim. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims, including all requirements pertaining to compensation or payment for extra Work, disputed Work, and/or changed conditions. Failure to follow such contractual requirements shall bar any claims or subsequent lawsuits for compensation or payment thereon.

- D. Supporting Documentation. The Contractor shall submit all claims in the following format:
1. Summary of claim merit and price, reference Contract Document provisions pursuant to which the claim is made
 2. List of documents relating to claim:
 - a. Specifications
 - b. Drawings
 - c. Clarifications (Requests for Information)
 - d. Schedules
 - e. Other
 3. Chronology of events and correspondence
 4. Analysis of claim merit
 5. Analysis of claim cost
 6. Time impact analysis in CPM format
 7. If Contractor's claim is based in whole or in part on an allegation of errors or omissions in the Drawings or Specifications for the Project, Contractor shall provide a summary of the percentage of the claim subject to design errors or omissions and shall obtain a certificate of merit in support of the claim of design errors and omissions.
- E. District's Response. Upon receipt of a claim pursuant to this Article, District shall conduct a reasonable review of the claim and, within a period not to exceed 45 Days, shall provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the District issues its written statement.
1. If the District needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the District's governing body does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the District shall have up to three Days following the next duly publicly noticed meeting of the District's governing body after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.
 2. Within 30 Days of receipt of a claim, the District may request in writing additional documentation supporting the claim or relating to defenses or claims the District may have against the Contractor. If additional

information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of District and the Contractor. The District's written response to the claim, as further documented, shall be submitted to the Contractor within 30 Days (if the claim is less than \$15,000, within 15 Days) after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

- F. Meet and Confer. If the Contractor disputes the District's written response, or the District fails to respond within the time prescribed, the Contractor may so notify the District, in writing, either within 15 Days of receipt of the District's response or within 15 Days of the District's failure to respond within the time prescribed, respectively, and demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, the District shall schedule a meet and confer conference within 30 Days for settlement of the dispute.
- G. Mediation. Within 10 business Days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 Days after the District issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the District and the Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business Days after the disputed portion of the claim has been identified in writing, unless the parties agree to select a mediator at a later time.
1. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.
 2. For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.
 3. Unless otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced.
 4. The mediation shall be held no earlier than the date the Contractor completes the Work or the date that the Contractor last performs Work, whichever is earlier. All unresolved claims shall be considered jointly in a single mediation, unless a new unrelated claim arises after mediation is completed.

- H. Procedures After Mediation. If following the mediation, the claim or any portion remains in dispute, the Contractor must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code prior to initiating litigation. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.
- I. Civil Actions. The following procedures are established for all civil actions filed to resolve claims of \$375,000 or less:
1. Within 60 Days, but no earlier than 30 Days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties or unless mediation was held prior to commencement of the action in accordance with Public Contract Code section 9204 and the terms of this Contract. The mediation process shall provide for the selection within 15 Days by both parties of a disinterested third person as mediator, shall be commenced within 30 Days of the submittal, and shall be concluded within 15 Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.
 2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, (A) arbitrators shall, when possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.
- J. Government Code Claims. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra Work, disputed Work, construction claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code Sections 900, et seq. prior to filing any lawsuit against the District. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra Work, disputed Work, construction claims, and/or changed conditions have been followed by Contractor. If no such Government Code claim is submitted, or if the prerequisite contractual requirements are not satisfied, no action against the District may be filed. A Government Code claim must be filed no earlier than the date the Work is completed or the date the Contractor last performs Work on the Project, whichever occurs first. A Government Code claim shall

be inclusive of all unresolved claims unless a new unrelated claim arises after the Government Code claim is submitted.

- K. Non-Waiver. The District's failure to respond to a claim from the Contractor within the time periods described in this Article or to otherwise meet the time requirements of this Article shall result in the claim being deemed rejected in its entirety.

2.22 AUTHORITY OF THE ENGINEER

- A. The Engineer is the representative of the District and has full authority to interpret the Contract Documents, to conduct the construction review and inspection of the Contractor's performance, and to decide questions which arise during the course of the work and the Engineer's decisions on these matters shall be final and conclusive. The Engineer has the authority to reject all work and materials which do not conform to the Contract Documents, and has the authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract. To prevent disputes, oral modifications will not be permitted.
- B. If at any time the Contractor is on force account and the Contractor's work force, tools, plant, or equipment appear to the Engineer to be insufficient or inappropriate to secure the required quality of work or the proper rate of progress, the Engineer may order the Contractor to increase their efficiency, improve their character, to augment their number or to substitute other personnel, new tools, plant, or equipment, as the case may be, and the Contractor shall comply with such order. Neither the failure of the Engineer to demand such increase of efficiency, number, or improvement, nor the compliance by the Contractor with the demand, shall relieve the Contractor of its obligation to provide quality work at the rate of progress necessary to complete the work within the specified time.
- C. The Engineer shall have the authority to make minor changes in the work, not involving extra costs, and not inconsistent with the purposes of the work.
- D. Any order given by the Engineer, not otherwise required by the Contract Documents to be in writing shall, on request of the Contractor, be given or confirmed by the Engineer in writing.
- E. Whenever work, methods of procedure, or any other matters are made subject to direction or approval, such direction or approval will be given by the Engineer.

2.23 HOURS OF WORK

- A. As provided in Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, Contractor stipulates that eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract is limited and restricted to eight (8) hours during any one calendar day and 40 hours during any one calendar week,

except as hereinafter provided. Notwithstanding the provisions herein above set forth, work performed by employees of Contractor in excess of eight (8) hours per day, and 40 hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

- B. The Contractor and every subcontractor shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of the District and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California.
- C. The Contractor shall pay to District a penalty of twenty-five dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.
- D. Any work necessary to be performed after regular working hours, or on Saturdays and Sundays or other holidays, shall be performed without additional expense to the District.
- E. District will provide inspection during normal working hours from 8:00 a.m. to 5:00 p.m. Monday through Friday. Inspection before or after this time will be charged to the Contractor as reimbursable inspection time. Inspections on weekends requires three days' notice for review and approval. Upon written request and approval the 8 hour working day may be changed to other limits subject to city/county ordinance.
- F. It shall be unlawful for any person to operate, permit, use, or cause to operate any of the following at the Project site, other than between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, with no Work allowed on the District-observed holidays, unless otherwise approved by the District:
 - 1. Powered Vehicles
 - 2. Construction Equipment
 - 3. Loading and Unloading Vehicles
 - 4. Domestic Power Tools

2.24 PAYROLL RECORDS; LABOR COMPLIANCE

- A. Pursuant to Labor Code section 1776, Contractor and all subcontractors shall maintain weekly certified payroll records, showing the names, addresses, Social Security numbers, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by them in connection with the Work under this Contract. Contractor shall

certify under penalty of perjury that records maintained and submitted by Contractor are true and accurate. Contractor shall also require subcontractor(s) to certify weekly payroll records under penalty of perjury.

- B. In accordance with Labor Code section 1771.4, the Contractor and each subcontractor shall furnish the certified payroll records directly to the Department of Industrial Relations (“DIR”) on the specified interval and format prescribed by the DIR, which may include electronic submission. Contractor shall comply with all requirements and regulations from the DIR relating to labor compliance monitoring and enforcement. The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.
- C. Any stop orders issued by the Department of Industrial Relations against Contractor or any subcontractor that affect Contractor’s performance of Work, including any delay, shall be Contractor’s sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered Contractor caused delay subject to any applicable liquidated damages and shall not be compensable by the District. Contractor shall defend, indemnify and hold the District, its officials, officers, employees and agents free and harmless from any claim or liability arising out of stop orders issued by the Department of Industrial Relations against Contractor or any subcontractor.
- D. The payroll records described herein shall be certified and submitted by the Contractor at a time designated by the District. The Contractor shall also provide the following:
 - 1. A certified copy of the employee’s payroll records shall be made available for inspection or furnished to such employee or his or her authorized representative on request.
 - 2. A certified copy of all payroll records described herein shall be made available for inspection or furnished upon request of the DIR.
- E. Unless submitted electronically, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement (“DLSE”) of the DIR or shall contain the same information as the forms provided by the DLSE.
- F. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency, the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or performing the contract shall not be marked or obliterated.
- G. In the event of noncompliance with the requirements of this Article, the Contractor shall have ten (10) calendar days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Article. Should noncompliance still be evident after such

10-day period, the Contractor shall pay a penalty of one hundred dollars (\$100.00) to the District for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payment then due.

- H. The responsibility for compliance with this Article shall rest upon the Contractor.

2.25 PREVAILING RATES OF WAGES

- A. The Contractor is aware of the requirements of Labor Code sections 1720 *et seq.* and 1770 *et seq.*, as well as California Code of Regulations, Title 8, Section 16000 *et seq.* (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on certain “public works” and “maintenance” projects. Since this Project involves an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov. In the alternative, the Contractor may view a copy of the prevailing rate of per diem wages which are on file at the District’s Administration Office and shall be made available to interested parties upon request. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification, or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor’s principal place of business and at the Project site. Contractor shall defend, indemnify and hold the District, its officials, officers, employees and authorized volunteers free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.
- B. The Contractor shall forfeit as a penalty to the District not more than Two Hundred Dollars (\$200.00), pursuant to Labor Code section 1775, for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate as determined by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed for any public work done under the Contract by it or by any subcontractor under it. The difference between such prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.
- C. Contractor shall post, at appropriate conspicuous points on the Project site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.

2.26 PUBLIC WORKS CONTRACTOR REGISTRATION

- A. Pursuant to Labor Code sections 1725.5 and 1771.1, the Contractor and its subcontractors must be registered with the Department of Industrial Relations prior to the execution of a contract to perform public works. By entering into this Contract, Contractor represents that it is aware of the registration requirement and is currently registered with the DIR. Contractor shall maintain a current registration for the duration of the Project. Contractor shall further include the requirements of Labor Code sections 1725.5 and 1771.1 in any subcontract and ensure that all subcontractors are registered at the time this Contract is entered into and maintain registration for the duration of the Project. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1

2.27 EMPLOYMENT OF APPRENTICES

- A. Contractor and all subcontractors shall comply with the requirements of Labor Code sections 1777.5 and 1777.6 in the employment of apprentices.
- B. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.
- C. Knowing violations of Labor Code section 1777.5 will result in forfeiture not to exceed one hundred dollars (\$100.00) for each calendar day of non-compliance pursuant to Labor Code section 1777.7.
- D. The responsibility for compliance with this Article shall rest upon the Contractor.

2.28 NONDISCRIMINATION/EQUAL EMPLOYMENT OPPORTUNITY

- A. Pursuant to Labor Code section 1735 and other applicable provisions of law, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law on this Project. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law.
- B. Employment Eligibility; Contractor. By executing this Contract, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986,

as may be amended from time to time. Such requirements and restrictions include, but are not limited to, examination and retention of documentation confirming the identity and immigration status of each employee of the Contractor. Contractor also verifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Contract, and shall not violate any such law at any time during the term of the Contract. Contractor shall avoid any violation of any such law during the term of this Contract by participating in an electronic verification of work authorization program operated by the United States Department of Homeland Security, by participating in an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, or by some other legally acceptable method. Contractor shall maintain records of each such verification, and shall make them available to the District or its representatives for inspection and copy at any time during normal business hours. The District shall not be responsible for any costs or expenses related to Contractor's compliance with the requirements provided for or referred to herein.

- C. Employment Eligibility; Subcontractors, Sub-subcontractors and Consultants. To the same extent and under the same conditions as Contractor, Contractor shall require all of its subcontractors, sub-subcontractors and consultants performing any part of the Work or of this Contract to make the same verifications and comply with all requirements and restrictions provided for herein.
- D. Employment Eligibility; Failure to Comply. Each person executing this Contract on behalf of Contractor verifies that he or she is a duly authorized officer of Contractor, and understands that any of the following shall be grounds for the District to terminate the Contract for cause: (1) failure of Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for herein; (2) any misrepresentation or material omission concerning compliance with such requirements; or (3) failure to immediately remove from the Work any person found not to be in compliance with such requirements.

2.29 DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

- A. Contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code section 1777.1 or 1777.7. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred subcontractor by a contractor on the project shall be returned to the District. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

2.30 LABOR/EMPLOYMENT SAFETY

- A. General - The Contractor shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to all applicable Federal, State, and local laws, ordinances, and codes, and to the rules and regulations established by the California Occupational Safety and Health Administration, and to other rules of law applicable to the work.
- B. The services of the Engineer in conducting construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's work methods, equipment, bracing or scaffolding or safety measures, in, on, or near the construction site, and shall not be construed as supervision of the actual construction nor make the Engineer or the District responsible for providing a safe place for the performance of work by the Contractor, Subcontractors, or suppliers, or for access, visits, use work, travel, or occupancy by any person.
- C. All work and materials shall be in strict accordance with all applicable State, Federal, and local laws, rules, regulations, and codes.
- D. Nothing in this Contract is to be construed to permit work not conforming to governing law. When Contract Documents differ from governing law, the Contractor shall furnish and install the higher standards called for without extra charge. All equipment furnished shall be grounded and provided with guards and protection as required by safety codes. Where vapor-tight or explosion-proof electrical installation is required by law, this shall be provided.
- E. The Contractor shall comply with all applicable laws and regulations of the federal, state, and local government, including Cal/OSHA requirements and requirements for verification of employees' legal right to work in the United States.
- F. The Contractor shall maintain emergency first aid treatment for his employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4. The Contractor shall ensure the availability of emergency medical services for its employees in accordance with California Code of Regulations, Title 8, Section 1512.
- G. The Contractor shall submit the Illness and Injury Prevention Program and a Project site specific safety program to the District prior to beginning Work at the Project site. Contractor shall maintain a confined space program that meets or exceeds the District Standards. Contractor shall adhere to the District's lock out tag out program.
- H. The Contractor shall be aware of and comply with the District's safety program requirements of Contractors. A copy of the program is available from the District upon request.

2.31 DISTRICT'S RIGHT TO TERMINATE CONTRACT

A. Termination for Cause by the District:

1. In the sole estimation of the District, if the Contractor refuses or fails to prosecute the Work or any separable part thereof with such diligence as will insure its completion within the time specified by the Contract Documents, or any extension thereof, or fails to complete such Work within such time, or if the Contractor should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or the Contractor or any of its subcontractors should violate any of the provisions of this Contract, the District may serve written notice upon the Contractor and its Surety of the District's intention to terminate this Contract. This notice of intent to terminate shall contain the reasons for such intention to terminate this Contract, and a statement to the effect that the Contractor's right to perform this Contract shall cease and terminate upon the expiration of ten (10) calendar days unless such violations have ceased and arrangements satisfactory to the District have been made for correction of said violations.
2. In the event that the District serves such written notice of termination upon the Contractor and the Surety, the Surety shall have the right to take over and perform the Contract. If the Surety does not: (1) give the District written notice of Surety's intention to take over and commence performance of the Contract within 15 calendar days of the District's service of said notice of intent to terminate upon Surety; and (2) actually commence performance of the Contract within 30 calendar days of the District's service of said notice upon Surety; then the District may take over the Work and prosecute the same to completion by separate contract or by any other method it may deem advisable for the account and at the expense of the Contractor.
3. In the event that the District elects to obtain an alternative performance of the Contract as specified above: (1) the District may, without liability for so doing, take possession of and utilize in completion of the Work such materials, appliances, plants and other property belonging to the Contractor that are on the site and reasonably necessary for such completion (A special lien to secure the claims of the District in the event of such suspension is hereby created against any property of Contractor taken into the possession of the District under the terms hereof and such lien may be enforced by sale of such property under the direction of the District without notice to Contractor. The proceeds of the sale after deducting all expenses thereof and connected therewith shall be credited to Contractor. If the net credits shall be in excess of the claims of the District against Contractor, the balance will be paid to Contractor or Contractor's legal representatives.); and (2) Surety shall be liable to the District for any cost or other damage to the District necessitated by the District securing an alternate performance pursuant to this Article.

B. Termination for Convenience by the District:

1. The District may terminate performance of the Work called for by the Contract Documents in whole or, from time to time, in part, if the District determines that a termination is in the District's interest.
2. The Contractor shall terminate all or any part of the Work upon delivery to the Contractor of a Notice of Termination specifying that the termination is for the convenience of the District, the extent of termination, and the Effective Date of such termination.
3. After receipt of Notice of Termination, and except as directed by the District, the Contractor shall, regardless of any delay in determining or adjusting any amounts due under this Termination for Convenience clause, immediately proceed with the following obligations:
 - a. Stop Work as specified in the Notice.
 - b. Complete any Work specified in the Notice of Termination in a least cost/shortest time manner while still maintaining the quality called for under the Contract Documents.
 - c. Leave the property upon which the Contractor was working and upon which the facility (or facilities) forming the basis of the Contract Document is situated in a safe and sanitary manner such that it does not pose any threat to the public health or safety.
 - d. Terminate all subcontracts to the extent that they relate to the portions of the Work terminated.
 - e. Place no further subcontracts or orders, except as necessary to complete the continued portion of the Contract.
 - f. Submit to the District, within ten (10) calendar days from the Effective Date of the Notice of Termination, all of the usual documentation called for by the Contract Documents to substantiate all costs incurred by the Contractor for labor, materials and equipment through the Effective Date of the Notice of Termination. Any documentation substantiating costs incurred by the Contractor solely as a result of the District's exercise of its right to terminate this Contract pursuant to this clause, which costs the contractor is authorized under the Contract documents to incur, shall: (1) be submitted to and received by the Engineer no later than 30 calendar days after the Effective Date of the Notice of Termination; (2) describe the costs incurred with particularity; and (3) be conspicuously identified as "Termination Costs occasioned by the District's Termination for Convenience."
4. Termination of the Contract shall not relieve Surety of its obligation for any just claims arising out of or relating to the Work performed.
5. In the event that the District exercises its right to terminate this Contract pursuant to this clause, the District shall pay the Contractor, upon the Contractor's submission of the documentation required by this clause and other applicable provisions of the Contract Documents, the following amounts:
 - a. All actual reimbursable costs incurred according to the provisions of this Contract.
 - b. A reasonable allowance for profit on the cost of the Work performed, provided Contractor establishes to the satisfaction of the District that it is reasonably probable that Contractor would have made a profit had the Contract been completed and provided

further, that the profit allowed shall in no event exceed fifteen (15%) percent of the costs.

- c. A reasonable allowance for Contractor's administrative costs in determining the amount payable due to termination of the Contract under this Article.

- C. Notwithstanding any other provision of this Article, when immediate action is necessary to protect life and safety or to reduce significant exposure or liability, the District may immediately order Contractor to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of the District or the Contract is terminated.

2.32 STATE LICENSE BOARD NOTICE

- A. Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

2.33 THIRD PARTY CLAIMS

- A. Pursuant to Public Contract Code section 9201, the District shall provide the Contractor with timely notification of the receipt of any third-party claims relating to the Contract. The District is entitled to recover reasonable costs incurred in providing such notification.

2.34 DOCUMENT RETENTION & EXAMINATION

- A. In accordance with Government Code section 8546.7, records of both the District and the Contractor shall be subject to examination and audit by the State Auditor General for a period of three (3) years after final payment.
- B. Contractor shall make available to the District any of the Contractor's other documents related to the Project immediately upon request of the District.
- C. In addition to the State Auditor rights above, the District shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy and completeness of the cost or pricing data at no additional cost to the District, for a period of four (4) years after final payment.

2.35 INTEGRATION

- A. **Oral Modifications Ineffective.** No oral order, objection, direction, claim or notice by any party or person shall affect or modify any of the terms or obligations contained in the Contract Documents.
- B. **Contract Documents Represent Entire Contract.** The Contract Documents represent the entire agreement of the District and Contractor.

2.36 ASSIGNMENT OF CONTRACT

- A. Contractor shall not assign, transfer, convey, sublet or otherwise dispose of the rights or title of interest of any or all of this contract without the prior written consent of the District. Any assignment or change of Contractor's name of legal entity without the written consent of the District shall be void. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or material supplied for performance of Work called for under the Contract Documents in favor of all persons, firms, or corporations rendering such services or supplying such Materials to the extent that claims are filed pursuant to the Civil Code, the Code of Civil Procedure or the Government Code.

2.37 ASSIGNMENT OF ANTITRUST ACTIONS

- A. Pursuant to Public Contract Code section 7103.5, in entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, Contractor or subcontractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC, Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from the purchase of goods, services, or materials pursuant to this contract or any subcontract. This assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

2.38 NOTICE OF TAXABLE POSSESSORY INTEREST

- A. In accordance with Revenue and Taxation Code section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Contractor will be responsible.

2.39 CONTROLLING LAW

- A. Notwithstanding any subcontract or other contract with any subcontractor, supplier, or other person or organization performing any part of the Work, this Contract shall be governed by the law of the State of California excluding any choice of law provisions.

2.40 JURISDICTION; VENUE

- A. Contractor and any subcontractor, supplier, or other person or organization performing any part of the Work agrees that any action or suits at law or in equity arising out of or related to the bidding, award, or performance of the Work shall be maintained in the Superior Court of El Dorado County, California, and expressly consent to the jurisdiction of said court, regardless of residence or domicile, and agree that said court shall be a proper venue for any such action.

2.41 SURVIVAL OF OBLIGATIONS

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

2.42 CALIFORNIA AIR RESOURCES BOARD

- A. Contractor shall comply, and shall ensure all subcontractors comply, with all applicable requirements of the most current version of the regulations imposed by California Air Resources Board ("CARB") including, without limitation, all applicable terms of Title 13, California Code of Regulations Division 3, Chapter 9 and all pending amendments ("Regulation").
- B. Throughout the Project, and for three (3) years thereafter, Contractor shall make available for inspection and copying any and all documents or information associated with Contractor's and its subcontractors' fleets including, without limitation, the Certificates of Reported Compliance ("CRCs"), fuel/refueling records, maintenance records, emissions records, and any other information the Contractor is required to produce, keep or maintain pursuant to the Regulation upon two (2) calendar days' notice from the District.
- C. Contractor shall be solely liable for any and all costs associated with compliance with the Regulation as well as for any and all penalties, fines, damages, or costs associated with any and all violations, or failures to comply with the Regulation. Contractor shall defend, indemnify and hold harmless the District, its officials, officers, employees and authorized volunteers free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Regulation.

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SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Modifications and supplements to the general conditions for basic rights, responsibilities and relationships of the parties unique to the Contract.

PART 2 DESCRIPTION

2.01 INSURANCE

- A. The Contractor shall not commence any work until all required insurance has been obtained at its own expense, required submittals delivered to the District, and the submittals reviewed and approved by the District for general conformance with the Contract. The Contractor shall procure and maintain the insurance required under this section for the duration of the Contract, except as otherwise indicated in this Section. The procurement and maintenance of the insurance required by this section is a material element of the Contract and failure to timely procure and/or maintain such insurance shall be a material breach of the Contract.
- B. Prior to execution of the Contract, the Contractor shall deliver to the District the following:
 - 1. Certificate(s) of Insurance, issued in duplicate, covering all policies. Such certificates shall make explicit reference to each of the provisions and endorsements required in this Section, and shall be signed on behalf of the insurer by an authorized representative;
 - 2. Original endorsements for each policy of insurance required by this section and signed on behalf of the insurer by an authorized representative;
 - 3. Upon request, the District may obtain the policies of insurance.
- C. The provisions of Section 00 20 00, Part 2.07 B, shall be strictly enforced with regard to the fifteen (15) calendar days limit for furnishing evidence of insurance.
- D. The Contractor shall not permit any Subcontractor to commence work on this project unless all Subcontractors are included as named Additional Insureds under its insurance policies required by this section or until each Subcontractor has satisfied the Contractor that the Subcontractor has the required insurance in effect. The Contractor shall receive and maintain satisfactory evidence from its Subcontractors that verifies that they are in compliance with these requirements. The Contractor shall continuously maintain such evidence and, upon request, provide copies to the District for review. If the Contractor fails to assure that a Subcontractor has and maintains the required insurance, the Contractor shall be liable for any loss arising out of work under the Contract that would be covered by

the required insurance of the subcontractor if the Contractor had assured that the subcontractor had maintained the required insurance.

- E. All insurance required by this section shall be placed with insurance companies authorized by the State of California to transact insurance business in the State of California for the types of insurance required by the Contract. Each insurance company shall have a current A. M. Best Insurance Guide rating of not less than A-/VI unless prior written approval is secured from the District as to the use of such insurer, with the following exceptions:
 - 1) Underwriters at Lloyd's of London, which are not rated by A.M. Best.
 - 2) Workers' Compensation which is provided through a State Compensation Insurance Fund or a qualified self-insurer for Workers' Compensation under California law.
 - 3) For liability insurance required under Section 2.01.O.6. (Environmental Liability insurance), insurance requirements shall be placed with insurance companies with a current A.M. Best rating of at least B+:VII.
- F. The requirements as to the types, limits, deductibles and the District's review and/or approval of insurance coverages to be maintained by the Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under the Contract. Further, the District's review and approval of any deviation, unless specifically stated in writing and signed by the District, shall not release or relieve the Contractor or its Subcontractors from complying with the requirements of this section.
- G. If any policy of insurance required by this Section includes an "aggregate" limit, the aggregate limit shall be a project-specific limit applicable to work under this Contract only.
- H. Any policy of insurance required by this Section shall be an "occurrences" policy.
- I. In addition to any other remedy the District may have, if the Contractor or any of the subcontractors fail to maintain the insurance coverage as required in this Section, the District may obtain such insurance coverage as is not being maintained, in form and amount substantially the same as required herein, and the District may deduct the cost of such insurance from any amounts due or which may become due the Contractor under this Contract.
- J. In the event the Contractor changes any insurance company(ies) providing the insurance coverage required by this section, the Contractor shall timely resubmit to the District for review and approval, the insurance documents required by this section for each new insurance company providing insurance coverage. The Contractor shall submit such documents at least thirty (30) days prior to the change in any required insurance to enable the District to timely review and approve the insurance coverages provided by such new insurance company(ies).
- K. Insurance policies providing coverage which contains self-insured retention shall not be acceptable except with the prior written approval of the District regardless of the amount of the self-insured retention.

- L. The premiums paid by the Contractor and/or Subcontractor(s) for the insurance required by this section shall be considered as included in the Contract price for the project and no additional allowance will be made for payment of premiums which may be required to be paid by the Contractor and/or its Subcontractors in order to procure and maintain the requisite insurance coverage.
- M. (Not Used)
- N. (Not Used)
- O. The Contractor shall, at its expense, maintain in effect at all times during the performance or work under the Contract not less than the following coverage and limits of insurance, which shall be maintained with insurers and under forms of policy satisfactory to the District:
 - 1. Worker's Compensation:
 - a. California Workers' Compensation - Insurance to protect the Contractor or its Subcontractor(s) from all claims under California Worker's Compensation and Employer's Liability Acts. Such coverage shall be maintained, in type and amount, in strict compliance with all applicable State and Federal statutes and regulations. The Contractor shall execute a certificate in compliance with Labor Code Section 1861, on the form provided in the Contract Documents.
 - b. The Worker's Compensation policy shall also include the provisions and/or endorsements required in Other Provisions, Part 2.01.O.7.a of this Section.
 - c. Claims Against District - If an injury occurs to any employee of the Contractor or any of the Subcontractors for which the employee or his dependents, in the event of his death, may be entitled to compensation from the District under the provisions of the Acts, or for which compensation is claimed from the District, there will be retained out of the sums due the Contractor under this Contract, an amount sufficient to cover such compensation as fixed by the Acts, until such compensation is paid or it is determined that no compensation is due. If the District is required to pay such compensation, the amount paid will be deducted and retained from such sums due, or to become due the Contractor.
 - d. In the event the Contractor is self-insured, the Contractor shall furnish a Certificate of Permission to Self-Insure by the Department of Industrial Relations Administration of Self-Insurance, Sacramento.
 - 2. General Liability: The insurance shall include, but shall not be limited to, protection against claims arising from death, bodily or personal injury, or damage to property resulting from actions, failures to act, operations or equipment of the insured, or by its employees, agents, consultants, or by anyone directly or indirectly employed by the insured. Coverage shall be at least as broad as "Insurance Services Office (ISO) Commercial General Liability Coverage Form CG 0001" (occurrence). The amount of insurance shall not be less than \$5,000,000 combined single limit per occurrence coverage applying to bodily and personal injury and property damage. If the policy contains a general aggregate limit, such limit must be amended to apply separately to the project/location. The general liability insurance coverage shall also include the provisions and/or endorsements required in Other Provisions, Part 2.01.O.7.b of this Section.

3. Automobile Liability: The insurance shall include, but shall not be limited to, protection against claims arising from death, bodily or personal injury, or damage to property resulting from actions, failures to act, operations, maintenance or use of equipment of the insured, or by its employees, agents, consultants, or by anyone directly or indirectly employed by the insured. Coverage shall be at least as broad as "Insurance Services Office Business Auto Coverage Form CA 0001," symbol 1 (any auto). Use of any symbols other than symbol 1 for liability for corporate/business owned vehicles must be declared to and approved by the District. If there are no owned or leased vehicles, symbols 8 and 9 for non-owned and hired autos shall apply. Personal automobile insurance shall apply if vehicles are individually owned. The amount of insurance shall not be less than \$5,000,000 combined single limit per accident coverage for corporate-/business-owned or commercially insured vehicles, including non-owned and hired, applying to bodily and personal injury and property damage. The amount of insurance shall not be less than \$500,000 combined single limit per accident coverage for individually-owned vehicles, applying to bodily and personal injury and property damage, or if split limits are used, \$250,000 per person, \$500,000 each accident, \$100,000 property damage. Deductible shall not exceed \$20,000. The contractor shall request the District's approval in writing for any deductible exceeding that stated. The automobile liability insurance coverage shall also include the provisions and/or endorsements required in Other Provisions, Part 2.01.O.7.c of this Section.
4. Excess/Umbrella Liability: If the Contractor's primary General Liability and/or Automobile Liability insurance coverage limits requirements are insufficient, the Contractor may provide additional limits with an excess liability and/or umbrella liability insurance policy. This form of insurance will be acceptable only if the primary and excess liability and/or umbrella liability policies provide the required coverages and include the provisions and/or endorsements required for the policies that it supplements, and those required in Other Provisions, Part 2.01.O.7.d of this Section.
5. Builder's Risk: (Course of Construction) the Contractor shall provide Builder's Risk "All-Risk" Completed Value Insurance and/or Inland Marine All Risk Installation Floater Insurance, as may be applicable, in an amount equal to the Contract price for the entire project which is the subject of the Contract, including completed work and work in progress. This insurance shall be in effect until the work is completed and accepted by the District. This insurance shall cover, including but not limited to, fire, lightning, wind storms, hail, explosion, riot, riot attending a strike, civil commotion, smoke damage, damage by aircraft or vehicles, vandalism and malicious mischief, theft and collapse. The insurance shall be written in a completed form with losses payable to the Contractor and owner, as their interests may appear. The Builder's Risk policy shall also include the provisions and/or endorsements required in Other Provisions, Part 2.01.O.7.e of this Section.
6. Environmental Liability: The Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, Environmental Liability insurance which includes coverage for sudden and accidental pollution arising out of the handling of hazardous materials or hazardous wastes. The amount of insurance shall not be less than \$2,000,000 of coverage per occurrence and aggregate. Policy limit shall be in place for the duration of the project and warranty period. The Environmental

Liability policy shall also include the provisions and/or endorsements required in Other Provisions, Part 2.01.O.7.f of this Section.

7. Other Provisions:

- a. The Contractor's Workers Compensation policy shall provide that:
 - 1) Not Used
- b. The Contractor's General Liability policy shall contain the following provisions:
 - 1) The South Tahoe Public Utility District, the design engineer(s), any independent engineer and its consultants, City of South Lake Tahoe, County of El Dorado and each of their officers, elected officials, and employees (including, without limitation permanent, temporary and contract employees) shall be covered as additional insureds as respects liability arising out of the acts or omissions by or on behalf of the Contractor, or premises owned, occupied, or used by the Contractor. The policy shall contain no special limitations on the scope of coverage afforded to the additional insureds.
 - 2) The Contractor's General Liability policy shall be specifically endorsed to name the parties identified in 1) as additional insureds utilizing ISO form CG 20 10 11 85, or both CG 20 10 10 01 and CG 20 37 10 01, or equivalent approved by the District, to provide additional insured coverage. Other versions of ISO forms CG 20 10 and CG 20 37 alone will not be considered equivalent.
 - 3) The Contractor's General Liability policy shall be endorsed to include a waiver of subrogation in favor of the parties named on the "Additional Insured" endorsement. Such waiver of subrogation shall be on ISO Form CG 24 04 10 93 "Waiver of Transfer of Rights of Recovery Against Others to Us" or its equivalent approved by the District.
 - 4) For any claims related to this Contract, the Contractor's insurance coverage shall be primary insurance as respects the parties named on the additional insured endorsement. Any insurance or self-insurance maintained by the additional insureds shall be excess of the Contractor's insurance and shall not contribute with it. The contractor shall supply either an endorsement or policy language demonstrating compliance with this requirement.
 - 5) The Contractor's General Liability insurance policies shall contain an endorsement stating that any aggregate limits shall apply separately to the Work.
 - 6) The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - 7) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy applicable to the Additional Insureds.
- c. The Contractor's Automobile Liability policy shall contain the following provisions:
 - 1) The South Tahoe Public Utility District, the design engineer(s), any independent engineer and its consultants, City of South Lake Tahoe, County of El Dorado and each of their officers, elected officials, and employees (including, without limitation permanent, temporary and contract employees) shall be covered as additional insureds, utilizing

- ISO form CA 20 48 02/99 Designated Insured, or its equivalent approved by the District.
- 2) This insurance shall be primary as respects the additional insureds and any other insurance maintained by the additional insureds named above shall be in excess of this insurance and shall not be called upon to contribute in the event of a loss.
 - 3) This insurance includes cross-liability and/or severability of interest and shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - 4) This insurance, subject to all other terms and conditions, applies to the liability assumed by the Contractor under the terms of the Contract.
 - 5) The insurer waives any and all transfer rights of recovery (subrogation) it may have against the additional insureds named above or any other additional insureds.
 - 6) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy applicable to the Additional Insureds.
- d. The Contractor's Excess or Umbrella Liability policy shall provide the following provisions:
- 1) Any insurance maintained by the Additional Insureds, whether primary, excess or otherwise, shall be in excess of the insurance provided by this policy.
 - 2) The policy shall include a Schedule of Underlying Insurance which matches the actual policy numbers and coverage limits in the actual underlying policies, and a total underlying coverage limit plus excess/umbrella limit equal to or greater than the required coverage limit for each type of coverage. The contractor shall request the District's approval in writing for any deductible.
 - 3) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy applicable to the Additional Insureds.
- e. The Contractor's Builders Risk policy shall contain the following provisions:
- 1) Coverage is amended to include the South Tahoe Public Utility District as an additional insured and as the loss payee.
 - 2) For any claims related to this Contract, the Contractor's insurance coverage shall be primary insurance as respects the District. Any insurance or self-insurance maintained by the District shall be excess of the Contractor's insurance and shall not contribute with it.
 - 3) The insurer waives any and all transfer rights of recovery (subrogation) it may have against the South Tahoe Public Utility District.
 - 4) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy applicable to the Additional Insureds.
- f. The Contractor's Environmental Insurance shall contain the following provisions:
- 1) The South Tahoe Public Utility District, the design engineer(s), any independent engineer and its consultants, City of South Lake Tahoe,

County of El Dorado and each of their officers, elected officials, and employees (including, without limitation permanent, temporary and contract employees) shall be covered as additional insureds.

- 2) This insurance shall be primary as respects the additional insureds and any other insurance maintained by the additional insureds named above shall be in excess of this insurance and shall not be called upon to contribute in the event of a loss.
 - 3) This insurance includes cross-liability and/or severability of interest and shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - 4) This insurance, subject to all other terms and conditions, applies to the liability assumed by the Contractor under the terms of the Contract.
 - 5) The insurer waives any and all transfer rights of recovery (subrogation) it may have against the additional insureds named above or any other additional insureds.
 - 6) If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a "Retro Date" prior to the Contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of one (1) year after completion of the Contract.
 - 7) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy applicable to the Additional Insureds.
- g. Each insurance policy shall state that coverage shall not be cancelled by the Contractor or the District, reduced in scope of coverage or in limits, non-renewed, or otherwise materially changed unless the insurer(s) provide thirty (30) days written notice to the District prior to such change. Ten (10) days prior written notice shall be given to the District in the event of cancellation due to nonpayment of premium.

P. Tracking and Reporting Job-Related Incidents

1. The Contractor shall report by telephone to the District within twenty-four (24) hours and also provide a written report to the District within fifteen (15) days after the Contractor or any subcontractors or agents have knowledge of any incident involving death of or injury to any person or persons, or damage in excess of ten thousand dollars (\$10,000) to the Work, property of the District or others, arising out of any work done by or on behalf of the Contractor as part of the Contract. Such report shall contain:
 - a. the date and time of the incident,
 - b. the names and addresses of all persons involved, and
 - c. a description of the incident and the nature and extent of injuries and/or damages.
2. The Contractor and all Subcontractors shall cooperate with the District's independent investigatory efforts and provide the District with related documentation when requested (excluding confidential information restricted by law).
3. If requested, the Contractor shall report to the District their Recordable Incidence Rate (RIR) and Lost Time Incidence Rate (LTIR) at the end of each

project. The Contractors' incidence rates shall be calculated in accordance with the following:

- a. Recordable Incidence Rate (RIR)
$$\frac{\text{Number of OSHA Recordable Cases X 200,000}^*}{\text{Total hours worked by all employees for the Contract}}$$
- b. Lost Time Incidence Rate (LTIR)
$$\frac{\text{Number of Lost Time injuries and illnesses X 200,000}^*}{\text{Total hours worked by all employees for the Contract}}$$

Note: A fatality shall not be considered a Lost Time Case (LTC) and shall not be included in the rate. Furthermore, all work-related fatalities, and all other serious injuries meeting the legal criteria for "reporting", shall be reported immediately to Cal/OSHA as required by law and reported immediately to the District as indicated above.

** 200,000 is equivalent to the number of work hours worked by 100 full time employees at 40 hours per week/50 weeks per year.*

2.02 SUBCONTRACTS

- A. The attention of the Contractor is directed to the provisions of Public Contract Code section 4100 et seq. regarding subcontracting.
- B. Each Subcontract shall contain a suitable provision for the suspension or termination should the work be suspended or terminated or should the Subcontractor neglect or fail to conform to every provision of the Contract Documents insofar as such provisions are relevant. No Subcontractor or supplier will be recognized as such, and all persons engaged in work will be considered as employees of the Contractor, and the Contractor will be held responsible for their work, which shall be subject to the provisions of the Contract Documents. The Contractor shall be fully responsible to the District for the acts or omissions of its Subcontractors and of the persons either directly or indirectly employed by the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. If a legal action, including arbitration and litigation, against the District is initiated by a Subcontractor or Supplier, the Contractor shall reimburse the District for the amount of legal, engineering, and all other expenses incurred by the District in defending itself in said action.
- C. In addition to reviewing certified payroll records, the District and the Engineer reserve the right to audit the Contractor's employment and subcontractor agreements and related documents in order to verify the Contractor's compliance with the provisions of the California Labor Code and the Public Contract Code.
- D. The Contractor shall bind every subcontractor to the terms of the Contract Document as far as such terms are applicable to subcontractor's portion of the Work, and Contractor shall be responsible to the District for the acts and omissions of its subcontractors.
- E. Contractor shall perform not less than thirty percent (30%) of the total value of the Work excluding the value of materials and equipment with its own forces (i.e.,

without subcontracting). The 30 percent requirement shall be understood to refer to monetary value of the Work performed by Contractor, the value of which totals not less than 30 percent of the Contract Price excluding the value of materials and equipment.

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DIVISION 01

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SECTION 01 10 00

GENERAL PROJECT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Description of construction delivered under Contract, separate Contracts and restrictions affecting construction activities.

PART 2 SUMMARY OF WORK

2.01 PROJECT DESCRIPTION

It is the District's intent to have the Contractor:

- A. STATELINE TANKS #1: The Contractor will perform full interior and exterior tank recoat, including; fully remove **all** coatings from **all** interior and exterior tank surfaces, including tank appurtenances such as ladders, handrails, vents, etc., fully apply new coatings to **all** interior and exterior tank surfaces, including tank appurtenances such as ladders, handrails, vents, etc.

The Contractor will completely demolish the existing impressed current cathodic protection system and replace with a new passive sacrificial anode cathodic protection system.

The Contractor will completely demolish and replace the existing interior and exterior ladder fall protection system with a new ladder fall protection systems.

The Contractor will replace miscellaneous items, such as hatch gaskets, hatch hardware, and any other hardware that is removed and/or damaged during the course of the Project, with new items or hardware.

The Contractor will perform erosion control practices and install and maintain required erosion control devices throughout the entirety of the project duration.

The Contractor shall, upon completion of the work under each Project Schedule (Schedule A and Schedule B), restore all disturbed areas prior to the end of the grading season (October 1) of each construction year (2026 and 2027), in compliance with all applicable TRPA standards and requirements.

- B. STATELINE TANKS #2: The Contractor will perform full interior and exterior tank recoat, including; fully remove **all** coatings from **all** interior and exterior tank surfaces, including tank appurtenances such as ladders, handrails,

vents, etc., fully apply new coatings to **all** interior and exterior tank surfaces, including tank appurtenances such as ladders, handrails, vents, etc.

The Contractor will completely demolish the existing impressed current cathodic protection system and replace with a new active impressed current cathodic protection system.

The Contractor will completely demolish and replace the existing interior and exterior ladder fall protection system with a new ladder fall protection system.

The Contractor will replace miscellaneous items, such as hatch gaskets, hatch hardware, and any other hardware that is removed and/or damaged during the course of the Project, with new items or hardware.

The Contractor will perform erosion control practices and install and maintain required erosion control devices throughout the entirety of the project duration.

The Contractor shall, upon completion of the work under each Project Schedule (Schedule A and Schedule B), restore all disturbed areas prior to the end of the grading season (October 1) of each construction year (2026 and 2027), in compliance with all applicable TRPA standards and requirements.

2.02 DEFINITION OF WORK

- A. The Work to be performed under the Contract Documents shall include the furnishings of all labor, materials, equipment, tools, transportation, and incidentals necessary for the completion of all Work for the **2026 STATELINE TANKS RECOATING PROJECT**.

2.03 LOCATION OF PROJECT

- A. The Work is located within the District boundaries at or near South Lake Tahoe, California.

PART 3 WORK RESTRICTIONS

3.01 CONTRACTOR'S USE OF PREMISES

- A. Contractor access during construction shall be limited to those areas of the site indicated on the Plans. Access to additional areas of the site may be granted to Contractor with approval of the Engineer.
- B. Contractor access ways, staging areas and materials storage are shown on the Plans.

- C. Safety and security of the Contractor's equipment and materials on District property is the responsibility of the Contractor.
- D. Contractor's use of premises shall be limited to those activities that are necessary for the completion of the Work, and shall be limited to the Work Hours defined in Part 3.02
- E. Overnight storage of equipment on road shoulder within the Right of Way will be allowed if the following requirements are met:
 - 1. Driveways and other entrances or exits from properties are not to be obstructed.
 - 2. A 24 hour contact number is provided to the District in the event that equipment must be moved for any reason.
 - 3. Areas for proposed overnight storage of equipment are digitally photographed in advance by the Contractor and the photographs are provided to the District.
 - 4. Any damage or land disturbance caused by storing of equipment overnight will be repaired on a daily basis by the Contractor at the Contractor's expense.
 - 5. Area's used for overnight storage of equipment will be brought back to conditions equivalent to the pre-project conditions at the contractor's expense.
 - 6. The safety and security of equipment and storage area is the sole responsibility of the Contractor.

3.02 WORK HOURS

- A. On-site work hours shall be between 8:00 AM and 6:00 PM, Monday – Friday, unless otherwise approved in writing by the District Project Manager, or their representative.

3.03 WORK BY OTHERS

- A. The District, utility companies, and others may be working within the project area while the Work is in progress. If so, the Contractor shall schedule its work, in conjunction with these other persons to minimize mutual interference, to the extent reasonably possible within the time constraints of this Project.
- B. Others working on associated facilities and probably interfacing with the Contractor at some time during the execution of the work include:
 - 1. Operations and Maintenance personnel of the South Tahoe Public Utility District;
- C. The Contractor shall cooperate to make the necessary connections at a minimum cost and time delay for all involved. In the event of lack of agreement, the Engineer will determine how and where the interface shall be made and his decision shall be final.

3.04 USE OF COMPLETED PORTIONS, RIGHT TO OPERATE UNSATISFACTORY EQUIPMENT OR FACILITIES

- A. The District may, at any time, and from time to time, during the performance of the work, enter the work site for the purpose of installing any necessary work by the District labor or other contracts, and for any other purpose in connection with the installation of facilities. In doing so, the District shall endeavor not to interfere with the Contractor and the Contractor shall not interfere with other work being done by or on behalf of the District.
- B. If, prior to completion and final acceptance of all the work, the District takes possession of any structure or facility (whether completed or otherwise) comprising a portion of the work with the intent to retain possession (as distinguished from temporary possession contemplating the return to the Contractor) then, while the District is in possession of the same, the Contractor shall be relieved of liability for loss or damage to such structure other than that resulting from the Contractor's fault or negligence. Such taking of possession by the District shall not relieve the Contractor from any provisions of this Contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure or facility.
- C. If, following installation of any equipment or facilities furnished by the Contractor, defects requiring correction by the Contractor are found, the District shall have the right to operate such unsatisfactory equipment or facilities and make reasonable use thereof until the equipment or facilities can be shut down for correction of defects without injury to the District.

3.05 PUBLIC CONVENIENCE

- A. This section defines the Contractor's responsibility with regard to convenience of the public and public traffic in connection with his operations.
- B. The Contractor shall so conduct its operations as to offer the least possible obstruction and inconvenience to the public and shall have under construction no greater length or amount of work than can be prosecuted properly with due regard to the rights of the public.
- C. Unless otherwise provided in the Contract Documents, all public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible.
- D. Spillage resulting from hauling operations along or across any publicly traveled way shall be removed immediately by the Contractor at its expense.
- E. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners.
- F. Convenient access to driveways, houses, and buildings along the line of the work shall be maintained and temporary approaches to crossings or intersecting highways shall be provided and kept in good condition. When

the abutting property owner's access across the right-of-way line is to be eliminated, or to be replaced under the Contract by other access facilities, the existing access shall not be closed until the replacement access facilities are usable.

- G. Water shall be supplied if ordered by the Engineer for the alleviation or prevention of dust nuisance affecting the public and traffic, as provided in Section 01 50 00, Part 2.06.

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SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for cash and quantity allowances for products, installation, testing and contingencies.

PART 2 PRICE AND PAYMENT PROCEDURES

2.01 PROGRESS PAYMENT

- A. Progress Payment Spreadsheet. By the first Monday of the month, the District will provide the Contractor a Progress Payment Spreadsheet (Spreadsheet). In consultation with the Engineer (or Engineer's designee), the parties will work collaboratively to determine the estimated bid item quantities (or percentage of work) completed by the Contractor through the end of the previous month. By close of business on Friday of that week, the Contractor will submit the Spreadsheet, along with such supporting documentation and calculations required by the Contract Documents, to the District. The Engineer will review the Spreadsheet and determine whether the estimated quantities are correct. If the estimated quantities are not correct in the opinion of the District, the Engineer and Contractor will attempt to resolve differences in the estimated quantities. If an agreement cannot be reached for a particular item quantity, the proposed Pay Estimate Package provided to the Contractor will be based on the District's estimated quantity for the item.
- B. Pay Estimate Package. The District will prepare the proposed Pay Estimate Package and distribute it to the Contractor. Within three (3) calendar days of receiving the proposed Pay Estimate Package, the Contractor shall review the proposed Pay Estimate Package and submit an executed Pay Estimate Package to the District pursuant to Public Contract Code section 20104.50. The Contractor is responsible for the accuracy of the submitted Pay Estimate Package and by submitting the Pay Estimate Package to the District, the Contractor verifies the accuracy of the pay quantities. Upon receipt, the District shall review the Pay Estimate Package to determine whether it is undisputed and suitable for payment. If the Pay Estimate Package is unsuitable for payment, it shall be returned to Contractor as soon as practicable, but not later than seven (7) calendar days after receipt, accompanied by a document setting forth in writing the reasons why the Pay Estimate Package is not proper. The Contractor shall make the necessary corrections and resubmit the Pay Estimate Package within three (3) days of receiving the Pay Estimate Package unsuitable for payment. After receipt of a Pay Estimate Package that is determined by the District to be undisputed and suitable for payment, the Pay Estimate Package will be presented to the District Board of

Directors for approval at a future Board meeting. The District shall have the right to adjust any estimate of quantity and to subsequently correct any error made in any estimate for payment. Nothing in this section waives any rights or remedies reserved for the District, including, but not limited to, withholding payment of encumbered funds, under this Contract or allowed by law..

- C. The payment request may, under separate line item, give consideration to materials on hand as a convenience to the Contractor. Consideration shall only be upon Contractor's request, and shall be presented in a form that is acceptable to the Engineer for counting and tracking materials. Materials on hand will be paid only for materials delivered to the work site, and for which the Contractor provides paid invoices. The Contractor shall be responsible for updating the summary on a monthly basis to zero out items that have been installed in the prior month.
- D. In reviewing the payment request, the Engineer shall deduct from the amount of the request:
 - 1. amounts due to the District for equipment or materials furnished or services rendered;
 - 2. amounts due to the District under the terms of the Contract; and
 - 3. amounts required to be deducted by federal, state or local governmental authority.
- E. The Contractor shall submit with each payment request the Contractor's conditional waiver of lien for the entire amount covered by such payment request, in the forms prescribed by California Civil Code §3262.
- F. Not Used.
- G. The Contractor may, in accordance with the provisions of Public Contract Code section 22300, substitute securities for any monies which the District may withhold to insure performance under the Contract.
- H. When, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the Contract, no pay payment request will be prepared and no payment will be made.
- I. No payment request or payment shall be considered to be an approval or acceptance of any work, materials, or equipment. Estimated amounts and values of work done and materials and equipment furnished will be conformed with actual amounts and values as they become available in subsequent payment requests, progress payments and the final estimate and payment. All requests and payments will be subject to correction in subsequent and final payment requests and payment.
- J. No payments made under the Contract, including progress payments and the final payment, shall be evidence of the performance of the Contract, either wholly or in part, and no payment shall be construed to be an acceptance of any defective or incomplete work or improper materials.
- K. If the validity of a properly filed request for payment by the Contractor is not disputed, payment of the request by the District shall include interest at the rate provided in Subdivision (a) of Section 685.010 of the Code of Civil Procedures if

payment has not been made within thirty (30) days after the proper submission of the claim to the District. The District shall review each payment request as soon as practicable after receipt for the purpose of determining whether the payment request is a proper payment request. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days, after receipt. A request returned pursuant to this subsection shall be accompanied by a written explanation of the reasons why the payment request is not proper. The number of days available to the District to make a payment without incurring interest pursuant to this subsection shall be reduced by the number of days by which the District exceeds the seven (7) day return requirement set forth above.

2.02 FINAL PAYMENT

- A. Final Payment shall be in conformance with the terms set forth Section 01 77 00, Closeout Procedures.

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SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for the management and coordination of subcontractors and coordination with other Contractors and the District.

PART 2 PROJECT MANAGEMENT AND COORDINATION

2.01 RESPONSIBILITY OF CONTRACTOR

- A. If any part of the Work depends on proper execution or results of the work of others, the Contractor shall inspect and promptly report to the Engineer any apparent discrepancies or defects in such work of others that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report constitutes acceptance of the work of others as fit and proper except as to defects which may develop in the work of others after execution of the Work by the Contractor.

2.02 CONTRACT DOCUMENTS

- A. The Contractor shall keep one copy of the Contract Documents, Shop Drawings, Change Orders and other modifications in good order, available to the Engineer and his representatives, and convenient to the work site. This set of Contract Documents shall be marked as the project progresses to record the details of all changes made during construction. Contract Drawings shall include schematic depictions of changes, and Specifications shall include redline strikeout of changes to language; showing only reference to related Requests for Information, Shop Drawings or written directive will not suffice.
- B. During the progress meetings, defined in Part 3.02 below, such documents shall be reviewed to ascertain that all changes have been recorded.
- C. If the Contractor, in the course of the work, finds any discrepancy between the Contract Documents and the physical condition of the locality, or any errors or omissions in the Contract Documents, or in the layout as given by points and instructions, the Contractor shall follow the procedures outlined in Section 00 72 00, General Conditions.

2.03 SEPARATE CONTRACTS

- A. The District reserves the right to let other contracts in connection with this work. The Contractor shall afford such other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with the other contractor's work.
- B. To insure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report to the Engineer any discrepancy between the executed work and the drawings.

2.04 COOPERATION OF CONTRACTORS

- A. Should construction be under way by other forces or by other Contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to said limits, the Contractor shall cooperate with all such other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.
- B. When two or more contractors are employed on related or adjacent work, each shall conduct its operation in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to work, to persons or property caused to the other by his operations, and for loss caused the other due to its unnecessary delays or failure to finish the work within the time specified for completion.

2.05 COORDINATION OF WORK

- A. The Contractor shall maintain overall coordination for the execution of the Work. Based on the Construction Schedule prepared in accordance with the Contract Documents, the Contractor shall obtain from each of its subcontractors a similar schedule which shall be integrated into the construction schedule. The Contractor shall then be responsible for all parties maintaining these schedules and coordinating required modifications as approved by the District.

2.06 SUPERINTENDENCE

- A. Contractor's Representative: The Contractor shall designate in writing before starting work an individual as authorized representative who shall have the authority to represent and act for the Contractor. This authorized representative shall be present at the site of the work at all times while work is actually in progress on the Contract. The Contractor shall not change representatives without the written approval of the Engineer.

- B. When work is not in progress and during periods when work is suspended, arrangements acceptable to the Engineer shall be made for the performance and supervision of any emergency work which may be required.
- C. It is the intent of this section that the Contractor (1) supervise all work, including that of subcontractors, (2) be responsible for the quality and conformance with contract provisions of all work, and (3) maintain responsibility for the actions of subcontractors and suppliers at the job site. The Contractor is solely responsible, at all times, for the superintendence of the work and for its safety and progress.
- D. Whenever the Contractor or its authorized representative is not present on any particular part of the work where it may be desired to give direction, such direction will be given by the Engineer, which shall be received and obeyed by the superintendent or foreman who may have charge of the particular work in reference to which the orders are given.
- E. Any order given by the Engineer, not otherwise required by the Contract Documents to be in writing, will on request of the Contractor, be given or confirmed by the Engineer in writing.
- F. The Contractor shall place on record at the District, and keep current, the name of the Contractor's representative and the phone number at which he can be contacted at such times that he is not at the work site (such as after working hours and on holidays and weekends) to respond to District requests to correct safety and other problems that may arise in connection with the work.

2.07 CHARACTER OF WORKERS

- A. If any Subcontractor, or person employed by the Contractor or any Subcontractor shall fail or refuse to carry out the directions of the District or its agents or shall appear to the District or its agents to be incompetent or to act in a disorderly, unsafe, or improper manner, that person shall be removed from the project work immediately on the request of the District or its agents, and such person shall not again be employed on the work. Such discharge shall not be the basis for any claim for compensation or damages against the District, or any of its officers or agents.

2.08 SAFETY

- A. The Contractor shall carefully instruct all personnel working in potentially hazardous work areas as to potential dangers and shall provide such necessary safety equipment and instruction as is necessary to prevent injury to personnel and damage to property. Special care shall be exercised relative to electrical work, work involving excavation, and in work involving confined spaces.
- B. The Contractor shall provide its personnel with additional training to address the following:

- C. Contractor shall be required to comply with the District's Lockout/Tagout program and procedures. A copy of the program will be provided to the Contractor prior to the start of work.
- D. Refer to Section 01 33 00, Submittals Process, for submittals requirements pertaining to project safety.
- E. The Contractor shall comply with all Federal, State, and Local applicable safety regulations and requirements and all applicable Safety and Health regulations and Industry Safety Standards.

Title	Code Regulation	Section
Illness Injury Prevention Program	CSO/GISO	1508-3203
Hazard Communication	GISO	5194
Lead	CFR CCR	Title 29 Section 1926.62 Title 8 Section 1532.1
Safety Instructions for Employees	CSO	1510
Dust, Fumes, Mist, Vapors, and Gases	CSO	1528
Metal Scaffolding	CSO	1644
General Industry Standards	29 CFR	1910.1025
Respiratory Protection	CSO/GISO	1531-5144

- F. All scaffolding shall be equipped with interior stairways. No exterior ladders will be allowed. Contractor is permitted to use rolling scaffolding if interior of tank(s) permit. Any damage caused by scaffolding will be repaired at Contractor's expense.
- G. The Contractor shall submit a notarized letter signed by a principal officer certifying the Contractor fully complies with the California Code of Safety Regulations and the Federal Code of Regulations pertaining to the scope of this project, but not limited to the following; as well as any other applicable orders, codes, ordinances, or laws, State, Federal, and Local. (GISO- General Industry Safety Orders, CSO-Construction Safety Orders, CFR- Code of Federal Regulations).
- H. The Contractor shall maintain on the job site at all times S.D.S. and product data sheets. The Contractor shall post required signage for lead work, if applicable.

PART 3 PROJECT MEETINGS

3.01 PRECONSTRUCTION CONFERENCE

- A. Upon receipt of the Notice to Proceed, or at an earlier time if mutually agreeable, the Engineer will arrange a pre-construction conference to be

attended by the Contractor's superintendent, the District, the Engineer, or his representative, and representatives of utilities, major subcontractors, and others involved in the execution of the Work.

- B. The purpose of this conference shall be to establish a working understanding between the parties and to discuss the Construction Schedule prepared in accordance with Section 01 32 00, Part 2.01, shop drawing submittals preparation and processing in accordance with Section 01 33 00, Part 2.02, cost breakdown of major lump sum items, applications for payments and their processing, and such other subjects as may be pertinent for the execution of the Work.

3.02 PROGRESS MEETINGS

- A. The Contractor shall arrange and conduct progress meetings. These meetings shall be conducted at least once every two (2) weeks and shall be attended by the Contractor's superintendent and representatives of all subcontractors, utilities, and others, that are active in the execution of the Work. The purpose of these meetings shall be to expedite the work of any subcontractor or other organization that is behind schedule, resolve conflicts, and in general coordinate and expedite the execution of the Work.
- B. The agenda of progress meetings shall include review of progress and schedule, review of payment requests at monthly intervals, review of narrative report, review of the latest Construction Schedule update, and review of the record documents if necessary.

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SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for scheduling, recording and reporting progress.

PART 2 SCHEDULING

2.01 PROGRESS SCHEDULE

- A. The Contractor shall submit within ten (10) days after execution of the Contract a schedule or schedules which shall show the dates at which the Contractor will start and complete several parts. This schedule shall conform to the completion time specified in the Contract.
- B. The Contractor shall review and, if necessary, revise the progress schedule at least once a month and in any event shall submit a current schedule to the Engineer at his request at any time during the contract period.

2.02 SCHEDULE REVIEW

- A. The Work and the Construction Schedule shall be reviewed to verify that:
 - 1. Start and finish dates of activities fall within the Contract Time.
 - 2. Durations and progress of all activities are reasonable.
- B. Items that shall be included (but not limited to) in the schedule:
 - 1. All critical material delivery dates;
 - 2. All critical shop drawings submittal dates;
 - 3. Any system shut-downs required to perform the work, in accordance with, but not limited to, the requirements of Section 01 73 00, Execution, Part 2.02;
 - 4. Any requested exceptions from the work restrictions defined in Section 01 10 00, General Project Requirements; and
 - 5. Compliance with the work sequence and constraints set forth in Section 01 73 00, Execution, Part 2.06.
- C. The CONTRACTOR, in his submitted construction schedule, shall specifically address the requirement to have all work completed by the project completion deadline enforced by TRPA. The submitted schedule will be rejected if it does not establish how the CONTRACTOR proposes to meet this condition. A schedule submitted by the CONTRACTOR and received by the District that calls for the completion of the project before the

stipulated project completion deadline, does not change the Contract Time as listed in Part 2.04 of Section 00 72 00. No compensation will be allowed for required schedule extensions that do not cause the Contract Time as originally stated to change.

- D. All other scheduling aspects of the installation of the Project shall be addressed by the CONTRACTOR, especially those aspects considered by the CONTRACTOR and/or the OWNER to be critical to the completion of the Project within the stipulated Contract Time as identified in Section 00 72 00, General Conditions, Part 2.04.
- E. **Inclement Weather:** In conformance with regulatory requirements and safe working practices, the District has recognized that adverse weather conditions may affect the Contractor’s ability to proceed with certain portions of the Work on a given day if, for example, the site is wet or snow covered, or winds are high. The Contract Time established in the contract documents takes into consideration adverse weather conditions, including but not limited to precipitation, wind, and thunderstorms, within the average climatic range. The Contractor’s schedule shall allow enough time for these inclement weather events, and shall reflect the following number of weather delay days per month for activities that are potentially impacted by adverse weather conditions:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4	4	4	4	3	2	2	2	2	3	4	4

The District does not consider cold temperatures/weather (temperatures below 40 degrees Fahrenheit) to be an inclement weather event, and cautions the Contractor that cold weather may occur at any time of year. It is the responsibility of the Contractor to account for extended periods of cold weather in the project schedule, and to implement controls to allow work to continue during periods of cold weather at no additional cost to the District. The District will not consider claims for additional cost due to delays caused by cold weather, because of a failure by the Contractor to implement necessary controls.

- F. The receipt or approval of any schedules by the District shall not in any way relieve the Contractor of its obligations under the Contract.

2.03 REVISIONS TO CONSTRUCTION SCHEDULE

- A. The Contractor shall submit a revised Construction Schedule within five (5) days of the occurrence of any of the following:
 - 1. When delay in completion of any activity or group of activities indicates an overrun of the Contract time or control point requirement, by thirty (30) working days or ten percent (10 percent) of the remaining duration, whichever is less.

2. Delays in submittals, deliveries, or work stoppages are encountered which make replanning or rescheduling of the work necessary.
 3. The Schedule does not represent the actual prosecution and progress of the project as being performed in the field.
- B. Acceptance of the revised Construction Schedule and all supporting data is contingent upon compliance with other related requirements in the Contract Documents and any other prior agreements or requirements with or by the Engineer.
- C. The cost of revisions to the Construction Schedule resulting from Contract changes will be included in the cost for the change in the Work, and will be based on the complexity of the revision or Change Order, hours expended in analyzing the change, and the total cost of the change.
- D. The cost of revision to the Construction Schedule not resulting from authorized changes in the Work shall be the responsibility of the Contractor.

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SECTION 01 32 20

WEB-BASED CONSTRUCTION DOCUMENT MANAGEMENT

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Procedures and requirements for managing construction documentation and submittals for the Work.
 - 2. Responsibilities of the Contractor and the District for the management of construction documentation and submittals.

- B. The District and Contractor shall utilize Procore Technologies, Procore Construction Software (Procore) system for electronic submittal and tracking of all data and documents (unless specified otherwise by the District's representative) throughout the duration of the Contract.
 - 1. Procore is a web-based electronic media service hosted by Procore Technologies utilizing their Procore web solution.
 - 2. Procore will be paid for by the District, and the District will maintain the Service Agreement with Procore.
 - 3. Procore will be made available to the Contractor, their personnel, subcontractor personnel, suppliers, and consultants.
 - 4. The joint use of this system is to facilitate electronic exchange of information, automation of key processes, and overall management of Contract Documentation.
 - 5. Procore shall be the primary means of project information submission and management for the project.

- C. The intent of utilizing a web based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.

1.02 DEFINITIONS

- A. "Copy" or "Copies" shall refer to electronic copies unless a hard copy is specified. Where a hard copy is specified, both electronic and paper versions shall be submitted.

1.03 USER ACCESS LIMITATIONS

- A. The Engineer will control the Contractor's access to Procore by allowing access and assigning user profiles to accept Contractor personnel.

- B. User profiles will define levels of access into the system and determine assigned function-based authorizations and user privileges.

- C. Subcontractors and suppliers will be given access to Procore by and through the Contractor. Entry of information exchanged and transferred on Procore between the Contractor and its subcontractors, suppliers and consultants shall be the responsibility of the Contractor.

1.04 JOINT OWNERSHIP OF DATA

- A. Data entered in a collaborative mode (ie., entered with the intent to share as determined by permissions and workflows within the Procore system) by the District and the Contractor shall be jointly owned.

1.05 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING

- A. Review comments made (or lack thereof) by the District on Contractor-submitted documentation shall not be interpreted as changes to the Contract nor shall they relieve the Contractor from compliance with the Contract Documents.
- B. As discussed elsewhere in these Contract Documents, the Contractor is responsible for managing, tracking and documenting the Work to comply with the requirements of the Contract Documents.
- C. The District's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation, and does not constitute validation of the Contractor's submitted documentation.
- D. In compliance with Public Contract Code §1601, Procore provides both (1) automatic transmission of receipts confirming that documents submitted by Contractor have been received by the District, and (2) an electronic online record of the history of transmission and receipt of each document submitted by the Contractor.

1.06 SUBMITTALS

- A. See Section 01 33 00 for submittal requirements.
- B. Preconstruction submittals:
 - 1. Contractor shall provide a list of personnel responsible for Procore administration within one week following the Notice to Proceed.
 - 2. The list shall include key personnel's roles and responsibilities, including email addresses. Contractor should also identify the corporations' system administrator on the list.

1.07 COMPUTER SYSTEM REQUIREMENTS

- A. The Contractor shall use computer hardware and software that meets the requirements of the Procore system, as recommended by Procore Technologies, to access and utilize Procore. As recommendations are modified by Procore, the Contractor shall upgrade their system(s) to meet or exceed the recommendations. The cost to procure or upgrade the Contractor's computer systems to meet Procore requirements shall be the

responsibility of the Contractor, and will not be considered a justifiable basis for cost or time modification to the Contract.

- B. The Contractor shall be responsible for providing connectivity to the Procore system through DSL, cable, T-1 or wireless communication systems at no additional cost to the District. If connectivity is to be established at the Site, the means of connection shall be acceptable to the District. The minimum bandwidth requirement for using the system is 25 mb/s. It is recommended that a faster connection be used when uploading pictures and files into the system.
- C. Procore is web based and supports the current versions of Google Chrome, Mozilla Firefox, Microsoft Edge, and Apple Safari. Older versions may be supported, however the newest versions will provide the best experience.
- D. Procore provides a mobile application (app) for both iOS and Android devices.
 - 1. The mobile app is expected to be utilized by District and Contractor representatives on-site. The iOS app currently supports iOS 17.1 and later and iOS or iPad OS devices which support these software versions. The Android app supports Android 13 and newer versions.
 - 2. While compatibility is based on software requirements, the user experience will be impacted by the mobile hardware being utilized. Procore recommends devices be replaced every 2-3 years to keep up with the demands of up-to-date software requirements. Procore also recommends a minimum of 64 GB of free storage including 5-10 GB of free storage per project on each device.
 - 3. Devices may not be Jailbroken or Rooted as these processes significantly compromise the security of the data on the device.
- E. The Contractor shall ensure that PDF files are compatible with Adobe Acrobat 9.0 or later. Vector PDF shall be used for all drawing files and as often as possible for all PDF files.

1.08 CONTRACTOR RESPONSIBILITY

- A. The Contractor shall be responsible for the validity of their information placed in Procore and for the abilities of their personnel.
- B. Accepted users shall be knowledgeable in the use of computers, including internet browsers, email programs, CAD drawing applications, and Portable Document Format (pdf) document distribution program.
- C. The Contractor shall utilize the existing forms in Procore to the maximum extent possible. If a required form does not exist in Procore, the Contractor must include a form of their own or provided by the District as an attachment to a submittal or other document.
- D. PDF documents will be created through electronic conversion rather than optically scanned, whenever possible. If optically scanned, the document shall be converted through an OCR (Optical Character Reader) so that all

documents are searchable. The Contractor is responsible for the training of their personnel in the use of Procore and the other programs indicated above, as needed. Lack of training will not be considered a justifiable basis for cost or time modification to the Contract.

- E. User Access Administration
 - 1. The Contractor shall provide a list of key project personnel for the District's review and acceptance.
 - 2. Each user must have a unique email address.
 - 3. The Contractor is responsible for adding users to the project directory, as appropriate. The Contractor will be given permission to add personnel to Procore. The Contractor will be responsible for managing the permissions of each user they add to the Directory.
 - 4. The District reserves the right to perform a security check on all potential users.
 - 5. There is no limit to the number of users which may be added to the Directory and given access to Procore.
 - 6. The Contractor may add Subcontractor companies to the project directory and provide access to Procore tools for subcontractor use. The Contractor is responsible for managing the workflow of their Subcontractors.

1.09 CONNECTIVITY PROBLEMS

- A. Procore is a web-based environment and, therefore, subject to the inherent speed and connectivity problems of the internet. The Contractor is responsible for its own connectivity to the internet. Procore response time is dependent on the Contractor's equipment, including processor speed, internet access speed, etc., and current traffic on the internet. The District will not be liable for any delays associated from the usage of Procore including, but not limited: slow response time, down time periods, connectivity problems, or loss of information. The Contractor will ensure that they maintain connectivity to the Procore system (whether at the home office or project site). Under no circumstances shall the usage of Procore be grounds for a time extension or cost adjustment to the Contract.

1.10 TRAINING

- A. Procore training is provided at no cost at <https://learn.procore.com/>. The training is self-paced learning through videos and interactive web pages. The Contractor Project Manager is expected to complete the Project Management Certification at a minimum; this course is approximately 3 hours. The Quality & Safety (1-2 hours) and Financial Management (3-4 hours) are also recommended for complex projects. Contractor Superintendents are expected to complete the Superintendent Certification at a minimum; this course is approximately 3.5 hours. Specific Procore tool trainings are also available.
- B. Contractor shall arrange and pay for the facilities and hardware/software required to facilitate all training.

PART 2 PRODUCTS

2.01 DESCRIPTION

- A. Procore project management application (no equal) provided by Procore Technologies at:

<https://www.procore.com/>

2.02 SOFTWARE CAPABILITIES

- A. It is intended that the contractor utilize the following capabilities of the Procore Software. Some functions will be initiated by District staff or their representatives, other functions will be initiated by the Contractor and/or their Subcontractors.
- B. Directory
1. Provides a directory of all team member's contact information that is accessible from web and mobile.
- C. Dashboards
1. Provides a dashboard that shows the status of all currently assigned items with drill down capability to see the subject, assignee and due date of each item.
- D. Drawings
1. Provides access to a system maintained current set of drawings on web and mobile, with access to all previous revisions as well.
 2. Provides automatic hyperlinking capability for detail callouts.
 3. Provides drawing markup capabilities on web and mobile.
 4. Provides ability to link RFIs, Submittals, Punchlist Items, Photos and Project Documents to the drawings.
 5. Drawing Markups are carried forward when new revisions are uploaded.
 6. Markups and linked documentation are able to be public or private.
- E. Specifications
1. Provides ability to upload project specifications and manage them at the individual specification level.
 2. Provides ability to view and search specifications on web and mobile.
 3. Provides ability to upload revisions to individual specifications and maintain all revision history.
 4. Provides an auto-generated current specification log that provides access to the current version of each specification.
 5. Provides ability to link specifications to submittals and view the specification from the submittal.
- F. Schedule
1. Provides ability to display schedules from typical scheduling software such as Microsoft Project, Primavera P3, Primavera P6 or Asta Powerproject.

- G. Requests for Information (RFIs)
 - 1. Provides ability to create RFIs with assignees, due dates and attachments.
 - 2. Provides ability for assignees to respond to RFIs both via the software and by responding to the system generated email.
 - 3. Provides an auto-generated log of all RFIs.
- H. Submittals
 - 1. Provides ability to upload a submittal register of all expected submittals.
 - 2. Provides ability to create multi-step approval workflows for submittals, with reminder notifications for the current assignee.
 - 3. Provides the ability to upload any file type without size restrictions.
 - 4. Provides an auto-generated submittal log.
- I. Documents
 - 1. Provides a storage location for miscellaneous project documents.
 - 2. There is no file size storage limit.
 - 3. Provides download tracking.
 - 4. Provides the ability to revise and check out files, with access to all previous revisions.
- J. Financial Management
 - 1. Provides ability to manage contracts, payment applications, change events, and change orders through the software.
- K. Meetings
 - 1. Provides ability to create, edit and view meeting minutes from web and mobile.
 - 2. Provides ability to create action items with assignees and due dates from a meeting item.
- L. Daily Log
 - 1. Provides daily log entry from web and mobile with automatic capture of daily weather conditions.
 - 2. Provides ability to attach photographs to entries directly from mobile.
- M. Photos
 - 1. Provides ability to upload and view photos from web and mobile.
 - 2. Provides ability to markup photos from mobile to clarify anything important in the photo.
 - 3. Provides ability to link photos to specific locations on drawings.
- N. Inspections
 - 1. Provides ability to create inspections from web and mobile.
 - 2. Provides ability to create a deficiency item from an inspection that can be assigned and tracked to completion.
- O. Deficiency Tracking

1. Provides a means for recording, assigning and confirming completion of any deficiency or observation noted during the course of construction.
- P. Punchlist
1. Provides ability to create punchlist items from web and mobile and link them to specific locations on the drawings.
 2. Provides ability to distribute punchlist items to all contractors, for contractors to mark them as resolved with photographic proof of resolution via mobile, and for the items to be marked as complete via mobile or web.

PART 3 EXECUTION

3.01 PROCORE UTILIZATION

- A. Procore shall be utilized in connection with all document and information management required by these Contract Documents. Documents and information to be submitted electronically include, but are not limited to, the documents described in Part 3.02 below.
- B. Procore shall be utilized for on-site documentation of construction activities including, but not limited to, the activities described in Part 3.03 below.
- C. Procore shall be utilized for Schedule and Meetings management including, but not limited to, the activities described in Part 3.04 below.
- D. Procore shall be utilized for all financial documentation required by the contract including, but not limited to, the activities described in Part 3.05 below.

3.02 SUBMITTALS

- A. Shop Drawings
 1. Shop drawing and design data documents shall be submitted as PDF attachments to the Procore submittal workflow process and form. Examples of shop drawings include, but are not limited to:
 - a. All shop drawings identified in Section 01 33 00, Part 2.03.
 - b. Standard manufacturer installation drawings.
 - c. Drawings prepared to illustrate portions of the work designed or developed by the Contractor.
 - d. Steel fabrication, piece, and erection drawings.
 - e. Electrical interconnection drawings.
- B. Product Data
 1. Product data shall be submitted as PDF attachment to the Procore submittal workflow process and form. Examples of product data include, but are not limited to:
 - a. All product data identified in Section 01 33 00, Part 2.03.
 - b. Manufacturer's printed literature.

- c. Preprinted product specification data and installation instructions.
- d. Made in America Certification, if required by Contract.

C. Samples

- 1. Sample submittals shall be physically submitted as specified in Section 01 33 00, Part 2.04. Contractor shall enter submittal data information into Procore with a copy of the submittal form(s) attached to the sample. Photographs of the samples shall be attached to the submittal in Procore. Examples of samples include, but are not limited to:
 - a. Product finishes and color selection samples.
 - b. Product finishes and color verification samples.
 - c. Finish/color boards.
 - d. Physical samples of materials, including soil samples.

D. Administrative Submittals

- 1. All correspondence and pre-construction submittals shall be submitted using Procore. Examples of administrative submittals include, but are not limited to:
 - a. Permits
 - b. Lists of project personnel and contact information
 - c. Project schedule and progress schedules, as required in Section 01 32 00 and Part 3.02.D.2, below.
 - d. Requests for Information (RFI)
 - e. Shut-down Requests and Demolition Requests
 - f. Evidence of qualifications
- 2. Network Analysis Schedules and associated reports and updates. Each schedule submittal specified in these Contract Documents shall be submitted as a native backed-up file of the scheduling program being used. The schedule shall also be posted as a PDF file.
- 3. Plans for safety, demolition, environmental protection, and similar activities, as identified in Section 01 33 00, Part 2.06, and elsewhere in these Contract Documents.
- 4. Any general correspondence submitted.

E. Compliance Submittals

- 1. Test reports, certificates and manufacturer field report submittals shall be submitted on Procore as PDF attachments. Examples of compliance submittals include, but are not limited to:
 - a. Certificates of Compliance, as identified in Section 01 33 00, Part 2.05
 - b. Field test reports
 - c. Quality control certifications
 - d. Manufacturers documentation and certifications for quality of products and materials provided

F. Record and Closeout Submittals

- 1. Operations and maintenance data closeout submittals shall be submitted on Procore as PDF documents during the approval and review stage as specified, with hard copy sets of documents submitted for final. Examples of record submittals include, but are not limited to:
 - a. Preventive Maintenance Forms

- b. O&M Manuals, as identified in Section 01 33 00, Part 2.07
 - c. Extra materials, Spare Stock, etc.: Submittal forms shall indicate when actual materials are submitted. Photos of spare parts shall be attached to the submittal in Procore.
2. Other Closeout submittals
- a. Contractor red-line markups (in both pdf and editable form).
 - b. Contractor photographs.
 - c. Survey data (in both pdf and editable form).

3.03 CONSTRUCTION ACTIVITY DOCUMENTATION

- A. Daily Logs
- 1. Daily Logs will be utilized by District staff and their assignees to record daily construction activities. These logs will be available for the Contractor to view, but will be owned by the District.
- B. Photos
- 1. The Photos tool can be utilized by both District and Contractor staff. This tool is intended to document the work in progress.
 - 2. Contractor shall coordinate with District representatives to classify photos into Albums and tag Locations and Trades as appropriate.
 - 3. Photos can be taken directly in the Procore mobile application.
- C. Observations
- 1. District representative will utilize the Observations tool to track specific events, quality, safety, warranty, or environmental concerns.
 - 2. District representatives may assign observations to Contractor staff to address. Contractor shall address identified issues and respond in Procore with comments as appropriate, and update the Status to Ready to Review once addressed.
- D. Punch List
- 1. District representative or Contractor will add items to the Pump List and add Assignees.
 - 2. District representative will typically assign items to the Contractor and it will be the responsibility of the Contractor to add Subcontractor Assignees when needed.
 - 3. Contractor shall mark items as Ready for Review once completed and District representative will Resolve and Close each item.

3.04 SCHEDULING AND MEETINGS

- A. Schedule
- 1. The Contractor shall utilize Procore's Schedule tool to provide and update the Master Schedule in accordance with specification section 01 32 00 – Construction Progress Documentation.
 - 2. Procore supports importing MPP, MPX, XER, PP, XML, PPX, and other files. Visit <https://support.procore.com/> for additional details.
 - 1) The Master Schedule will be a Read-Only project schedule.
 - 2) Updating the Master Schedule requires updates be made in an external application and imported into Procore.

3. Lookahead Schedules shall be prepared to show a detailed schedule encompassing the upcoming three-to-six-week period.
 - a. Lookahead Schedules will be generated from the Master Schedule.
 - b. Lookahead schedules shall be prepared at a minimum interval of every two weeks during periods of active construction activity.

B. Meetings

1. The Meetings tool shall be used to schedule construction progress meetings in accordance with specification section 01 31 00 – Project Management and Coordination.
2. The Meetings tool shall be used to create agenda items which may be assigned to Procore users.
3. Meeting Minutes shall be recorded within this tool.

3.05 FINANCIAL MANAGEMENT

A. Commitments

1. The District's Contract Specialist will create the Project Commitment for the Contract.
 - a. For Lump Sum contracts (contracts where the majority of bid items are Lump Sum as opposed to Unit Price), the Contractor will be required to enter a Schedule of Values to further break down each Lump Sum bid item.
 - b. For Unit Price contracts, the unit prices provided in the bid will be utilized for tracking progress and payment.
2. Change Events, Change Orders, RFQs (Requests for Quotations), and Invoices will be tied to the Commitment

B. Change Events

1. Change Events shall be used to track all changes to the contract including, but not limited to, no-cost changes, contract change requests, additional work tracked on a time and material basis, and requests for changes to the Contract Time.
2. Change Events may be initiated by the District or the Contractor.
3. Additional or reduced costs shall be provided by the Contractor using the RFQ (Request for Quote) tool.

C. Change Orders

1. Upon review and approval of Change Events, the District will create a Change Order including one or more Change Events. The District will route the Change Order to the Contractor for review and approval within the Procore Workflow. Upon Contractor approval, the District will route for internal review prior to finalizing.
2. Once the Change Order has been approved by the District's internal staff, it will be presented to the District's Board of Directors for approval.
3. Once the Board of Directors has approved a Change Order, the PDF document will be routed for electronic signature using Adobe Sign.
4. Once the Change Order Document is fully executed, the document will be copied into Procore and the Change Order will be Approved and

added to the Commitment, allowing for payment to be requested on Invoices.

- D. Invoicing
 - 1. Applications for Payment will be submitted by the Contractor by utilizing the Invoicing Tool.
 - 2. The District's Contract Specialist will create the monthly Billing Periods.
 - 3. The Contractor will create and submit invoices for approval in accordance with specification section 01 20 00 – Price and Payment Procedures.
 - 4. District representatives will review and Return or Approve the submitted invoice. Comments will be tracked using the associated Workflow.
 - 5. The PDF document will be prepared by the District's Contracts Specialist routed for electronic signature using Adobe Sign and the executed document will be copied into Procore.

3.06 CORRESPONDENCE

- A. The Correspondence tool allows for custom tools to be created for common project correspondence items when an existing Procore tool is not available.
- B. Certified Payroll Reports
 - 1. When Certified Payroll Reports (CPR) are required to be submitted to the District, the Contractor shall utilize the Correspondence tool.
 - 2. Each CPR shall include the Start and End date of the week being submitted.
 - 3. For each CPR Correspondence, there is a separate attachment area for General Contractor reports and Subcontractor reports.
 - a. The attachment filename shall include the contractor or subcontractor company name as well as any unique identifiers such as CPR number and/or date.
 - b. Multiple subcontractor reports can be submitted on the same Correspondence item but must be separate file attachments.
 - 4. CPRs may be returned to the Contractor if revisions and resubmittal are required.

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SECTION 01 33 00
SUBMITTALS PROCESS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for processing of submittals during the construction stage.
 - 2. The requirements of this Section are in addition to the requirements for individual materials and equipment stated elsewhere in these Contract Documents.

PART 2 SUBMITTAL PROCEDURES

2.01 GENERAL INSTRUCTIONS FOR SUBMITTALS

- A. The Contractor shall submit to the Engineer such schedules, reports, drawings, lists, literature samples, instructions, directions, and guarantees as are specified or reasonably required for construction, operation, and maintenance of the Work in ample time for each to serve its purpose and function. All submittals shall be provided to the District within the time necessary to allow District review, to allow resubmittal and second review, if necessary, and to avoid delays in the work.
- B. Further, the Contractor must submit to the District for approval, any land use agreements between the Contractor and private property owners that affect the project.
- C. Each type of product shall have a separate submittal. For example, waterline pipe, sewer pipe, valves, aggregate base, and manholes will each require a submittal.
- D. Where product data from a manufacturer is submitted, clearly mark which model is proposed, with all pertinent data, capacities, clearances, diagrams, controls, connections, anchorage, and supports. Present a sufficient level of detail for assessment of compliance with contract documents.
- E. Each submittal shall be assigned a unique number. Submittals shall be numbered sequentially. The submittal numbers shall be clearly noted on the transmittal. Original submittals shall be assigned a numeric submittal number.
- F. Resubmittals of submittals will be reviewed and returned in the same review period as for the original submittal. It is considered reasonable that the Contractor shall make a complete and acceptable submittal by the second

submission of a submittal item. The District reserves the right to withhold monies due to the Contractor to cover additional costs of any review beyond the second submittal.

- G. The drawings, lists, prints, specifications, samples, and other data required as project submittals and described herein shall become a part of the Contract Documents, and a copy of the same shall be kept with the job site Contract Documents, and the fabrications furnished shall be in conformance with the same. However, the Engineer's review of the above drawings, lists, prints, specifications, samples, or other data shall in no way release the Contractor from its responsibility for the proper completion of the requirements of this Contract nor for fulfilling the purpose of the installation nor from Contractor's liability to replace the same, should it prove defective or fail to meet the specified requirements.

2.02 CRITICAL EQUIPMENT SUBMITTALS

- A. The Contractor shall make shop drawing submittals to the Engineer in a timely manner for the Work to be completed within the specified Contract time. No contract extensions will be granted based solely on submittal review time.
- B. Critical materials, equipment, and plans requiring early submittal for completion of the project include (but are not limited to):
 - 1. Project schedule
 - 2. Coating materials
 - 3. Abrasive blast media
 - 4. Dehumidification equipment manufacturer letter
 - 5. SSPC QP1 certification letter
 - 6. Containment, dust, and overspray control plan
 - 7. Confined space safety plan
- C. Requests for substitution of critical equipment shall be made within 14 days after the Contract is signed.

2.03 SHOP DRAWINGS

- A. The Plans & Specifications shall be supplemented by such shop drawings prepared by the Contractor as are necessary to adequately control the work. Shop Drawings, layout diagrams, catalog data, test reports and information in sufficient detail to show complete compliance with all specified requirements shall be furnished to the Engineer covering, without limitation, the items included in the Materials and Equipment List.
- B. The Contractor, at its own expense, shall make such changes in the required drawings as may be necessary to conform to the Contract Documents. After completion of such review, verification, and revising, the Contractor shall stamp and sign the drawings indicating his approval and submit the Shop Drawings and pertinent data to the Engineer for review.

- C. In addition, if the Contractor submits shop drawings of equipment by manufacturers other than those listed in the specifications, provide the following information with the submittal:
 - 1. The name and address of at least three companies or agencies that are currently using the equipment.
 - 2. The name and telephone number of at least one person at each of the above companies or agencies whom the Engineer may contact.
 - 3. A description of the equipment that was installed at the above locations. The description shall be in sufficient detail to allow the Engineer to compare it with the equipment that is proposed to be installed with this project.

- D. Prior to the Engineer's review of such drawings, any work which the Contractor may perform on the fabrications covered by the drawings shall be at Contractor's own risk and the District will not be responsible for any expenses or delays incurred by the Contractor for changes to make the drawings conform to the Contract Documents.

- E. Unless otherwise indicated elsewhere in these Contract Documents, Shop drawings and data shall be submitted to the Engineer with sufficient number as will allow the Engineer to retain four (4) copies of each submittal. The submittal shall clearly indicate the specific area of the Contract Documents for which the submittal is made. Any additional copies received by the Engineer will be returned to the Contractor's representative at the job site. The Engineer's notations of the actions taken will be noted on the returned copies

- F. Unless otherwise stated, the ENGINEER shall have fourteen (14) days from the date of receipt of shop drawings for review. No changes shall be made by the CONTRACTOR in any shop drawings after they have been reviewed and accepted by the ENGINEER.

- H. CONTRACTOR agrees that shop drawings processed by the ENGINEER are not Contract Change Orders; that the purpose of shop drawings submitted by the CONTRACTOR is to demonstrate to the ENGINEER that the CONTRACTOR understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and by detailing the fabrication methods he intends to use. It is expressly understood, however, that favorable review of the CONTRACTOR's shop drawings shall not relieve the CONTRACTOR of any responsibility for accuracy of dimensions and details, or for mutual agreements of dimensions and details. It is mutually agreed that the CONTRACTOR shall be responsible for agreement and conformity of his shop drawings with the Specifications. CONTRACTOR further agrees that if deviations, discrepancies, or conflicts between shop drawings and Specifications are discovered either prior to or after shop drawings are processed by the ENGINEER, the Specifications shall control and shall be followed.

- I. Full compensation for furnishing all shop drawings shall be considered as included in the prices paid for the Contract items of work to which such

drawings relate and no additional compensation will be allowed therefor. Any cost related to the ENGINEER's review of any particular set of shop drawings more than twice, due to incompleteness or unacceptability, shall be borne by the CONTRACTOR, and the DISTRICT reserves the right to withhold such costs from payments due the CONTRACTOR.

2.04 SAMPLES

- A. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or supplier in sufficient quantities or amounts for testing or examination, without additional charge.
- B. No material shall be used until the Engineer has had the opportunity to test or examine such materials. Samples will be secured and tested whenever necessary to determine the quality of the material. Samples and test specimens prepared at the job site, such as concrete test cylinders, shall be taken or prepared by the Engineer in the presence and with the assistance of the Contractor.
- C. Testing of samples shall be in conformance with the requirements of Part 2.04 of Section 01 43 00, Quality Assurance.

2.05 CERTIFICATE OF COMPLIANCE

- A. A Certificate of Compliance shall be furnished prior to the use of any materials for which the Contract Documents require that such a certificate be furnished. In addition, when so authorized in the Contract Documents, the Engineer may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance. The Certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved comply in all respects with the requirements of the Contract. A Certificate of Compliance shall be furnished with each lot of material delivered to the work and the lot so certified shall be clearly identified in the Certificate. The Certificate of Compliance shall be in a form approved and prepared by the District.
- B. All materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the work which conforms to the requirements of the Contract Documents and any such material not conforming to such requirements will be subject to rejection, whether in place or not. In the event of rejection, the Contractor shall remove the rejected materials, at its cost, and replace them with conforming materials.
- C. The District reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance.
- D. The form of the Certificate of Compliance and its disposition shall be as directed by the Engineer.

2.06 SAFETY SUBMITTALS

- A. Not used.
- B. In accordance with General Industry Safety Orders, Article 108 (Title 8, California Code of Regulations, Section 5156 et seq.), the Contractor shall submit to the District their program plan for controlling, and, where appropriate, for protecting employees from, confined space hazards and for regulating employee entry into confined spaces.

2.07 OPERATIONS AND MAINTENANCE MANUALS

- A. Submit electronic copies of completed Preventive Maintenance and Operating Requirement form **only**, summarizing the manufacturer's maintenance instructions and recommendations for the following equipment/materials supplied for the project:
 - 1. Cathodic protection systems
 - 2. Ladder safety climb systems

A blank data sheet and a sample data sheet are attached to this Section.

- B. Submit four paper copies and one electronic copy of all manufacturer's operation and maintenance (O&M) manuals and data for the following equipment:
 - 1. Cathodic protection systems
 - 2. Ladder safety climb systemsPrepare and organize the material in three-ring binders with divider tabs and labels. Include a table of contents.
- C. O&M manuals shall include:
 - 1. A list of equipment furnished for Project with name, address, and telephone numbers of equipment furnished;
 - 2. A list of serial numbers of equipment furnished;
 - 3. A copy of shop drawings for mechanical, electrical, and instrument equipment in final form;
 - 4. Complete operating and maintenance instructions for each and every item of equipment, setting forth in detail and step-by-step the procedure for starting, stopping, operating, and maintaining the system as installed;
 - 5. Any test reports required by the Specifications;
 - 6. A schedule of recommended maintenance intervals;
 - 7. Complete parts list of replaceable parts, their part numbers, and the name and address of their nearest vendor.
 - 8. Tabulation of motor nameplate horsepower, nameplate current, field-measured current, overload relay setting, and catalog number for polyphase motors, if applicable.
 - 9. A list of fuses, lamps, seals, and other expendable equipment and devices, if applicable. Specify size, type and ordering description. List name, address, e-mail address, fax number and telephone number of vendor.

10. With each O&M submittal, the Contractor shall also submit a completed Preventive Maintenance and Operating Requirement sheet, summarizing the manufacturer's maintenance instructions and recommendations. A blank data sheet and a sample data sheet are attached to this Section.
- D. O&M Manuals specified herein are in addition to any operation, maintenance or installation instructions required by the Contractor to install, test and start up equipment.

2.08 PROJECT REDLINES

- A. Periodically during the project, the Contractor shall submit to the District for review and comment, a copy of the Contract Documents, or relevant portions thereof, marked to identify all changes made during construction, as directed in Section 013100, Part 2.02. The Contract Documents shall be marked to show in explicit detail all modifications and changes to the Contract requirements. It will not be sufficient for the Contractor to simply reference a separate written document; the details of the change must be shown on the working set of the Contract Documents. The Contractor shall submit these documents in the manner directed in Part 2.03 of this Section.
- B. The District may require the Contractor to submit redlines for review within five (5) business days when any of the following occur:
 1. At the completion of a particular phase of work;
 2. At the completion of a particular discipline of work;
 3. At the completion of a particular structure; and
 4. Any time it is requested by the Engineer.Project-specific requirements for timing of redline submittals will be established at the pre-construction meeting.
- C. At the completion of the Project the redlines, with review comments provided by the District, shall be submitted as the Contract Record Documents in accordance with Section 01 77 00, Part 2.06 within fifteen (15) days of completion of the Work.

Preventive Maintenance and Operating Requirement Sheets

Preventive Maintenance Program	Equipment Record Number	
EQUIPMENT DESCRIPTION	ELECTRICAL OR MECHANICAL DATA	
Name: Tag No:	Size:	
Serial No.:	Model:	
Vendor:		
Vendor Address:	Type:	
	Mfr.:	
Vendor Rep:	Voltage:	Amps:
Phone:	Phase:	rpm:
Warranty Period:	Install Date:	
Asset Life Expectancy:		
Initial Meter Reading: 1.		Units:
2.		Units:
Other equip. info:		
Maintenance Work to be Done	Frequency*	

*D - Daily; W - Weekly; B - Biweekly; M - Monthly; Q - Quarterly;
S - Semiannually; A - Annually.

Preventive Maintenance and Operating Requirement Sheets

OPERATING REQUIREMENTS AND REFERENCE	
PARTS LIST	
Description	Replaceable?
PERFORMANCE CRITERIA*	

* including, but not limited to vibration tolerances, alignment limits, and heat generation limits

SAMPLE

Preventive Maintenance and Operating Requirement Sheets

Preventive Maintenance Program		Equipment Record Number	
EQUIPMENT DESCRIPTION		ELECTRICAL OR MECHANICAL DATA	
Name: Influent Pump No. 1 Tag No.: P01		Size: 15 hp	
Serial No.: 123456ABC		Model: 140T Frame Serial No. 987654ZY Class F Insulation W/Space Heater	
Vendor: ABC Pump Co.			
Vendor Address: 1111 Pump Circle Newport Beach, CA 92663		Type:	
		Mfr.: DEF Motors, Inc.	
Vendor Rep: XYZ Equipment, Inc.		Voltage: 460	Amps: 20
Phone: 714/752-0505		Phase: 3	rpm: 1,800
Warranty Period: 2 years		Install Date: 8/15/17	
Asset Life Expectancy: 20 years			
Initial Meter Reading: 1. 12.3		Units: Hours	
2.		Units:	
Other equip. info:			
Maintenance Work to be Done			Frequency*
1. Operate all valves and check such things as a) bearing temperature, b) changes in running sound, c) suction and discharge gauge readings, d) pump discharge rate, and e) general condition of the drive equipment.			D
2. Check packing.			D
3. Checking pumping unit for any dust, dirt, or debris.			W
4. Lubricate bearing frame and motor bearings (consult manufacturer's instructions for type of grease or oil).			Q
5. Disassemble and change or repair the following: a) impeller, b) shafts, c) shaft sleeve, d) rotary seals, and e) sleeve bearings.			A

*D - Daily; W - Weekly; B - Biweekly; M - Monthly; Q - Quarterly;
S - Semiannually; A - Annually.

Preventive Maintenance and Operating Requirement Sheets

OPERATING REQUIREMENTS AND REFERENCE	
For manufacturer's instructions regarding installation, operation, maintenance, and trouble shooting of this equipment, see Volume ____, Section _____.	
PARTS LIST	
Description	Replaceable?
Impellor type, diameter and part number	Y
Coupling size, style, and part number	Y
Motor type, and part number	Y
Bearing numbers	Y
Filter	Y
Shaft sizes - pump and motor	Y
Seal size and composition	Y
Pump housing numbers	Y
Pump control valve, manufacturer and size	Y
PERFORMANCE CRITERIA*	

* including, but not limited to vibration tolerances, alignment limits, and heat generation limits

END OF SECTION

SECTION 01 35 00

SPECIAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for special project situations.

PART 2 SPECIAL PROCEDURES

2.01 EMERGENCY WORK

- A. In an emergency affecting the safety of life, or of the work, or of adjoining property, the Contractor, without special instruction or authorization from the Engineer, is required to act at its discretion to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of emergency work shall be determined as specified under Part 2.11 of Section 00 72 00, General Conditions.
- B. Should the Engineer deem an emergency condition to exist, the Contractor shall immediately do those things and take those steps ordered by the Engineer. The decision of the Engineer in this respect shall be final and conclusive. Any claims for compensation made by the Contractor on account of emergency work shall be determined as specified under Part 2.11 of Section 00 72 00, General Conditions.

2.02 ARCHAEOLOGICAL ARTIFACTS

- A. If the Contractor encounter items of suspected archaeological significance are during excavation, the Contractor shall immediately stop excavation and inform the Engineer. The Contractor can resume excavation upon approval of the Engineer after consultation with the District's consulting archaeologist.

2.03 SUSPENSION OF WORK

- A. The Engineer may at any time, by notice in writing to the Contractor, suspend any part of the work for such period of time as may be necessary to prevent improper execution of the work on the project by the Contractor, its Subcontractors or agents, and the Contractor shall have no claim for damages or additional compensation on account of any such suspension.
- B. The District may at any time suspend any part or all of the work upon ten (10) days written notice to the Contractor, who shall immediately discontinue all work suspended except for all operations to prevent loss or damage to work already executed as may be directed by the Engineer. In the event a part of the work is suspended, the Contractor, if the suspension is not through his

fault or the fault of its Subcontractors or agents, shall be paid on the same basis as Extra Work for costs of work performed in accordance with such orders of the Engineer during such suspension, provided that this shall not include any cost pertaining to work not suspended by said notice. Work shall be resumed by the Contractor after such suspension on written notice from the District. In the event of suspension of the entire work by the District, the Contractor, if the suspension is not through fault of the Contractor or the fault of his Subcontractors or agents, shall be paid the sum of \$500.00 for each calendar day during which the entire work shall have been suspended. This amount is fixed as liquidated damages in full settlement of all costs and expenses, losses, and damages resulting to the Contractor from such suspension. The parties expressly agree that it is impractical to determine the actual amount of damage to Contractor by reason of such delay and that this liquidated damages clause is reasonable under the circumstances existing at the time the Contract was made. Work shall be resumed by the Contractor after such suspension on written notice from the District.

- C. In the event of any suspension of the work in whole or in part B above, the Contractor shall be entitled to an extension of time to complete the work to the extent of the delay caused to the Contractor.
- D. In the event the entire work shall be suspended by order of the District, as provided above, and remains suspended for a period of sixty (60) consecutive days, through no fault of the Contractor, and notice to resume the work shall not have been served on the Contractor, the Contractor may, at its option, by written notice to the District, terminate the Contract in the same manner as if the termination had been initiated by the District, and the District shall have no claim for damages because of such termination of the Contract.
- E. In the event the District or the Engineer receives or obtains notice of any termination, suspension, voiding, cancellation, or lack of existence of, or of any material reduction of coverage in, any policy of insurance required to be maintained by the Contractor or any subcontractor, the District or the Engineer, without any prior notice and without prejudice to any other remedy of the District, may immediately suspend work under the contract and order the Contractor and/or subcontractor(s) off the work site immediately, until the required insurance is reinstated or obtained. In the event of suspension under this paragraph, Contractor shall not be responsible for payment of liquidated damages established under Subpart B (above).

2.04 TERMINATION FOR DEFAULT - DAMAGES FOR DELAY - TIMELY EXTENSION

- A. The District may, without prejudice to any other right or remedy, service written notice upon Contractor of its intention to terminate this Contract if the Contractor: (1) refuses or fails to diligently prosecute the work as defined in Subpart B (below), (2) fails to complete the Work within the required times defined in Section 00 72 00, (3) files a bankruptcy petition or is adjudged a bankrupt; (iv) should make a general assignment for the benefit of its creditors; (v) should have a receiver appointed, or (vi) violates any requirements of law or the Contract Documents.

- B. The Contractor shall at all times employ such force, labor plant, materials, and tools as will be sufficient, in the opinion of the Engineer, to prosecute the work at not less than the rate provided in the progress schedule and to complete the work within the time limits fixed by the Contract.
- C. The District may, after giving ten (10) days written notice to the Contractor, terminate its right to proceed with the work or such part of the work as to which there has been delay. The notice of intent to terminate shall contain the reasons for such intention to terminate.
- D. The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:
 - 1. The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to Acts of God, acts of the public enemy, acts of the District, acts of another contractor in the performance of a Contract with the District, fires, floods, excluding site flooding due to groundwater, epidemics, quarantine restrictions, strikes, lockouts, freight embargoes, unusually severe weather, or delays of subcontractors and suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of either the Contractor or such subcontractors and suppliers; and
 - 2. The Contractor, within ten (10) days from the beginning of any such delay (unless the Engineer grants further period of time before the date of final payment under the Contract), notifies the Engineer in writing of the causes of delay and requests an extension of time.
- E. The Engineer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in the Engineer's judgment, the findings of fact justify such an extension, and the findings of fact shall be final and conclusive on the parties.
- F. A request for an extension of time, or the granting of an extension of time, shall not constitute a basis for any claim against the District for additional compensation or damages unless caused by the District or another contractor employed by the District.
- G. If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of creditors, or if a receiver should be appointed for the Contractor on account of insolvency and not be discharged within ten (10) days after his appointment, or if the Contractor fails to make prompt payments to subcontractors or suppliers, or should he persistently disregard laws, ordinances, or the instructions of the Engineer, or otherwise commit a material breach of any provisions of the Contract, the District may, after giving ten (10) days written notice to the Contractor, terminate the Contract and the Contractor's right to proceed with the work.
- H. The rights and remedies of the District provided in this section are in addition to any of the rights and remedies provided by law or under this Contract.

- I. In addition to the District's rights under this section, if at any time before completion of the work under the Contract, it shall be determined by the District that reasons beyond the control of the parties render it impossible or against the interests of the District to complete the work, or if the work shall be stopped by an injunction of a court of competent jurisdiction or by order of any competent authority, the District may, upon ten (10) days written notice to the Contractor, discontinue the work and terminate the Contract. Upon service of such notice of termination, the Contractor shall discontinue the work in such manner, sequence, and at such times as the Engineer may direct. The Contractor shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the work thus dispensed with, nor any other claim except for the work actually performed up to the time of discontinuance, including the cost of materials and equipment on hand, in transit, or on definite commitment and any extra work ordered by the Engineer to be done, nor for any claim for liquidated damages in accordance with the provisions of Part 2.03. The value of the work performed and the cost of materials and equipment delivered to the site will be determined by the Engineer in accordance with the procedure prescribed for the making of the final application for payment. The Contractor shall assign to the District, as directed by the Engineer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the District shall have the right to settle or to pay any termination settlement proposal arising out of those terminations. As directed by the Engineer, the Contractor shall transfer title and deliver to the District:
 1. the fabricated or unfabricated parts, work-in-progress, completed work, supplies, and other materials produced or acquired for the work terminated; and
 2. the completed or partially completed plans, drawings, information, and other property that, if the Contract had been completed, would be required to be furnished to the District.

2.05 RIGHTS OF DISTRICT UPON TERMINATION

- A. In the event the right of the Contractor to proceed with the work, or any portion thereof, has been terminated because of the fault of the Contractor and the Contractor has been given ten (10) days notice to cure such fault and has not done so, the District may issue a notice of termination to the Contractor and the Contractor's surety.
- B. Upon termination the Contractor shall not be entitled to receive any further payment until the work is finished. If upon completion of the work the total cost to the District, including engineering, legal, and other consultant fees, costs of managerial and administrative services, construction costs, and liquidated damages shall be less than the amount which would have been paid if the work had been completed by the Contractor in accordance with the terms of the Contract, then the difference shall be paid to the Contractor in the same manner as the final payment under the Contract. If the total cost incurred by the District on account of termination of the Contract and subsequent completion of the work by the District by whatever method the District may deem expedient shall exceed said amount which the Contractor

would otherwise have been paid, the Contractor and his sureties shall be liable to the District for the full amount of such excess expense.

- C. Upon termination, if the District takes over the Work, the District may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plant, and other property belonging to the Contractor as may be left on the Project site.
- D. The rights and remedies of the District provided in this Section are in addition to any of the rights and remedies provided by law or under this Contract.

**2.06 FAILURE TO COMPLETE THE WORK IN THE TIME AGREED UPON;
LIQUIDATED DAMAGES**

- A. Liquidated Damages -In case all the work is not completed before or upon the expiration of the time limit as set in the Bid, Contract, and Progress Schedule, or within any time extensions that may have been granted, substantial damage will be sustained by the District; it is impracticable to determine the actual amount of damage by reason of such delay. It is, therefore, agreed that the Contractor and its Surety shall be liable for and pay to the District as damages, and not as a penalty, the amount specified in Section 00 72 00, General Conditions, for each and every day's delay in finishing the work in excess of the number of days specified. The parties expressly agree that this liquidated damage clause is reasonable under the circumstances existing at the time the Contract was made.
- B. In addition to liquidated damages for delay, if the delay results in the imposition of regulatory fines for late performance, it is agreed that the Contractor and its Surety shall be liable for and pay to the District as damages, and not as a penalty, the liquidated amount specified in Section 00 72 00.
- C. Exclusions - Notwithstanding the provisions above, the Contractor shall not be liable for liquidated damages or delays caused by the removal or relocation of utilities when such removal or relocation is the responsibility of the District or the owner of the utility under Government Code Section 4215.

2.07 RESPONSIBILITY FOR REPAIR OF FACILITIES

- A. All public or private facilities, including but not limited to gravel surfacing at existing canals, structures, telephone cables, roadways, curbs, gutters, parking lots, private drives, levees, and embankments for creeks, ponds, and reservoirs disturbed during construction of the work shall be repaired and/or replaced by the Contractor to match facilities existing prior to construction. In addition, the Contractor shall be responsible for any settlement damage to such facilities or adjoining areas for a period of one year after acceptance of such required facilities.

2.08 DISTRICT'S REPAIR

- A. In the event the Contractor refuses or neglects to make good any loss or damage for which it is responsible under this Contract, the District may, or by the employment of others, remedy any such loss or damage, and the cost and expense of doing so, including any reasonable engineering, legal, and other consultant fees, and any costs of administrative and managerial services, shall be charged to the Contractor. Such costs and expenses may be deducted by the District from claims for payment made by the Contractor for work completed or remaining to be completed as provided for in Part 2.04 of Section 01 20 00, Price and Payment Procedures.

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: permits, licenses, restrictions, lands, easements and right-of-ways required for the project.

PART 2 REQUIREMENTS

2.01 GENERAL COMPLIANCE WITH LAWS - PERMITS, REGULATIONS, TAXES

- A. Contractors and subcontractors will comply with all applicable federal and state laws, rules, guidelines, regulations, and requirements.
- B. Contractor is an independent contractor and shall at his sole cost and expense comply with all laws, rules, ordinances, and regulations of all governing bodies having jurisdiction over the work, obtain all necessary permits and licenses, pay all manufacturers' taxes, sales taxes, use taxes, processing taxes, and all federal and state taxes, insurance, and contributions for social security and unemployment which are measured by wages, salaries, or any remuneration paid to Contractor's employees, whether levied under existing or subsequently enacted laws, rules, or regulations. Contractor shall also pay all property tax assessments on materials or equipment used until acceptance by the District.
- C. If any discrepancy or inconsistency is discovered in the Contract Documents, or in this Contract in relation to any such law, rule, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the Engineer in writing.
- D. Without limitation, materials furnished and performance by the Contractor shall comply with Safety Orders of the Division of Industrial Safety, State of California, Federal Safety regulations of the Bureau of Labor, Department of Labor, and any other applicable Federal regulations.
- E. The Contractor, upon request, shall furnish evidence satisfactory to the District and Engineer that any or all of the foregoing obligations have been or are being fulfilled. The Contractor warrants to the District that it is licensed by all applicable governmental bodies to perform this Contract and will remain so licensed throughout the progress of the work, and that it has, and will have, throughout the progress of the work, the necessary experience, skill and financial resources to enable him to perform this Contract.
- F. Contractor shall be responsible for familiarity with the Americans with Disabilities Act (ADA) (42 USC§12101 et seq.) and California Government Code 11135(b). The Work shall be performed in compliance with ADA regulations.

- G. The Contractor shall be responsible for familiarity with local requirements for the diversion of recyclable waste materials. The Work shall be performed in compliance with these requirements. Upon request, the Contractor will be required to present weight tickets and written proof of diversion. All costs incurred for these waste diversion efforts shall be the responsibility of the Contractor.
- H. In accordance with Revenue and Taxation Code §107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Contractor will be responsible at no additional cost to the District.

2.02 ENVIRONMENTAL AND CULTURAL COMPLIANCE

- A. In addition to the requirements set forth in Part 2.01, above, for general compliance with laws, permits, regulations and taxes, the Contractor, by entering into this Contract, shall be obligated to abide by the requirements of any project-specific environmental and cultural resource documents prepared for and adopted by the District, notwithstanding specific rules and requirements not being specifically identified within these Specifications and Plans.
- B. Note Used.

2.03 PERMITS AND LICENSES

- A. Procurement of Permits and Licenses:
 - 1. Permits and licenses, of a temporary nature, necessary for the prosecution of the work shall be secured and paid for by the Contractor. The Contractor shall obtain and pay the fees for the following permits.

Name or Type of Permit	Permitting Agency
Construction water permit for water obtained from District-owned fire hydrants (fee waived)	South Tahoe PUD
Hot Work Permit	South Tahoe PUD
Hot Work/Burn Permit	CAL Fire or Applicable Agency
Business License	EI Dorado County

- 2. Permits, licenses, and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the District unless otherwise specified. The following permits for the permanent work have been obtained by the District:
 - a. Tahoe Regional Planning Agency Permit – Exempt Activity per MOU.
- B. The Contractor shall procure all permits and licenses, as described in Part 2.02.A.1, pay all charges, fees, and taxes and give all notices necessary and incidental to the due and lawful prosecution of work.
- C. The Contractor shall be aware of and abide by the conditions and restrictions of the TRPA permit for this project. The standard conditions of approval applicable to this project (Attachment Q – Standard Conditions for Grading) are available from the TRPA website (www.trpa.org) for review by the Contractor.

- D. The Contractor shall be aware of and abide by the conditions and restrictions of the Lahontan Regional Water Quality Control Board permits for this project, including but not limited to Waste Discharge Requirements (WDRs) and/or Stormwater Pollution Prevention Plan (SWPPP) as applicable. The standard conditions applicable to this project can be reviewed online at:
https://www.waterboards.ca.gov/lahontan/board_decisions/adopted_orders/2022/docs/R6T-2022-0046_Lake-Tahoe-Muni.pdf.
In the case of a spill, the California RWQCB may fine the District up to 10 dollars per gallon spilled. The District will charge the Contractor for these fines if accrued by the District.
- E. The Contractor shall be aware of and abide by the conditions and restrictions of the City of South Lake Tahoe and the County of El Dorado. It shall be the Contractor's responsibility to obtain all necessary permits from the City of South Lake Tahoe and El Dorado County.
- F. California Contractor's License: the Contractor shall have a valid California contractor's license for the type of work required on this Contract, as specified in Sections 00 10 00, Solicitation, and 00 20 00, Instructions for Procurement.
- G. The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the work as shown on the Plans and described in the Specifications. The Contractor shall promptly notify the Engineer in writing of any variance and any necessary changes shall be adjusted as provided in the Contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations and without such notice to the Engineer, Contractor shall bear all related costs.

2.04 LANDS FOR WORK, RIGHT-OF-WAY CONSTRUCTION ROADS

- A. The District will provide the lands, easements, right-of-ways, and/or encroachment permits necessary or other rights to enter and work on lands necessary for the performance of the work. Other permits and licenses are addressed by Part 2.02. Should the Contractor find it advantageous to use any additional land for any purpose whatever, the Contractor shall provide for the use of such land at its risk and expense. The Engineer shall be furnished with a copy of written agreements or otherwise be notified in writing of additional working space which is acquired. Nothing herein contained and nothing marked on the Plans shall be interpreted as giving the Contractor exclusive occupancy of the territory provided by the District. When two or more contracts are being executed at one time on the same or adjacent land in such a manner that work on one contract may interfere with that on another, the Engineer shall decide which contractor shall cease work, and which shall continue, or whether the work on both contracts shall progress at the same time and in what manner, and the decision of the Engineer shall be final and binding. When the territory of one contract is the necessary or convenient means of access for the performance of another contract, such privilege of access or any other reasonable privilege may be granted by the Engineer to the contractor so desiring, to the extent, amount, in the manner, and at the time permitted. No such decision as to the method or time of conducting the work or the use of territory shall be the basis of any claim for delay or damage.

- B. Lands, easements, or right-of-ways to be furnished by the District for construction operations will be specifically shown on the Plans.

END OF SECTION

SECTION 01 42 00

REFERENCES

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. List of reference standards used in the Contract Documents.

1.02 ABBREVIATIONS AND DEFINITIONS

- A. Terms used in these Contract Documents shall have the meaning stipulated in Section 00 71 00, Contracting Definitions.

PART 2 REFERENCES

2.01 GENERAL

- A. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards or requirement so the respective issuing agencies which have been published as of the date of execution of the Contract, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances or governing codes. No requirements set forth herein or indicated in the Contract shall be waived because of any provision of, or omission from, said standard or requirements.

2.02 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Without limiting the generality of other requirements of the Specifications, all Work specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.
- B. References herein to "Building Code" or "Uniform Building Code" shall mean Uniform Building Code of the International Conference of Building Officials (ICBO). Similarly, references to "Mechanical Code" or "Uniform Mechanical Code", "Plumbing Code" or "Uniform Plumbing Code", "Fire Code" or "Uniform Fire Code", shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as used by the local agency as of the date of execution of the Contract, as adopted by the

agency having jurisdiction, shall apply to the Work herein, including all addenda, modifications, amendments or other lawful changes thereto.

- C. In case of conflict between codes, reference standards, drawing and the Contract, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the District for clarification and direction prior to ordering or providing any materials or furnishing labor.
- D. The Contractor shall construct the Work indicated herein in accordance with the requirements of the Contract and the referenced portions of those referenced codes, standards and specifications listed herein.

END OF SECTION

SECTION 01 43 00

QUALITY ASSURANCE

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for reactive activities to evaluate completed activities and elements for conformance with the requirements.
 - 2. The requirements of this Section are in addition to the requirements for individual materials and equipment stated elsewhere in these Contract Documents.

PART 2 REQUIREMENTS

2.01 CONFORMITY WITH CONTRACT DOCUMENTS AND ALLOWABLE DEVIATIONS

- A. Work and materials shall conform to the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on Contract Documents.
- B. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Engineer shall be the sole judge as to whether the work or materials deviate from the Contract Documents, and the Engineer's decision as to any allowable deviations shall be final and conclusive, as set forth in Section 00 72 00, General Conditions.

2.02 QUALITY CONTROL

- A. All materials and equipment shall be new and of the specified quality and, if samples have been submitted, equal to the samples found to be acceptable by the Engineer.
- B. The Work shall be performed and completed in a thorough, workmanlike manner, notwithstanding any omission in the Contract Documents; and it shall be the duty of the Contractor to call the Engineer's attention to apparent errors or omissions and request instructions before proceeding with the Work. The Engineer may, by appropriate instructions provided in conformance with Section 00 72 00, Part 2.03, correct errors and omissions, which instructions shall be as binding upon the Contractor as though contained in the original Contract Documents.

2.03 INSPECTION OF WORK

- A. Unless otherwise provided, all equipment, materials, and work shall be subject to inspection and testing by the Engineer (including the Engineer's representative). The Engineer will observe the progress and quality of the work and determine, in general, if the work is proceeding in accordance with the intent of the Contract

Documents. The Engineer shall not be required to make comprehensive or continuous inspections to check the quality of the work, and shall not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work. Visits and observations made by the Engineer shall not relieve the Contractor of its obligation to conduct comprehensive inspections of the work and to furnish proper materials, labor, equipment, and tools, and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.

- B. Whenever the Contractor varies the period during which work is carried on each day, prior notice shall be given to the Engineer so that proper inspection may be provided. Any work done in the absence of the Engineer shall be subject to rejection. Proper facilities for safe access for inspection to all parts of the work shall at all times be maintained for the necessary use of the Engineer and other agents of the District, and agents of the Federal, State, or local governments at all times.
- C. One or more inspectors may be assigned to observe the work and to act in matters of construction under this Contract. It is understood that inspectors shall have the power to issue instructions and make decisions within the limitations of the authority of the Engineer. Such inspection shall not relieve the Contractor of its obligation to conduct comprehensive inspections of the work, to furnish proper materials, labor, equipment, and tools, and perform acceptable work, and to provide adequate safety precautions in conformance with the intent of the Contract.
- D. The Engineer and its representatives shall at all times have access to the Work wherever it is in progress, to the shops where the Work is in preparation, and to all warehouses and storage yards where materials and equipment are stored, and the Contractor shall provide safe and convenient facilities for such access and for inspection. If the Contract Documents, the Engineer's instructions, laws, ordinances, or any public authority require any material, equipment or work to be specifically tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection, and if the inspection is by an authority other than the District, of the time fixed for inspection. Inspections by the Engineer will be made promptly and, where practicable, at the source of supply.
- E. Work performed without inspection may be required to be removed and replaced under proper inspection and the entire cost of removal and replacing, including the cost of District furnished materials used in the work, shall be borne by the Contractor, regardless of whether or not the work exposed is found to be defective. Examination of questioned work, other than that installed without inspection, may be ordered by the Engineer and, if so ordered, the work must be uncovered by Contractor. If such work is found to be in accordance with the Contract Documents, the District will pay the cost of re-examination and replacement. If such work is found to be not in accordance with the Contract Documents, the Contractor shall pay such cost unless he can show that the defect in the work was caused by another Contractor, and in that event the District will pay such costs.
- F. The inspection of the work shall not relieve the Contractor of its obligation to fulfill the Contract as prescribed, or in any way alter the standard of performance provided by the Contractor, and defective work shall be corrected and

nonconforming materials may be rejected, notwithstanding that such work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. If the work or any part shall be found defective, Contractor shall, within ten (10) calendar days, correct such defect in a manner satisfactory to the Engineer. If the Contractor shall fail or neglect to make ordered repairs of defective work or to remove the condemned materials from the work within ten (10) calendar days after direction by the Engineer in writing, the District may make the ordered repairs, or remove the nonconforming materials, and deduct the cost from any monies due the Contractor.

- G. The Contractor shall furnish promptly without additional charge all facilities, labor, and materials reasonably needed by the Engineer for performing all inspection and tests. Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.
- H. Where any part of the work is being done under an encroachment permit or building permit, or is subject to Federal, State, County or City codes, laws, ordinances, rules or regulations, representatives of the government agency shall have full access to the work and shall be allowed to make any inspection or tests in accordance with such permits, codes, laws, ordinances, rules, or regulations. If advance notice of the readiness of the work for inspection by the governing agency is required, the Contractor shall furnish such notice to the appropriate agency.
- I. The Engineer may inspect the production of the material, or the manufacture of products at the source of supply. Plant inspection, however, will not be undertaken until the Engineer is assured of the cooperation and assistance of both the Contractor and the material producer. The Engineer or its authorized representative shall have free entry at all times to such parts of the plant as concerns the manufacture or production of the materials. Adequate facilities shall be furnished free of charge to make the necessary inspection.
- J. Materials, equipment, and workmanship shall be subject to the inspection of, and rejection by, the Engineer, if not in conformance with the Contract Documents. Defective materials, equipment, or Work shall be removed from the premises by the Contractor, whether in place or not, and shall be replaced with new and acceptable materials, equipment, or work. Repair of defective materials, equipment, or work shall be subject to the Engineer's acceptance.
- K. The District assumes no obligation to inspect materials at the source of supply.
- L. On all questions concerning the acceptability of materials or equipment, classification of materials, or equipment, execution of the Work, and the determination of costs, the decision of the Engineer shall be final and binding upon all parties.

2.04 SAMPLING AND TESTING

- A. Unless specified otherwise, the Contractor shall perform at its expense all tests specified or required by the Technical Specifications. The Engineer will perform such tests as he deems necessary to determine the quality of work or compliance

with Contract Documents. The Contractor shall furnish promptly without additional charge all facilities, labor, and material reasonably required for performing safe and convenient tests as may be required by the Engineer. All tests by the Engineer will be performed in such a manner as will not unnecessarily delay the work.

- B. At the option of the Engineer, the source of material supplies for the Work shall be subject to tests and inspection before delivery is started and before such materials are used in the Work.
- C. In the event the Contractor protests a failing test of material in place or to be used, he shall take additional samples as specified in the Contract Documents and have additional tests run at his own expense. In the event the original test proves to have been in error, the Contractor shall be reimbursed for his direct costs of additional sampling and testing.
- D. For materials originating outside of the United States for which tests are required, provide recertification and retesting by an independent domestic testing laboratory.
- E. All sampling, specimen preparation, and testing of materials shall be in accordance with the standards of nationally recognized technical organizations.
- F. The physical characteristics of all materials not particularly specified shall conform to the latest standards published by the American Society for Testing Materials, where applicable.

2.05 MILL TESTS

- A. The Contractor, at his own expense, shall submit, in triplicate, certified copies of all required factory and mill test reports to verify material quality and composition. Any materials shipped by the Contractor from a factory or mill prior to having satisfactorily passed testing and inspection shall not be incorporated in the Work, unless the Engineer shall have notified the Contractor in writing that such testing and inspection will not be required. The cost of performing all mill and factory tests shall be paid by the Contractor unless otherwise provided in the Contract Documents.

2.06 COMPACTION TESTING

- A. The District's laboratory may perform soil compaction testing during this project. The testing completed by the District's laboratory shall be used to determine if the degree of compaction required in the specifications for earthwork has been reached in the field by the Contractor for Quality Control and payment purposes. The Contractor may wish to complete his own compaction tests in addition to or ahead of District tests to enhance his operations and for Quality Assurance purposes.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Procedures and requirements for utilities and facilities used on site during construction.
 - 2. Procedures and requirements for temporary access facilities required to accommodate construction or the District's operations.

PART 2 TEMPORARY CONTROLS

2.01 PROTECTION OF WORK

- A. The Contractor shall be responsible for the care of all work until its completion and final acceptance; and, at its own expense, replace damaged or lost material and repair damaged parts of the work or the same may be done at its expense by the District and the Contractor and its sureties shall be liable therefore. The Contractor shall make its own provisions for properly storing and protecting all material and equipment against theft, injury, or damage from any and all causes. Damaged material and equipment shall not be used in the work. The Contractor shall take all risks from floods and casualties except as provided by law, and shall make no charge for the restoration of such portions of the work as may be destroyed or damaged by flood or other casualties or because of danger from flood or other casualties or for delays from such causes. The Contractor may, however, be allowed a reasonable extension of time on account of such delays, subject to the conditions of these Contract Documents. The Contractor shall not be responsible for the cost, in excess of five percent (5%) of the contracted amount, of repairing or restoring damage to the work, if the damage was proximately caused by an earthquake in excess of a magnitude of 3.5 on the Richter Scale, or by tidal waves; provided that the work damaged was built in accordance with accepted and applicable building standards, and the Plans and Specifications of the District.
- B. The Contractor shall use extreme care during construction to prevent damage from dust to adjacent property. The Contractor, at its own expense, shall provide adequate dust control for the right-of-way and take other preventative measures as directed by the Engineer.
- C. The Contractor shall be responsible for all damage to any property resulting from trespass by the Contractor or its subcontractors, whether such trespass was committed with or without the consent or knowledge of the Contractor.

- D. The Contractor shall see that the work site is kept drained and free of all ground water and any other water which may impede the progress or execution of the Contract work.
- E. The Contractor shall be responsible for any damage caused by drainage or water runoff from construction areas and from construction plant areas.
- F. Subject to the provisions of this Section, where the work to be performed under the Contract crosses or otherwise interferes with existing streams, watercourses, canals, farm ditches, pipelines, drainage channels, or water supplies, the Contractor shall provide for such watercourse or pipelines and shall perform such construction during the progress of the work so that no damage will result to either public or private interests, and the Contractor shall be liable for all damage that may result from failure to so provide during the progress of the work.

2.02 PROTECTION OF PERSON AND PROPERTY

- A. The Contractor shall take whatever precautions are necessary to prevent damage to all existing improvements, including above ground and underground utilities, trees, shrubbery that is not specifically shown to be removed, fences, signs, mailboxes, survey markers and monuments, buildings, structures, the District's property, adjacent property, and any other improvements or facilities within or adjacent to the work. If such improvements or property are injured or damaged by reason of the Contractor's operations, they shall be replaced or restored, at the Contractor's expense, to a condition at least as good as the condition they were in prior to the start of the Contractor's operations.
- B. The Contractor shall adopt all practical means to minimize interference to traffic and public inconvenience, discomfort or damage. The Contractor shall protect against injury any pipes, conduits, or other structures, crossing the trenching or encountered in the work and shall be responsible for any injury done to such pipes or structures, or damage to property resulting there from. The Contractor shall support or replace any such structures without delay and without any additional compensation to the entire satisfaction of the Engineer. All obstructions to traffic shall be guarded by barriers illuminated at night. The Contractor shall be responsible for all damage to persons and property directly or indirectly caused by its operations and, under all circumstances, must comply with the laws and regulations of the County and the State of California relative to safety of persons and property and the interruption of traffic and the convenience of the public within the respective jurisdictions.
- C. The Contractor is cautioned that it must replace all improvements in right-of-ways and within the public streets to a condition equal to what existed prior to entry onto the job or in compliance with current laws, regulations, ordinances and codes, whichever is most restrictive.
- D. Type and time of construction required at any road subject to interference by Contract work will be determined by those authorities responsible for maintenance of said road. It shall be the responsibility of the Contractor to

determine the nature and extent of all such requirements, including provision of temporary detours as required; however, the construction right-of-way obtained by the District at affected roadways will be adequate for provision of all required detours. As required at any road crossing, the Contractor shall provide all necessary flagpersons, guardrails, barricades, signals, warning signs, and lighting to provide for the safety of existing roads and detours. Immediately after the need for temporary detours ceases, or when directed, the Contractor shall remove such detours and perform all necessary cleanup work, including replacement of fences, and removal of pavement. Included shall be all necessary replacement of existing roadway appurtenances, grading work, soil stabilization, and dust control measures, as required and directed. The cost of all work specified under this Section shall be borne by the Contractor.

- E. The Contractor shall examine all bridges, culverts, and other structures over which he will move his materials and equipment, and before using them, I shall properly strengthen such structures where necessary. The Contractor shall be responsible for any and all injury or damage to such structures caused by reason of its operations.

2.03 ACCIDENT PREVENTION AND RESPONSE

- A. Precaution shall be exercised by the Contractor at all times for the protection of persons (including employees) and property. The safety provisions of all applicable laws, and of building and construction codes shall be observed. Machinery, equipment, and other hazards shall be guarded or eliminated.
- B. The Contractor shall promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work, whether on or adjacent to the site, which caused death, personal injury, or property damage, giving full details and statements of witnesses. In addition, if death or serious injury or serious damage are caused, the accident shall be reported immediately by telephone or messenger to the District and the Engineer.
- C. The Contractor shall make all reports as are, or may be, required by any governmental entity having jurisdiction, and permit all safety inspections of the Work being performed under this Contract. Before proceeding with any construction work, the Contractor shall take all necessary actions to comply with all provisions for safety and accident prevention.
- D. If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

2.04 HAZARDS IN PROTECTED AREAS

- A. Excavation on project sites from which the public is excluded shall be marked or guarded in a manner appropriate to the degree of hazard.

2.05 PROJECT SECURITY

- A. The Contractor shall make adequate provision for the protection of the Work area against fire, theft, and vandalism, and for the protection of the public against exposure to injury.

2.06 DUST AND EMISSIONS CONTROL

- A. The Contractor shall take any necessary steps, procedures, or means as required to prevent its operations in connection with the execution of the Work from causing abnormal dust conditions. The Contractor shall prevent dust from construction activities from being produced in amounts that may be harmful or cause a nuisance to persons living nearby or occupying buildings in the vicinity of the Work.
- B. Dust control measures shall be applied, as needed to control particulate emissions from all unpaved parts of the site, including but not limited to any unpaved road which the Contractor or any of his Subcontractors are using, excavation or fill areas, demolition areas, and stockpile and staging areas.
- C. Dust control shall be conducted by sprinkling of water, use of dust palliatives or non-toxic stabilizers, modification of operations, reducing traffic speed, covering of stockpiles, installing temporary erosion controls or any other means acceptable to governmental entities having jurisdiction, as needed to control emissions.
- D. The Contractor shall cover or wet soil and other excavated material leaving and arriving at the Work site to prevent blowing dust.
- E. All paved areas of the site, including public access roads into and out of the site, shall be kept clean by sweeping.
- F. To ensure that emissions from construction equipment exhaust will be reduced, the following measures will be implemented:
 - 1. Use alternative fuel construction equipment to the fullest extent possible.
 - 2. Minimize idling time (e.g., 5 minute maximum).
 - 3. Maintain properly tuned equipment according to equipment manufacturer's guidelines.
 - 4. Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use as specified for noise mitigation purposes.

2.07 SPECIAL CONTROLS

- A. The Contractor shall take all reasonable means to minimize inconvenience and injury to the public by dust, diversion of storm water, or other individuals or entities under its control.

2.08 NOISE ABATEMENT

- A. In inhabited areas, particularly residential, Contractor's operations shall be performed in a manner to minimize unnecessary noise. In residential areas, special measures shall be taken to suppress noise generated by repair and service activities during the night hours. The more stringent of either Cal-OSHA limits or the limits established by local ordinance shall control.
- B. In order to reduce construction-related noise, the following measures shall be implemented:
 - 1. All equipment shall be adequately muffled and maintained.
 - 2. No piece of equipment which generates maximum noise levels greater than 85 dBa measured at 50 feet shall be allowed on site.
 - 3. All pieces of equipment used on the site shall be certified as to noise emission.

2.09 ODOR CONTROL

- A. The Contractor shall take any necessary steps, procedures, or means as are required to prevent abnormal odors being caused by its operations.

2.10 DRAINAGE CONTROL

- A. In performing excavation, fill, and grading operations, care shall be taken to disturb the pre-existing drainage pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or into streets or drainage ways which are inadequate for the increased flow. Adequate drainage shall be provided to protect the Work.

2.11 EROSION CONTROL

- A. All excavated and disturbed areas, including trench excavation at the site, shall be provided with temporary erosion control. The temporary erosion control shall be by means of:
 - 1. Filter fabric fences or sediment control barriers placed to completely circumvent the down slope side of the excavation and stockpiled material;
 - 2. All spoils, waste material, or stockpiled material shall not be placed in areas subject to washout, flooding, or natural drainage areas;
 - 3. All stockpiled materials on site during or after hours shall be completely encircled with temporary erosion control devices as described in Item 1 above and covered with plastic sheeting during threat of inclement weather;
 - 4. Construction equipment and vehicles shall be restricted to approved access roads only;
 - 5. Any dewatering of trenches shall be done to avoid causing erosion or runoff from the construction site;
 - 6. Protected areas shall be regularly inspected and maintained by the Contractor during the course of the work.

- B. Adequate erosion containment as described above shall be subject to the approval of the Engineer and TRPA requirements and/or the TRPA representative.

2.12 WATER POLLUTION

- A. The Contractor shall exercise every reasonable precaution to protect streams, lakes, reservoirs, and canals from pollution with fuels, oils, bitumens, calcium chloride, and other harmful materials and shall conduct and schedule his operations so as to avoid or minimize muddying and silting of said streams, lakes, reservoirs, and canals. Care shall be exercised to preserve vegetation beyond the limits of construction. The Contractor shall comply with Section 5650 of the California Fish and Game Code and all other applicable statutes and regulations relating to the prevention and abatement of water pollution.
- B. In order to prevent groundwater degradation, the following measures shall be implemented:
 - 1. Store, maintain construction equipment (except fueling by truck) at designated staging areas;
 - 2. Maintain spill cleanup equipment with fuel trucks. Cleanup fuel spills immediately;
 - 3. Minimize the amount and duration of construction materials stored onsite. Store all construction materials that could adversely affect groundwater quality (e.g. paint, solvents, and fuels) on containment pallets or similar facilities that would prevent discharges to the ground in the event of a spill or leak;
 - 4. Maintain spill cleanup materials onsite. Respond to spills and leaks immediately to contain and remove the pollutants from the site; and
 - 5. All water resulting from construction dewatering activities shall be contained on site with barriers and basins and not allowed to enter natural drainage courses.

2.13 TRAFFIC CONTROLS

- A. The Contractor shall implement those traffic controls required by the Plans and by project permits and applicable regulations.
- B. In order to expedite the passage of public traffic through or around the work and where ordered by the Engineer, the Contractor shall install signs, lights, flares, barricades, and other facilities for the sole convenience and direction of public traffic. Also, where directed by the Engineer, the Contractor shall provide and station competent flagpersons whose sole duties shall consist of directing the movement of public traffic through or around the work. The cost of furnishing and installing such signs, lights, flares, barricades, and other facilities, and the cost of providing and stationing such flagpersons, all for the

convenience and direction of public traffic, will be considered as included in the Contract price and no additional compensation will be allowed.

- C. Flagpersons and guards, while assigned to traffic control, shall perform their duties and shall be provided with the necessary equipment in accordance with the current "Instructions to Flagmen" of the California Department of Transportation. The equipment shall be furnished and kept clean and in good repair by the Contractor at his expense.
- D. The Contractor shall prepare a detailed plan describing the method by which Contractor will provide for the convenience of the public and public traffic for submission to the appropriate governmental entity with jurisdiction over the streets, highways, roads or other property upon which work pursuant to the Contract will proceed. Contractor's plan shall be approved by such governmental entity no less than ten (10) working days prior to commencement of the work. Contractor shall amend and revise its plan in accordance with any changes directed or required by such governmental entity.

2.14 TEMPORARY PAVING

- A. Not used.

PART 3 TEMPORARY FACILITIES

3.01 GENERAL REQUIREMENTS

- A. The Contractor shall provide all temporary facilities and utilities required for prosecution of the work, protection of employees and the public, protection of the work from damage by fire, weather or vandalism, and such other facilities as may be specified or required by any applicable law, ordinance, rule, regulation, or permit, at no additional cost to the District.

3.02 ELECTRICAL SERVICE

- A. Use of the District's existing electric power service will be permitted, as long as Contractor's equipment is maintained in a condition acceptable to District, and existing electrical system is of sufficient size, capacity, configuration and power characteristics required for construction operations. Any damage caused to the District's electrical system by the Contractor's equipment shall be repaired by the Contractor at no expense to the District.
- B. The Contractor shall be responsible, if required, for obtaining adequate temporary electrical service. The Contractor shall then provide adequate job site distribution facilities conforming to applicable codes and safety regulations.
- C. The cost of temporary electrical service shall be included in the appropriate bid items to which it is appurtenant and shall include full compensation for

furnishing all labor, materials, tools, and equipment required to obtain and distribute power for construction purposes.

3.03 TEMPORARY LIGHTING

- A. The Contractor shall provide temporary lighting in all work areas sufficient to maintain during working hours a lighting level not less than the lighting level required by California OSHA standards.

3.04 HEATING AND VENTILATION

- A. The Contractor shall provide means for heating and ventilating all work areas as may be required to protect the Work from damage due to freezing, high temperatures or weather, or to provide a safe environment for workers.
- B. Unvented, direct fired heaters shall not be used in areas where freshly placed concrete will be exposed to combustible gases until at least two hours after the concrete has attained its initial set.

3.05 WATER

- A. The Contractor shall construct all facilities necessary to furnish water for its use during construction. Water used for human consumption shall be kept free from contamination and shall conform to the requirements established by State and local authorities for potable water.
- B. The Contractor shall be responsible for providing the water necessary for the project. The source shall have prior approval of the District. Construction water is available from the District potable supply. An approved backflow preventer shall be installed by the Contractor at the District's fire hydrant in accordance with District Ordinance No. 405. The water sources shall be approved prior to use by owner of the water source.
- C. The Contractor shall include the cost of construction water in the appropriate bid item to which it is appurtenant. The cost shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all the work necessary to develop a sufficient water supply and furnishing the necessary equipment for applying the water as described in these Specifications.

3.06 SANITARY CONVENIENCES

- A. The Contractor shall provide and maintain suitable and adequate sanitary conveniences for the use of all persons at the site of the Work. Such conveniences shall include chemical toilets or water closets and shall be located at appropriate locations at the site of the Work. All sanitary conveniences shall conform to the regulations of the governmental entities having jurisdiction over such matters. At the completion of the Work, all such sanitary conveniences shall be removed and the site left in a sanitary condition.

3.07 FIRST-AID

- A. First-Aid facilities and information posters conforming, at a minimum, to the requirements of the Occupational Safety and Health Administration shall be provided in a readily accessible location or locations.

3.08 CONSTRUCTION FACILITIES

- A. Construction hoists, elevators, scaffolds, stages, shoring and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

3.09 SHEETING, SHORING, AND BRACING

- A. Temporary supports shall be designed with sufficient safety considerations to assure adequate load bearing capability. The Contractor shall submit design calculations by a professional registered engineer for sheeting, shoring and bracing prior to application of loads.
- B. Acceptance of design calculations does not in any way relieve the Contractor from being solely responsible for the installation of adequate sheeting and shoring for the work being undertaken. The District assumes no liability for the Contractor's operations.

3.10 TEMPORARY ENCLOSURES

- A. When sandblasting, spray painting, spraying insulation, or performing other activities which are inconvenient or dangerous to property or the health of employees or the public, the area of activity shall be enclosed adequately to contain the dust, spray, or other hazard. In the event there are no permanent enclosures of the area, or such enclosures are incomplete or inadequate, the Contractor shall provide suitable temporary enclosures.

3.11 WARNING DEVICES AND BARRICADES

- A. The Contractor shall adequately identify and guard all hazardous areas and conditions by visual warning devices and, where necessary, physical barriers. Such devices shall, at a minimum, conform to the requirements of Cal/OSHA.

3.12 FIRE SUPPRESSION

- A. Minimize fire danger in the vicinity of and adjacent to the construction site.
- B. A sufficient number of fire extinguishers of the type and capacity required to protect the Work and ancillary facilities shall be provided in readily accessible locations.
- C. Provide labor and equipment to protect the surrounding property from fire damage resulting from construction operations.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Procedures and requirements for products used in construction.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Unless otherwise specifically stated in the Contract Documents, the Contractor shall furnish all materials necessary for the execution and completion of the work. Unless otherwise specified, all materials shall be new and shall be manufactured, handled, and installed in a workmanlike manner to insure completion of the work in accordance with the Contract Documents. The Contractor shall, upon request of the Engineer, furnish satisfactory evidence as to the kind and quality of materials.
- B. Where materials are to be furnished by the District, the type, size, quantity, and location at which they are available will be stated in the Contract Documents.
- C. Manufacturers' warranties, guarantees, instruction sheets and parts listed, which are furnished with certain articles or materials incorporated in the work, shall be delivered to the Engineer before acceptance of the Contract.

2.02 STORAGE OF MATERIALS

- A. Articles or materials to be incorporated in the work shall be stored in such a manner as to insure the preservation of their quality and fitness for the work, and to facilitate inspection.

2.03 EQUIPMENT AND PLANTS

- A. Only equipment and plants suitable to produce the quality of work and materials required will be permitted to operate on the Project.
- B. Plants will be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity to insure the production of sufficient material to carry the work to completion within the time limit and met all Federal, State, County, & Local requirements.

- C. The Contractor shall provide adequate and suitable equipment and plants to meet the above requirements, and when ordered by the Engineer, shall remove unsuitable equipment from the work and discontinue the operation of unsatisfactory plants.
- D. The Contractor shall identify each piece of its equipment, other than hand tools, by means of an identifying number plainly stenciled or stamped on the equipment at a conspicuous location, and shall furnish to the Engineer a list giving the description of each piece of equipment and its identifying number. In addition, the make, model number and empty gross weight of each unit of compacting equipment shall be plainly stamped or stenciled in a conspicuous place on the unit. The gross weight shall be either the manufacturer's rated weight or the scale weight.
- E. In the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the District, shall promptly remove any part or all of his equipment and supplies from the property of the District. If the Contractor fails to do so, the District shall have the right to remove such equipment and supplies at the expense of the Contractor.

2.04 TRADE NAMES AND ALTERNATIVES

- A. For convenience in designation in the Contract Documents, certain articles or materials to be incorporated in the work may be designated under a trade name or the name of a manufacturer and its catalog information. The use of an alternative article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the following requirements:
 - 1. The burden of proof as to the quality and suitability of alternatives shall be upon the Contractor who shall furnish all information necessary as required by the Engineer. The Engineer shall be the sole judge as to the quality and suitability of alternative articles or materials and his decision shall be final.
 - 2. Whenever the Contract Documents permit the substitution of a similar or equivalent material or article, no tests or action relating to the approval of such substitute material or article will be made until the request for substitution is made in writing by the Contractor accompanied by complete data as to the equality of the material or article proposed. Such request by the Contractor must be made within thirty-five (35) days after award of Contract, unless otherwise noted in Section 01 33 00, Submittals Process, Part 2.02, Critical Equipment Submittals. Contractor must provide back-up materials to substantiate a request for substitution, including Contractor's affidavit stating that, and describing how, the substituted "or equal" material, process or article is equivalent to that specified in every way except as listed on the affidavit.
 - 3. The District's approval or denial of any substitution shall not entitle the Contractor to any adjustment to the Contract amount or schedule, even if the Contractor based its bid upon obtaining such substitution.

- B. As approved by the District's Board of Directors and as is allowed by the California Public Contract Code (PCC) §3400 and supported by case law, the District has made findings that certain products shall be used for this project without alternative. Exceptions to the prohibition on sole-branding or sole-sourcing are as follows:
1. Field Test or Experiment: To make a field test or experiment to determine the product's suitability for future use.
 2. Match Existing Products: To match other products already in use on a particular public improvement, either completed or in progress.
 3. Only Available from One Source: To obtain a necessary item that is available only from one source.
 4. Emergency Response:
 - a. To respond to a local agency emergency declared with a four-fifths vote of the governing board, or
 - b. To respond to a state or political subdivision emergency, if the emergency reasons are documented in the public records of the authority.
- C. Following is a list of sole-branded or sole-sourced products that has been approved in advance by the District, and the basis for the sole-source determination identified by reference to the findings listed in Part 2.04.B (above).
1. Saf-T-Climb System/North Safety Products [Finding 3].
 2. 3M DBI-SALA Lad-Saf Cable Vertical Safety System [Finding 3]

END OF SECTION

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SECTION 01 73 00

PROJECT EXECUTION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Procedures and requirements for determining acceptable conditions for construction.
 - 2. Procedures and requirements for working in coordination with the existing system.
 - 3. Administrative and procedural requirements for executing the work.

PART 2 EXECUTION

2.01 COMMENCEMENT AND PROGRESS OF THE WORK AND TIME OF COMPLETION

- A. The Contractor shall begin work within ten (10) days after receiving the Notice to Proceed and shall diligently prosecute the work to completion as specified in the Contract Documents.

2.02 WORK INVOLVING EXISTING SYSTEM

- A. All work shall be executed while the existing system is in operation, unless otherwise indicated in the Contract Documents. Operation of the existing system shall not be jeopardized or materially reduced in efficiency as a result of the execution of Work.
 - 1. The CONTRACTOR's activities and actions shall in no way impact the quality of the potable water or jeopardize the District's operating permit for its water and sewer systems. The District's operating permits will be made available to the CONTRACTOR for review at the District's headquarters.
 - 2. The Stateline Tanks #1 and #2 will be taken off-line to perform the Work, but never at the same time. At least one of the two Stateline Tanks must be fully operational, to provide potable water to the District's customers, during the entire duration of the Project. CONTRACTOR to provide seven (7) days written notice to request shutdown and draining of each tank and to request the return to service. Delays to the project as a result of not providing adequate notice to take tanks on and off-line will not result in added contract days.
 - a. The Contractor is to provide any additional devices needed to provide a safe working environment while this tank is offline. The inlet and outlet piping will be isolated using a single existing gate

or butterfly valve with no redundant isolation provided by the District.

- B. The Contractor shall request shutdowns of any portion or all of the existing system by the District at least seven (7) days in advance of the scheduled shutdown. Likewise, the Contractor shall notify the District of pending demolition of any structure at least 48 hours (two working days) in advance of the scheduled demolition. No shutdown or demolition shall occur without obtaining prior District approval.
- C. The Contractor shall be responsible for any fines, penalties, or other actions levied against the District during construction that are a direct result of the Contractor's acts or omissions. Contractor shall defend and indemnify the District against any such fines, penalties or other actions, as provided in Section 00 73 00, Part 2.02.

2.03 CONSTRUCTION STAKES, LINES, AND GRADES

- A. The Work shall be executed in accordance with the lines and grades indicated in the Contract Documents. Distances and measurements, except elevations and structural dimensions, shall be made on horizontal planes.
- B. The Engineer will provide the Contractor with drawings showing benchmarks and reference points as it deems necessary to establish lines and grades required for the completion of the site work specified in the Contract Documents. The Contractor shall make or furnish all surveys and set all construction stakes necessary for the completion of the work. All construction staking shall be performed by a California Registered Land Surveyor. Survey records will be provided to the District at the request of the Engineer in accordance with Section 01 33 00, and at the completion of the project in accordance with Section 01 77 00
- C. Stakes and marks set by the District or Engineer, if any, shall be carefully preserved by the Contractor. The Contractor shall be charged for the cost of replacing or restoring the stakes and marks which are destroyed or damaged by his operation. This charge will be deducted from any monies due or to become due to the Contractor under the Contract Change Order.

2.04 SITE WORK

- A. The Contractor shall establish such control and reference points as it may need and as will be required to properly lay out the Work. Monuments for principal control points shall be set by the Contractor and shall be protected by the Contractor from disturbance. If the monuments are disturbed, any work that is governed by these monuments shall be held in abeyance until the monuments are re-established by the Contractor. The accuracy of all the Contractor's stakes, alignments, and grades is the responsibility of the Contractor. However, the Engineer has the discretionary right to check the Contractor's stakes, alignments and grades at any time. Where such discretion is to be exercised by the Engineer, he will notify the Contractor of his intention, stating the time at which the checking will commence. Any part

of the work in progress, the results of which are predicated directly upon the Contractor's stakes, alignments, or grades to be checked, shall be held in abeyance until the Engineer has notified the Contractor that the checking has been completed.

2.05 LOCATING AND REPAIRING UNDERGROUND UTILITIES

- A. Except as provided by Government Code Section 4215, the Contractor shall be responsible for the removal, relocation and protection of all public and private utilities, including irrigation facilities in the nature of utilities, located on the site of the construction project if and to the extent that the same are identified in the Contract Documents, and the Contractor shall not be entitled to any extension of time or claim for damages for extra compensation in connection therewith.
- B. If and to the extent that such utilities or facilities are not identified in the Contract Documents, as between the Contractor and the District, the District will be responsible for the cost of their removal, relocation, or protection, to the extent required by law, but the Contractor shall immediately notify the District and the Utility in writing upon their discovery and shall perform any such work in conformance with applicable provisions of Section 00 72 00, General Conditions, if so directed by the Engineer and in such situation the Contractor shall not be responsible for liquidated damages for delay in completion of the project caused by the failure of the District or the owner of the utility to provide for such removal or relocation. If the Contractor, while performing the Contract, discovers utility or irrigation facilities not identified by the District in the Contract Documents, he shall immediately notify the Engineer and the utility in writing.
- C. In accordance with Government Code Section 4215, the Contractor shall be compensated for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating existing main or trunk line utility facilities not indicated in the Contract Documents with reasonable accuracy, and for the equipment on the project necessarily idled during such work; provided that the Contractor shall first notify the Engineer before commencing work on locating, repairing damage to, removing, or relocating such utilities.

2.06 WORK SEQUENCE AND CONSTRAINTS

- A. The District envisions the work being completed in the following sequence. The Contractor may propose an alternate sequence for District review and acceptance when he submits his initial construction schedule.
 - 1. **Pre-Mobilization Submittals**
 - a. Submit material data, shop drawings, schedules, safety plans, and other project documentation for review and approval. The majority

of the product submittals are expected to be processed prior to mobilization.

2. **Schedule A: Stateline Tank #1:**

- a. Mobilize to site and install erosion control devices and implement BMPs.
- b. Perform any clear and grub or grading work needed for access to tank or designated staging areas.
- c. Request shutdown and draining of Stateline Tank #1; Stateline Tank #2 must remain in service.
- d. Remove remaining water from the bottom of tank, clean tank as needed
- e. Protect existing appurtenances (i.e. level floats, antennas, cables, vents, etc.).
- f. Demolish existing cathodic protection system and perform tank repairs as needed.
- g. Perform modifications to exterior ladder and any other modifications or repairs requiring hot work on interior or exterior of Tank #1.
- h. Inspection blast any areas of concern and perform as-needed repairs.
- i. Perform any destructive Work related to the installation of the new cathodic protection system that may potentially damage the newly applied coating system. Install all attachment points for cathodic protection system.
- j. Perform surface preparation (cleaning and abrasive blasting).
- k. Perform coating, testing, and touch-up for the new interior coating system (Full Interior Recoat).
- l. Perform remaining nondestructive work related to the installation of the new cathodic protection system. Perform any touch up as a result of damaging new coating during installation of cathodic protection system, if necessary.
- m. Protect Stateline Tank #2 and surrounding environment from potential abrasive blast media and/or coating contamination that may occur during exterior blasting and coating of Stateline Tank #1 by building a temporary full containment structure around Stateline Tank #1.
- n. Remove existing safety climb system and any temporary appurtenances.
- o. Perform surface preparation, coating, testing, and touch-up for the new exterior coating system (Full Exterior Recoat).
- p. Reinstate any previously protected appurtenances. Install new safety climb systems.
- q. Clean and disinfect Stateline Tank #1.
- r. Schedule for District staff to refill Stateline Tank #1 and return to service.
- s. Ensure all existing equipment that was to be protected (i.e. level floats, communications equipment, etc.) is working as before.
- t. Disassemble temporary full containment structure.
- u. Perform temporary site stabilization/winterization prior to Intermediate Milestone #1 deadline.
- v. Demobilize for winter.

3. **Schedule B: Stateline Tank #2:**
- a. Mobilize to site and install erosion control devices and implement BMPs.
 - b. Perform any clear and grub or grading work needed for access to tank or designated staging areas.
 - c. Request shutdown and draining of Stateline Tank #2; Stateline Tank #1 must remain in service.
 - d. Protect existing appurtenances (i.e. level floats, antennas, cables, vents, etc.).
 - e. Demolish existing cathodic protection system and perform tank repairs as needed.
 - f. Perform any modifications or repairs requiring hot work on interior or exterior of Tank #2.
 - g. Inspection blast any areas of concern and perform as-needed repairs.
 - h. Perform any destructive Work related to the installation of the new cathodic protection system that may potentially damage the newly applied coating system. Install all attachment points for cathodic protection system.
 - i. Perform surface preparation (cleaning and abrasive blasting).
 - j. Perform coating, testing, and touch-up for the new interior coating system (Full Interior Recoat).
 - k. Perform remaining nondestructive work related to the installation of the new cathodic protection system. Perform any touch up as a result of damaging new coating during installation of cathodic protection system, if necessary.
 - l. Protect Stateline Tank #1 and surrounding environment from potential abrasive blast media and/or coating contamination that may occur during exterior blasting and coating of Stateline Tank #2, by building a temporary full containment structure around Stateline Tank #2.
 - m. Remove existing safety climb system and any temporary appurtenances.
 - n. Perform surface preparation, coating, testing, and touch-up for the new exterior coating system (Full Exterior Recoat).
 - o. Reinstate any previously protected appurtenances.
 - p. Clean and disinfect Stateline Tank #2.
 - q. Schedule for District staff to refill Stateline Tank #2 and return to service.
 - r. Ensure all existing equipment that was to be protected (i.e. level floats, communications equipment, etc.) is working as before.
 - s. Disassemble temporary full containment structure.
 - t. Perform site restoration and stabilization prior to Intermediate Milestone #2 deadline.
 - u. Demobilize for end of project.

B. The work shall be subject to the following scheduling constraints:

1. The District expects to issue Notice to Proceed in early April 2026 and requires that the Contractor mobilize to the Project site by May 15th, 2026, as weather allows, and begin Project work promptly following, to ensure timely Project completion by the contract completion date. If weather allows access, Contractor will be allowed to mobilize immediately after Notice to Proceed. Note that TRPA restricts activities to be performed prior to May 1 including all parking and staging to occur on paved surfaces.
2. Tank #1 or Tank #2 must remain in service at all times.
3. Each tank will only be removed from service once to perform the rehabilitation work.
4. The Project and associated Contractor's Project schedule are subject to the constraints imposed by the Project Intermediate Milestones outlined in Section "00 72 00, Part 2.04 Contract Time and Liquidated Damages". The Contractor shall adequately consider these intermediate milestones and prepare the Project schedule and allocate sufficient labor forces for timely completion of these intermediate milestones accordingly.

- C. The project schedule and Contractor's performance of the work will be impacted by Tank start-ups and shutdowns according to "Section 01 73 00, Part 2.02 Work Involving the Existing System." The Contractor will plan and prepare the project schedule accordingly to allow for Tank shutdowns, draining, startups, and filling. The Contractor shall be aware that there may be change orders involved with this Work. The Engineer has made every reasonable attempt to determine the extent and location of all existing facilities within the project area. However, the inexact nature of existing knowledge and as-built plans may require change orders to reflect changed conditions. All change orders shall be handled using the procedures contained in the General Conditions of the Contract Documents.

2.07 CONTRACTOR'S MEANS AND METHODS

- A. Contractor is solely responsible for the means and methods utilized to perform the Work. In no case shall the Contractor's means and methods deviate from commonly used industry standards.

2.08 CLEAN-UP

- A. Throughout the period of construction the Contractor shall keep the Work site free and clean of all rubbish and debris, and shall promptly remove from the site, or from property adjacent to the site of the Work or from public access roads, all unused and rejected materials, surplus earth, concrete, plaster, and debris, excepting select material which may be required for refilling or grading. The Contractor shall assure that buildings, grounds, and public properties are maintained free from accumulations of waste materials and rubbish from the Work.
- B. The Contractor shall provide containers for collection and disposal of waste materials, debris, and rubbish.

- C. If applicable, remove concrete, concrete wash, stucco splatter, gunitite overspray, and all other waste and debris prior to final grading and landscaping.

2.09 SYSTEM START-UP

- A. Upon completion of all tank interior coating applications, tank to be washed and disinfected per typical AWWA C652 requirements. The preferred method is Method 2. Disinfection activities shall be performed in the morning hours to allow District operations staff to fill the tank and isolate it during the afternoon. District lab staff will obtain samples from the filled tank and test for chlorine, turbidity, and bacteria to be compared to background levels.
- B. Coordinate schedule for start-up of various equipment and systems with the Engineer seven days prior to planned start-up of each component.
- C. At Engineer's request, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

END OF SECTION

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SECTION 01 77 00

CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for completion of the work.
 - 2. The requirements of this Section are in addition to the requirements for closeout procedures and closeout submittals for individual materials and equipment stated elsewhere in these Contract Documents.

PART 2 CLOSEOUT PROCEDURES

2.01 PROJECT CLOSEOUT

- A. It is the intent of these Contract Documents that the Contractor deliver a complete and operable facility capable of performing its intended functions and ready for use.

2.02 PARTIAL ACCEPTANCE OF WORK

- A. After completion of certain portions of the Work, including all testing and other preparation necessary for operation of such portions by the District as specified in these Special Conditions, but prior to final completion of the Work, provisions may be made for partial acceptance in writing by the District for such portions only. The portions of the Work to be included for partial acceptance prior to final project completion will be noted at the pre-construction conference in accordance with Contractor's schedule, or by written notice to the Contractor at the earliest possible time.
- B. The guarantee period for such portions of the Work shall commence with the date of their acceptance for use by the District. However, full payment for such portions will not be made until final acceptance of the entire Work.
- C. Acceptance of any portion of the Work prior to acceptance of the whole shall not be construed as absolving the Contractor of responsibility for any item of construction or incidental work included in the Contract.
- D. Prior to such occupancy or use, the District will enter into a written agreement with the Contractor delineating the portions of the Work released to the District for occupancy or use and indicating what, if any, work remains to be done within the occupied or released area. If such prior use increases the cost of or delays the Work, the Contractor shall be entitled to such extra compensation, or extension of time, or both, as may be determined by the District after consideration of recommendations by the Engineer.

- E. Should any portion of the Work in use be damaged by such use, the District shall bear the expense for repairing such damage. However, if the portion being so used should reveal deficiencies of materials or workmanship, it shall be the Contractor's responsibility to replace the defective construction.

2.03 FINAL SITE CLEAN-UP

- A. Upon completion of work and before the final estimate is submitted, the Contractor shall at its own cost and expense remove from the vicinity of the work all plant, buildings, equipment, rubbish, unused work materials, concrete forms, temporary bridging and other like materials, belonging to Contractor or used under its his direction during the construction, but not required as part of or appurtenant to the completed work.
- B. The Contractor shall clean, sweep, wash, and polish all work and installed equipment including finishes. The Contractor shall remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior finished surfaces. The Contractor shall broom clean paved surfaces and rake clean landscaped areas.
- C. Where the construction has crossed yards or driveways, they shall be restored by the Contractor to the complete satisfaction of the Engineer, at the Contractor's expense.
- D. In the event of failure to do so, the same may be removed by the District after ten (10) calendar days notice to the Contractor, such removal to be at the expense of the Contractor.

2.04 WASTE DISPOSAL

- A. The Contractor shall dispose of surplus materials, waste products and debris and shall make necessary arrangements for such disposal.

2.05 TOUCH-UP AND REPAIR

- A. The Contractor shall touch up or repair finished surfaces on structures, or installations, that have been damaged prior to final acceptance. Surfaces on which such touch up or repair cannot be successfully accomplished shall be completely refinished or, in the case of hardware and similar small items, shall be replaced.

2.06 PROJECT RECORD DOCUMENTS

- A. In accordance with Section 01 31 00, Project Management and Coordination, the Contractor shall maintain at the site, available to the District and Engineer, one copy of the Contract Documents, Drawings, Shop Drawings, Change Orders and other modifications, in good order and marked to record all changes made during construction. These documents shall be delivered to the Engineer upon completion of the Work.

- B. In the case that portions of the Work are required by the Contract Documents to be designed by a licensed professional under agreement with the Contractor, as-built drawings for this portion of the Work shall be prepared by the licensed professional and included in the Project Record Documents.

2.07 FINAL ACCEPTANCE AND DATE OF COMPLETION

- A. Whenever the Contractor shall deem all work under this Contract to have been completed in accordance therewith, it shall so notify the Engineer in writing, and the Engineer shall promptly ascertain whether the work has been satisfactorily completed and, if not, shall advise the Contractor in detail and in writing of any incomplete or nonconforming work. When all the provisions of the Contract have been fully complied with to the satisfaction of the Engineer, the Engineer shall proceed with all reasonable diligence to determine accurately the total value of all work performed by the Contractor at the prices set forth in the Contract or fixed by Change Orders, and the total value of all extra work, all in accordance with the Contract. The Engineer will then certify to said final estimate and to the completion of the work, and will file copies thereof with the District and the Contractor. The date of completion shall be the date upon which the District makes its formal written acceptance of the work.

2.08 FINAL SUBMITTALS

- A. Prior to requesting final payment, the Contractor shall obtain and submit the following items to the Engineer for transmittal to the District: (1) written guarantees, where required; (2) operating manuals, training and instruction; (3) keying schedule; (4) maintenance stock items, spare parts and special tools; (5) completed project record documents; (6) releases from all parties who are entitled to claims against the Project, property or the Work in a form required by law.

2.09 FINAL PAYMENT

- A. Within fifteen (15) days after the date of completion, and including the receipt of Final Release, the District will file in the Office of the County Recorder, a Notice of Completion of the work herein agreed to be done by the Contractor. On the expiration of thirty-five (35) days after the recordation of such Notice of Completion, the difference between said final estimate and all payments theretofore made to the Contractor shall be due and payable to the Contractor, subject to any requirements concerning the furnishings of a maintenance bond, and excepting only such sum or sums as may be withheld or deducted in accordance with the provisions of the Contract Documents or as required by law. All prior certifications upon which partial payments may have been made, being merely estimates, shall be subject to correction in the final certificate.

2.10 FINAL RELEASE

- A. Final payment to the Contractor, in accordance with the final estimate, is contingent upon the Contractor furnishing the District with a signed written release of all claims against the District arising by virtue of the Contract. This will be accomplished by execution of the CLOSEOUT AGREEMENT AND RELEASE OF CLAIMS - attached. Disputed Contract claims in stated amounts may be specifically excluded by the Contractor from the CLOSEOUT AGREEMENT AND RELEASE OF CLAIMS.

2.11 RIGHT TO WITHHOLD PAYMENTS

- A. In addition to all other rights and remedies of the District hereunder and by virtue of the law, the District may withhold or nullify the whole or any part of final payment for reasons described in Section 00 72 00, General Conditions.

2.12 CONTRACTOR'S CONTINUING OBLIGATION

- A. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by Engineer, nor the issuance of a certificate of Substantial Completion, nor any payment by District to Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by District, nor any act of acceptance by District nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a Notice of Acceptability by Engineer, nor any correction of defective Work by District will constitute an acceptance of Work not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents.

2.13 WAIVER OF INTEREST

- A. The District shall have no obligation to pay and the Contractor hereby waives the right to recover interest with regard to monies which the District is required to withhold by reason of judgment, order, statute, or judicial process.

2.14 SATISFACTION OF CLAIMS AND LIENS

- A. Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the District, a complete release of all liens and claims arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he has knowledge or information the releases and receipts include all the labor and material for which a lien or claim could be filed; but the Contractor may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Engineer, to indemnify the District against any lien or claim. If any lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the District all monies

that the latter may be compelled to pay in discharging such a lien, or claim, including all costs and reasonable attorney's fees.

- B. Prior to final payment by the District, the Contractor shall submit a final waiver of lien for the Contractor's work, in the forms prescribed by California Civil Code §8136, together with releases of lien from any subcontractor or supplier.

2.15 DISBURSEMENT OF RETENTION PROCEEDS

- A. In accordance with Section 7107 of the Public Contracts Code with respect to all contracts entered into on or after January 1, 1993 relating to the construction of any public work of improvement the following shall apply.
- B. The retention proceeds withheld from any payment by the District from the original Contractor, or by the original Contractor from any Subcontractor, shall be subject to this paragraph.
 - 1. Within sixty (60) days after the date of completion of the work, the retention withheld by the District shall be released.
 - 2. In the event of a dispute between the District and the original Contractor, the District may withhold from the final payment an amount not to exceed one hundred fifty percent (150%) of the disputed amount.
- C. Subject to subsection D, within seven (7) days from the time that all or any portion of the retention proceeds are received by the original Contractor, the original Contractor shall pay each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received. However, if a retention payment received by the original Contractor is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor, if the payment is consistent with the terms of the subcontract.
- D. The original Contractor may withhold from a subcontractor its portion of the retention proceeds if a bona fide dispute exists between the subcontractor and the original Contractor. The amount withheld from the retention payment shall not exceed one hundred fifty percent (150%) of the estimated value of the disputed amount.
- E. In the event that retention payments are not made within the time periods required by this Part, the District or original Contractor withholding the unpaid amount shall be subject to a charge of two percent (2%) per month on the improperly withheld amount, in lieu of any interest otherwise due. Additionally, in any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to attorneys' fees and costs.
- F. Any attempted waiver of the provisions of Section 7107 of the California Public Contract Code shall be void as against the public policy of this state.

2.16 REUSE OF DOCUMENTS

- A. Neither Contractor nor any Subcontractor or Supplier or other person or entity performing or furnishing any of the Work under a direct or indirect contract with District shall have or acquire any title to or ownership rights in any of the Drawings, Plans and Specifications or other documents (or any copies of such documents) prepared by or bearing the seal of Engineer, and they shall not reuse any of such documents on extensions of the Project or any other project without written consent of District and Engineer and specific written verification or adaptation by Engineer.

2.17 RETENTION OF RECORDS

- A. In accordance with Government Code §8546.7, records of both the District and the Contractor shall be subject to examination and audit by the State Auditor General for a period of three (3) years after final payment. Contractor shall make available to the District any of the Contractor's other documents related to the Project immediately upon request of the District. In addition to the State Auditor rights above, the District shall have the right to examine and audit all the books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy and completeness of the cost or pricing data at not additional cost to the District, for a period of four (4) years after final payment.

END OF SECTION

CLOSEOUT AGREEMENT AND RELEASE OF CLAIMS

THIS AGREEMENT AND RELEASE OF CLAIMS is made in South Lake Tahoe, California, this day of _____, _____, by and between South Tahoe Public Utility DISTRICT, hereinafter referred to as "DISTRICT", and _____, hereinafter referred to as "CONTRACTOR".

KNOW ALL PERSONS BY THESE PRESENTS:

1. That the undersigned, as the authorized representative of CONTRACTOR, for and in consideration of _____ (\$ _____), contract amount, and the sum of _____ (\$ _____) for said Contract Change Orders Nos. 1 through ____, receipt of which is hereby acknowledged, has submitted waivers from all subcontractors and suppliers in the form required by Civil Code §8132 - 8138, and does hereby and for each of its successors, assigns and partners, release acquit and forever discharge the SOUTH TAHOE PUBLIC UTILITY DISTRICT OF EL DORADO COUNTY, CALIFORNIA, and each of its successors, assigns, officers, agents, servants, and employees, from any and all rights, claims, demands, debts, obligations, liabilities, actions, damages, costs, expenses and other claims whatsoever, which might have been asserted against DISTRICT by reason of any matter or thing which was the subject matter of or basis for:
 - A. The performance of all terms and conditions of that certain agreement dated _____ for Purchase Order No. _____ DISTRICT project described as **2026 STATELINE TANKS RECOATING PROJECT**.
 - B. Change Orders Nos. 1 through __ as approved by the parties, pertaining to Purchase Order No. _____ and shown in Payment Request No. _____, dated _____.

2. That the undersigned, as the authorized representative of DISTRICT, for and in consideration of the CONTRACTOR's completion of Purchase Order No. _____ does hereby and for each of its successors, and assigns, releases, acquits and forever discharge _____ and each of its successors, assigns, officers, agents, servants, and employees, and sureties from any and all rights, claims, demands, debts, obligations, liability, actions, costs, expenses whatsoever which might have been asserted against CONTRACTOR, except for all rights accruing to the DISTRICT arising out of (1) patent and latent construction defects as codified by California Code of Civil Procedure Sections 337.10 and 337.15, (2) third party claims brought against the DISTRICT, and (3) warranty claims, which rights are specifically reserved and not released, provided by reason of any matter or thing which was the subject matter of or basis for:
 - A. The performance of all terms and conditions of that certain agreement dated _____ for Purchase Order No. _____ DISTRICT project described as **2026 STATELINE TANKS RECOATING PROJECT**.

- B. Change Orders Nos. 1 through _____ as approved by the parties, pertaining to Purchase Order No. _____ and shown in Payment Request No. dated _____.
3. Nothing contained herein shall waive or alter the rights, privileges, and powers of the DISTRICT or the duties, liabilities and obligations of the CONTRACTOR and its surety in respect to any portions of the Specifications for Purchase Order No. _____, including but not limited to indemnity and warranty obligations.
 4. The DISTRICT has received no claims from the CONTRACTOR.
 5. The DISTRICT filed and recorded a NOTICE OF COMPLETION with the El Dorado County Recorder on _____, 2021 as such the statutory lien period expired on _____, 2021.
 6.

The presently retained amount is	\$
Original Contract amount	\$
Total Change Order Amount	\$
Other Encumbrances	\$
Less: Amount Previously Paid (Request Nos. 1 through ____)	\$
Retainage	\$
BALANCE:	\$

The retainage will be released to the CONTRACTOR within sixty (60) calendar days after date of recording a NOTICE OF COMPLETION by El Dorado County Recorder or when all stop notices and other encumbrances have been released, whichever last occurs. Release pursuant to this agreement shall not apply to CONTRACTOR's rights to the presently retained amount until such time as such amounts are received in full by CONTRACTOR.

7. CONTRACTOR and DISTRICT agree that the total adjusted contract price and time of performance for Purchase Order No. after the execution of change orders shall be as follows:

Original Contract Price	\$
Original Calendar Days	
Total Adjusted Price	\$
Total Adjusted Calendar Days	

8. It is understood and agreed by the undersigneds that the facts with respect to which the foregoing Release is given may hereafter turn out to be other than or different from the facts in that connection now known to be or believed by said undersigneds to be true, and the undersigneds hereto expressly assume the risk of the facts turning out to be different than they now so appear, and agree that the foregoing Release shall be, in all respects, effective and not subject to termination or recession by any such difference in facts and undersigneds hereby

expressly waive any and all rights the undersigneds have or may have under California Civil Code Section 1542, which provides as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the Release which if known by him must have materially affected his settlement with the debtor."

9. The releases made by the CONTRACTOR and the DISTRICT herein are not to be construed as an admission or admissions of liability on the part of either party and that the parties deny liability hereof. Unless arising out of a right expressly reserved herein, the undersigneds agree that they will forever refrain and forebear from commencing, instituting or prosecuting any lawsuit, action or other proceeding against the other party based on, arising out of, or in any way connected with the subject matter of this Release.
10. The CONTRACTOR hereby releases the DISTRICT from all claims, including those of its Subcontractors for all delay and impact costs, if any.
11. The CONTRACTOR represents and warrants to the DISTRICT that the CONTRACTOR has not heretofore assigned or transferred or purported to assign or transfer to any person, firm, corporation, association or entity any of the rights, claims, warranties, demands, debts, obligations, liabilities, actions, damages, costs, expenses and other claims whatsoever and the CONTRACTOR agrees to indemnify and hold harmless the DISTRICT against, without limitation, any and all rights, claims, warranties, demands, debts, obligations, liabilities, actions, damages, costs, expenses and other claims, including attorney's fees, arising out of or connected with any such assignment or transfer or purported assignment or transfer.
12. The undersigned acknowledge that they have been represented by counsel of their own choice in connection with the preparation and execution of this Closeout Agreement and Release of Claims. The undersigned acknowledge and represent that they understand and voluntarily consent and agree to each and every provision contained herein.
13. The undersigned further declare and represent that no promise, inducement or agreement, not herein expressed, have been made to the undersigned and that this Release contains the entire agreement among the parties hereto and that the terms of the Release are contractual and not a mere recital.
14. The persons executing this Closeout Agreement and Release of Claims represent and warrant to the other party that the execution and performance of the terms of this Release have been duly authorized by all requisite corporate, partnership, individual, or other entity requirements and that said persons have the right, power, legal capacity and authority to execute and enter in the Closeout Agreement and Release of Claims.

PAUL HUGHES, GENERAL MANAGER

DATED

ATTEST: MELONIE GUTTRY, CLERK OF BOARD

DATED

CONTRACTOR

DATED

DIVISION 02

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SECTION 02 41 00

DEMOLITION, REMOVAL, ABANDONMENT AND SALVAGE OF MATERIALS

PART 1 GENERAL

1.01 SUMMARY

- A. Work of this Section includes demolition, removal, salvage, abandonment, and disposal of existing structures, utilities, materials, and site features as shown in the Contract Documents.
- B. Demolition includes, but is not limited to, pavements, buildings, structures, foundations, utilities, vaults, valves, pipelines, fencing, landscaping, and appurtenant structures not designated to remain.
- C. Salvage includes removal, protection, delivery, and reinstallation of materials designated on the Plans to be salvaged.
- D. Abandonment includes capping, plugging, or filling of existing utilities designated to be abandoned in place.
- E. Perform all Work in accordance with applicable local, state, and federal codes, regulations, and environmental requirements.

1.02 DEFINITIONS

- A. Demolition: Complete removal and disposal of existing facilities or materials.
- B. Salvage: Removal and preservation of existing materials for reuse or delivery to the District.
- C. Abandonment: Permanent removal from service of existing utilities, either by removal or abandonment in place.

1.03 RELATED SECTIONS

- A. 01 50 00 Temporary Facilities and Controls

1.04 SUBMITTALS

- A. Demolition Plan: Submit a demolition and abandonment plan at least five (5) working days prior to commencing Work. Plan shall include sequencing, protection measures, utility coordination, and handling of hazardous materials.

1.05 REGULATORY REQUIREMENTS

- A. Handle asbestos-containing materials (ACM), lead-based materials, and other hazardous substances in accordance with all applicable regulations.
- B. Comply with TRPA BMP Handbook requirements for site protection and environmental controls.

PART 2 PRODUCTS

2.01 EQUIPMENT

- A. Provide all necessary tools, machinery, and equipment for demolition, including cranes, excavators, bulldozers, trucks, and any other equipment required to safely and efficiently perform the work.
- B. Equipment must be maintained in proper working condition and used in compliance with safety regulations.
- C. Explosives shall not be used.

2.02 MATERIALS

- A. Provide all materials required to complete the work per the Plans and the project specifications.

PART 3 EXECUTION

3.01 LIMITS OF WORK

- A. Confine removal of existing improvements to the limits and items designated on the plans and in the project specifications.
- B. Verify all items to be demolished, salvaged, or abandoned prior to starting Work.

3.02 SITE PREPARATION

- A. Notification: Notify the Owner at least two full working days prior to commencing the work of this section.
- B. Site Inspection
 - 1. Prior to all work of this section, carefully inspect the entire site and all objects designated to be removed and to be preserved.
- C. Clarification
 - 1. The Drawings do not purport to show all objects existing on the site.
 - 2. Before commencing the work of this section, verify with the Owner all objects to be demolished, removed, or salvaged, and all objects to be preserved.

- D. Scheduling
 - 1. Schedule all work in a careful manner with all necessary consideration for neighbors, operation of the existing facilities, and the public.
 - 2. Avoid interference with the use of, and passage to and from, adjacent buildings, residences and facilities.

3.03 JOB CONDITIONS AND PROTECTION OF PROPERTY

- A. Dust Control: Use all means necessary to prevent the spread of dust during performance of the work; thoroughly moisten all surfaces as required to prevent dust being a nuisance to the public, neighbors, and concurrent performance of other work on the site. Wind in excess of 10 MPH causing dust to leave site will require Contractor to limit dust causing activities.
- B. Protect existing improvements, adjacent property, utilities, trees, plants, or any other existing items, which are not specifically intended to be removed.
- C. Repair all damage to existing improvements not scheduled for demolition, removal or salvage.
- D. Burning: On-site burning will not be permitted.

3.04 UTILITY DISCONNECTION AND PROTECTION

- A. Before starting site operations, disconnect or arrange for the disconnection of all utility services designated to be removed, performing all such work in accordance with the requirements of the utility company or Owner involved.
- B. Preserve in operating condition all active utilities traversing the site and designated to remain.

3.05 DEMOLITION OF STRUCTURES

- A. Structures shall be demolished to the lines and grades indicated.
- B. Structures shall be demolished beginning at the top of the structure and proceeding to the ground. Concrete and masonry shall be removed in small sections.
- C. Hoists, derricks, cranes, and other suitable devices shall be used to carefully remove structural members.
- D. Temporary coverings shall be provided for openings in roofs or walls to prevent water damage to portions of structures that are to remain in place.
- E. Perform the following work where new construction must be installed against existing concrete or masonry.
 - 1. Make an initial cut using a concrete saw, but do not cut the underlying reinforcement steel.

2. After removal of the concrete or masonry, cut the exposed reinforcing steel, leaving lengths of reinforcement for use as dowels or splices as required for connection to the new work.
 3. Where a portion of existing concrete or masonry will remain in place without connection to new work, cut the existing material completely through its section with a concrete saw, unless indicated otherwise.
 4. Demolish structures to a minimum of 3' below the adjacent finished grade, unless otherwise indicated. Remove all existing concrete footings and foundations. Backfill the remaining structure and demolition excavations to the level of the adjacent finished grade per Section 31 20 00.
- F. Materials identified for salvage and delivery to the STPUD maintenance yard shall be protected during demolition and removal activities. Remove materials identified for salvage prior to structure removal if allowed. Coordinate the salvage and delivery of materials with STPUD Maintenance and Operations staff.

3.06 DEMOLITION AND REMOVAL OF PIPELINES

- A. Not used.

3.07 SALVAGE

- A. Materials identified for salvage:
1. Not used.

3.08 ABANDONMENT OF PIPELINES

- A. Not used.

3.09 HAZARDOUS MATERIALS

- A. Identify and remove hazardous materials in accordance with applicable regulations.
- B. Dispose of non-friable ACM at an approved facility.

3.10 DISPOSAL

- A. Facilities so designated on the plans shall be demolished, and all materials therefrom shall become the property of the Contractor and shall be removed and disposed of away from the site. Any equipment or pipework connected within a structure which is designated to be removed and salvaged or relocated shall be removed before demolition begins. Coordinate with the Owner for the salvaging or relocating of these items. All other equipment within the structure shall become the property of the Contractor.
- B. All concrete and rock shall be removed to firm undisturbed soil and scarified to a depth of 8 inches, unless otherwise noted, and shall be disposed of off-site. Concrete not removed shall be broken to prevent entrapment of water, as approved by the Engineer. Concrete includes all reinforcement and embedded items.

Pipework and conduit as indicated on plans to be removed shall also be removed to firm undisturbed soil and scarified to a depth of 8 inches unless otherwise noted.

- C. The stripped materials shall be removed from the project site at no cost to the Owner.
- D. Backfill and Grading: After facilities have been demolished and all material removed, any remaining depression or hole shall be backfilled and the area finish graded as specified in Section 31 20 00. Rubble and broken concrete will not be allowed to be used as fill material.

3.11 SITE PROTECTION AND BARRICADES

- A. All barricades and site environmental protection shall conform to the latest edition of the TRPA BMP handbook and the contract drawings.

3.12 CLEARING AND GRUBBING

- A. The Contractor shall restrict clearing and grubbing to the areas designated for new construction or adjustment of grades on the plans. Surrounding trees outside of the limits of work shall be protected from damage. The Owner or Engineer will designate the limits of clearing and grubbing.
- B. Where limbs or roots of trees designated to remain extend into work areas, the limbs or roots shall be trimmed in accordance with the provisions of this section.
- C. Felling of Trees: The Owner or Engineer will mark all trees to be removed by the Contractor prior to start of work.
- D. Trimming of Trees
 1. In company with the Owner, ascertain the limbs and roots which are to be trimmed and clearly mark them to designate the approved point of cutting.
 2. Cut evenly, using proper tools and skilled workmen to achieve neat severance with the least possible damage to the tree.
 3. In the case of root cuts, apply wet burlap or other protection approved by the Owner, as required, to prevent drying out.
- E. Grubbing: Remove all surface rocks and all stumps, roots, and vegetation within the limits of construction. Roots shall be removed to at least 3 feet below proposed finish grade or as approved by the Engineer.

3.13 BACKFILL AND SURFACE RESTORATION

- A. Not used.
- B. Restore existing surface improvements of all holes remaining after removal of existing improvements to their existing position and condition as approved by the Engineer.

- C. Remove all debris from the site and leave the site in a neat and orderly condition to the approval of the Engineer. Dispose debris off site at a location approved by the Engineer.
- D. Remove all barricades: All protective fencing including posts and fabric shall be removed from the site at the completion of the work at the Contractor's expense.

3.14 SITE CLEANUP

- A. Remove debris, temporary fencing, and barricades upon completion of Work.

END OF SECTION

DIVISION 09

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SECTION 09 97 13.13

INTERIOR COATING FOR WELDED STEEL RESERVOIR

PART 1 GENERAL

1.01 SUMMARY

- A. The Contractor shall perform interior coating work as follows:
1. Stateline Tank #1: provide all labor, materials, equipment and incidentals required for:
 - a. Complete removal of all the existing interior coatings on interior surfaces and appurtenances, including but not limited to interior shell, roof support system, floor, ladder, overflow, interior roof plates, vents, piping, manways, hatches, and all other miscellaneous steel on the interior of the Stateline Tank #1 potable water reservoir.
 - b. Complete coating of the reservoir interior shell, roof support system, floor, ladder, overflow, interior roof plates, roof drain piping, and all other miscellaneous steel on the interior of the Stateline Tank #1 potable water reservoir with an NSF 61/UL Water-approved lining system. The full coating system shall be an NSF 61/UL Water-approved system for contact in potable water service.
 - c. It is the District's intent to have the Contractor remove and replace the coating system of all of the Stateline Tank #1's interior steel surfaces, in their entirety, and any omission of specific tank features or elements not expressly stated in this specification are not deliberate and should be accounted for.
 2. Stateline Tank #2: provide all labor, materials, equipment and incidentals required for:
 - a. Complete removal of all the existing interior coatings on interior surfaces and appurtenances, including but not limited to interior shell, roof support system, floor, ladder, overflow, interior roof plates, vents, piping, manways, hatches, and all other miscellaneous steel on the interior of the Stateline Tank #2 potable water reservoir.
 - b. Perform full interior coating, including surface preparation, of the reservoir interior shell, roof support system, floor, ladder, overflow, interior roof plates, roof drain piping, and all other miscellaneous steel on the interior of the Stateline Tank #2 potable water reservoir with an NSF 61/UL Water-approved lining system. The full coating system shall be an NSF 61/UL Water-approved system for contact in potable water service.
 - c. It is the District's intent to have the Contractor remove and replace the coating system of all of the Stateline Tank #2's interior steel surfaces, in their entirety, and any omission of specific tank features or elements not expressly stated in this specification are not deliberate and should be accounted for.

- B. The Contractor shall apply the coating system as indicated herein and, in a manner, prescribed by these specifications and the manufacturer's printed application instructions. The interior coating system must be completed prior to coating work on the exterior.

- C. Stateline Storage Tanks information:
 - 1. Year Built: 1994 for Stateline Tank No. 1 and 1995 for Stateline Tank No. 2.
 - 2. Diameter: Stateline Tank No. 1 = 90 ft, Stateline Tank No. 2 = 120 ft
 - 3. Shell Height: 27 ft for both tanks
 - 4. Knuckle Height: 3 ft for both tanks
 - 5. Center Height: 33 ft.
 - 6. Capacity: Stateline No.1 = 1.25 MG, Stateline No. 2. = 2.25 MG

- D. Existing interior coatings:
 - 1. Stateline Tank #1 and #2:
 - a. The Stateline Tank #1 and #2 were originally coated in 1994 and 1995 respectively; the coating product is unknown.
 - b. Tank information, including dry film thickness of existing coating, heavy metal analysis, and recently assessed coating and steel condition, is presented in "Attachment A - 2025 Stateline Tanks Condition Assessment Report", of this project specification.

 - 2. The Contractor shall bear all costs associated with stripping, handling, storing, testing, transport, and disposal of all waste. It shall be the Contractors responsibility to estimate the quantity and classification of waste associated with the work.

1.02 REFERENCES

- A. The Contractor shall comply with the requirements of the Steel Structures Painting Council Painting Manual, Volume 1 and 2, Good Painting Practices, including the Association for Materials Protection and Performance, American Society of Testing and Materials, and American Water Works Association D-102, for application and surface preparation, and all applicable OSHA and safety standards.

- B. The following standards (including the most recent update or version) shall govern the work unless specified otherwise in these specifications:

ASTM D4214	Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM D4414	Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gauges
ASTM D4417	Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
ASTM D4541	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM D5402	Standard Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs
ASTM D7091	Standard Practice for Non-Destructive Measurement of Dry Film Thickness of Non-Magnetic Coatings Applied to Ferrous Metals and Non-Magnetic, Non-Conductive Coatings to Non-Ferrous Metals
SSPC-Vol.1,	Steel Structures Painting Manual, Good Painting Practice.
SSPC-Vol.2,	Steel Structures Painting Manual, Systems and Specifications.
SSPC-SP 1	Solvent Cleaning
SSPC-SP 2	Hand Tool Cleaning
SSPC-SP 3	Power Tool Cleaning
SSPC-SP 5	White Metal Blast Cleaning
SSPC-SP Guide 11	Stripe Coating
SSPC-SP 6	Commercial Blast Cleaning
SSPC-SP 7	Brush-Off Blast Cleaning
SSPC-SP 10	Near White Blast Cleaning
SSPC-SP 11	Power Tool Cleaning to Bare Metal
SSPC-AB 1	Mineral and Slag Abrasives
SSPC-PA 1	Shop, Field and Maintenance Painting
SSPS-PA Guide 3	Guide to Safety in Paint Application
SSPS-PA Guide 12	Lighting
SSPC-Guide to Vis 1-89	Visual Standard for Abrasive Blast Cleaned Steel
SSPC-V15 (3-93)	Visual Standard for Power & Hand-Tool Cleaned Steel
SSPC Guide 6	Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations
AWWA D102-97	Standard for Painting Steel Water-Storage Tanks
AWWA C652	Disinfection of Water Storage Facilities.
ISO-8502-3	Preparation of Steel Substrates (Class 2)
NACE SP0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
NACE SP0287	Field Measurements of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using Replica Tape
All applicable State and Federal OSHA safety standards.	

- C. The Contractor shall consult the District Engineer regarding any situations not covered by the reference standards or this specification; however, it is the Contractor not the District that is ultimately responsible for proper coating application.
- D. National Association of Corrosion Engineers (NACE) standards, referenced herein.
- E. National Sanitation Foundation (NSF) standards, referenced herein.

1.03 SUBMITTALS

- A. Coating contractor shall provide SSPC QP1 and a letter stating certification for the application of the coating systems to be applied.
- B. The manufacturer shall provide written certification that the CONTRACTOR's supervisor and each applicator performing Work on the project have been trained and approved by the manufacturer to apply the selected coating system.
- C. The Contractor shall provide a submittal for each material to be used in the work. At a minimum provide submittals for Abrasive materials, Paint systems, Thinners, and any other additives.
- D. The Contractor shall include the following data in the interior coating system submittal:
 - 1. Weight in pounds/gallon – ASTM D-2196
 - 2. % solids by volume – ASTM D-2369
 - 3. Percent solids by weight – ASTM D-2369
 - 4. Air cure dry time to re-coat – ASTM D-1640
 - 5. Minimum adhesion to steel substrate – ASTM D-4541 using a type II instrument (Minimum acceptable adhesion shall be 800 p.s.i.).
 - 6. Adhesion between coats – ASTM D-4541
 - 7. Letter from dehumidification manufacture that the equipment has been properly sized as per the specification requirements.
- E. The Contractor shall provide technical data for the dehumidification or heating equipment to be used to hold a blast and to be used during curing.
- F. The Contractor shall submit the manufacturers latest written product data sheets on each product to be used, and current manufacturer's safety data sheets (S.D.S.) on all materials to be used in the surface preparation and coating operations including abrasives, thinners, cleaning fluids, and solvents. The Contractor shall maintain on the job site at all times S.D.S. and product data sheets. The Contractor shall post required signage for lead work.
- G. The Contractor shall include the following data in the manufacturer's recommended handling and installation instructions for the proposed paint system submittal:
 - 1. Storage – including maximum and minimum storage temperatures
 - 2. Surface preparation for immersion and non-immersion
 - 3. Coating repair
 - 4. Application equipment
 - 5. Mixing and application of coating system – including a table of minimum and maximum time to re-coat as a function of temperature
 - 6. Curing – including curing time required before holiday testing, and curing time required before immersion as function of temperature and coating thickness. Minimum and maximum re-coat times.
 - 7. Ventilation and Containment System
 - 8. Acceptable temperatures at the time of application.

9. Health and Safety Plan
 10. Fire Safety Plan.
- H. The Contractor shall include the following data in the equipment submittal:
1. Details of vacuum system for removing dust and abrasive from abrasive blast cleaned surfaces.
 2. The manufacturer's latest written operation instructions including recommendations for air filter maintenance and change interval for air compressors used for work.
- I. The Contractor shall include the following data in the report submittal:
1. Actual weight of blast cleaning abrasive used for field abrasive blast cleaning, submitted within 24 hours after blasting is completed.
 2. Quantity of coating material used for each coat, submitted within 24 hours after completion of each coat.
 3. Name of laboratories proposed to be used to test wastes and reservoir water prior to testing any materials.
 4. Laboratory test results for representative waste samples prior to removing any waste materials from the job site. At a minimum, the samples shall be tested for total concentrations of the 17 metals identified in Title 22, for comparison to Total Threshold Limit Concentrations (TTLC) values. The California Waste Extraction Test (WET) shall be performed for each analyte of each sample for which the total concentration exceeds 10 times the STLC value, if any, as specified in Title 22. Reactivity, corrosively, and Ignitability testing shall be performed as required by Title 22 and/or the District or representative of the disposal facility.
 5. Receipts from disposal site for all waste. Receipts shall identify disposed material and source, show quantity of disposed material in tons or cubic yards, and show method used for final disposition as buried, incinerated, and chemically treated and/or other means.
 6. Quantity of thinner used for each coat and total amount used.
- J. The Contractor shall include the following data in the disposal plan submittal:
1. Certification that the materials disposal plan complies with all applicable requirements of the Federal Resource Conservation and Recovery Act; Title 22 and Title 26 of the California Administrative Code; and other applicable regulations of local, state and federal agencies having jurisdiction over the disposal of spent abrasive blast media, removed coating materials, and other waste, whether hazardous or non-hazardous.
 2. The name and Environmental Laboratory Accreditation Program Certificate number of laboratory that will sample and test spent abrasive blast media and removed coating materials. Include statement of the laboratory's certified testing areas and analyses that the laboratory is qualified to perform.
 3. Written permission to dispose of material from disposal site representative. Include name, address, and telephone number of disposal site and of representative.
 4. The District shall provide written acceptance of the disposal plan prior to disposal of any wastes.

1.04 QUALITY ASSURANCE

- A. Installer's Qualifications:
1. The Contractor shall have an active California C-33 license.
 2. The Contractor shall provide SSPC QP1 and a letter stating certification for the application of the coating systems to be applied.
 3. The Contractor shall provide written evidence to the District Engineer that workers furnished have performed quality work and possess experience and knowledge in surface preparation and the application of high-performance industrial coatings.
 4. The Contractor shall provide written evidence to the District Engineer that the Contractor has a minimum of five years of experience in the painting of water storage tanks and a current list of water tank painting projects for the past five years (five minimum).
 5. The Contractor shall submit five projects within the last five years using plural component equipment and NSF-61 100% solids epoxy on the interior of potable water storage tanks. The information shall include Name of project, size of project, name and phone number of owner or Engineer.
 6. The Contractor shall provide a certification, from the coating manufacturer, in application of the specified coatings for at least five years prior to commencement of this work on potable water storage reservoirs.
- B. The Contractor shall conform to all the standards of craftsmanship as discussed in the Steel Structures Painting Council's Painting Manual, Volume 1, Good Painting Practice. These techniques include but are not limited to: multiple passes of the spray gun, with each pass overlapped 50%, and "cross hatching" successive coats of paint. A stripe (Brush coat) is required on all welds prior to the finish coat.
- C. The District has retained a 3rd party Special Coating Inspector ("Inspector" or "Coating Inspector") and inspection firm to oversee all quality control related to coating operations. The Inspector will report directly to the District's Engineer and/or Project Manager and shall act with the Engineer's authority in all matters related to construction. The Inspector will be an AMPP Certified Coating Inspector, who will inspect any or all phases of work to be performed as outlined herein. The Inspector shall be an addition to the District Inspector. The District Inspector shall remain the primary observer for all work on the project. The Inspector shall work for and report to the District. The Contractor shall not rely upon the Inspector or District Inspector for documentation of environmental conditions and assuring compliance with plans and specifications.
- D. The Contractor shall notify the District Engineer in advance (48 hours minimum) of all surface preparation or paint application in order to perform a preliminary examination and provide acceptance of the surface preparation and each coat prior to application of the next coat.
- E. The Contractor shall provide access to the Inspector and/or District Inspector for examination of all materials, tools, and equipment to be used in the blasting and coating operations. The Inspector and/or District Inspector shall have the authority to direct the Contractor to remove, replace, or repair any materials, tools, or

equipment found not to be in conformance with the Contract Documents including the approved shop drawings and manufacturer's recommendations.

- F. The Contractor shall be fully responsible for compliance with all safety measures, hazardous and toxic materials regulations, and site security. Observation of or failure to observe any safety efforts of the Contractor by the Inspector and/or District Inspector shall not relieve the Contractor of this responsibility nor shall any liability transfer from the Contractor to the District or the Inspector and/or District Inspector. The Contractor shall indemnify, defend, and save harmless the District, the Inspector, and District Inspector, from all liability associated therewith.
- G. The Contractor's workmanship shall conform to standards and recommendations of SSPC Vol. 1, especially Chapters 5.1 and 6.
- H. The District may use any testing method deemed necessary by the Inspector and/or District Inspector to verify quality of work. The District may, but is not required to, monitor the quality of work pursuant to this section.
- I. The Contractor shall ensure proper materials handling and use, including: all coating materials are labeled and used in accordance with SSPC-PA 1, Paragraphs 5.1.1 thru 5.1.5, except all coating system materials without a stated shelf life shall be delivered and used within six months of the date of manufacture; and certification, from any source, that the coating system materials are still suitable for use beyond the stated shelf life or beyond the six month period specified above will not be accepted. All equipment and materials shall be stored in a secured ventilated container.
- J. The Contractor shall perform the necessary quality assurance in accordance with an approved plan. The Contractor will supply all inspection equipment, required by the Inspector and/or District Inspector. The District reserves the right to use the Contractor's equipment at any time.
- K. The Contractor shall comply with the following conditions in collection and analysis of wastes:
 - 1. All testing of spent abrasive blast media and removed coating materials to classify these wastes as hazardous or non-hazardous shall be performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) of the California Department of Health Services.
 - 2. Any Laboratory performing analysis shall provide for comparison to TTLC, STLC, TCLP limits, and RCA limits, and to all other applicable regulatory limits. Laboratory shall retain samples at least ninety (90) calendar days after all analyses are complete.
 - 3. The Contractor shall ensure collection of as many representative samples as required by the representative of the disposal facility, but not less than 4 total.
 - 4. The Contractor shall ensure the following:
 - a. each sample shall have an identifying sample number assigned when the sample is taken;

- b. each sample number shall be included on the sampling chain of custody and in all reports, correspondence, and other documentation related to the sample;
 - c. each sample shall have a sampling chain of custody;
 - d. and, each chain of custody show the name and organization of each person having custody of the sample, and also show the sample number, job name and location, time of day and date sample was taken, material sampled, and tests to be performed.
5. The Contractor shall notify the District at least 24 hours prior to sampling collection for the purpose of District verification of samples collected.
 6. Manufacturer's Representative: The Contractor shall, at no cost to the District, provide a qualified technical representative of the coating system manufacturer at the job-site as required by the District to resolve problems related to the coating system or the application of the system.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Coating system materials:
 1. The Contractor shall assure that all materials delivered to the job site are in their original unopened containers.
 2. The Contractor shall not use any product older than 1 year from the original manufacturer's factory batch date as listed on the unopened container.

- B. Abrasive grit/abrasive blast media materials:
 1. Delivery of abrasive grit/abrasive blast media shall be in original labeled moisture-proof bags or airtight bulk containers. Abrasives shall not be reused.

- C. The Contractor shall submit, for the District Engineer's acceptance, a specified material storage area and store all materials in the approved location.
 1. Store materials in a single, approved location.
 2. Store coating system materials in enclosed, secure, and ventilated structures, and maintain temperature inside the structure within the temperature range recommended by the manufacturer.
 3. Keep storage location clean, neat, and free of fire hazards.
 4. All operating equipment shall be placed into secondary containment to prevent accidental spills.
 5. The Contractor shall maintain material storage areas in a clean condition, free of solvent rags, and wastepaper. The Contractor shall remove debris and other fire hazards and dispose of such items in accordance with all the applicable regulations at the end of each workday.

- D. The Contractor shall exercise extreme care when handling or disposing of materials or substances listed in Section 8-339 of Division 4 (California Code of Occupational Safety and Health Regulations) of Title 26 (Toxics) of the California Code of Regulations, or as evidenced by the S.D.S.

- E. The Contractor shall immediately notify the District Engineer of any spill of material that is a hazardous substance in accordance with the appropriate jurisdiction.

- F. Avoid spilling thinners, solvents, paint products or other materials that contain toxic substances. All compressors and operating equipment shall be placed in secondary containment. All sewer or site drains shall be covered.
- G. Remove discarded thinners, solvents, and paint products from the jobsite daily.

1.06 PROJECT CONDITIONS

A. Existing Substrate Condition

1. The Contractor should expect that the entire surface under the existing coatings to be corroded, having mill scale, or having weld spatter, and shall provide for such conditions, accordingly, including complete removal of such materials down to bare steel in accordance with SSPC-SP 10, Near-White Metal Blast Cleaning, on all interior surfaces.
2. SSPC-SP 5, White Metal Blast Cleaning, is acceptable in localized areas that are unavoidably overblasted due to surface configuration, access limitations, or complex geometry. The District will not provide additional compensation for areas that are overblasted beyond the specified SSPC-SP 10 surface preparation requirements.

B. Tank Status and Access

1. The District will drain the reservoir upon seven (7) days advance written notice from the Contractor. The District shall perform a lock out and tag out of all energized equipment such as water and electrical equipment. The reservoir may contain up to twelve (12) inches of water and silt at the start of Work. The Contractor shall remove and dispose of all remaining water and silt prior to commencing surface preparation and coating operations.
2. The Contractor shall remove the existing cathodic protection system without damaging splicing connections and wires, except where demolition and abandonment is indicated in the Contract Documents.

C. Environmental Conditions for Surface Preparation and Coating

1. Coating and surface preparation operations shall only be performed when environmental conditions are within the limits prescribed by the coating manufacturer.
2. Coating shall not be applied when metal temperature is less than five degrees Fahrenheit (5°F) above the dew point and rising for a minimum of six (6) hours.
3. Relative humidity and dew point shall be measured using a sling psychrometer with U.S. Weather Bureau psychrometric tables, or with an electronic dew-point meter approved by the District.
4. These conditions shall be maintained continuously during abrasive blasting, coating application, curing, and repair operations.

D. Environmental Control Responsibility

1. The Contractor shall provide all environmental controls required to protect the Work and to establish and maintain the required temperature, humidity, and dew point conditions at no additional cost to the District.

E. Dehumidification and Temperature Control

1. The Contractor shall provide and use dehumidification and temperature-control equipment during blast cleaning, coating application, and curing whenever ambient conditions would otherwise prevent compliance with coating manufacturer requirements.
 2. When Work is subject to extended periods of low temperature or high humidity, the Contractor shall maintain the established production schedule by providing all labor, equipment, and materials necessary to maintain a controlled environment.
 3. Dehumidification systems shall be capable of maintaining required dew-point separation, temperature, and relative humidity within the enclosure as specified by the coating manufacturer.
 4. The Contractor shall bear all costs and liability resulting from dehumidification equipment failure, breakdown, power failure, or downtime.
- F. Curing and Hold-Before-Service Conditions
1. Following application of the final coating and completion of repairs, the Contractor shall provide forced heated air ventilation for a minimum of seventy-two (72) hours at seventy degrees Fahrenheit (70°F), or longer if recommended by the coating manufacturer.
 2. Ventilation shall provide not less than one (1) to four (4) complete air changes every hour during curing.
 3. The Contractor shall maintain temperature and humidity controls until the coating system has reached the minimum cure required for holiday testing, cleaning, disinfection, and service.
- G. Acceptance and Fill Conditions
1. The Contractor shall allow three (3) consecutive working days for the District to fill the reservoir after coating cure is complete.
 2. The reservoir shall not be placed into service until the coating system is free of taste, odor, volatile organic contamination, and adverse aesthetic effects, and water quality meets State and Federal drinking water standards. The Contractor shall allow seven (7) consecutive working days for the District to collect and analyze water samples.

1.07 WARRANTY

- A. The total warranty period shall be two years from the final acceptance date.
- B. A one-year inspection will be required, as per AWWA D102.
1. At the time of tank acceptance for service, the District Engineer shall schedule the first anniversary inspection. The inspection of the tank shall be scheduled for a date between the first day of the eleventh month and the thirtieth day of the eleventh month following acceptance. This schedule for the inspection shall be considered tentative and the Contractor will be notified of the inspection schedule no later than the first day of the tenth month following acceptance of the tank.
 2. Contractor shall provide floor protection, lighting, and scaffolding during the inspection. Contractor shall provide access (scaffolding, ladders, lift, etc.) to facilitate inspection of exterior coatings.
 3. The Contractor shall furnish ventilation, as necessary for the inspection.

4. The Contractor shall be present at the inspection and disinfect the reservoir after repairs are complete.
 5. Contractor shall be present at the inspection.
- C. Upon completion of this inspection, the Inspector will prepare a report that includes but is not limited to, the methods used in the inspection, the equipment and personnel on hand at the time of the inspection, a summary of findings, the number and types of failures observed, the percentage of surface area where failures have occurred, the names of the persons making the inspections, photographs of all deficiencies found, and any other information relevant to the condition and maintenance of the tank.
 - D. The District shall consider any location where coating has delaminated, peeled, blistered, or cracked; and any location where rusting is evident as failure of the coating system. In addition, the District shall consider photographs or reports of the coating imperfections or failures as acceptable evidence of failure.
 - E. The Contractor shall be liable for all remedial work including repair of all failures by removing the deteriorated coating, cleaning the surface, and recoating with the same system in accordance with this Section. The District may allow surface preparation of small failures (areas less than 1 sq ft.) by cleaning to bare metal in accordance with appropriate SSPC-SP standards, however, the method of repair is at the sole discretion of the District.
 - F. The District will prepare a schedule for remedial work completion, to be no more than thirty (30) calendar days after the submittal of the inspection report to the Contractor. Upon failure of the Contractor to commence remedial work within ten calendar days after the starting date established by the District, the District may at its option, retain another Contractor to perform the remedial work. The Contractor shall be liable for actual cost of all such remedial work plus a 20 percent District administrative cost.
 - G. The Contractor shall bear the expense of all warranty inspections of the remedial work required by the District. The Contractor shall disinfect the reservoir after the inspection and repairs.

PART 2 PRODUCTS

2.01 INTERIOR COATING SYSTEM

- A. INT-EPOX-ROOF – Epoxy for potable water immersion and above water exposure for tank interiors: High-build, epoxy resin shall have a solids content of at least 70% by volume, and shall be suitable for long-term potable water exposure. The coating shall be NSF 61 approved for contact with drinking water. The Contractor shall provide the following new interior coating systems consisting of a thin film epoxy on the rafters, roof plates, and down 6” onto the shell and interior piping.
 1. Product:
 - a. Carboline Hydroplate 1086
 - b. Sherwin William Sherplate 600

- c. Tnemec L140 Pota Pox Plus
 - d. Or Approved equal
 - 2. Color:
 - a. First Coat:Buff
 - b. Second Coat:White
- B. INT-EPOX-TANK - 100% solids thick film epoxy recommended for corrosion protection of steel water storage tanks.
 - 1. Product
 - a. Carboline Hydroplate 6500
 - b. Sherwin Williams Sherplate PW
 - c. Tnemec Series FC22 Epoxoline
 - d. Approved equal
 - 2. Color
 - a. White
- C. The Contractor shall not use or allow to come in contact with any portion of the tank interior, any coating system and/or any thinners or additives which have not been approved and listed by the National Sanitation Foundation, Standard 600 (NSF 600) and NSF 61 for use in potable water reservoirs.
- D. Minimum adhesion value (ASTM D-4541) for the lining system using a type II or type V instrument shall be 800 P.S.I.
- E. The interior roof, rafters, and shell shall be coated, and tested prior to any repairs on the floor of the tank.
- F. The Contractor shall provide coating "certified non-lead" (less than 0.06 percent lead by weight in the dried film) as defined in Part 1303 of the Consumer Products Safety Act.

2.02 ABRASIVES

- A. The Contractor shall use abrasive grit for field blast cleaning conforming to the following:
 - 1. Produce a surface profile of 3.5 to 4.5 mils for the floor, shell, roof supports, ladder, and over flow.
 - 2. Produce a surface profile of 2 to 3 mils for the roof plates, rafters, and down onto the shell 1'.
 - 3. New, clean and free of contaminants, and containing no hazardous materials. Silica sand will not be allowed.
 - 4. Certified by California Air Resources Board, Executive Order G-565.
 - 5. Conform to all applicable requirements of the Local Air Quality District.
 - 6. Iron alumina silicate with a MOHs hardness of 7.8 to 8.2 capable of producing the required surface profile. Approved products include:
 - a. Kleenblast as made available by Kleen Blast, 30028 Industrial Parkway, Hayward, CA 94544.
 - b. Green Diamond as made available by Green Diamond Performance Materials, Riddle, Oregon.

7. Garnet abrasive with less than 0.1% respirable crystalline silica and no heavy metals. Approved products include:
 - a. Barton Garnet as made available by Kleen Blast, 30028 Industrial Parkway, Hayward, CA 94544.
8. Equal products may be submitted for approval.

PART 3 EXECUTION

3.01 GENERAL

- A. The District will drain the reservoir, with 7 days advance written notice from the Contractor. The reservoir may have up to twelve (12) inches of water and silt remaining. The Contractor shall be responsible for disposing the remaining water and silt. The Contractor shall remove the existing cathodic protection system without damaging the splicing connections and wires, except in cases where the cathodic protection system has been identified for demolition and abandonment per the project plans and specifications.
- B. When the new interior coating has completely cured, the Contractor shall clean and disinfect the reservoir in accordance with AWWA C652.
- C. After filling the reservoir, the District shall test the reservoir water for bacteriologic and volatile organic contamination, and for aesthetic quality. The District shall not accept the project until the reservoir water meets California Department of Health Services (DHS) and federal drinking water standards. In addition, the tank will not be accepted until the coating system is free of taste and odor associated with the coating product and does not impart any adverse aesthetic quality to District water.
- D. The interior roof, rafters and shell shall be completely coated, tested, and repaired prior to any operations on the floor of the tank.
- E. The Contractor shall dispose of all wastes from abrasive blasting and any other wastes or debris generated during work. The Contractor shall sample, and test wastes as required by applicable regulatory agencies, and as necessary for classification of wastes prior to disposal. The Contractor shall bear all costs for waste sampling, testing, accumulation, transport, and disposal, including the cost for wastes classified as hazardous and non-hazardous.
- F. When considering the proposed work schedule, the Contractor shall allow three (3) consecutive working days for the District to fill the Reservoir after the coating has cured.
- G. At least two days prior to start of work, the Contractor shall arrange with the District for a pre-preparation conference at the job site to ensure that all parties are familiar with the entire project, including specifications and the manufacturer's printed application instructions.

3.02 QUALITY CONTROL

- A. The Contractor shall provide adequate lighting, without shadows, during all phases of work to ensure that work is performed as specified and that the entire work area is illuminated.
- B. The Contractor shall use properly functioning equipment capable of performing the task required herein.
- C. The Contractor shall provide ground supported scaffolding and lighting (SSPC Guide12), as determined by the Inspector, to facilitate visual and instrument inspection by the Inspector of each phase of the work and of the completed work, as so placed as directed to minimize glare and shadows. Work will be rejected if proper lighting is not achieved for a proper inspection. All scaffolding shall be equipped with stairways, no exterior ladders.
- D. The Contractor shall provide personnel to move scaffolding and furnish other assistance to Inspectors and/or District Inspectors as required. There shall be no more than one-inch (1") of grit on the floor at any time to allow for scaffolding to be moved as well as reduce tripping hazards.
- E. The District Coating Inspector will examine surfaces after abrasive blast cleaning to verify that all deposits of contaminants have been removed as per surface clean as per ISO 8502-3 (Class 2). The Contractor shall blow down and vacuum all surfaces prior to District inspection. Tank floors shall be vacuumed.
- F. All operating equipment shall be placed into secondary containment to prevent accidental spills.
- G. The Contractor shall verify cleanliness of all spray application equipment prior to, or no later than, time of mixing coating material.
- H. The Contractor shall measure wet film thickness per ASTM D4414 during coating application of coating to ensure adequate coating thickness, taking at least one measurement for each 100 square feet of application area. The Contractor shall measure dry film thickness after each coat using a non-destructive magnetic dry film thickness gauge.
- I. The Contractor shall verify at a minimum of two times daily that air supply is free of oil and moisture contamination (ASTM D-4285). The Contractor shall use effective oil and water separators in all main compressor airlines and shall be placed as close as practicable to the equipment. Prior to using compressed air, the Contractor shall test the quality of air downstream of the separators at suitable outlets by blowing the air on clean white blotter for 2 minutes to check for any contamination, oil, or moisture.
- J. The Contractor shall perform the following daily: measure air temperature, humidity, relative humidity, and metal surface temperature, and determine dew point and relative humidity prior to abrasive blasting or painting. The Contractor shall provide portable temperature and humidity recorders to provide continuous permanent data

for blasted steel areas of the reservoir to be coated and, repeat measurements and determination of dew point as often as the District Inspector deems necessary but not less often than every four hours at the start of preparation operations and run constantly until final cure.

- K. The Contractor shall maintain a written record of measurements and dew points, and time that measurements were taken, keep such record on-site, and make records available to Inspector and/or District Inspector on request.
- L. The Contractor shall furnish 1 roll of Testex tape 1.5 to 4.5 mils X-course and course tape for 0.8 - 2.5 mils profiles prior to the start of abrasive blasting. The Inspector and/or District Inspector may evaluate surface preparation using field abrasive blasting standards, and Testex tape. Evaluation may include inspection of blasted surfaces for dust and abrasive residue, using clear adhesive coated tape per ISO 8502-3. Evaluation will be made immediately prior to coating application.
- M. The Inspector and/or District Inspector may, but is not required to, also measure coating thickness, at random locations, after each coat. SSPC –PA 2 (Level 2) is only to be used for the calibration of dry film thickness gauges. This is a minimum maximum dry film thickness specification. Dry film thickness readings will not be averaged. All inspection equipment shall be supplied by the Contractor. All equipment shall have current calibration certificates. The District reserves the right to use their own equipment at any time.
- N. The District Coating Inspector will evaluate cleanliness of coated surface immediately prior to application of a subsequent coat.
- O. The Contractor shall test all coated surfaces for pinholes (NACE SPO-188) and holidays after application of the final coat in accordance with the following:
 - 1. Perform test in presence of the District Coating Inspector.
 - 2. Perform test after coating has cured as recommended by the manufacturer.
 - 3. Use an appropriate detector, such as Elcometer #236 or as approved by the District representative.
 - 4. Re-test after coating repairs.
 - 5. The District may hire a third-party inspector to inspect Contractor's work, but the ultimate responsibility for the quality of the Contractor's work and the performance of contractual obligations remains with the Contractor.

3.03 LIMITING ENVIRONMENTAL CONDITIONS

- A. The Contractor shall apply coatings only when conditions are within the limits prescribed by the manufacturer.
- B. Contractor shall not abrasive blast or apply coatings when air temperature is less than 5 degrees F above dew point and on the rise for a minimum of six hours unless the dehumidification equipment will be operating.
 - 1. The Contractor shall measure relative humidity and dew point using a sling psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables. Elcometer 319 Dew Point meter, or equal, may also be used.

- C. The Contractor shall complete any blasting, coating and testing operations within the duration of time as specified.
- D. The Contractor shall provide all environmental controls required to protect the work and provide the environmental conditions required to perform the work, at no additional cost to the District.

3.04 DEHUMIDIFICATION AND VENTILATION

- A. The Contractor shall provide dehumidification as required to establish and maintain the specified temperature and relative humidity inside the reservoir twenty fours a day, seven days a week until final cure. The Contractor shall bear all cost and liability for work resulting from dehumidification equipment failure, breakdown, power failure, or down time.
- B. The Contractor shall provide dehumidification continuously from start of abrasive blasting, until a minimum of three (3) days after application of final coat and all repairs are completed, or for a longer period as recommended by the coating system's manufacturer. The Contractor shall submit a letter from the dehumidification manufacture that the equipment has been properly sized for this project prior to any abrasive blasting operations. Working hour meters are required on the dehumidification units.
- C. The Contractor shall be expected to maintain the established production schedule despite these potentially adverse conditions by providing all labor, equipment and materials necessary to maintain a controlled environment in the area where work is to be performed. The Contractor shall provide dehumidification equipment consisting of a solid desiccant (not liquid, granular, or loose lithium chloride) design having a single rotary desiccant bed capable of continuous operation, fully automatic with drip-proof electrical controller. Air heaters alone are not acceptable as dehumidification units.
- D. The Contractor shall ensure that relative humidity of processed air from dehumidification unit does not exceed forty five percent (45%).
- E. The air change rate for maintaining the required spread of 10°F between inside surface temperature and inside space dew point temperature with a maximum relative humidity of 45% in the space will depend upon the type of equipment to be used and the time of year during the application. There shall be one (1) to two (2) air changes per hour, depending on the air volume of the space to be controlled, to hold the desired degree of cleanliness of the surface.
- F. The Contractor shall ensure areas adjacent to the surface that is to be blasted and coated are not exposed to a relative humidity greater than forty-five percent (45%) at any time during blasting, cleaning, coating, or curing.
- G. The Contractor shall ensure that during blast cleaning and coating, and for 96 hours after final coat and all repairs are completed, dehumidification units maintain an air and steel temperature of 60 degrees F minimum inside the reservoir.

- H. The Contractor shall ensure dehumidification equipment is placed as close to reservoir manhole as possible.
- I. The Contractor shall ensure cleaning of dehumidification filters prior to start of dehumidification and weekly cleaning thereafter.
- J. The Contractor shall ensure dehumidification tubing is maintained as follows:
 - 1. Mechanically connected and sealed with duct tape at joints.
 - 2. Extended to the center of the Reservoir and attached to a diffuser that will distribute air equally throughout Reservoir.
 - 3. Have no dust or other foreign matter inside tubing.
- K. The Contractor shall provide and maintain 24-hour strip chart recorder for humidity and temperature and place humidity and temperature measuring devices inside reservoir at the start of abrasive blasting operations.

3.05 PREPARATION FOR COATING

- A. The Contractor shall prepare surfaces to be coated in accordance with the coating manufacturer's instructions but not less than specified herein.
- B. The Contractor should expect that the entire surface under the existing coatings to be corroded, having mill scale, or having weld spatter, and shall provide for such conditions, accordingly, including complete removal of such materials down to bare steel in accordance with SSPC SP10 on all interior surfaces. SSPC SP5 is also acceptable in areas that are over blasted due to difficult access or configuration of the beam/surface. The District will not compensate the Contractor for areas that are over blasted.
- C. During blast cleaning operations, inlet, outlet, overflow, and drain openings in bottom of tank shall be covered with plywood bulkheads, or other approved barriers, to prevent entry of spent abrasive, removed coating or other foreign materials.
- D. Prior to abrasive blasting or other mechanical surface preparation, the Contractor shall clean all surfaces to be coated in accordance with SSPC-SP 1. This work shall include, without limitation, removal of all visible and invisible oil, grease, dirt, salts, welding residues, and other surface contaminants, regardless of quantity or extent. Cleaning shall include inspection of all surfaces using ultraviolet (black-light) methods to identify the presence of oils and greases not visible under normal lighting. All detected contamination shall be completely removed prior to abrasive blasting. Slag, weld spatter, and weld-metal accumulations shall be removed by chipping, scraping, or grinding in accordance with NACE SP-0188 prior to abrasive blasting. No additional compensation or time extension will be provided for cleaning of surfaces that are heavily contaminated, greasy, or otherwise dirty prior to surface preparation.
- E. The Contractor shall provide blast cleaning including: removal of existing coating, under film corrosion, corrosion, and other corrosion products from all areas to be coated; and, preparation of all surfaces to be coated by abrasive blast cleaning to SSPC-SP-10 near white metal with a surface profile of 3.5 to 4.5 mils for the 100%

solids epoxy and 2 to 3 mils for the thin film epoxy. For every 500 square feet, or less, of surface blasted, the surface profile shall be tested with the use of Press-o-Film as manufactured by Testex, Elcometer 122 Testex Replica Tape, or other NACE RP0287 approved equal, at locations to be determined by the Inspector.

- F. The Contractor shall ensure complete abrasive blast cleaning of metal prior to application of coating system. The Contractor will provide a hold back of 5" in areas to be welded if the welder requests it.
- G. The Contractor shall not reuse abrasive blast media unless the media is specifically designed for reuse, if steel abrasive is used the working mixture shall be a minimum of 75% grit and 25% shot. Automatic blast units shall be approved by the District before use on the exterior roof. The Contractor shall be fully aware of the different required anchor profiles that are required for different products.
- H. The Contractor shall ensure maintenance of abrasive blasting equipment including:
 - 1. Installation of an oil moisture separator in the airline between compressor and blast machine.
 - 2. Installation of an air cooler/dryer in the airline between the compressor and the oil and moisture separator.
 - 3. Use of venturi nozzle.
- I. The Contractor shall ensure all surfaces to be blast cleaned are electrically grounded during blast cleaning. All air and blast lines will have cable whip checks installed.
- J. The Contractor shall provide exhaust air dust collectors to prevent discharge of dust to outside air. No dust socks are allowed. The Contractor shall provide and use a dust containment system that shall consist of a 12,000 cfm, or higher, mobile industrial dust collector. Approved dust collector products include DC12000 as manufactured by Industrial Vacuum Equipment Corporation, or equal.
- K. The Contractor shall mask-off and protect all exposed machined metal surfaces, plastic, rubber, and other surfaces not to be painted or that may be damaged by abrasive blasting or tying in to coating systems.
- L. The Contractor shall remove all dust and abrasive from freshly blasted surfaces by use of a District approved vacuum system. When the Contractor is painting the roof plates, rafters, knuckle, shell and roof support there shall be no more than 1" of remaining grit on the floor during coating application. Care shall be taken to not contaminate the lower surfaces of the wall during the coating application.
- M. The Contractor shall dispose of abrasive blast media and other waste materials off-site and in accordance with approved material disposal plan and discard material directly from the reservoir to a portable container and remove container from site. The Contractor shall ensure media is not placed on ground or other intermediate location. No abrasives shall be reused at any time.
- N. For spot repairs, all surfaces and edges of the existing sound coating material surrounding bare metal and spot-cleaned areas shall be feathered to a smooth

transition using sandpaper to eliminate loose and/or abrupt edges. The CONTRACTOR shall power tool clean small repair areas less than 1 sq. ft. according to SSPC SP11 to meet the manufacturer's recommended profile. An MBX Bristleblaster or equivalent shall be used to perform power tool cleaning per SP11. The existing coating shall be abraded a minimum of 3 inches beyond the edge of the bare steel. Abrasive blasted surfaces shall require a minimum of 6 inches of lightly abraded existing coating.

- O. For spot repairs, all sharp edges and welds shall be rounded or chamfered and all burrs, bare steel, and weld splatter shall be ground smooth per NACE SP0178 and SSPC SP2 and SP3.

3.06 INTERIOR COATING SYSTEM

A. INT-EPOX-ROOF

1. Apply the coating system in accordance with the coating manufacturer's published product data sheet and written application instructions to achieve the following total dry film thickness (DFT):
 - a. Minimum total DFT: 16.0 mils
 - b. Maximum total DFT: 20.0 mils
 - c. Apply in one or more coats as required. Maximum DFT per coat shall not exceed the manufacturer's written recommendations.
 - d. Submit manufacturer's application instructions showing proposed number of coats and target DFT.
2. Apply the INT-EPOX-ROOF coating system to the interior tank rafters, roof plates, interior piping, and the upper 6 inches of the tank shell measured downward from the underside of the roof (knuckle).

B. INT-EPOX-TANK

1. Apply the coating system in accordance with the coating manufacturer's published product data sheet and written application instructions to achieve the following total dry film thickness (DFT):
 - a. Minimum total DFT: 25.0 mils
 - b. Maximum total DFT: 35.0 mils
 - c. Apply in one or more coats as required. Maximum DFT per coat shall not exceed the manufacturer's written recommendations.
 - d. Submit manufacturer's application instructions showing proposed number of coats and target DFT.
2. Apply the INT-EPOX-TANK coating system to the tank floor, shell, ladder, column roof supports, and overflow, terminating 6 inches below the underside of the roof (knuckle).

3.07 APPLICATION

- A. The Contractor shall adhere to general application requirements as follows:
 1. Mix and apply all coatings in accordance with the manufacturer's recommendations and instructions, the applicable requirements of SSPC-PA 1, and as specified herein.

2. Obtain Inspector's evaluation and approval of steel surface preparation immediately prior to application of first coat.
 3. Obtain Inspector's evaluation and approval of cleanliness of previous coat immediately prior to application of a subsequent coat.
 4. Contractor shall provide paint pump ratio testing at the beginning of each application.
 5. Completely coat all surfaces above shell prior to coating shell. The floor will be abrasive blasted and coated after the shell, roof, roof supports, and rafters are completely caulked, tested, and repaired.
 6. For each portion of the Reservoir-shell, roof, and floor, complete application.
 7. Apply coatings by plural component spray except:
 - a. Roof plates, rafters and surfaces of the roof support columns above the overflow elevation.
 - b. Areas of less than 2 square inches may be brushed, or the roof and rafters.
 - c. Required brush striping of edges, welds, nuts, bolts, rafter edges, and roof plate edges. The thin film stripe coat will be applied as a totally independent coat by brush and allowed to dry prior to application of the finish coat. The stripe coat will be the same as the system being applied. No other products shall be allowed for stripe coats.
 8. Apply coatings at a temperature recommended by manufacturer. Prior to mixing, coating materials shall be not less than 90 degrees F. Use explosion-proof inline heaters, as necessary.
 9. Scaffolding or other support system shall be free of abrasive blast media, dirt, and other foreign matter prior to coating application.
 10. The Contractor should be fully aware that most epoxies can produce amine blush which must be removed prior to over coating and disinfection.
 11. Finish coat shall be uniform in color and gloss over the entire surface. Finish coat shall be smooth to touch with no sags, runs, dry spray, over-spray, cracks, pinholes or other surface defects and must be even in color and appearance. When coating is applied, the previously coated area will be masked off to prevent overspray onto newly painted surfaces.
 12. Coating should not be applied closer than 6 inches from an unprepared surface.
 13. The Contractor shall apply a totally independent brush coat and allowed to dry to all welds, plate edges, rafter edges, nuts, bolts, and hard to reach areas prior to application of the finish coat.
 14. For spot repairs, the new coating shall overlap the existing coating that has been abraded with power tools by a minimum of 2 inches. The new coating shall overlap the existing coating that has been abraded with abrasive blasting by a minimum of 3 inches.
- B. The Contractor shall remove areas of paint in excess of allowable mils specified.
- C. The Contractor shall provide additional coats to achieve specified minimum dry film thickness.
- D. The Contractor shall provide application equipment as follows:
1. Airless spray pumps in compliance with manufacturer's requirements, having an anti-freeze device, and fluid filter.

2. Use fluid tip size recommended by manufacturer.
 3. Use clean fluid lines not previously used to apply zinc-rich or water-based coating materials.
 4. Clean equipment using only products recommended by the coating manufacturer.
 5. Blow lines to remove all thinners prior to painting.
 6. Barcol hardness testing is required eight hours of each application of the 10% solids epoxy.
 7. Each application a sample shall be sprayed onto plastic and marked with the date and time of application including the batch number. This sample shall retained be given to the project Engineer.
 8. Plural Component Coatings: After each component of the plural component coating system has been thoroughly heated, the Contractor shall perform a paint pump ratio test prior to each application in the presence of the Inspector.
 9. The Contractor shall place two new see-through containers with preprinted volumetric marks on a flat surface. The hose valve for each component shall be opened simultaneously and each component flow rate shall be allowed to stabilize by pouring the discharging materials into separate disposable containers. After the flow is stabilized, the hoses shall be transferred to the pre-printed volumetric containers and the valves shall be shut off after one of the containers has been filled, depending on the mixing ratio recommended by the Manufacturer. If the volumetric quantity of coating in the containers does not match the Manufacturer's recommendation, the Contractor shall reduce or increase the pressure and temperature until it meets the specified mixing ratio. No spraying shall be performed until the ratio test result has been accepted by the Inspector.
 10. All plural component pump gauges shall be in working order prior to any application, if gauges are not working, they shall be immediately replaced. All gauges shall be in the zero position when pump is off. If the pump error alarm goes off the Contractor shall immediately shutdown and repair the pump.
- E. The Contractor shall provide coating repairs as follows:
1. Touch-up or refinish all chipped, abraded, or otherwise unsatisfactory portions of the work in accordance with the manufacturer's recommendations. The Contractor should be fully aware that high solids epoxies can amine blush.
 2. Re-coating or touch-up of areas that have cured beyond the maximum time recommended by the manufacturer require the following special preparation.
 3. Sweep blast area and 3-inches into the surrounding area. Sweep blast under low pressure to uniformly abrade surface and feather edges. Feather edges by sanding or other means acceptable to the Inspector.
 4. Remove abrasive blast residue from blasted area with special attention to marginal areas of intact coating.
 5. All repairs will be masked off.
- F. After the specified coating has properly cured, the Contractor shall measure the DFT with an ASTM D7092-approved gauge in accordance with SSPC PA 2 with a Level 2 thickness restriction.
- G. After the specified coating has properly cured, the Contractor shall test all coated interior surfaces for pinholes and holidays using a high voltage spark tester

according to NACE SP0188. Testing shall be witnessed by the District Inspector. The required test voltage shall be established by the manufacturer's recommendations and testing of induced holidays. For surfaces having a total dry film coating thickness exceeding 20 mils, a high voltage holiday detector shall be used. The unit shall be adjusted to operate at the voltage required in NACE SP0188 for the average DFT applied in the area to be tested. The electrode movement over the coating surface shall be continuous and shall proceed in a systematic manner, which ensures 100% coverage of the coated interior steel surfaces. All defects shall be clearly marked by the District Inspector followed by repair and retesting by the Contractor until it is approved. Approved holiday testers include Tinker & Razor Model AP-W, D.E. Stearns Co. Model 14/20, Elcometer 236 15 kV, or equal.

3.08 INTERIOR CURING AND CLEANING

- A. The Contractor shall provide curing conditions (i.e. ventilation and dehumidification) in accordance with the conditions recommended by the coating material manufacturer or by this section, whichever is the highest requirement, prior to placing the completed coating system into service.
- B. Curing shall include providing ventilation at a rate of at least one complete air change every four hours.
- C. Equipment shall have a time recorder that provides a cumulative record of operating time.
- D. Deliver air from ventilating fan to center of reservoir through continuous flexible duct that is not reduced in area from the fan outlet.
- E. Prior to re-installation of roof vent covers removed during forced air ventilation, the Contractor shall ensure cleaning as follows:
 - 1. Clean dust and abrasive-blasting residue from the roof ventilation screens and top of rafter lips.
- F. The Contractor shall have the District flush the inlet line prior to cleaning operations. Thoroughly wash down with water all interior surfaces, including but not limited to, roof, rafters, walls, floor, piping and supports. All amine blush must be removed prior to putting the reservoir into service. The Contractor shall steam clean surfaces where necessary.

3.09 SEAL CAULKING

- A. Prior to when the finish coat is cured, the Contractor shall completely fill and seal all voids, bolt holes, around the entryways, and the floor/roof pedestals, with Sikaflex-1A caulking or approved substitute to provide a tightly adherent, smooth and continuous seam of caulk. This application may be performed after the application of epoxy or as directed by the manufacturer.
- B. Sealant, Sikaflex-1A caulking or approved substitute, may be required at roof plate and rafter interfaces where gaps or crevices are present, subject to approval by the Engineer or Coating Inspector.

3.10 MANWAY GASKETS AND VENT SCREENS

- A. The Contractor shall supply new manway gaskets for tank manways. The Contractor shall supply new hardware (bolts, nuts, and washers) for all manways and any appurtenances where the hardware is removed and replaced.
- B. The vent screens shall be replaced with new vent screens per AWWA D100. The woven wire mesh shall be 16 x 16x 0.009 inch wire and dimensioned as necessary to cover existing vent openings.

3.11 RESERVOIR DISINFECTION

- A. Upon complete curing, the Contractor shall submit in writing to the District certification that the coating is cured and ready to be placed into service for disinfection and testing. Reservoir cleaning and disinfection shall not commence without written certification. All amine blush must be removed prior to disinfection.
- B. After all other work has been completed, the Contractor shall ensure that the interior of the Reservoir is thoroughly cleaned and disinfected in accordance with the most current edition of AWWA C652, Disinfection of Water Storage Facilities. The Contractor shall ensure the reservoir is disinfected in accordance with Chlorination Method 2, which requires spray wash of the Reservoir interior with a 200-mg/ml chlorine solution. The District will assist the Contractor in filling the Reservoir and the Contractor shall allow three (3) consecutive working days for the owner to fill the Reservoir.
- C. The Contractor shall furnish all cleaning and disinfection materials and all equipment and labor necessary for the cleaning and disinfecting operations.
- D. After the first 24 hours have elapsed once the tank is full, the District will take a sample of the water to be used for bacteriological contaminants. If the results of this test are negative, the tank will be considered satisfactorily disinfected. If the results are positive, the tank shall be drawn down to that depth that will permit the addition of sodium hypochlorite to a final concentration of 10-mg/L. This depth will be determined upon an evaluation of the chlorine residual provided for in this Section of these Project Special Provisions.
- E. The Contractor shall ensure that any water used in cleaning and in disinfection of the Reservoir, is discharged in a manner acceptable to the District and the appropriate water pollution control agency. The Contractor shall ensure all water discharged is de-chlorinated.

3.12 CONTRACTOR/ COATING INSPECTOR INTERACTION & COMPLIANCE

- A. Inspection
 - 1. The District has retained a coating inspection firm to oversee all quality control related to coating operations. The tank inspector will report directly to the District Engineer and shall act with the Engineer's authority in all matters related to tank construction. The Inspector will be an N.A.C.E. Certified Coating Inspector, who will inspect any or all phases of work to be performed

as outlined herein. The tank inspector shall be an addition to the District Inspector; authority shall be limited to tank related work only. The District Inspector shall remain the primary observer for all work on the project. The tank inspector shall work for and report to the District. The Contractor shall not rely upon the tank inspector for documentation of environmental conditions and assuring compliance with plans and specifications.

2. The Contractor shall notify the District Engineer in advance (48 hours minimum) of all surface preparation or paint application in order to perform a preliminary examination and provide acceptance of the surface preparation and each coat prior to application of the next coat.
3. The Coating Inspector shall examine all materials, tools, and equipment to be used in the blasting and coating operations and shall have the authority to direct the Contractor to remove, replace, or repair any materials, tools, or equipment found not to be in conformance with the Contract Documents including the approved shop drawings and manufacturer's recommendations. The tank inspector will also observe the Contractor's safety activities throughout blasting and coating operations and the Contractor shall immediately rectify any deficiencies noted in that observation. The Contractor shall be fully responsible for compliance with all safety measures, hazardous and toxic materials regulations, and site security. Observation of or failure to observe any safety efforts of the Contractor by the Tank Inspector shall not relieve the Contractor of this responsibility nor shall any liability transfer from the Contractor to the District or the Tank Inspector. The Contractor shall indemnify, defend, and save harmless the District and the Tank Inspector from all liability associated therewith.
4. The SSPC-Vis1 pictorial surface standards along with dry film and wet film thickness gauges will be used by the Coating Inspector to determine acceptability of the paint application.
5. The inspection devices listed below, or approved equivalents, shall be provided by the Contractor to the Inspector as required in good working condition and with calibration data prior to beginning any Work. These items shall remain available until final acceptance of the coating applications per the parameters listed below:
 - a. Film Thickness Testing – The Inspector shall determine where and how often to test for film thicknesses. It shall be measured in accordance with SSPC PA 2 with a Level 2 thickness restriction. No measurements shall be made until at least 8 hours after application of the coating. A theoretical thickness shall also be calculated from the quantities of materials applied. The instruments shall have the capability of measuring 25% over the specified coating thickness and shall produce an actual reading and shall not be estimated. No measurements shall be made until at least 8 hours after application of the coating. The following testing instruments are acceptable.
 - 1) Wet film gauge: Notched gauge approved by ASTM D4414
 - 2) Metallic Surfaces – On ferrous and non-ferrous metals, the dry film coating thickness shall be using one of the following:
 - 3) PosiTestor 6000
 - 4) Elcometer Model 456

6. Prepared surfaces and all coating system component applications shall be inspected prior to each succeeding application. The procedure for collecting representative thickness data shall be as follows:
 - a. The Inspector shall determine where and how often to test for film thicknesses, and as a minimum the requirements of SSPC-PA 2 with a Level 2 thickness restriction and calibration will be followed.
 - b. At each inspection point, a minimum of three gauge readings shall be taken, moving the gauge 1 to 3 inches for each new gauge reading.
 - c. Discard any unusually high or low gauge reading that cannot be repeated consistently. Take the average (mean) of the three gauge readings as the spot measurement. The average spot measurement shall meet or exceed the specified dry film thickness for each application per the Level 2 thickness requirement.
 - d. The Contractor shall perform hardness testing after each application in the presence of the Inspector.
 7. The Contractor shall afford the tank inspector all reasonable facilities and assistance in monitoring the coating and priming operations. The Contractor shall provide weekly copies of their daily work reports to the tank Coating Inspector. Such reports shall include, but not be limited to, the day and date of work performed, the relevant weather conditions, the type and amount of work performed, all work related to the safety of the operation, and personnel assigned to work actually performed.
 8. To facilitate adequate inspection of all surfaces, the Contractor shall provide scaffolding or rigging necessary for the Coating Inspector to perform dry film thickness readings, and visual holiday inspection as required by these specifications and reference standards. The Contractor shall provide personnel to move scaffolding or rigging at the instructions of the Engineer.
 9. The tank Coating Inspector shall have authority to direct the Contractor to suspend operations when environmental conditions fall outside the manufacturer's recommended parameters. The Contractor shall comply with these directions and shall not proceed until the tank Coating Inspector determines environmental conditions are sufficient to proceed. Failure to suspend coating operations as directed or restarting work without the direction of the tank Coating Inspector shall be cause for rejection of work so performed.
 10. The Contractor shall immediately remove and replace all such work in accordance with these Project Special Provisions and directions of the tank inspector. No additional compensation will be allowed for work resulting from failure to comply with the tank inspector or for surfaces not otherwise conforming to the provisions of these Project Special Provisions.
- B. Coating inspector authority
1. The tank Coating Inspector shall have authority to direct the Contractor to suspend operations when environmental conditions fall outside the manufacturer's recommended parameters.
 2. The Contractor shall comply with directions and shall not proceed until the tank Coating Inspector determines environmental conditions are sufficient to proceed. Failure to suspend coating operations as directed or restarting work without the direction of the tank Coating Inspector shall be cause for rejection of work so performed.

3. The Contractor shall immediately remove and replace all such work in accordance with these Project Special Provisions and directions of the Coating Inspector.
 4. No additional compensation will be allowed for work resulting from failure to comply with the tank inspector or for surfaces not otherwise conforming to the provisions of these Project Special Provisions.
- C. Safety
1. The Contractor shall provide a safe work environment at all times. In the event the Coating Inspector notes any safety deficiencies, the Contractor shall immediately rectify noted deficiencies.
 2. The Contractor shall be fully responsible for compliance with all safety measures, hazardous and toxic materials regulations, and site security. Observation of or failure to observe any safety deficiencies of the Contractor by the Coating Inspector shall not relieve the Contractor of this responsibility nor shall any liability transfer from the Contractor to the District or the Coating Inspector.
 3. The Contractor shall save harmless the District and the Coating Inspector from all liability associated therewith.
- D. Inspection assistance
1. To facilitate adequate inspection of all surfaces, the Contractor shall provide scaffolding or rigging necessary for the Coating Inspector to perform dry film thickness readings, and visual holiday inspection as required by these specifications and reference standards.
 2. The Contractor shall provide personnel to move scaffolding or rigging at the instructions of the Coating Inspector.
- E. Notification
1. The Contractor shall notify the Coating Inspector in advance (48 hours minimum) of all surface preparation or paint application in order to perform a preliminary examination and provide acceptance of the surface preparation and each coat prior to application of the next coat.
- F. Acceptability for paint application
1. The SSPC-Vis1 pictorial surface standards along with dry film and wet film thickness gauges will be used by the Coating Inspector to determine acceptability of the paint application.
 2. The Contractor shall provide necessary testing equipment to perform the above-mentioned tests.
- G. Reporting
1. The Contractor shall afford the Coating Inspector all reasonable facilities and assistance in monitoring the coating and priming operations.
 2. The Contractor shall provide weekly copies of daily work reports to the tank Coating Inspector. Such reports shall include, but not be limited to, the day and date of work performed, the type and amount of work performed, all work related to the safety of the operation, and personnel assigned to work actually performed.

3.13 SOAK PERIOD & TESTING FOR VOLATILE ORGANIC COMPOUNDS

- A. The Contractor shall ensure that water in the Reservoir is allowed to soak for five (5) days after the Reservoir has been filled to the over-flow level and disinfected.
- B. After the five-day soak period the District will sample and submit a single sample to a certified laboratory to test the water for presence of organic chemical contaminants (e.g. TCE, PCE, etc.) possibly having leached from the new paint system. The sample is to be tested in accordance with EPA Method 524.2. The water sample will be collected by the District in the presence of the Contractor and should be a true representation of the water in the Reservoir at the time.
- C. The Contractor shall be liable for all costs associated with re-testing water if reservoir water draining and refilling is necessary.
- D. The District Engineer shall evaluate and determine acceptability of the aesthetic quality of the water as a condition of final acceptance of the work. Constituent levels found from sample results which are at or below regulated maximum contaminant levels specified by state and federal standards shall not be the sole basis for tank acceptance.
- E. The District Engineer may reject all work, or a portion thereof based on any adverse taste or odor detected or other conditions affecting the aesthetic quality of the water.

3.14 DISPOSAL OF EXISTING COATINGS AND SPENT ABRASIVE BLAST MEDIA

- A. The Contractor shall dispose of spent abrasive blast media and removed coating materials in accordance with a District approved disposal plan.
- B. The Contractor shall coordinate and pay all costs for sampling and testing of spent abrasive blast media and removed coating materials in order to document waste class. Minimum sampling and testing requirements are listed previously in this Section.
- C. Prior to removal of hazardous wastes off-site, the Contractor shall allow adequate time for District to review laboratory test results, as well as the time required to obtain a Hazardous Waste Generator's U.S. EPA ID Number, if required the District will provide the Contractor with written notice to dispose of all or a portion of the spent abrasive blast media and/or removal coating materials as hazardous waste, if so determined by the District that such disposal is required.
- D. The Contractor shall be responsible for all costs associated with accumulating, transporting, and disposing of spent abrasive blast media and removed coating materials.

3.15 REPAIRS

- A. If an area is found to have an improper finish, insufficient film thickness or other deficiencies; the Contractor shall clean, prepare, and topcoat the coating surface per the manufacturer's recommendations to obtain the specified finish and coverage. Work shall be free of runs, bridges, shiners, laps, or other imperfections.

- B. Damaged or defective coating shall be removed by the Contractor and shall be prepared per the specified water and abrasive blast cleaning to meet the clean surface requirements before recoating

3.16 CLEAN-UP

- A. Upon completion of the work, the Contractor shall make a detailed inspection of all work.
- B. The Contractor shall be solely responsible for all paint over-spray or fugitive dust fallout claims.
- C. The Contractor shall remove all spattering, spits, and blemishes.
- D. Upon completion, of work, the Contractor shall remove all staging, tarps, scaffolding, and containers from the site, including but not limited to: paint and thinner containers and excess paint and thinner (to be disposed of in conformance to all current regulations); paint spots removed and the entire job site cleaned; all damage to surfaces resulting from the work from this section to be cleaned, repaired or refinished to the complete satisfaction of the District. All clean up shall be completed within 7 calendar days starting at the last day of holiday testing of the reservoir. The Contractor shall allow adequate time for District for review of laboratory test results, as well as the time required to obtain a Hazardous Waste Generator's U.S. EPA ID Number if required.
- E. The District will provide the Contractor with written notice to dispose of all or a portion of the spent abrasive blast media and/or removed coating materials, as required.
- F. The Contractor shall bear all costs associated with site clean up.

END OF SECTION

SECTION 09 97 13.23

EXTERIOR COATING FOR WELDED STEEL RESERVOIR

PART 1 GENERAL

1.01 SUMMARY

- A. The Contractor shall perform exterior coating work as follows:
1. Stateline Tanks #1: provide all labor, materials, equipment and incidentals required for:
 - a. Complete removal of all the existing exterior coatings on exterior surfaces and appurtenances, including but not limited to roof, shell, ladders, guardrails, pipes, manways, hatches, vents, etc.
 - b. Provide full containment structure around tank to contain and protect the environment and persons from fugitive dust, blast media, coating overspray, etc.
 - c. Perform full exterior coating, including surface preparation, of the exterior surfaces and appurtenances, including but not limited to the roof, shell, ladders, guardrails, pipes, manways, hatches, vents, etc.
 - d. It is the District's intent to have the Contractor remove and replace the coating system of all of the Stateline Tank #1's exterior steel surfaces, in their entirety, and any omission of specific tank features or elements not expressly stated in this specification are not deliberate and should be accounted for.
 2. Stateline Tanks #2: provide all labor, materials, equipment and incidentals required to:
 - a. Completely remove all the existing exterior coatings on exterior surfaces and appurtenances, including but not limited to roof, shell, ladders, guardrails, pipes, manways, hatches, vents, etc.
 - b. Provide full containment structure around tank to contain and protect the environment and public from fugitive dust, blast media, coating overspray, etc.
 - c. Perform full exterior coating, including surface preparation, of the exterior surfaces and appurtenances, including but not limited to the roof, shell, ladders, guardrails, pipes, manways, hatches, vents, etc.
 - d. It is the District's intent to have the Contractor remove and replace the coating system of all of the Stateline Tank #2's exterior steel surfaces, in their entirety, and any omission of specific tank features or elements not expressly stated in this specification are not deliberate and should be accounted for.
- B. The Contractor shall apply the coating system as indicated herein and, in a manner, prescribed by these specifications and the manufacturers printed application instructions. The interior coating system must be completed prior to coating work on the exterior.

- C. Stateline Storage Tanks Information:
 - 1. Year Built: 1994 for Stateline Tank No. 1 and 1995 for Stateline Tank No. 2.
 - 2. Diameter: Stateline Tank No. 1 = 90 ft, Stateline Tank No. 2 = 120 ft
 - 3. Shell Height: 27 ft for both tanks
 - 4. Knuckle Height: 3 ft for both tanks
 - 5. Center Height: 33 ft.
 - 6. Capacity: Stateline No.1 = 1.25 MG, Stateline No. 2. = 2.25 MG

- D. Existing interior coatings:
 - 1. Stateline Tank #1 and #2:
 - a. The Stateline Tank #1 and #2 were originally coated in 1994 and 1995 respectively; the coating product is unknown.
 - b. Tank information, including dry film thickness of existing coating, heavy metal analysis, and recently assessed coating and steel condition, is presented in "Attachment A - 2025 Stateline Tanks Condition Assessment Report", of this project specification.

 - 2. The Contractor shall bear all costs associated with stripping, handling, storing, testing, transport, and disposal of all waste. It shall be the Contractors responsibility to estimate the quantity and classification of waste associated with the work.

1.02 REFERENCES

- A. The Contractor shall comply with the requirements of the Steel Structures Painting Council Painting Manual, Volume 1 and 2, Good Painting Practices, including AMPP, the National Association of Corrosion Engineers, American Society of Testing and Materials, and American Water Works Association D-102, for application and surface preparation, and all applicable OSHA and safety standards.

- B. The following standards (including the most recent update or version) shall govern the work unless specified otherwise in these specifications:

ASTM D4214	Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM D4414	Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gauges
ASTM D4417	Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
ASTM D4541	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM D5402	Standard Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs
ASTM D7091	Standard Practice for Non-Destructive Measurement of Dry Film Thickness of Non-Magnetic Coatings Applied to Ferrous Metals and Non-Magnetic, Non-Conductive Coatings to Non-Ferrous Metals
SSPC-Vol.1,	Steel Structures Painting Manual, Good Painting Practice.
SSPC-Vol.2,	Steel Structures Painting Manual, Systems and Specifications.
SSPC-SP 1	Solvent Cleaning
SSPC-SP 2	Hand Tool Cleaning
SSPC-SP 3	Power Tool Cleaning
SSPC-SP 5	White Metal Blast Cleaning
SSPC-SP Guide 11	Stripe Coating
SSPC-SP 6	Commercial Blast Cleaning
SSPC-SP 7	Brush-Off Blast Cleaning
SSPC-SP 10	Near White Blast Cleaning
SSPC-SP 11	Power Tool Cleaning to Bare Metal
SSPC-AB 1	Mineral and Slag Abrasives
SSPC-PA 1	Shop, Field and Maintenance Painting
SSPS-PA Guide 3	Guide to Safety in Paint Application
SSPS-PA Guide 12	Lighting
SSPC-Guide to Vis 1-89	Visual Standard for Abrasive Blast Cleaned Steel
SSPC-V15 (3-93)	Visual Standard for Power & Hand-Tool Cleaned Steel
SSPC Guide 6	Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations
AWWA D102-97	Standard for Painting Steel Water-Storage Tanks
AWWA C652	Disinfection of Water Storage Facilities.
ISO-8502-3	Preparation of Steel Substrates (Class 2)
NACE SP0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
NACE SP0287	Field Measurements of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using Replica Tape
All applicable State and Federal OSHA safety standards.	

C. The Contractor shall consult the District Engineer regarding any situations not covered by the reference standards or this specification; however, it is the Contractor not the District that is ultimately responsible for proper coating application.

D. National Association of Corrosion Engineers (NACE) standards, referenced herein.

1.03 SUBMITTALS

- A. Coating contractor shall provide SSPC QP1 and a letter stating certification for the application of the coating systems to be applied.
- B. The manufacturer shall provide written certification that the CONTRACTOR's supervisor and each applicator performing Work on the project have been trained and approved by the manufacturer to apply the selected coating system.
- C. The Contractor shall provide a submittal for each material to be used in the work. At a minimum provide submittals for Abrasive materials, Paint systems, Thinners, and any other additives.
- D. The Contractor shall include the following data in the manufacturer's recommended handling and installation instructions for the proposed paint system submittal:
 - 1. Weight in pounds/gallon – ASTM D-2196
 - 2. % solids by volume – ASTM D-2369
 - 3. Percent solids by weight – ASTM D-2369
 - 4. Air cure dry time to re-coat – ASTM D-1640
 - 5. Minimum adhesion to steel substrate – ASTM D-4541 using a type II instrument (Minimum acceptable adhesion shall be 800 p.s.i.).
 - 6. Adhesion between coats – ASTM D-4541
 - 7. Letter from dehumidification manufacture that the equipment has been properly sized as per the specification requirements.
- E. The Contractor shall provide technical data for the dehumidification or heating equipment to be used to hold a blast and to be used during curing.
- F. The Contractor shall submit the manufacturers latest written product data sheets on each product to be used, and current manufacturer's safety data sheets (S.D.S.) on all materials to be used in the surface and coating operations including abrasives, thinners, cleaning fluids, and solvents. The Contractor shall maintain on the job site at all times S.D.S. and product data sheets. The Contractor shall post required signage for lead work.
- G. The Contractor shall include the following data in the manufacturer's recommended handling and installation instructions for the proposed paint system submittal:
 - 1. Storage – including maximum and minimum storage temperatures
 - 2. Surface preparation
 - 3. Coating repair
 - 4. Application equipment
 - 5. Mixing and application of coating system – including a table of minimum and maximum time to re-coat as a function of temperature
 - 6. Curing – Minimum and maximum re-coat times.
 - 7. Acceptable temperatures at the time of application
 - 8. The Contractor shall include the following data in the report submittal: Quantity of coating material used for each coat, submitted within 24 hours after completion of each coat.

9. Containment plan and equipment and dust collection system.
 10. Health and Safety Plan
 11. Fire Safety Plan
- H. The Contractor shall include technical data documenting that the material to be provided complies with these specifications. Submittals will not be accepted until all requirements of this specification have been confirmed.
- I. The Contractor shall submit, for the District Engineer's acceptance, a written program detailing measures for full containment, and equipment and dust and over-spray control.
- J. The Contractor shall provide technical data for the dehumidification or heating equipment to be used to hold a blast and to be used during curing.
- K. If applicable, the Contractor shall submit a lead compliance program 60 days prior to the commencement of any abatement activities in accordance with California Code of Regulations Title 8, Section 1532.1.
- L. Lead Removal, Containment, Disposal, and Environmental and Personnel Protection Plans:
1. Collection/Storage/Disposal Plan for Coating Chips – If applicable, the Contractor shall provide a written plan for the collection, storage and disposal as outlined in SSPC Guide 7. If the waste is deemed hazardous per CFR Title 22 limits, the name and address of the hazardous waste hauler and a copy of their hauling permit shall be submitted along with the name and address of the final disposal site. When the disposal is completed, a copy of the completed EPA manifest shall be submitted to the City. If spent abrasive lab results exceed CCR Title 22 TCLP limits, hazardous waste disposal costs shall be negotiated with the City as an extra cost per Division 0 – General Conditions.
 2. Removal/Containment Plan – If applicable, the Contractor shall provide a written plan for the methods to be employed for surface preparation, containment and collection of debris as outlined in SSPC Guide 6. When designing the system, the Contractor shall recognize the load bearing capacity and integrity of the structure to be coated. The Contractor shall have the containment plan reviewed by the District.

1.04 QUALITY ASSURANCE

- A. Installer's Qualifications:
1. The Contractor will have an active California C-33 license.
 2. The Contractor shall provide SSPC QP1 and a letter stating certification for the application of the coating systems to be applied.
 3. The Contractor shall provide written evidence to the District Engineer that workers furnished have performed quality work and possess experience and knowledge in surface preparation and the application of high-performance industrial coatings.
 4. The Contractor shall provide written evidence to the District Engineer that the Contractor has a minimum of five years of experience in the painting of water

storage tanks and a current list of water tank painting projects for the past five years (five minimum).

5. The Contractor shall provide a certification from the coating manufacturer in application of the specified coatings for at least five years prior to commencement of this work on potable water storage reservoirs.

- B. The Contractor shall conform to all the standards of craftsmanship as discussed in the Steel Structures Painting Council's Painting Manual, Volume 1, Good Painting Practice. These techniques include but are not limited to: multiple passes of the spray gun, with each pass overlapped 50%, and "cross hatching" successive coats of paint. A stripe (Brush coat) is required on all welds prior to the finish coat.

- C. The District has retained a 3rd party Special Coating Inspector ("Inspector" or "Coating Inspector") and inspection firm to oversee all quality control related to coating operations. The Inspector will report directly to the District's Engineer and/or Project Manager and shall act with the Engineer's authority in all matters related to construction. The Inspector will be an AMPP Certified Coating Inspector, who will inspect any or all phases of work to be performed as outlined herein. The Inspector shall be an addition to the District Inspector. The District Inspector shall remain the primary observer for all work on the project. The Inspector shall work for and report to the District. The Contractor shall not rely upon the Inspector or District Inspector for documentation of environmental conditions and assuring compliance with plans and specifications.

- D. The Contractor shall notify the District Engineer in advance (48 hours minimum) of all surface preparation or paint application in order to perform a preliminary examination and provide acceptance of the surface preparation and each coat prior to application of the next coat.

- E. The Contractor shall provide access to the Inspector and/or District Inspector for examination of all materials, tools, and equipment to be used in the blasting and coating operations. The Inspector and/or District Inspector shall have the authority to direct the Contractor to remove, replace, or repair any materials, tools, or equipment found not to be in conformance with the Contract Documents including the approved shop drawings and manufacturer's recommendations.

- F. The Contractor shall be fully responsible for compliance with all safety measures, hazardous and toxic materials regulations, and site security. Observation of or failure to observe any safety efforts of the Contractor by the Inspector and/or District Inspector shall not relieve the Contractor of this responsibility nor shall any liability transfer from the Contractor to the District or the Inspector and/or District Inspector. The Contractor shall indemnify, defend, and save harmless the District, the Inspector, and District Inspector, from all liability associated therewith.

- G. The Contractor's workmanship shall conform to standards and recommendations of SSPC Vol. 1, especially Chapters 5.1 and 6.

- H. The District may use any testing method deemed necessary by the Inspector and/or District Inspector to verify quality of work. The District may, but is not required to, monitor the quality of work pursuant to this section.
- I. The Contractor shall ensure proper materials handling and use, including: all coating materials are labeled and used in accordance with SSPC-PA 1, Paragraphs 5.1.1 thru 5.1.5, except all coating system materials without a stated shelf life shall be delivered and used within six months of the date of manufacture; and certification, from any source, that the coating system materials are still suitable for use beyond the stated shelf life or beyond the six month period specified above will not be accepted. All equipment and materials shall be stored in a secured ventilated container.
- J. The Contractor shall perform the necessary quality assurance in accordance with an approved plan. The Contractor will supply all inspection equipment, required by the Inspector and/or District Inspector. The District reserves the right to use the Contractor's equipment at any time.
- K. The Contractor shall comply with the following conditions in collection and analysis of wastes:
1. All testing of spent abrasive blast media and removed coating materials to classify these wastes as hazardous or non-hazardous shall be performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) of the California Department of Health Services.
 2. Any Laboratory performing analysis shall provide for comparison to TTLC, STLC, TCLP limits, and RCA limits, and to all other applicable regulatory limits. Laboratory shall retain samples at least ninety (90) calendar days after all analyses are complete.
 3. The Contractor shall ensure collection of as many representative samples as required by the representative of the disposal facility, but not less than 4 total.
 4. The Contractor shall ensure the following:
 - a. each sample shall have an identifying sample number assigned when the sample is taken;
 - b. each sample number shall be included on the sampling chain of custody and in all reports, correspondence, and other documentation related to the sample;
 - c. each sample shall have a sampling chain of custody;
 - d. and, each chain of custody show the name and organization of each person having custody of the sample, and also show the sample number, job name and location, time of day and date sample was taken, material sampled, and tests to be performed.
 5. The Contractor shall notify the District at least 24 hours prior to sampling collection for the purpose of District verification of samples collected.
 6. Manufacturer's Representative: The Contractor shall, at no cost to the District, provide a qualified technical representative of the coating system manufacturer at the job-site as required by the District to resolve problems related to the coating system or the application of the system.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Coating system materials:
 - 1. The Contractor shall assure that all materials delivered to the job site are in their original unopened containers.
 - 2. The Contractor shall not use any product older than twelve months from the original manufacturer's factory batch date as listed on the container.
- B. Abrasive grit/abrasive blast media materials:
 - 1. Delivery of abrasive grit/abrasive blast media shall be in original labeled moisture-proof bags or airtight bulk containers. Abrasives shall not be reused.
- C. The Contractor shall submit, for the District Engineer's acceptance, a specified material storage area and store all materials in the approved location.
 - 1. Store materials in a single, approved location.
 - 2. Store coating system materials in enclosed, secure, and ventilated structures, and maintain temperature inside the structure within the temperature range recommended by the manufacturer.
 - 3. Keep storage location clean, neat, and free of fire hazards.
 - 4. All operating equipment shall be placed into secondary containment to prevent accidental spills.
 - 5. The Contractor shall maintain material storage areas in a clean condition, free of solvent rags, and wastepaper. The Contractor shall remove debris and other fire hazards and dispose of such items in accordance with all the applicable regulations at the end of each work day.
- D. The Contractor shall exercise extreme care when handling or disposing of materials or substances listed in Section 8-339 of Division 4 (California Code of Occupational Safety and Health Regulations) of Title 26 (Toxics) of the California Code of Regulations, or as evidenced by the S.D.S.
- E. The Contractor shall immediately notify the District Engineer of any spill of material that is a hazardous substance in accordance with the appropriate jurisdiction.
- F. Avoid spilling thinners, solvents, paint products or other materials that contain toxic substances. All compressors and operating equipment shall be placed in secondary containment. All sewer or site drains shall be covered.
- G. Remove discarded thinners, solvents, and paint products from the job-site daily.

1.06 PROJECT CONDITIONS

- A. Existing Substrate Condition
 - 1. The Contractor shall expect that exterior steel surfaces beneath the existing coatings may exhibit corrosion, remaining mill scale, weld spatter, and other surface irregularities. The Contractor shall account for these conditions and prepare exterior steel surfaces in accordance with SSPC-SP 6 / NACE No. 3, Commercial Blast Cleaning, prior to application of the exterior coating system.

2. SSPC-SP 5 / NACE No. 1, White Metal Blast Cleaning, is acceptable in localized areas that are unavoidably overblasted due to surface configuration, access limitations, or complex geometry. The District will not provide additional compensation for areas that are overblasted beyond the specified SSPC-SP 6 surface preparation requirements.
- B. Tank Status and Access
1. One of the two tanks shall be drained and out of service during performance of the exterior coating Work. The District shall perform a lock out and tag out of all energized equipment such as water and electrical equipment.
 2. All openings shall be covered and protected to prevent over-spray, dust, or debris from entering the reservoir. The Contractor shall be responsible for all costs resulting from contamination of water inside the in-service reservoir.
- C. Environmental Conditions for Surface Preparation and Coating
1. Coating and surface preparation operations shall only be performed when environmental conditions are within the limits prescribed by the coating manufacturer.
 2. Coating shall not be applied when metal temperature is less than five degrees Fahrenheit (5°F) above the dew point and rising for a minimum of six (6) hours.
 3. Relative humidity and dew point shall be measured using a sling psychrometer with U.S. Weather Bureau psychrometric tables, or with an electronic dew-point meter approved by the District.
 4. These conditions shall be maintained continuously during abrasive blasting, coating application, curing, and repair operations.
- D. Environmental Control Responsibility
1. The Contractor shall provide and use dehumidification, temperature control, tenting, ventilation, and all other environmental controls required to protect the Work and to establish and maintain acceptable coating and curing conditions at no additional cost to the District.
 2. The Contractor shall complete all blasting, coating, and testing operations within the Contract Time.
- E. Dehumidification and Temperature Control
1. The Contractor shall provide and use dehumidification and temperature-control equipment during blast cleaning, coating application, and curing whenever ambient conditions would otherwise prevent compliance with coating manufacturer requirements.
 2. When Work is subject to extended periods of low temperature or high humidity, the Contractor shall maintain the established production schedule by providing all labor, equipment, and materials necessary to maintain a controlled environment.
 3. Dehumidification systems shall be capable of maintaining required dew-point separation, temperature, and relative humidity within the enclosure as specified by the coating manufacturer.
 4. The Contractor shall bear all costs and liability resulting from dehumidification equipment failure, breakdown, power failure, or downtime.

- F. Containment and Weather Protection
 - 1. A full containment enclosure shall be provided around the tank to prevent release of dust, blast media, and coating overspray into the environment or adjacent properties. A heavy-duty, fire retardant, seamless, shrink-wrap polyethylene sheet treated with UV inhibitors containment system shall be in place for abrasive blasting and spray coating applications on the exterior of the tank. The containment system shall comply with SSPC Guide 6 Class 1A and shall not allow fugitive dusts or coating particulates to leave the immediate work area.
 - 2. Containment, ventilation, and filtration systems shall be designed so that they do not interfere with the Contractor's ability to maintain required temperature, dew-point, and humidity conditions within the work space.
- G. Curing and Hold-Before-Service
 - 1. The Contractor shall maintain ventilation, dehumidification, and temperature control during curing in accordance with coating manufacturer requirements or this specification, whichever is more stringent, prior to placing coated surfaces back into service.

1.07 WARRANTY

- A. The total warranty period shall be two years from the final acceptance date.
- B. A one-year inspection will be required, as per AWWA D102.
 - 1. At the time of tank acceptance for service, the District Engineer shall schedule the first anniversary inspection. The inspection of the tank shall be scheduled for a date between the first day of the eleventh month and the thirtieth day of the eleventh month following acceptance. This schedule for the inspection shall be considered tentative and the Contractor will be notified of the inspection schedule no later than the first day of the tenth month following acceptance of the tank.
 - 2. Contractor shall provide access (scaffolding, ladders, lift, etc.) to facilitate inspection of exterior coatings.
 - 3. Contractor shall be present at the inspection.
- C. Upon completion of this inspection, the Inspector will prepare a report that includes but is not limited to, the methods used in the inspection, the equipment and personnel on hand at the time of the inspection, a summary of findings, the number and types of failures observed, the percentage of surface area where failures have occurred, the names of the persons making the inspections, photographs of all deficiencies found, and any other information relevant to the condition and maintenance of the tank.
- D. The District shall consider any location where coating has delaminated, peeled, blistered, or cracked; and any location where rusting is evident as failure of the coating system. In addition, the District shall consider photographs or reports of the coating imperfections or failures as acceptable evidence of failure.

- E. The Contractor shall be liable for all remedial work including repair of all failures by removing the deteriorated coating, cleaning the surface, and recoating with the same system in accordance with this Section. The District may allow surface preparation of small failures (areas less than 1 sq ft.) by cleaning to bare metal in accordance with appropriate SSPC-SP standards, however, the method of repair is at the sole discretion of the District.
- F. The District will prepare a schedule for remedial work completion, to be no more than thirty (30) calendar days after the submittal of the inspection report to the Contractor. Upon failure of the Contractor to commence remedial work within ten calendar days after the starting date established by the District, the District may at its option, retain another Contractor to perform the remedial work. The Contractor shall be liable for actual cost of all such remedial work plus a 20 percent District administrative cost.
- G. The Contractor shall bear the expense of all warranty inspections of the remedial work required by the District. The Contractor shall disinfect the reservoir after the inspection and repairs.

PART 2 PRODUCTS

2.01 EXTERIOR COATING SYSTEM

- A. The District provides the following protective coatings manufacturers, as specified herein, as a standard of quality, or equal.
 - 1. EXT-FULL (Exterior Full Coating System)
 - a. Full Prime Coat
 - 1) Sherwin Williams Macropoxy 646
 - 2) Carboline Carboguard 891 VOC
 - 3) Amerlock 2
 - 4) Tnemec Series L69 Hi Build Epoxoline
 - 5) Approved equal
 - b. Full Finish Coat
 - 1) Sherwin Williams Sherloxane 800
 - 2) Carboline PSX700
 - 3) Ameron PSX 805 Satin Siloxane * #359
 - 4) Tnemec Series V700 Low VOC HydroFlon
 - 5) Approved equal
- B. Color: to be selected by the District from the manufacturer's palette of standard colors or to match existing District owned tanks. All finish colors shall be colored at the factory as a dry grind only, no quick colors shall be accepted.

2.02 ABRASIVES

- A. The contractor shall use abrasive grit for field blast cleaning conforming to the following:

1. Iron alumina silicate with a MOHs hardness of 7.8 to 8.2 capable of producing the required surface profile. Approved products include Kleenblast as made available by Kleen Blast, 30028 Industrial Parkway, Hayward, CA 94544.
2. Garnet abrasive with less than 0.1% respirable crystalline silica and no heavy metals. Approved products include Barton Garnet as made available by Kleen Blast, 30028 Industrial Parkway, Hayward, CA 94544.

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall be solely responsible for all claims resulting from dust and over-spray control from the coating and surface preparation operations or any damage or nuisance to property or persons.
- B. The Contractor shall dispose of any residual waste from surface preparation operations in compliance with all Federal, State, and Local regulations.
- C. The tank shall be out-of-service during the performance of the work.

3.02 QUALITY CONTROL

- A. The Contractor shall provide adequate lighting, without shadows, during all phases of work to ensure that work is performed as specified and that the entire work area is illuminated.
- B. The Contractor shall use properly functioning equipment capable of performing the task required herein.
- C. The Contractor shall provide ground supported scaffolding and lighting (SSPC Guide 12), as determined by the Inspector, to facilitate visual and instrument inspection by the Inspector of each phase of the work and of the completed work, as so placed as directed to minimize glare and shadows. Work will be rejected if proper lighting is not achieved for a proper inspection. All scaffolding shall be equipped with stairways, no exterior ladders.
- D. The Contractor shall provide personnel to move scaffolding and furnish other assistance to District Inspectors as required.
- E. The District Coating Inspector will examine surfaces after abrasive blast cleaning to verify that all deposits of contaminants have been removed as per surface clean as per ISO 8502-3 (Class 2). The Contractor shall blow down and vacuum all surfaces prior to District inspection.
- F. All operating equipment shall be placed into secondary containment to prevent accidental spills.
- G. The Contractor shall verify cleanliness of all spray application equipment prior to, or no later than, time of mixing coating material.

- H. The Contractor shall measure wet film thickness per ASTM D4414 during coating application of coating to ensure adequate coating thickness, taking at least one measurement for each 100 square feet of application area. The Contractor shall measure dry film thickness after each coat using a non-destructive magnetic dry film thickness gauge.
- I. The Contractor shall verify at a minimum of two times daily that air supply is free of oil and moisture contamination (ASTM D-4285). The Contractor shall use effective oil and water separators in all main compressor airlines and shall be placed as close as practicable to the equipment. Prior to using compressed air, the Contractor shall test the quality of air downstream of the separators at suitable outlets by blowing the air on clean white blotter for 2 minutes to check for any contamination, oil, or moisture.
- J. The Contractor shall perform the following daily: measure air temperature, humidity, relative humidity, and metal surface temperature, and determine dew point and relative humidity prior to abrasive blasting or painting. The Contractor shall provide portable temperature and humidity recorders to provide continuous permanent data for blasted steel areas of the reservoir to be coated and, repeat measurements and determination of dew point as often as the District Inspector deems necessary but not less often than every four hours at the start of preparation operations and run constantly until final cure.
- K. The Contractor shall maintain a written record of measurements and dew points, and time that measurements were taken, keep such record on-site, and make records available to Inspector and/or District Inspector on request.
- L. The Contractor shall furnish 1 roll of Testex tape for 1.5 to 4.5 mils profiles X-course and course tape for 0.8 - 2.5 mils profiles prior to the start of abrasive blasting. The Inspector and/or District Inspector may evaluate surface preparation using field abrasive blasting standards, and Testex tape. Evaluation may include inspection of blasted surfaces for dust and abrasive residue, using clear adhesive coated tape per ISO 8502-3. Evaluation will be made immediately prior to coating application.
- M. The Inspector and/or District Inspector may, but is not required to, also measure coating thickness, at random locations, after each coat. SSPC –PA 2 (Level 2) is only to be used for the calibration of dry film thickness gauges. This is a minimum maximum dry film thickness specification. Dry film thickness readings will not be averaged. All inspection equipment shall be supplied by the Contractor. All equipment shall have current calibration certificates. The District reserves the right to use their own equipment at any time.
- N. The District Coating Inspector will evaluate cleanliness of coated surface immediately prior to application of a subsequent coat.

3.03 LIMITING ENVIRONMENTAL CONDITIONS

- A. The Contractor shall apply coatings only when conditions are within the limits prescribed by the manufacturer.

- B. The Contractor shall not abrasive blast or apply coating when air temperature is less than five degrees above the dew point and on the rise for a minimum of six hours unless the dehumidification equipment will be operating.
 - 1. The Contractor shall measure relative humidity and dew point using a sling psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables. Elcometer 319 Dew Point meter, or equal, may also be used.
- C. The Contractor shall complete any blasting, coating and testing operations within the duration of time as specified.
- D. The Contractor shall provide all environmental controls required to protect the work and provide the environmental conditions required to perform the work at no additional cost to the District.

3.04 DEHUMIDIFICATION AND VENTILATION

- A. The Contractor shall provide and use dehumidification and temperature control equipment during the course of the Work. When the Work on the tank is subject to extended periods of low temperature or high humidity during the project, the Contractor shall be expected to maintain the established production schedule despite these potentially adverse conditions by providing all labor, equipment and materials necessary to maintain a controlled environment in the area where Work is to be performed. The substrate and atmospheric conditions within the controlled environment, with respect to temperature and relative humidity, shall be maintained within the limits established by the manufacturer of the selected coating system to ensure proper application and curing of the coating. If the conditions are not in the specified ranges stated by the manufacturer, the Contractor shall use the following:
 - B. Humidity Control – Desiccant or Direct Expansion Refrigeration dehumidification will be used to control the environment in the space 24 hours a day during blast cleaning, coating application and until final coating cure. Equipment will conform to the following requirements:
 - 1. Equipment – Desiccant dehumidifiers will be a solid desiccant design having a single rotary desiccant wheel capable of fully automatic continuous operation. No liquid, granular, or loose lithium chloride drying systems will be accepted. The use of direct expansion (DX) refrigeration type dehumidifiers with reheat may be considered if the expected ambient temperature will remain above 60°F. Heating the space changes relative humidity only and does not change the dew point temperature. Heat alone, therefore, is not a substitute for dehumidification, unless substrate temperature is high enough to meet the dew point differential. The dehumidification system may consist of a combination of desiccant and refrigerant equipment.
 - 2. Air Changes – The air change rate for maintaining the required spread of 10°F between inside surface temperature and inside space dew point temperature with a maximum relative humidity of 60% in the space will depend upon the

type of equipment to be used and the time of year during the application. There shall be 1 to 4 air changes per hour, depending on the air volume of the space to be controlled, to hold the desired degree of cleanliness of the surface.

- C. Temperature Control – Auxiliary cooling or insulation may be necessary to maintain the surface temperature at an acceptable level for the coating manufacturer’s application parameters. This auxiliary equipment must be approved for use by the supplier of the dehumidification equipment and will meet the following requirements.
 - 1. Refrigerant type systems must be installed in the process air supply duct between, and/or blended with, the dehumidifier as close to the work space as possible.
 - 2. Only electric, indirect fired combustion, or steam coil auxiliary heaters will be used. No direct-fired space heaters will be allowed during the blasting, coating, or curing phases.
 - 3. The space to be controlled will be sealed off as well as possible, allowing air to escape the work space away from the point where the dehumidified air is being introduced. If it is necessary to filter the air escaping the space, the filtration system must be designed so that it does not interfere with the dehumidification equipment’s ability to control the dew point and relative humidity of the work space.

3.05 PREPARATION FOR COATING

- A. A heavy-duty, fire retardant, seamless, shrink-wrap polyethylene sheet treated with UV inhibitors containment system shall be utilized for abrasive blasting and spray coating applications on the exterior of the tank. The containment system shall comply with SSPC Guide 6 Class 1A and shall not allow fugitive dusts or coating particulates to leave the immediate work area. The Contractor shall provide and use a dust containment system that shall consist of a 12,000 cfm, or higher, mobile industrial dust collector. Approved dust collector products include DC12000 as manufactured by Industrial Vacuum Equipment Corporation, or HWSC approved equal.
- B. The Contractor shall prepare surfaces to be coated in accordance with the coating manufacturer’s instructions but not less than specified herein.
- C. Prior to abrasive blasting or other mechanical surface preparation, the Contractor shall clean all surfaces to be coated in accordance with SSPC-SP 1. This work shall include, without limitation, removal of all visible and invisible oil, grease, dirt, salts, welding residues, and other surface contaminants, regardless of quantity or extent. Cleaning shall include inspection of all surfaces using ultraviolet (black-light) methods to identify the presence of oils and greases not visible under normal lighting. All detected contamination shall be completely removed prior to abrasive blasting. Slag, weld spatter, and weld-metal accumulations shall be removed by chipping, scraping, or grinding in accordance with NACE SP-0178 prior to abrasive

blasting. No additional compensation or time extension will be provided for cleaning of surfaces that are heavily contaminated, greasy, or otherwise dirty prior to surface preparation.

- D. The Contractor shall examine all surfaces to be coated and shall correct all surface defects prior to application of any coating material.
- E. Surfaces which are not to receive protective coatings shall be protected, using drop cloths and other protective measures as necessary, during surface preparation, cleaning, and coating operations. All hardware, lighting fixtures, switch plates, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not to be painted shall be removed, masked or otherwise protected. The working parts of all mechanical and electrical equipment shall be protected from damage during surface preparation and coating operations.
- F. Cleaning and coating shall be so programmed that dust and other contaminants from the cleaning process shall not fall on wet, newly-coated surfaces.

3.06 EXT-FULL (FULL COATING) PREPARATION

- A. The Contractor shall remove existing coating on all surfaces identified for full recoat (i.e. the tank roof, knuckle, walls, ladders, piping, appurtenances, etc.).
- B. All new and existing sharp edges and welds shall be rounded or chamfered and all burrs, surface defects, and weld splatter shall be ground smooth prior to blast cleaning surface preparation profiling per SSPC SP3 and NACE RP0178. Sharp edges shall be rounded to a 1/8-inch radius.
- C. After the existing coating is removed the contractor shall abrasive blast all existing surfaces including new uncoated pipe modifications, conduit, or other improvements shall be prepared per SSPC SP6 and meet the manufacturer's recommended profile.
- D. The Contractor shall prepare surfaces around appurtenances such as piping, metallic conduit boxes, electrical conduit, valves, pipe supports, pipe clamps, and sample ports.
- E. For every 1,000 square feet, or less, of steel or iron surface blasted, the surface profile shall be tested with the use of Press-o-Film as manufactured by Testex, Elcometer 122 Testex Replica Tape, or other NACE RP0287 approved equal, at locations to be determined by the Inspector. The replica tape thickness shall be measured using a dial micrometer manufactured by Testex, Elcometer 124 Thickness Gage, or other ASTM D4417 Type C approved equal. For each test area, one replica tape test shall be performed. For each test area, the one replica tape thickness value shall be recorded and must be within 10% of the coating manufacturer's recommended profile. If the surface profile does not meet the manufacturer's recommended profile, two additional tests will be performed within a 12-inch diameter of the initial test. If the values are not satisfactory, the Contractor shall reblast the affected areas.

- F. Prior to using compressed air, quality of air downstream of the separators shall be tested at suitable outlets by blowing the air on clean white blotter for 2 minutes to check for any contamination, oil, or moisture per ASTM D4285.
- G. Provide lighting, and manpower to move lighting and scaffolding as determined by the Engineer, to facilitate visual and instrument inspection by the Engineer of each phase of the work and of the completed work. Place as directed to minimize glare and shadows.
- H. Blast Cleaning (profiling). The type and size of abrasive shall be selected to produce a surface profile that meets the coating manufacturer's recommendation for the particular coating and service conditions.
- I. The abrasive shall not be reused unless otherwise approved by the third party inspector.
- J. The Contractor shall comply with the applicable federal, state, and local air pollution control regulations for blast cleaning.
- K. Compressed air for air blast cleaning shall be supplied at adequate pressure from well-maintained compressors equipped with oil/moisture separators and air dryers that remove at least 95 percent of the contaminants and shall be tested per ASTM D4285 by the Engineer.
- L. Surfaces shall be cleaned prior to painting of all dust and residual particles by dry air blast cleaning, vacuuming, or other approved methods. Testing shall be performed per ISO-8502-3 to verify surface cleanliness. Enclosed areas and other areas where dust settling is a problem shall be vacuum cleaned.
- M. Spent abrasive blast media and removed coating materials shall be tested to classify these wastes as hazardous or non-hazardous shall be performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP). Toxic Characteristic Leaching Procedure (TCLP) testing shall be performed for each heavy metal listed under 40 CFR §261.24.
- N. For spot repairs, all surfaces and edges of the existing sound coating material surrounding bare metal and spot-cleaned areas shall be feathered to a smooth transition using sandpaper to eliminate loose and/or abrupt edges. The CONTRACTOR shall power tool clean small repair areas less than 1 sq. ft. according to SSPC SP11 to meet the manufacturer's recommended profile. An MBX Bristleblaster or equivalent shall be used to perform power tool cleaning per SP11. The existing coating shall be abraded a minimum of 3 inches beyond the edge of the bare steel. Abrasive blasted surfaces shall require a minimum of 6 inches of lightly abraded existing coating.
- O. For spot repairs, all sharp edges and welds shall be rounded or chamfered and all burrs, bare steel, and weld splatter shall be ground smooth per NACE SP0178 and SSPC SP2 and SP3.

3.07 EXTERIOR COATING SYSTEM

- A. EXT-FULL (Full Coating)
1. Apply the coating system in accordance with the coating manufacturer's published product data sheet and written application instructions to achieve the following **total** dry film thickness (DFT):
 - a. Minimum total DFT: 8.0 mils
 - b. Maximum total DFT: 10.0 mils
 - c. Apply in one or more coats as required. Maximum DFT per coat shall not exceed the manufacturer's written recommendations.
 - d. Submit manufacturer's application instructions showing proposed number of coats and target DFT.
 2. Apply EXT-FULL (Full Coating) is to be applied to the following tank(s) surfaces:
 - a. Stateline Tank #1: Exterior Roof, Exterior Knuckle, Exterior Shell, Exterior Appurtenances including Ladder, Guardrails, Cabinets.
 - b. Stateline Tank #2: Exterior Roof, Exterior Knuckle, Exterior Shell, Exterior Appurtenances including Ladder, Guardrails, Cabinets.
- B. The color and sheen (Satin) shall be submitted to the District and approved in writing by the District prior to Contractor ordering material.
1. The Contractor shall submit color chips at least 3-inches by 5-inches in dimension within five (15) days prior to the start of application of the exterior top coat. The Contractor shall order final coating materials only after receiving written approval from the District Engineer. Failure to obtain the District's approval prior to ordering shall not be cause for additional compensation.
- C. The tank Coating Inspector shall inspect film thickness with a non-destructive dry film thickness gauge (e.g., Elcometer 456). The dry film coating thickness shall be measured in accordance with SSPC PA2 and a Level 2 thickness requirement. The Contractor shall provide to the District upon request U.S. Department of Commerce, Bureau of Standards calibration plates to verify accuracy.

3.08 APPLICATION

- A. The Contractor shall apply all coatings in accordance with the manufacturer's latest written recommendations and the best state of the art techniques that will result in a finish that is free of runs, sags, pinholes, dry spray, orange peel, be in even in color and appearance. The exterior welds shall be stripe coated with the epoxy primer prior to the application of the finish coat.
- B. Remove dust, blast particles, and other debris from blast cleaned or previously coated surfaces by dusting, sweeping, or vacuuming. Allow ventilator fans to clean airborne dust to provide good visibility of working area prior to coating applications.
- C. The Contractor shall bring all materials to the job site in the original factory sealed containers. The Contractor shall not use any material until the Engineer has inspected the contents and obtained the information from the containers or labels. All materials shall be mixed as full kits only. Materials shall only be thinned with the

manufacturer's recommended thinners and will be thinned as required to adjust for viscosity for temperature variations, proper atomization and flow. Thinning shall not exceed the Local and State V.O.C. limits. Any catalyzed material remaining at the end of each day shall be properly discarded. The entire primer application shall be complete before the finish coat is applied.

- D. In order to prevent the degradation or contamination of cleaned surfaces, the first coat of paint shall be applied immediately after the surfaces have been cleaned and approved by the Engineer. Succeeding coats shall be applied before contamination of the under surface occurs.
- E. Stir, strain, and keep coating materials at a uniform consistency during application. Apply each coating evenly, at the specified film thickness, to achieve a finish free of pinholes, drops, brush marks, ridges, waves, sags, runs, and other evidence of poor workmanship. Bolt threads, nuts, edges, corners, crevices, and joints shall receive special attention to ensure thorough surface preparation and adequate thickness of coating material per SSPC PA Guide 11. Edges, corners, joints and other protrusions shall be coated and shall be 100% holiday free. Use a different shade or tint on succeeding coating applications to indicate coverage where possible. Finished surfaces shall be free from defects, pinholes, runs, drips, holidays or blemishes. Care shall be exercised to prevent coatings from being spattered onto surfaces that are not to be coated. Surfaces, from which material cannot be removed, shall be recoated, as required, to produce a finish satisfactory to the Engineer.
- F. The Contractor shall verify the wet film thickness with a notched gauge in conformance with ASTM D4414. Wet film thickness readings shall be recorded a minimum of every 200 square feet.
- G. Where dry film thickness is specified, the "total dry film thickness" (DFT) is considered to be a minimum on flat surfaces, sharp corners, and edges. Apply coating systems to the specified minimum dry-film thickness as measured from above the peaks of the surface profile. The Contractor shall apply additional coats as necessary to achieve the specified total thickness.
- H. All coatings shall be applied in a "CROSS HATCH" manner recommended by the manufacturer to achieve a pinhole free barrier, which will be verified by high voltage spark testing.
- I. Areas of any coat with visual contaminants such as vegetation/insects, dirt, hose marks, or similar blemishes shall be sanded and cleaned prior to the following coat.
- J. Each coat of paint shall be allowed to either dry or cure for the amount of time recommended by the coating manufacture before successive coats of paint are applied.
- K. All successive coats of paint shall be applied within the re-coat threshold time as recommended by the manufacturer.

- L. Coating procedures and recoat/topcoat cycles are critical for exterior coating application. It is imperative that the coating manufacturer's recommendations be strictly followed. Any deviation from printed literature must be approved in writing by the manufacturer prior to starting alternate procedures. If minimum/maximum recoat times are not stated in the coating manufacturer's standard product literature, the Contractor must supply such information to the Engineer, prior to starting the coating application, or supply a written statement from the coating manufacturer that limitations for recoat times do not apply to the coating specified on the project.
- M. When overlapping transitions between sections of coating applied on different days, abrasive blast or mechanically abrade an 18-inch wide strip of the previously applied coating, measured from the leading edge, to remove all gloss. Vacuum prior to application of primer and/or fresh topcoat material feathered at least 12 inches into the abraded area. Avoid application onto glossy or untreated areas of the existing coating.
- N. The finished coating application shall be protected from damage during curing and shall be cured as recommended by the manufacturer, prior to returning the affected area to service.
- O. Finish coats shall be applied over the prepared substrate in a single application, which may consist of several increments, achieved by multiple passes of the spray gun all applied within the recommended recoat window. Each pass shall be applied in a manner that will produce an even film, control exothermic reaction heat and minimize out-gassing effects. If out-gassing effects are significant, the topcoat may be applied in separate lifts within the recoat window, or during the night, or by troweling the coated surfaces immediately after the coating is applied.
- P. The coating shall be smooth and free of sharp protrusions. It shall not exhibit any cracking, delaminations, orange peeling, blisters, off-ratio discoloring, sticky areas, bubbles, craters, or pinholes. If there is evidence of those defects after the manufacturer-recommended cure-to-handle time, the Inspector shall conduct a Solvent Rub Test in accordance with ASTM D5402 after 7 days of curing. The test area shall be evaluated for appearance, hardness, or any color transfer to the cloth. If there is no change to the coating after the test, it will be considered cured. If it does not pass, the defective areas shall be rejected, removed, and reapplied by the Contractor at no additional cost to the District.
- Q. For spot repairs, the new coating shall overlap the existing coating that has been abraded with power tools by a minimum of 2 inches. The new coating shall overlap the existing coating that has been abraded with abrasive blasting by a minimum of 3 inches.

3.09 CURING OF COATINGS

- A. The Contractor shall provide curing conditions (i.e. ventilation and dehumidification) in accordance with the conditions recommended by the coating material

manufacturer or by this section, whichever is the highest requirement, prior to placing the completed coating system into service.

- B. Curing shall include providing ventilation at a rate of at least one complete air change every four hours.
- C. Equipment shall have a time recorder that provides a cumulative record of operating time.
- D. If the coating exhibits discoloration, bubbling, or sticky areas, the Contractor shall, in the presence of the Inspector, conduct a Solvent Rub Test in accordance with ASTM D5402 after 7 days of curing. The test area shall be evaluated for appearance, hardness, or any color transfer to the cloth. If there is no change to the coating after the test, it will be considered cured. If there is a visible change, the coating shall be removed and reapplied.

3.10 CONTRACTOR/ COATING INSPECTOR INTERACTION & COMPLIANCE

- A. Inspection
 - 1. The District has retained a coating inspection firm to oversee all quality control related to coating operations. The tank inspector will report directly to the District Engineer and shall act with the Engineer's authority in all matters related to tank construction. The Inspector will be an N.A.C.E. Certified Coating Inspector, who will inspect any or all phases of work to be performed as outlined herein. The tank inspector shall be an addition to the District Inspector; authority shall be limited to tank related work only. The District Inspector shall remain the primary observer for all work on the project. The tank inspector shall work for and report to the District. The Contractor shall not rely upon the tank inspector for documentation of environmental conditions and assuring compliance with plans and specifications.
 - 2. The Contractor shall notify the District Engineer in advance (48 hours minimum) of all surface preparation or paint application in order to perform a preliminary examination and provide acceptance of the surface preparation and each coat prior to application of the next coat.
 - 3. The Coating Inspector shall examine all materials, tools, and equipment to be used in the blasting and coating operations and shall have the authority to direct the Contractor to remove, replace, or repair any materials, tools, or equipment found not to be in conformance with the Contract Documents including the approved shop drawings and manufacturer's recommendations. The tank inspector will also observe the Contractor's safety activities throughout blasting and coating operations and the Contractor shall immediately rectify any deficiencies noted in that observation. The Contractor shall be fully responsible for compliance with all safety measures, hazardous and toxic materials regulations, and site security. Observation of or failure to observe any safety efforts of the Contractor by the Tank Inspector shall not relieve the Contractor of this responsibility nor shall any liability transfer from the Contractor to the District or the Tank Inspector. The Contractor shall indemnify, defend, and save harmless the District and the Tank Inspector from all liability associated therewith.

4. The SSPC-Vis1 pictorial surface standards along with dry film and wet film thickness gauges will be used by the Coating Inspector to determine acceptability of the paint application.
5. The inspection devices listed below, or approved equivalents, shall be provided by the Contractor to the Inspector as required in good working condition and with calibration data prior to beginning any Work. These items shall remain available until final acceptance of the coating applications per the parameters listed below:
 - a. Film Thickness Testing – The Inspector shall determine where and how often to test for film thicknesses. It shall be measured in accordance with SSPC PA 2 with a Level 2 thickness restriction. No measurements shall be made until at least 8 hours after application of the coating. A theoretical thickness shall also be calculated from the quantities of materials applied. The instruments shall have the capability of measuring 25% over the specified coating thickness and shall produce an actual reading and shall not be estimated. No measurements shall be made until at least 8 hours after application of the coating. The following testing instruments are acceptable.
 - 1) Wet film gauge: Notched gauge approved by ASTM D4414
 - 2) Metallic Surfaces – On ferrous and non-ferrous metals, the dry film coating thickness shall be using one of the following:
 - 3) PosiTestor 6000
 - 4) Elcometer Model 456
6. Prepared surfaces and all coating system component applications shall be inspected prior to each succeeding application. The procedure for collecting representative thickness data shall be as follows:
 - a. The Inspector shall determine where and how often to test for film thicknesses, and as a minimum the requirements of SSPC-PA 2 with a Level 2 thickness restriction and calibration will be followed.
 - b. At each inspection point, a minimum of three gauge readings shall be taken, moving the gauge 1 to 3 inches for each new gauge reading.
 - c. Discard any unusually high or low gauge reading that cannot be repeated consistently. Take the average (mean) of the three gauge readings as the spot measurement. The average spot measurement shall meet or exceed the specified dry film thickness for each application per the Level 2 thickness requirement.
 - d. The Contractor shall perform hardness testing after each application in the presence of the Inspector.
7. The Contractor shall afford the tank inspector all reasonable facilities and assistance in monitoring the coating and priming operations. The Contractor shall provide weekly copies of their daily work reports to the tank Coating Inspector. Such reports shall include, but not be limited to, the day and date of work performed, the relevant weather conditions, the type and amount of work performed, all work related to the safety of the operation, and personnel assigned to work actually performed.
8. To facilitate adequate inspection of all surfaces, the Contractor shall provide scaffolding or rigging necessary for the Coating Inspector to perform dry film thickness readings, and visual holiday inspection as required by these specifications and reference standards. The Contractor shall provide personnel to move scaffolding or rigging at the instructions of the Engineer.

9. The tank Coating Inspector shall have authority to direct the Contractor to suspend operations when environmental conditions fall outside the manufacturer's recommended parameters. The Contractor shall comply with these directions and shall not proceed until the tank Coating Inspector determines environmental conditions are sufficient to proceed. Failure to suspend coating operations as directed or restarting work without the direction of the tank Coating Inspector shall be cause for rejection of work so performed.
 10. The Contractor shall immediately remove and replace all such work in accordance with these Project Special Provisions and directions of the tank inspector. No additional compensation will be allowed for work resulting from failure to comply with the tank inspector or for surfaces not otherwise conforming to the provisions of these Project Special Provisions.
- B. Coating inspector authority
1. The tank Coating Inspector shall have authority to direct the Contractor to suspend operations when environmental conditions fall outside the manufacturer's recommended parameters.
 2. The Contractor shall comply with directions and shall not proceed until the tank Coating Inspector determines environmental conditions are sufficient to proceed. Failure to suspend coating operations as directed or restarting work without the direction of the tank Coating Inspector shall be cause for rejection of work so performed.
 3. The Contractor shall immediately remove and replace all such work in accordance with these Project Special Provisions and directions of the Coating Inspector.
 4. No additional compensation will be allowed for work resulting from failure to comply with the tank inspector or for surfaces not otherwise conforming to the provisions of these Project Special Provisions.
- C. Safety
1. The Contractor shall provide a safe work environment at all times. In the event the Coating Inspector notes any safety deficiencies, the Contractor shall immediately rectify noted deficiencies.
 2. The Contractor shall be fully responsible for compliance with all safety measures, hazardous and toxic materials regulations, and site security. Observation of or failure to observe any safety deficiencies of the Contractor by the Coating Inspector shall not relieve the Contractor of this responsibility nor shall any liability transfer from the Contractor to the District or the Coating Inspector.
 3. The Contractor shall save harmless the District and the Coating Inspector from all liability associated therewith.
- D. Inspection assistance
1. To facilitate adequate inspection of all surfaces, the Contractor shall provide scaffolding or rigging necessary for the Coating Inspector to perform dry film thickness readings, and visual holiday inspection as required by these specifications and reference standards.
 2. The Contractor shall provide personnel to move scaffolding or rigging at the instructions of the Coating Inspector.

- E. Notification
 - 1. The Contractor shall notify the Coating Inspector in advance (48 hours minimum) of all surface preparation or paint application in order to perform a preliminary examination and provide acceptance of the surface preparation and each coat prior to application of the next coat.

- F. Acceptability for paint application
 - 1. The SSPC-Vis1 pictorial surface standards along with dry film and wet film thickness gauges will be used by the Coating Inspector to determine acceptability of the paint application.
 - 2. The Contractor shall provide necessary testing equipment to perform the above-mentioned tests.

- G. Reporting
 - 1. The Contractor shall afford the Coating Inspector all reasonable facilities and assistance in monitoring the coating and priming operations.
 - 2. The Contractor shall provide weekly copies of daily work reports to the tank Coating Inspector. Such reports shall include, but not be limited to, the day and date of work performed, the type and amount of work performed, all work related to the safety of the operation, and personnel assigned to work actually performed.

3.11 DISPOSAL OF EXISTING COATINGS AND SPENT ABRASIVE BLAST MEDIA

- A. The Contractor shall dispose of spent abrasive blast media and removed coating materials in accordance with a District approved disposal plan.

- B. The Contractor shall coordinate and pay all costs for sampling and testing of spent abrasive blast media and removed coating materials in order to document waste class. Minimum sampling and testing requirements are listed previously in this Section.

- C. Prior to removal of hazardous wastes off-site, the Contractor shall allow adequate time for District to review laboratory test results, as well as the time required to obtain a Hazardous Waste Generator's U.S. EPA ID Number, if required the District will provide the Contractor with written notice to dispose of all or a portion of the spent abrasive blast media and/or removal coating materials as hazardous waste, if so determined by the District that such disposal is required.

- D. The Contractor shall be responsible for all costs associated with accumulating, transporting, and disposing of spent abrasive blast media and removed coating materials.

3.12 REPAIRS

- A. If an area is found to have an improper finish, insufficient film thickness or other deficiencies; the Contractor shall clean, prepare, and topcoat the coating surface

per the manufacturer's recommendations to obtain the specified finish and coverage. Work shall be free of runs, bridges, shiners, laps, or other imperfections.

- B. Damaged or defective coating shall be removed by the Contractor and shall be prepared per the specified water and abrasive blast cleaning to meet the clean surface requirements before recoating.

3.13 CLEAN-UP

- A. Upon completion of the work, the Contractor shall make a detailed inspection of all work.
- B. The Contractor shall be solely responsible for all paint over-spray or fugitive dust fallout claims.
- C. The Contractor shall remove all spattering, spits, and blemishes.
- D. The Contractor shall dispose of any residual waste from surface preparation operations in compliance with all Federal, State, and Local regulations. The Contractor shall ensure that all openings are covered and protected to prevent over-spray from entering the Reservoir. The Contractor will be responsible for all costs in the event of contamination of the water inside the Reservoir.
- E. Upon completion of the work, the Contractor shall restore the site to the original condition, including removing all trash and other debris from the site.

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DIVISION 31

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SECTION 31 25 13

EROSION CONTROL

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: provision, installation and maintenance of temporary erosion control devices and vegetation protective fencing during construction and revegetation of disturbed areas after construction.
- B. Related Sections:
 - 1. 01 50 00 Temporary Facilities and Controls
 - 2. 32 94 00 Revegetation

PART 2 PRODUCTS

2.01 GENERAL

- A. Temporary erosion control measures include filter fabric fence and/or other approved sediment control barriers.

PART 3 EXECUTION

3.01 GENERAL

- A. A pre-grading inspection attended by the District and the Contractor is required prior to commencement of any grading activities. Representatives of the TRPA and Lahontan Water Board may be present.
- B. Erosion control work is subject not only to the approval of the Engineer, but also to the approval of both the TRPA and Lahontan representatives for the project.
- C. Erosion control measures shall be installed as shown on the Plans or as otherwise directed by the Engineer, TRPA or Lahontan.
- D. Filter fabric fence and/or sediment control barriers shall be properly installed and conscientiously maintained during the project and, if requested by the Engineer, shall be left in place after completion of construction.
- E. The Contractor shall locate material stockpiles away from drainages, upslope from excavations where practical, and generally so as to minimize erosion potential in the event of a storm. The Contractor shall have on hand plastic sheeting to cover small spoils piles during storms.

3.02 DISTURBED AREAS

- A. Grading and ground disturbance shall be limited to the areas of work as shown and/or stated on the project plans and specifications.

END OF SECTION

DIVISION 32

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SECTION 32 94 00

REVEGETATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Seedbed Preparation
 - 2. Topsoil bedding
 - 3. Seeding
 - 4. Mulch
 - 5. Fertilizer
 - 6. Maintenance

- B. Related Sections:
 - 1. 31 25 13 Erosion Control

1.02 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI A300 - Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance - Standard Practices.
 - 2. ANSI Z60.1 - Nursery Stock.

- B. Forest Stewardship Council:
 - 1. FSC Guidelines - Forest Stewardship Council Guidelines.

- C. Tahoe Regional Planning Agency:
 - 1. BMP Handbook May 2014

1.03 DEFINITIONS

- A. Weeds: Include any non-native species unless specified in table in section 3.

- B. Soil Infiltration Treatment: Any process which decompacts the soil prior to revegetation treatment.

1.04 SUBMITTALS

- A. The Contractor shall submit seed labels a minimum of 20 working days prior to seed application for acceptance by the Engineer. Labels shall show seed vendor's certification for required seed mixtures, indicating percentage by weight, and percentages of purity, germination and weed seed for each species.

- B. Contractor shall provide at least three references for past successful revegetation projects.

1.05 QUALITY ASSURANCE

- A. Tree Pruning: ANSI A300 Pruning Standards for Woody Plants.
- B. Perform Work in accordance with Caltrans Standard Specifications.

1.06 QUALIFICATIONS

- A. Contractor performing revegetation must have 5 years, minimum, experience in the installation and establishment of local native plant materials for revegetation erosion control projects.
- B. Experience must include temporary irrigation, seeding, and a plant establishment and maintenance period.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver seed in sealed bags showing vendor information, seed mixtures, indicating percentage by weight, and percentages of purity, germination and weed seed for each species
- B. Protect and maintain until planted.
- C. Seed material damaged as a result of delivery, storage or handling will be rejected.

PART 2 PRODUCTS

2.01 SEED

- A. Seed:
 - 1. Species: In accordance with TRPA Site Type Recommended Seed Mixes, see schedule in Part 3.
 - 2. Pure Live Seed Rating: 90% purity and 80% germination.
 - 3. Labeling: Labels shall show seed vendor's certification for required seed mixtures, and indicate percentage by weight and percentages of purity, germination, and weed seed for each species, as well as the date of testing.

2.02 SOIL AMENDMENT MATERIALS

- A. Fertilizer: Slow-release organic phosphorous free

2.03 MULCH MATERIALS

- A. Mulching Material:
 - 1. Composted, shredded hardwood bark, dark brown in color free from food and animal waste.
 - 2. Paper mulch with tackifier accepted if spray applied.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Verify surfaces and site conditions are ready to receive work.
- B. Saturate soil with water to test drainage.
- C. The contractor shall notify the District no less than three working days in advance of revegetation work and shall not begin work until prepared revegetation treatment areas have been accepted by the District.

3.02 TOPSOIL SALVAGE

- A. Contractor shall salvage existing vegetative litter, duff and upper 3-inches of top soil from areas to be graded or disturbed on the project site before disturbance and store until such time it can be incorporated back into the revegetation project.
- B. Protect stockpiles from precipitation and erosion until placed. At no time shall materials be stockpiled for more than 3 months without written approval by the District.

3.03 PREPARATION OF SUBSOIL

- A. Prepare subsoil to eliminate uneven areas. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated subsoil.
- C. Scarify subsoil to depth of 6 inches where plants are to be placed. Subgrade depths plus specified depth of topsoil should equal finished grade. Contractor shall establish finished grades to blend with existing grades and eliminate uneven areas resulting from rough-grading operations.
- D. The Contractor shall contact the Engineer a minimum of four (4) working days prior to commencement of decompaction so that the process can be accepted and a field demonstration and coordination can take place.
- E. Wherever soil loosening is to take place tree roots and existing plants will be avoided wherever possible. Machine loosening shall not take place within the dripline of mature trees or shrubs. Where tree roots are encountered, loosening shall take place by hand implements such as pick mattocks or Pulaskis to approximately a depth of 6 inches.

3.04 SOIL AMENDMENTS AND FERTILIZING

- A. Apply compost to a depth of 3-4 inches, mix in during scarify process.
 - 1. Compost shall be a weed-free soil amendment comprised of decomposed forest products, rice hulls, gypsum, and steer manure.

- B. Incorporate fertilizer at a rate of 270 lbs per acre into areas to be revegetated.
- C. Irrigate area slowly to help incorporate fertilizer into the soil. Only water until soil is moist to avoid runoff, as excess water will transport fertilizer away.

3.05 WEED CONTROL

- A. Contractor is to conduct bi-weekly weed control practices to maintain a weed free area within the revegetated area. Weeds shall be removed before reaching 4-inches in height and before the weeds produce viable seeds. This is to be performed throughout the project duration.
- B. Weed removal shall not cause disruption to the root systems and aboveground structure of the revegetated area. Vegetation control shall be conducted using hand-pulling - at no time shall herbicide be used.
- C. Contractor must be familiar with identification of noxious and invasive weed species that may occur in or near the project area.

3.06 PLANTING

- A. Soil preparation shall occur within one week after grading is completed and planting shall occur within one week after soil preparation is completed. Seeding operations in revegetation areas indicated on the Plan shall be conducted before any snow accumulation or ground freeze.
- B. Seed shall be delivered in unopened containers with the seed tag attached and is subject to observation and approval by the District prior to installation.
- C. The Contractor shall coordinate the placement of materials and equipment when necessary to complete the work as quickly and efficiently as possible.
- D. The Contractor shall uniformly broadcast seed using hand-held seeders and lightly raked to incorporate to a depth of 1/4- to 1/2-inches. Alternatively, contractor may apply with spray equipment if mixed with an approved mulch and tackifier.
- E. Seed shall not be left uncovered for more than 24 hours, unless otherwise approved by the District.
- F. Seeding shall not occur when wind speeds exceed 5 miles per hour.

3.07 SEED SCHEDULE

A. Seed Schedule:

1. Composition of mix is based in part on commercial availability of plant cultivars, and because availability of cultivars frequently changes, cultivar substitutions may be necessary
2. PLS = Pure Live Seed = (percentage purity)(percentage germination)/100
3. Amounts assume broadcast (hand) application of seed, and have been designed for 80–100 PLS sq. ft. because greater seed densities may result in densities of competing seedlings sufficient to reduce growth and inhibit establishment.

Scientific Name	Common Name	Application Rate (PLS lbs./acre)
Grasses, Rushes, and Sedges		
<i>Festuca brevilip</i>	hard fescue, 'Nordic'	16.00
<i>Festuca ovina</i>	sheep fescue, 'Covar'	16.00
<i>Festuca rubra</i>	creeping red fescue, 'Oracle'	16.00
Total Pounds of Pure Live Seed per Acre		48.00

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DIVISION 33

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SECTION 33 16 13

GROUND-LEVEL STEEL WATER STORAGE TANKS

PART 1 – GENERAL

1.01 DESCRIPTION

This section describes design, fabrication, and erection of ground-supported, flat-bottom welded steel tanks and reservoir for storage of water in accordance with AWWA D100 latest edition and its appendices including Section 14 for steels whose composition justifies higher working strengths.

This project does not include construction of a new welded steel tank. This technical specification is to be utilized, where applicable, for work including Ladder Modifications, necessary structural repairs, work on tank openings, and appurtenances.

- A. Rehabilitate a steel tank in accordance with AWWA D100 and as specified herein.
- B. Provide all accessories listed herein, pipe connections as shown on the Contract Drawings, miscellaneous supporting items, and all associated appurtenances, hardware, expansion joint filler, polyurethane sealant, safety platforms, fall protection equipment, and supports to comply with the Contract Documents.

1.02 RELATED SECTIONS

- A. 01 33 00 – Submittal Process
- B. 09 97 13.13 – Interior Coating for Welded Steel Reservoir
- C. 09 97 13.23 – Exterior Coating for Welded Steel Reservoir
- D. 40 46 00 – Tank Internal Cathodic Protection

1.03 REFERENCE SPECIFICATIONS, CODE AND STANDARDS

- A. Without limiting the generality of other requirements of the specifications, all Work specified herein shall conform to or exceed the requirements of all applicable codes and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of these specifications nor the applicable codes.
- B. References herein to “AWWA D100” shall mean the “American Water Works Association Standard for Welded Carbon Steel Tanks for Water Storage,” latest edition, including all current supplements, addenda, and revisions thereof.
- C. References herein to “SSPWC” or “Greenbook” shall mean the “Standard Specifications for Public Works Construction,” latest edition, including Supplement

Amendments where appropriate for the jurisdiction where the work is being performed.

- D. References herein to “ANSI Z49.1” shall mean the “American National Standards Institute – Safety in Welding and Cutting,” latest edition, including all current supplements, addenda, and revisions thereof.
- E. References herein to “AWS” or “American Welding Society” shall mean both the “Standard Welding Terms and Their Definitions” and “Standard Qualification Procedure,” latest editions, including all current supplements, addenda, and revisions thereof.
- F. References herein to “SSPC” shall mean documents and standards published by the “Steel Structures Painting Council,” latest editions, including all current supplements, addenda, and revisions thereof.
- G. References herein to “OSHA” shall mean documents and standards published by the “Occupational Safety and Health Administration,” latest editions, including all current supplements, addenda, and revisions thereof. Where there is a conflict between the California and Federal OSHA standards, the most stringent standard shall apply.

1.04 SUBMITTALS

- A. Submit the design calculations in sufficient detail to substantiate all design features for the steel tank, approved and signed by a civil or structural ENGINEER licensed to practice in the State of California. These elements shall be modified (to not less than that shown) as required by the manufacturer’s structural calculations. Tank shell and bottom plate thickness shall not be less than as shown on contract drawings.
- B. Submit applicable shop drawings and data to the ENGINEER in accordance with Section 01 33 00 showing details of construction and erection to include, but not be limited to, the following:
 - 1. Dimensional drawings.
 - 2. Plate thicknesses of floor, shell, reinforcements, and all other steel plates.
 - 3. Sizes and weights of structural members.
 - 4. Welding data tabulation.
 - 5. Accessory list with fabrication details showing locations of all tank fittings, attachments, accessories, and welds.
 - 6. Erection drawings.
 - 7. Catalog cuts, descriptions of standard manufactured items.
 - 8. Design sketches and calculations stamped by a California licensed structural engineer for all components of and connections to each tank, including but not limited to, fall protection equipment (horizontal lifelines, D-rings, etcetera), ladder with safety cage and security lockout, safety and intermediate ladder platforms including support structural members.
 - 9. Instructions for handling, storage and installation of reservoir materials.
 - 10. Mill test reports of all steel materials with a certification of which ASTM or other AWWA D100-required specification each material complies with.

11. Qualifications of welders and welding operators. Include signed and fully executed welder qualifications which are current within six months of the date of the Notice to proceed.
12. Qualification of welding procedures.
13. Report of initial test radiographs and evaluation for each welder within a week after his employment for erection/fabrication of the tank on the site.
14. Report per AWWA D100, Section 11.2 at the conclusion of the work certifying the inspection.
15. Certificate of compliance with AWWA D100 with addenda and Section 14, if applicable.
16. Qualifications of firm constructing the welded steel water storage tank, demonstrating experience constructing tanks of similar design within the last two years. Submit the following information for a minimum of three tanks:
 - a. Project Name
 - b. Month and year completed
 - c. District Name
 - d. Tank diameter in feet
 - e. Tank sidewall height in feet
 - f. Tank material
17. The ENGINEER's review of the structural calculations or any shop drawings shall be for general conformance with the indicated tank layout and appurtenances and shall not be construed as relieving the CONTRACTOR of the sole and complete responsibility for the incorporation of structural design requirements into the project documents or the accuracy of final details.
18. Warranty information from tank manufacturer.
19. Interior coating and exterior paint shop drawings and data in accordance with section 3 of Section 09 97 13 – Coating and Lining for Welded Steel Reservoir.
20. Fall protection equipment layout drawings, calculations and cut sheets for each proposed tank from the fall protection system manufacturer.
21. Temporary Shell Openings (Door Sheets)
 - a. detailed shop drawings and structural calculations prepared and stamped by a Professional Engineer licensed in the State of California. Submittals shall include, at a minimum:
 - i. Location, size, and geometry of the proposed opening
 - ii. Temporary and permanent reinforcement details
 - iii. Welding procedures and weld inspection methods
 - iv. Steel material specifications and thickness
 - v. Details for restoration of the shell to original condition
 - vi. Provide schedule including proposed dates and total duration the shell opening will remain open

1.05 QUALITY ASSURANCE

- A. All Work related to tank construction shall comply with the reference standards listed in 1.03 of this section.

- B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.
- C. Welded steel water storage tanks shall be constructed by a firm that has at least ten years prior experience in construction of welded steel water storage tanks.
- D. Unless specifically noted otherwise in the Contract Documents, all materials and articles furnished by the CONTRACTOR and used for permanent installation in the Work shall be new and shall conform to the respective specifications or brands herein designated. All materials furnished shall be subject to inspection and no material shall be used in the Work until it has been inspected and accepted by the ENGINEER.
- E. Any materials used or any Work that is completed without the proper inspection and acceptance by the ENGINEER shall be subject to removal and replacement at the sole expense of the CONTRACTOR.
- F. Procedure specifications, procedure qualification tests, and individual welder performance tests shall be in accordance with AWS Standard Qualification Procedures.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the site at such intervals to ensure uninterrupted progress of the Work.
- B. Store materials to permit easy access for inspection and identification. Keep steel members off the ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from corrosion and deterioration.

1.07 WARRANTY

- A. The CONTRACTOR shall obtain from the tank manufacturer a warranty for all components specified herein for one (1) year from the date of Substantial Completion, with the exception of the following:
 - 1. Internal Appurtenances (5 year warranty). If the internal appurtenances fail within the first five (5) years of normal operation from date of start-up the appurtenances shall be repaired or replaced at no additional cost to the DISTRICT.
- B. During the warranty period, the CONTRACTOR shall provide the services of trained tank manufacturer staff to make all performance evaluations and repairs at no cost to the DISTRICT.
- C. The CONTRACTOR shall include in its bid all costs to be incurred by the tank manufacturer, under the terms of the warranty.

PART 2 – MATERIALS

2.01 DESIGN PROCEDURE

- A. Design reservoir and accessories to applicable federal, state, and local health and safety requirements including but not limited to OSHA.
- B. Material, design, fabrication, erection, inspection, and testing shall be in accordance with the latest edition of the following specifications:
 - 1. American Water Works Association Specification D100 for Welded Steel Tanks for Water Storage
 - 2. All rules and regulations required by OSHA, Department of Labor and Division of Industrial Safety of the Department of Industrial Relations of the State of California.
- C. Comply with AWWA D100 with current addenda and Section 14 with 19,400-psi-maximum static design tensile stress.
- D. Tank shell and bottom shall not be less than as shown on the contract drawing. There is no exception to this clause.

2.02 SEISMIC REQUIREMENTS FOR ANCHORING EQUIPMENT AND PIPING

- A. General: Machinery, equipment, and components such as pumps, tanks, piping, electrical panels, and other items, including their supports and anchorages, supplied by manufacturers or suppliers, shall be designed in accordance with the following:
 - 1. California Building Code 2025 Edition
 - 2. Soil Class = D
 - 3. Importance Factor: $I=1.5$, $I_p=1.5$
 - 4. Mapped Spectral Acceleration: $S_s=1.499g$ and $S_1=0.452$

Submit seismic design calculations and drawings stamped by a California licensed professional civil or structural engineer. Submittals shall be certified, by the CONTRACTOR, that designs are in conformance with the specifications and that all applicable loads, including seismic, have been included.

2.03 STEEL MATERIAL

- A. All steel material shall be in accordance with "Section 2: Materials" of AWWA D100.

2.04 ACCESSORIES

- A. Each tank shall be furnished with piping and appurtenances as shown on the plans and as follows:
 - 1. Inlet/Outlet pipe - provide appropriate reinforcing to prevent shell buckling with valves closed.
 - 2. Overflow pipe
 - 3. Drain pipe
 - 4. Sidewall manways as shown on the Contract Drawings and therein.
 - 5. Outside ladder and safety cage in compliance with latest OSHA standards with security door.
 - 6. Level Control Transducer as shown on the Contract Drawings.

7. All other items shown on the contract drawings listed herein or in the summary of work.

2.05 EXPANSION JOINT FILLER

- A. Preformed expansion joint filler, ASTM D 1751, nonextruding, resilient bituminous type. Do not use strips utilizing cork. Use cane or other cellular fibers uniformly saturated with asphalts.

2.06 POLYURETHANE JOINT SEALANT

- A. Joint sealant shall be a flexible polyurethane elastomeric sealant similar or equal to Sika, Sikaflex 2C, NS/SI.

2.07 TANK NAMEPLATE

- A. Provide tank nameplate and fabricate of stainless steel materials. Include the information as shown in AWWA D100 Figure 14 recommended nameplate. Weld the stainless steel nameplate to a ¼ thick stainless steel plate that has been welded all around to the shell.

2.08 INTERIOR AND EXTERIOR COATING MATERIALS

- A. Refer to 09 97 13.13 – Interior Coating for Welded Steel Reservoir and 09 97 13.23 – Exterior Coating for Welded Steel Reservoir

2.09 SAFETY PLATFORMS

- A. Provide safety platforms at the top of each AWWA D100 tank. Each platform shall provide the ability to side-step onto the ladder after leaving the top surface of the tank. The CONTRACTOR shall submit stamped structural calculations and dimensional drawings in accordance with the provisions provided herein.
- B. Each platform shall have the following features:
 1. A minimum square top standing surface of 30" x 30".
 2. Top surface shall be level, flush with the top of the tank, and immediately adjacent to the ladder safety cage.
 3. Platform outer perimeter shall be protected by guard rails of 42" height minimum, which shall include intermediate rails in accordance with OSHA and the California Building Code, latest edition.
- C. CONTRACTOR shall coordinate all shop drawings to assure quality of the finished product (for example, to ensure that the ladder cages contain appropriate openings so as to facilitate use of the safety platforms).

2.10 CATHODIC PROTECTION SYSTEM

Refer to Section 40 46 00 – Tank Internal Cathodic Protection.

PART 3 – EXECUTION

3.01 TANK FABRICATION AND ERECTION

- A. Fabricate and install the welded steel water storage reservoir, associated appurtenances, and piping connections in accordance with the Contract Drawings, the manufacturer's instructions, and the requirements set forth in AWWA D100.
- B. Inspect reservoir underdrain system, ringwall foundation and base as shown on the Contract Drawings with the District and have them accepted prior to erection of the reservoir.
- C. The CONTRACTOR shall familiarize himself/herself and comply with all applicable State, County, and municipal rules and regulations pertaining to sanitation, fire protection, barriers, warning lights and signs, air emissions and water quality standards, and with forced-ventilation requirement for coatings application and curing.

3.02 EXPANSION JOINT FILLER, TANK BOTTOM TO RINGWALL

- A. Place preformed expansion joint filler on top of the ringwall under the tank bottom sketch plate. Hold back the outside edge of the strips $\frac{3}{4}$ -inch from the outside radius of the annular floor plate and butt together adjacent strips. After the tank shell has been constructed and painted, seal the exposed gap between the annular plate and the top of the ringwall with polyurethane sealant.

3.03 WELDING

- A. All field welding shall conform to the requirements of AWWA D100.
- B. Review CONTRACTOR-certified qualification records of the welders employed for erection with the DISTRICT's Representative at the start of erection and each time a new welder is employed. Provide a record for each welder indicating:
 - 1. Date and result of qualification tests.
 - 2. CONTRACTOR conducting tests.
 - 3. Identifying mark or welder.
- C. All butt joints require complete joint penetration welds.
- D. All lap joints in roof plates shall receive continuous fillet welds on the interior and exterior of the tank.
- E. Do not weld when the temperature is less than 32 degree F, nor during rain, snow, high winds, or when ice is on the metal. For plate thickness is excess of 1 $\frac{1}{2}$ inches, preheating is required when the metal temperature is less than 70 degree
- F. Remove all burrs, weld splatter, and rough welded seams after erection by grinding those surfaces smooth. Fill in with weldment and grind holes left after removing erection clips, lugs, and ties.

3.04 SPOT RADIOGRAPHS

- A. During erection of the tank shell, or tank repairs, or tank modifications, obtain and evaluate spot radiographs in the first 10 feet of joint welded by each welder. In lieu of the procedure in AWWA D100, transmit the radiographs and the evaluation to the DISTRICT's Representative within a week after the employment of each welder on the site.
- B. Obtain and evaluate a spot radiograph in each 100 feet of shell weld subject to primary stress and in each 200 feet of shell weld subject to secondary stress. Maintain for review by the DISTRICT's Representative on the site and include in the report at job conclusion a record of the extent of repair of defective welds and the spot radiographs of the repaired joint. The CONTRACTOR shall take additional spot radiographs as directed by the DISTRICT in order to verify compliance with the Contract Documents

3.05 VACUUM TEST

- A. Test for porosity in the welded seams of the tank bottom by observation for bubbles in a soap solution coating with a glass top metal testing box connected to equipment that produces a vacuum of least 2 psi. Correct deficient welds.

3.06 TEMPORARY CLOSURE OF TANK OPENINGS

- A. Provide temporary covers of metal, 10 gauge minimum, or plywood, concrete from quality, cut to fit the tank openings that are not fitted with valves, hatches, or manhole covers at the completion of erection. Attach temporary covers with three or more bolts. The covers are intended to exclude dust, animals, and intruders before and after painting and after disinfection.

3.07 TEMPORARY SHELL OPENINGS (DOOR SHEETS)

- A. The Contractor may propose cutting a temporary access opening ("door sheet") in the tank shell to facilitate personnel access or movement of equipment during coating operations. **A shell opening is not required for completion of the Work and shall be considered a Contractor means-and-methods option only.**
- B. No shell cutting shall be performed without prior written approval from the District Engineer.
- C. If proposed, the Contractor shall submit detailed shop drawings and structural calculations and schedule prepared and stamped by a Professional Engineer licensed in the State of California. Submittals shall include, at a minimum:
 - 1. Location, size, and geometry of the proposed opening
 - 2. Temporary and permanent reinforcement details
 - 3. Welding procedures and weld inspection methods
 - 4. Steel material specifications and thickness
 - 5. Details for restoration of the shell to original condition
 - 6. Schedule including proposed dates and total duration the shell opening will remain open.

- D. The Contractor shall be solely responsible for maintaining the structural integrity, watertightness, and serviceability of the tank at all times. Cutting and restoration of the shell shall not reduce the tank's design strength, corrosion allowance, or coating performance.
- E. Upon completion of coating operations, the shell shall be restored to a condition equal to or better than the original construction, including steel thickness, weld quality, surface preparation, and coating system. All repaired areas shall receive the full specified coating system.
- F. All costs, risks, delays, and schedule impacts associated with a temporary shell opening shall be borne entirely by the Contractor. No additional compensation or time extensions will be granted.

3.08 COORDINATION WITH DISTRICT INSPECTION

- A. Provide the DISTRICT's Representative with all facilities necessary for the inspection of the tank including illumination, safe scaffolding, and ladders. Erect and move scaffolding to the locations as requested by the DISTRICT's Representative.
- B. Coordinate all Work with the inspection, sampling, and testing requirements of the DISTRICT and assist the DISTRICT's Representatives as may be reasonably required for the effective performance of his/her duties.

3.09 WATER TESTING AND DISINFECTION

- A. Water testing and disinfection shall be accomplished as specified in Section 09 97 13.13 and AWWA D100 except:
 - 1. Reservoir inlet/outlet piping, valves, valve vaults, overflow pipe, and drain pipe shall be in place complete, and operable.
 - 2. Test water shall be dechlorinated and disposed of as required and shall be accomplished in a manner to avoid damage or result in a nuisance to downstream properties.
 - 3. Inspection and testing of inlet/outlet, overflow, and drain piping, as specified, shall be accomplished during the reservoir water testing.

3.10 CATHODIC PROTECTION SYSTEM

Refer to Section 40 46 00 – Tank Internal Cathodic Protection.

END OF SECTION

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DIVISION 40

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SECTION 40 46 42.1

SACRIFICIAL ANODE CATHODIC PROTECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all materials, install all equipment and provide all labor necessary to complete the work shown on the drawings and/or listed below and all other work and miscellaneous items not specifically mentioned but reasonably inferred, including all accessories and appurtenances required for a complete system. The intent of the specification is to provide for two complete, functional cathodic protection systems for the submerged interior surfaces of the Stateline Tank No. 1 for South Tahoe Public Utility District, in South Lake Tahoe, California.
- B. Work included in this section consists of all components of the cathodic protection system for the steel storage tank including magnesium anodes, brackets and any other work necessary to complete the installation.
1. Removal and disposal of existing anodes, cabling and air cooled rectifiers.
 2. Cathodic protection of the submerged portion of the tank interior surfaces.
 3. Installation of magnesium rod anodes, and anode bracket assemblies.
 4. Material submittals.
 5. Repair of damaged coatings on the tank shell and floor.
 6. Correction of all deficiencies.

1.02 CODE REQUIREMENTS

- A. All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety Orders of the Industrial Accident Commission; and all other applicable State, County, or City codes and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

1.03 REFERENCES

- A. This section contains references to the following documents. They are a part of this section as specified and modified. In case of a conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
1. American Society of Testing and Materials (ASTM)

2. National Electrical Manufacturers Association (NEMA)
3. American Water Works Association (AWWA)
4. National Association of Corrosion Engineers (NACE)
5. American National Standards Institute (ANSI)
6. Society for Protective Coatings (SSPC)

1.04 SUBMITTALS

- A. Contractor shall provide submittals in accordance with Section 01300.
- B. Contractor shall submit for approval by the Construction Manager five (5) copies of the following items:
 1. A complete list of cathodic protection equipment and materials, including name and manufacturer, catalog number, size, and any other pertinent data necessary for proper identification and to determine conformance with specifications.
 2. A certified test report showing the chemical analysis of all anodes.
 3. Coating manufacturer's data sheet for each product to be used, indicating NSF compliance, along with instructions and recommendations for surface preparation and coating application for steel surfaces as well as for touchup of steel surfaces.
 4. Material safety data sheet for each field applied coating product used.
 5. Proposed installation schedule.
- C. Contractor shall receive written approval of submittals, prior to beginning installation.

1.05 QUALITY ASSURANCE

- A. All work shall be performed to the satisfaction of the Construction Manager.
- B. The Contractor shall not substitute for the specified materials unless approved by the Construction Manager.
- C. Use only new, highest quality cathodic protection components, and standard products from a manufacturer regularly engaged in the production of such material or equipment.
- D. Cathodic protection components shall be subject to testing by the Construction Manager to ensure proper installation and operation. The Contractor shall be responsible for correction of all deficiencies identified by the testing and all costs incurred for retesting prior to final acceptance.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver cathodic protection and coating materials to the Site in original, sealed containers.

- B. Replace all damaged anodes.

1.07 PROJECT CONDITIONS

- A. The Contractor shall coordinate and properly relate this work to the site and to the work of all trades. The general locations of the facilities are shown on the drawings. However, the Contractor shall visit the premises and thoroughly familiarize himself/herself with all details of the work and working conditions, verify existing conditions in the field, determine the exact locations of existing structures and advise the Construction Manager of any discrepancy that may prevent or hinder the specified work from being completed.

1.08 COORDINATION

- A. The brackets and anodes shall be installed and shall be inspected before the surface preparation and painting of interior and exterior items and surfaces of the tank after the inspection by the Construction manager of the initial anode installation in accordance with Paragraph 3.06.A, the Contractor shall remove the anodes. The Contractor shall coordinate scheduling with the Painting Contractor. The final installation of the anodes into the brackets shall occur after the eleven month coating inspection by the Construction Manager and the Painting Contractor, and any coating repairs have been completed. The final anode installation shall occur before the tank is refilled after the eleven month coating inspection.
- B. Care shall be exercised so as not to damage any coating on the tank surfaces when reinstalling the anodes. Any coating damaged during the final installation of the anodes shall be repaired by the Contractor. Surface preparation for the areas to be repaired shall be in accordance with the appropriate SSPC standards, and coatings shall be with approved compatible coatings.

1.09 WARRANTY

- A. The system warranty shall be no less than one year after system activation and shall include all costs for repair, parts and labor.

1.10 SYSTEM START UP

- A. After the Contractor has completed the final installation of the corrosion control and monitoring system, the system shall be tested by a State of California Registered Professional Corrosion Engineer, retained by the Construction Manager, to assure conformance with the specifications. Testing shall include proper installation of the anodes, cables and test stations, and potential measurements on protected surfaces of the tank. Protection levels shall satisfy the criteria per NACE Standard SP-01-69. Upon completion of the tests, a detailed written report shall be submitted describing any deficiencies detected. Any and all deficiencies shall be corrected by the Contractor at his/her cost and retested prior to final acceptance. All retesting shall be at the Contractor's expense.

PART 2 PRODUCTS

2.01 GENERAL

- A. All materials shall conform to the requirements set forth herein or as designated on the drawings, unless otherwise specified. All materials must be new, free from defects, and shall be of the best commercial quality for the purpose specified. The Contractor shall furnish all necessary items and accessories not shown on the drawings or specified herein, but which are required to fully carry out the specified intent of the work, at no additional cost to the Construction Manager.

2.02 MAGNESIUM ANODES

- A. Galvanic anodes shall be extruded high potential magnesium rods with a diameter of 2.562-inches, length of 10 feet and shall weigh a minimum of 40 pounds. Each anode shall be cast with a 1/8-inch diameter steel core, and the steel core shall protrude 4 inches from each end.
- B. Each anode shall conform to the following chemical composition:

Aluminum	0.010 % maximum
Manganese	0.5-1.3 %
Copper	0.02% maximum
Nickel	0.001% maximum
Iron	0.03% maximum
Other impurities	0.05% each or 0.3% Max Total
Magnesium	Balance

2.03 BRACKET ASSEMBLIES

- A. The floor bracket and the shell bracket shall be fabricated of 2 inch by 2 inch by ¼ inch angle iron as indicated in the drawings. The receiver bolt and set screw shall be 316 stainless steel.

2.04 COATING MATERIALS

- A. Coating materials for coating repairs shall match the existing factory coating and be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer’s directions and name of manufacturer, all of which shall be plainly legible at the time of use.

PART 3 EXECUTION

3.01 GENERAL

- A. All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety, Electrical Orders; The National Electric Code, General Construction Safety Orders of the Industrial Accident Commission; and all other applicable State, County, or City codes and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

3.02 STORAGE OF MATERIALS

- A. All materials and equipment to be used in construction shall be stored in such a manner to be protected from detrimental effects from the elements. If warehouse storage cannot be provided, materials and equipment shall be stacked well above ground level and protected from the elements with plastic sheeting or other method as appropriate.

3.03 BRACKET ASSEMBLIES

- A. The floor bracket and shell bracket shall be installed in the manner and at the locations shown on the drawings. Factory applied coating materials shall be removed from the surface of the tank's floor and shell over an area just sufficient to make the weld the brackets to the surface. The surface shall be cleaned to white metal by grinding or filing prior to welding.

3.04 COATINGS

- A. Coatings shall be applied in accordance with the manufacturer's instructions and recommendations and to the satisfaction of the Construction Manager. All steel surfaces shall be prepared in accordance with the manufacturer's instructions to ensure compatibility with the specified coating system.

3.05 MAGNESIUM ROD ANODES

- A. Each magnesium rod anode shall be mounted in its respective floor bracket and shell bracket and held in place by means of the set screws.
- B. The magnesium rod anodes shall not be painted.

3.06 INITIAL AND FINAL INSTALLATION, ENERGIZING AND TESTING

- A. The cathodic protection system shall be installed and inspected before the surface preparation and painting of interior and exterior items and surfaces of the Project tank. After the installation of the cathodic protection system, the system shall be inspected by the Construction Manager to assure conformance with the drawings and specifications. The anodes shall then be removed by the Contractor and given to the

Construction Manager for storage until the eleven month coating inspection. When the eleven month coating inspection is complete the Contractor shall reinstall the anodes. The Contractor shall confirm the electrical continuity of the anodes with the brackets.

- B. After the final installation of the cathodic protection system, the system shall be energized and tested by the Construction Manager to assure conformance with the drawings and specifications and to ensure adequate protection of the tank internals per relevant NACE/AMPP standards. Any and all deficiencies shall be corrected by the Contractor at no expense to the Construction Manager.

3.07 CLEAN-UP

- A. The Contractor shall be responsible for clean-up and removal of all debris, extra material, and equipment utilized for installation of the cathodic protection system.

END OF SECTION

SECTION 40 46 42.2

IMPRESSED CURRENT CATHODIC PROTECTION

PART 1 - GENERAL

1.01 GENERAL

- A. The Contractor shall furnish all materials, install all equipment and provide all labor necessary to complete the work shown on the drawings and/or listed below and all other work and miscellaneous items not specifically mentioned but reasonably inferred, including all accessories and appurtenances required for a complete system. The intent of the specification is to provide for a complete, functional, impressed current cathodic protection system for the submerged interior surfaces of the water tank. The Contractor shall furnish all materials, install all equipment and provide all labor necessary to complete the work shown on the drawings and/or listed below and all other work and miscellaneous items not specifically mentioned but reasonably inferred, including all accessories and appurtenances required for a complete system. The intent of the specification is to provide for a complete, functional cathodic protection system for the submerged interior surfaces of the Stateline Tank No. 2 for South Tahoe Public Utility District, in South Lake Tahoe, California.

1.02 WORK INCLUDED

- A. Work included in this section consists of all components of the cathodic protection system for the steel reservoir including "IR" drop free, auto-potential controlled rectifier, anodes, access hole covers, cables, reference electrodes and any other work necessary to complete the installation.
1. Removal and disposal of existing anodes, cabling and air cooled rectifiers.
 2. Impressed current cathodic protection of the submerged portion of the tank interior surfaces.
 3. Installation of an IR" drop free, potential controlled rectifiers, anodes, anode suspension system, cables, and reference electrodes, with associated wiring, and AC junction box.
 4. Material submittals.
 5. Coatings for conduit, and any touch-up work.
 6. Anodes, anode lead wires, header cables and conduit lengths shown on the plans are approximate only. Actual lengths are the responsibility of the contractor and are based on installation requirements.
 7. Correction of all deficiencies.

1.03 CODE REQUIREMENTS

- A. All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety Orders of the Industrial Accident Commission, and all other applicable State, County, or City codes and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

1.04 REFERENCE SPECIFICATIONS

- A. ASTM - American Society for Testing and Materials
B. IEEE - Institute of Electrical and Electronic Engineers
C. NEMA - National Electrical Manufacturers' Association

- D. NACE - National Association of Corrosion Engineers
- E. OSHA - Occupational Safety and Health Administration
- F. AWWA - American Water Works Association

1.05 QUALITY ASSURANCE

- A. All work shall be performed to the satisfaction of the District and Engineer.
- B. Use only new, highest quality cathodic protection components, and standard products from a manufacturer regularly engaged in the production of such material or equipment.
- C. All materials in contact with the water or exposed to the interior of the tank shall be classified in accordance with ANSI/NSF 61 "Drinking Water Systems Components."
- D. Cathodic protection components shall be subject to testing by the District and Engineer to ensure proper installation and operation. The Contractor shall be responsible for correction of all deficiencies identified by the testing and all costs incurred for retesting prior to final acceptance.
- E. The system warranty shall be no less than one year after system activation and shall include all costs for repair, parts and labor.

1.06 DATA TO BE FURNISHED BY THE CONTRACTOR

- A. Contractor shall submit for approval by the District and Engineer an electronic (PDF) copy of the following items:
 - 1. A complete list of cathodic protection equipment and materials, including name and manufacturer, catalog number, size, and any other pertinent data necessary for proper identification and to determine conformance with specifications.
 - 2. System warranty pursuant with Paragraph 1.05.E.
 - 3. Coating manufacturer's data sheet for each product to be used along with instructions and recommendations for surface preparation and coating application for galvanized steel surfaces as well as for touchup of steel surfaces.
 - 4. Material safety data sheet for each field applied coating product used.
 - 5. Sanitization procedure for all items entering the inside of the tank.
 - 6. Proposed installation schedule.
- B. Contractor shall receive written approval of submittals, prior to beginning installation.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cathodic protection and coating materials to the Site in original, sealed containers.
- B. Replace all damaged anodes, and all damaged lead wires.

PART 2 – PRODUCTS

2.01 GENERAL

- A. All materials shall conform to the requirements set forth herein or as designated on the drawings, unless otherwise specified. All materials must be new, free from defects, and shall be of the best commercial quality for the purpose specified. All necessary items and accessories not shown on the drawings or specified herein, but which are required to fully carry out the specified intent of the work, shall be furnished by the Contractor without additional cost to the owner.

2.02 RECTIFIER

- A. Rectifier shall be the product of a company currently engaged in the manufacture of cathodic protection equipment and shall conform in all respects to NEMA Standards. The rectifier shall be silicon full-wave bridge, dual voltage 120V AC, 60-cycle, single-phase, air-cooled as

indicated on the drawings, designed for continuous operation at 45° C ambient temperature and shall include the following features:

1. Output rating: 20 Volts-5 Amp DC.
 2. "IR" drop free, potential controlled using a permanent copper sulfate reference electrode. It should be capable of maintaining the polarized structure potential to within a few millivolts of the set potential. Minimum input impedance of the measuring circuit should be 10 Mega-Ohms.
 3. Thermal magnetic circuit breaker, plastic encased, for overload protection or primary and secondary.
 4. Transient protection for AC and DC circuit.
 5. Lightning protection for primary circuit.
 6. Separate meters for current and voltage output with 2-percent accuracy.
 7. Nickel plated connectors and adjustment terminals. Hardware used in electrical connections including bolts, studs, nuts, washers and lock washers shall be of brass for electrical conductivity and for resistance to atmospheric corrosion. All electrical and mechanical connections shall be tightly secured with lock washers, or other positive locking devices.
 8. DC output terminals shall be solderless lug type and shall be mounted on the main rectifier panel. Terminal panels shall be clearly and permanently identified as to their polarity by engraving the panel or by other permanent marking. In addition, the rectifier units shall be supplied with two spare sets of fuses and an O& M manual.
 9. The following data shall be permanently attached to the rectifier and included in the O&M Manual.
 - a. Manufacturer
 - b. Model Number
 - c. Serial Number
 - d. AC Input Volts
 - e. AC Input amps
 - f. Line Frequency
 - g. Number of Phases
 - h. DC Output Volts
 - i. DC Output Amps
 - j. Ambient Temperature Rating
 10. Equipped for wall mounting to Unistrut or steel wall panel.
 11. Air-Cooled Rectifier Enclosure: Housing shall be weatherproof, air-cooled type, NEMA 3R enclosure constructed of coated steel, free of warps and wrinkles, and shall be equipped with padlock hasp. The enclosure shall be adequately sized to include all components as indicated herein.
- B. Subject to Compliance with the Contract Documents the following Manufacturers are acceptable:
1. Corpro Companies, Inc.,
 2. Universal Rectifiers, Inc.
 3. Farwest Corrosion/Network Technologies Group Inc.
 4. Or approved equal

2.03 ANODES

- A. OPTION 1: Mixed Metal Oxide Wire Anode Option
1. The anodes shall consist of 0.062 inch (1.5 mm) diameter, copper titanium wire with a mixed metal oxide coating. The anode wires shall be spliced to anode lead wire.

- a. Anode Type "1.5mm STD" as manufactured by Industrie De Nora.
 - b. Approved equal.
- B. OPTION 2: Platinized Niobium Wire Anode
- 1. The anodes shall consist of 0.062 inch (1.5 mm) diameter, platinized niobium, wire with a copper core, ANSI/AWWA Standard D 103-91. The anode wires shall spliced to anode lead wire.
 - a. Anode Type "PW 50" as manufactured by Corpro Companies Inc.
 - b. Approved equal.
- C. Anode Lead Wire: #10 AWG/HMWPE crimped and soldered to the anode, making a mechanically secure connection.
- D. Soldered Connection and Core: Seal entirely with epoxy resin by utilizing a 3M electrical splice mold.

2.04 CABLES

- A. Anode cable: Stranded single conductor copper, #10 AWG/HMWPE.
- B. Anode header cable: Stranded single conductor copper, # 8 AWG/HMWPE.
- C. Reference Electrode Lead Wire: Stranded single conductor copper, No. 12 AWG/HMWPE color as indicated on Drawings.
- D. Control cable and reference electrode header cable: Stranded, shielded, (twisted pair), dual conductor, copper #12 AWG/THHN.

2.05 REFERENCE ELECTRODE

- A. The permanent reference electrode used to measure the tank-to-water potential shall be designed to remain stable in a continuous immersion in the water for a minimum of 10 years with only minimal maintenance as recommended by the manufacturer. The reference electrode shall be a copper/copper-sulfate type of reference electrode and shall have a potential drift of less than 10 mV.
- B. The permanent reference electrode shall be equipped with a 4-inch diameter plastic bumper.
 - 1. STAPERM, Model CU-2-FW as manufactured by GMC
 - 2. Permacell Model 801, as manufactured by Corpro Companies Inc.
 - 3. Approved equal

2.06 GALVANIZED STEEL CONDUIT AND FITTINGS

- A. Conduit and fittings shall be hot-dipped galvanized steel and shall conform to ANSI Specification C80.1 for Rigid Metallic Conduit.
- B. Coat conduit per Specifications Section 09 91 23.160.

2.07 ANODE & REFERENCE ELECTRODE SUSPENSION SYSTEM

- A. The anodes shall be suspended horizontally as shown in the drawings.
- B. Eyerings shall be welded to the tank walls for the polyester rope supports as shown in the drawings.

2.08 COATING FOR EXTERNAL TANK REPAIR

- A. For coating repairs of the external tank see Coating Specifications.

2.09 CABLE-TO-TANK-CHIME CONNECTION

- A. All cable connections to the chime of the tank shall be accomplished utilizing an exothermic welding process such as "Cadweld" by Erico Products, Inc., "Thermoweld" by Continental Industries, Inc., or approved equal. Each cable shall be fitted with a copper sleeve for accomplishing the weld and cartridge, sleeves and molds for each weld shall be furnished by

the same manufacturer. All materials for welding shall be sized and in accordance with recommendations in manufacturers' literature. Exothermic welds for the chime shall be made using the weld metal for steel.

2.10 CABLE-TO-CHIME COATING MATERIAL

- A. Epoxy used for sealing the cable to steel tank chime connections shall be Aquatapoxy® A-6, manufactured by Cohesant Materials, Durcon-164, manufactured by the Duriron Company; Scotchcast Resin No. 4, manufactured by 3-M Company; or CC-1 Potting Compound, manufactured by PSI Products.

2.11 AC JUNCTION BOX

- A. Housing shall be weatherproof, NEMA 3R enclosure constructed of stainless steel, free of warps and wrinkles, 16" by 14" by 6" in dimensions and shall be equipped with padlock hasp.

PART 3. EXECUTION

3.01 GENERAL

- A. All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety, Electrical Orders; The National Electric Code, General Construction Safety Orders of the Industrial Accident Commission; and all other applicable State, County, or City codes and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

3.02 STORAGE OF MATERIALS

- A. All materials and equipment to be used in construction shall be stored in such a manner to be protected from detrimental effects from the elements. If warehouse storage cannot be provided, materials and equipment shall be stacked well above ground level and protected from the elements with plastic sheeting or as appropriate.

3.03 ANODES

- A. The anodes shall be suspended horizontally as shown in the drawings. The anode lead wire shall be secured to a polyester rope support tied to eyerings welded to the interior of the tank.

3.04 ANODE HEADER CABLES

- A. The #8 AWG HMWPE anode header cable shall be installed for the outer ring without cutting any strands of copper and shall run from each hand-hole completing a full 360 degree circle. Minimize the splices when running the inner ring.
- B. The anode header cable shall be supported at each anode access hand-hole by an individual porcelain pin type insulator.

3.05 ANODE & HEADER CABLE SPLICES

- A. Wire anode to cable splices shall be with a proper sized Thomas & Betts C tap crimp connector. The connection shall be encase in epoxy resin by using a 3M electrical splice mold to insure against moisture intrusion.
- B. Anode cable to header cable splices shall be with a proper sized Thomas & Betts C tap crimp connector or two copper split bolts. The connections shall be double half wrapped with rubber filler tape and then wrapped with not less than a double half wrap of quality electrical tape. The splices shall be made in such a way as to insure against moisture intrusion.

3.06 REFERENCE ELECTRODE

- A. The reference electrode shall be suspended vertically from the polyester rope support as shown in the drawings.
- B. The reference electrode shall be installed with its tip 3 inches above the floor of the tank.

3.07 AUTOPOTENTIAL CONTROLLED RECTIFIER

- A. Install a 20A service switch, and reutilize existing AC rigid conduit and cables. Replace the existing flexible conduit, and route the AC cables to the Control Panel.
- B. Route structure (drain) cable and its conduit to the tank chime.
- C. Route conduit for the anode header cable, and for the shielded, dual conductor cable for the control circuit and the reference electrode.
- D. The "IR" drop free, auto-potential controlled rectifier shall be installed as shown in the drawings. The structure cable from the tank shall be connected to the negative terminal, the control cable shall be terminated in the structure terminal of the controller circuit, the reference electrode cable shall be terminated in the reference electrode terminal in the controller circuit and the anode header cable shall be terminated at the positive terminal of the rectifier.

3.08 CABLE-TO-TANK-CHIME CONNECTION

The cable-to-tank-chime connection shall be installed in the manner and at the locations shown on the drawings. Coating materials shall be removed from the pipe surface over an area just sufficient to make the connections. The surface shall be cleaned to white metal by grinding or filing prior to welding the conductor. Grinding with resin-impregnated wheels shall not be allowed. The conductor shall be welded to the pipe by the exothermic process with a copper sleeve fitted over the conductor, and only sufficient insulation shall be removed from the conductor to allow placing in welding mold. After the weld has cooled, all slag shall be removed and the weld shall be tested with a sharp blow from a 16-ounce hammer to assure proper metallurgical bond. All defective welds shall be removed and replaced. All exposed surfaces of copper and steel shall be covered with a minimum thickness of ¼ in. of insulating materials as shown on the drawings. The cable to chime connection shall be tested with a low resistance ohmmeter by the Contractor and approved by the District and Engineer prior to acceptance.

3.09 ENERGIZING AND TESTING

- A. after installation of the cathodic protection system, the system shall be energized and tested by the District and Engineer to assure conformance with the drawings and specifications and to ensure adequate protection of the tank internals per relevant NACE standards. Any and all deficiencies shall be corrected by the Contractor at no expense to the Owner.

3.10 CLEAN-UP

- A. The Contractor shall be responsible for clean-up and removal of all debris, extra material, and equipment utilized for installation of the cathodic protection system.

END OF SECTION 13 37 14

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**ATTACHMENT A
DIVE INSPECTION REPORTS**

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2025 Stateline Tanks Condition Assessment Report

SOUTH TAHOE PUBLIC UTILITY DISTRICT



Prepared for:

Megan Colvey, PE
Principal Engineer
South Tahoe Public Utility District
1275 Meadow Crest Drive
South Lake Tahoe, CA 96150

Date:

June 30, 2025

Prepared by:



V&A Project No. 23-0254 T02

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Abbreviations and Acronyms

Abbreviations/Acronyms Definition

AMPP.....	Association for Materials Protection and Performance (formerly NACE)
ASTM.....	American Society for Testing and Materials
CCR.....	California Code of Regulations
DFT.....	Dry Film Thickness
FT.....	Feet
IN.....	Inch
LOTO.....	Lockout/tag-out
MAX.....	Maximum
MG.....	Million Gallons
MIN.....	Minimum
N/A.....	Not applicable
OSHA.....	Occupational Safety and Health Administration
PPE.....	Personal Protective Equipment
PSI.....	Pounds per square inch
SRL.....	Self-retracting lifeline
STA.....	Station
STPUD.....	South Tahoe Public Utilities District
UT.....	Ultrasonic Testing
V&A.....	V&A Consulting Engineers, Inc.
VANDA®.....	V&A Condition Index

Executive Summary

V&A Consulting Engineers (V&A) was retained by the South Tahoe Public Utility District (STPUD) to assist with the STPUD 2025 Stateline Tanks Condition Assessment Project. Stateline Tanks 1 and 2 were constructed circa 1994 with capacities of 1.25 million gallons (MG) and 2.225 MG, respectively. The objective of the assessments was to provide recommendations for structural repairs required prior to the planned recoating projects anticipated in Summer 2026 and Summer 2027. The interior assessment of the tanks were conducted using divers and V&A personnel. Two V&A personnel in an inflatable raft assessed the areas above the waterline, while divers assessed the submerged surfaces. V&A performed the condition assessment of the interior and exterior of the tanks on May 14 and May 16, 2025 using non-destructive methods.

Based on the conclusions, V&A has the following recommendations for SFPUC to consider:

Stateline Tank 1

1. Within 2 years, prepare the interior surfaces by abrasive blasting per SSPC SP10, Near White Blast Cleaning, with a minimum angular anchor profile of 2.5 mils. Apply AWWA D102 Inside Coating System No. 2 using a higher build coating available by multiple coating manufacturers is recommended for the interior of both Stateline tanks.
 - a. Seal the upper and lower horizontal welds of the knuckle with an NSF 61 approved sealant such as Sikaflex 1A after the interior lining is applied. This will prevent moisture from building up and corroding the steel.
2. Within 2 years, prepare the exterior roof surfaces by abrasive blasting per SSPC SP6, Commercial Blast Cleaning, with a minimum angular anchor profile of 2 mils. Apply AWWA D102 Outside Coating System No. 5 at 8 to 10 mils.
3. Repair the anchors and rope that secure the CP system.
4. V&A and CSI do not recommend structural repairs to the interior surfaces at this time.

Stateline Tank 2

1. Within 2 to 5 years, prepare the interior surfaces by abrasive blasting per SSPC SP10, Near White Blast Cleaning, with a minimum angular anchor profile of 2.5 mils. Apply AWWA D102 ICS No. 2 using a higher build coating available by multiple coating manufacturers is recommended for the interior of both Stateline tanks.
2. Within 2 to 5 years, prepare the exterior roof surfaces by abrasive blasting per SSPC SP6, Commercial Blast Cleaning, with a minimum angular anchor profile of 2 mils. Apply AWWA D102 Outside Coating System No. 5 at 8 to 10 mils.
3. V&A and CSI do not recommend structural repairs to the interior surfaces at this time.

1 Introduction

South Tahoe Public Utility District (STPUD) retained V&A Consulting Engineers (V&A) to assist with the STPUD 2025 Stateline Tanks Condition Assessment Project. Stateline Tanks 1 and 2 were constructed circa 1994. The tanks are located on a private access road west of the intersection of Heavenly Village Way and Lake Parkway in South Lake Tahoe, CA. The tanks are critical for operational system storage and emergency fire flow to most of STPUD's water service customers. The tanks' overall dimensions are as follows:

Table 1-1. Tank Dimensions

Tank	Diameter (ft.)	Height (ft.)	Nominal Capacity (MG)
Stateline Tank No. 1	90	30	1.25
Stateline Tank No. 2	120	30	2.25

The objective of the assessments was to provide recommendations for structural repairs that will be required prior to the planned recoating projects which are anticipated to occur in the Summer of 2026 and the Summer of 2027. The interior assessment of the tank was conducted using a combination of V&A personnel and subcontracted divers. Two V&A personnel assessed the areas above the waterline from inside of the tank with an inflatable raft, while divers assessed the submerged surfaces. Divers and confined space diving support personnel were provided by CSI Services. The interior dive and raft assessments included the condition evaluation and testing of the following elements:

- a. **Interior Walls** – wall-to-roof joint, ring panels, and interior ladder.
- b. **Interior Tank Floor** – shell-floor plate perimeter weld, with floor panels to be included in a tank diagram showing pitting locations and size of pits.
- c. **Interior Tank Roof** – holes, pitting, and corrosion areas.
- d. **Interior Appurtenances** – piping penetrations, manways, overflow, and mixing system.
- e. **Interior Roof Support Members** – accessible rafters, girders, columns, and bases to be inspected for corrosion with reported metal loss percentages.
- f. **Metal Thickness** – perform representative ultrasonic thickness measurements using A-scan testing on roof, shell, and bottom floor plates at up to 40 locations. A submersible UT gauge was used.
- g. **Coating Thickness** – perform representative dry film thickness measurements on shell and bottom floor plates at up to 20 locations.
- h. **Coating Composition** – obtain one interior and one exterior paint sample to be analyzed for 17 heavy metals regulated by California Title 22 hazardous materials.
- i. **Cathodic Protection Preliminary Measurements** – Measurement of tank-to-water native potentials along the tank's depth and from the roof hatch.

The exterior assessment included the condition and testing of the following:

- j. **Roof** – vents, screens, railings, and access hatches. Ultrasonic thickness measurements using A-scan testing on roof plates.
- k. **Shell** – shell to roof joint, ladder, ring panels, and tank overflow as accessible from the fixed ladder on the tank and from the ground.

- I. **Coating** – Dry film thickness measurements, samples taken for chemical testing, and general assessment per ASTM D610 for estimating the corrosion on coated surfaces.

Adhesion testing was performed in accordance with ASTM D6677 on the tank interior lining and exterior coating. The work was performed by an AMPP-certified Level 3 Coating Inspector. All personnel and equipment entering the water for the inspection and assessment were disinfected in accordance with the latest AWWA C652 standards.

Figure 1-1 shows the location of the tanks.

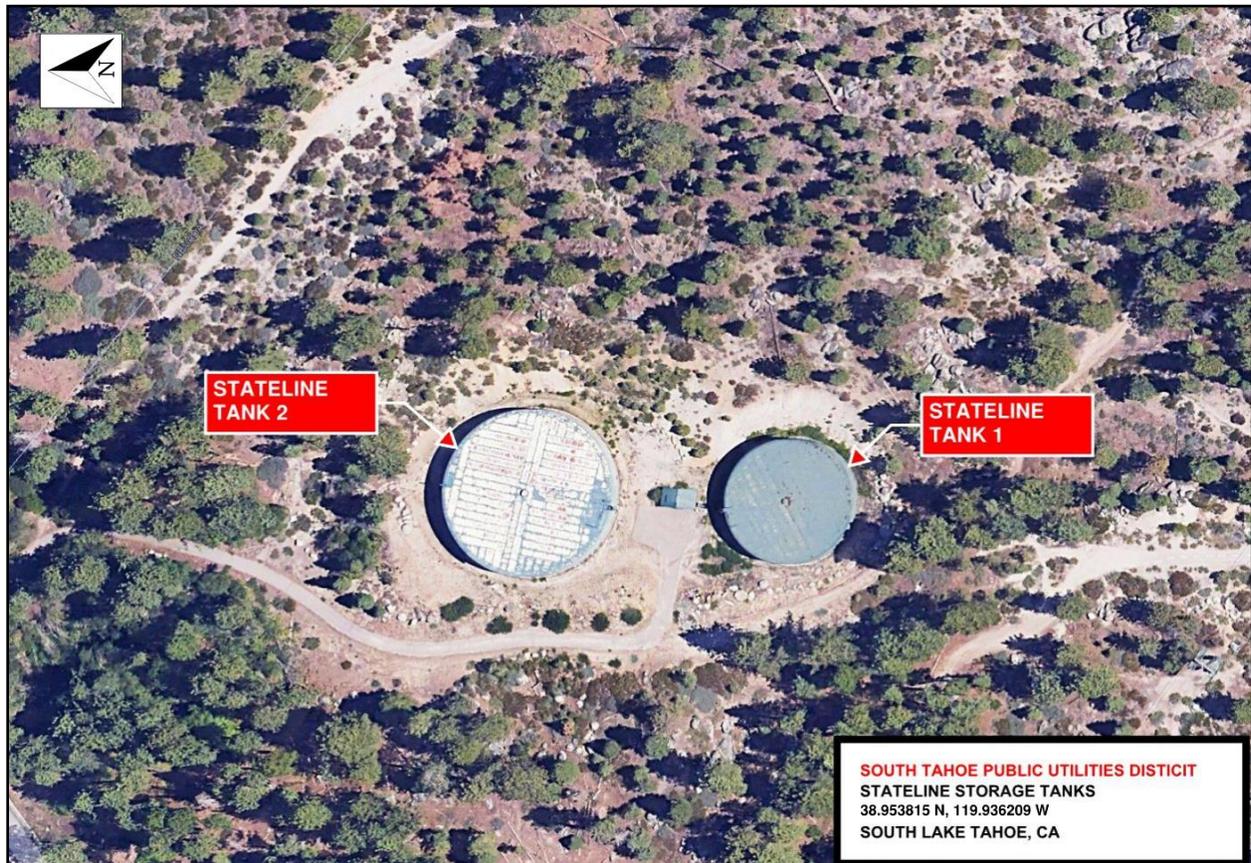


Figure 1-1. Aerial View of the Assessment Area

2 Approach

V&A evaluated the tanks using both qualitative and quantitative methods. This section describes the methods and techniques used to assess the condition of the tanks.

2.1 Metal Assessment Methods

2.1.1 Ultrasonic Thickness Testing

Ultrasonic testing (UT) is a non-destructive evaluation technique used for the determination of metal wall thickness. High-frequency sound waves are transmitted through one side of a metal wall from a transducer. When the sound waves reach the other side of the metal wall, a fraction of the waves will echo back to the transducer. The metal thickness is determined by recording the time it takes for the sound wave to travel through the metal and return.

If pitting, or extremely localized corrosion is found, a pit depth gauge was used since UT did not provide acceptable readings due to the rough surface.

2.2 Visual Assessment

Qualitative visual evaluations were conducted from the interior and exterior of the tanks. The condition of metal components and coatings were evaluated and documented with digital, still photographs. It should be noted that much of the visual assessment data is subjective and is based upon V&A's extensive experience evaluating metallic structures and components in the water and wastewater industries. Standardized ratings used to characterize condition were assigned based on the VANDA® Metal Condition Index, as shown in the subsequent section.

2.2.1 VANDA® Metal Condition Index

V&A created the VANDA® Metal Condition Index (Table 2-1.) to provide consistent reporting of corrosion damage based on objective criteria. Metal condition is rated from Level 1 to Level 5 based upon field observations and measurements, with Level 1 indicating little or no corrosion and Level 5 indicating severe damage. The individual criteria are applied based on engineering judgment to arrive at the overall rating.

Table 2-1. VANDA® Metal Condition Index

Condition Rating	Description	Representative Photograph
Level 1	<p>Little or no corrosion</p> <ul style="list-style-type: none"> ▪ Wall thickness loss, generalnone ▪ Wall thickness loss, pitting.....none to minimal ▪ Extent (area) of corrosion.....may be widespread but superficial 	
Level 2	<p>Minor corrosion</p> <ul style="list-style-type: none"> ▪ Wall thickness loss, generalup to 20% ▪ Wall thickness loss, pitting.....up to 20% ▪ Extent (area) of corrosion.....localized 	
Level 3	<p>Moderate corrosion</p> <ul style="list-style-type: none"> ▪ Wall thickness loss, general20% to 40% ▪ Wall thickness loss, pitting.....20% to 60% ▪ Extent (area) of corrosion.....up to half of surface 	
Level 4	<p>Severe corrosion</p> <ul style="list-style-type: none"> ▪ Wall thickness loss, general40% to 60% ▪ Wall thickness loss, pitting.....60% to 100% (pinholes) ▪ Extent (area) of corrosion.....most of surface 	
Level 5	<p>Failure or imminent failure</p> <ul style="list-style-type: none"> ▪ Wall thickness loss, generalgreater than 60% ▪ Wall thickness loss, pitting.....100% (holes) ▪ Extent (area) of corrosion.....most or all of surface 	

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2.3 Coating Assessment Methods

2.3.1 Dry Film Thickness

Dry film thickness (DFT) is the thickness of a coating after it has cured. A DFT gauge uses electromagnetic induction or eddy current technology to measure the thickness of a wide variety of coatings on metal surfaces. V&A used a gauge that can measure coatings up to 0.2 inches (200 mils) in thickness.

2.3.2 Coating Sample Testing

Table 2-2. California Heavy Metals TTLC Summary

Metal	TTLC (ppm)
Antimony	500
Arsenic	500
Barium	10,000
Beryllium	75
Cadmium	100
Chromium	2,500
Cobalt	8,000
Copper	2,500
Lead	1,000
Mercury	20
Molybdenum	3,500
Nickel	2,000
Selenium	100
Silver	500
Thallium	700
Vanadium	2,400
Zinc	5,000

Coating samples collected were tested at Xenco Laboratories for 17 heavy metals in accordance with the Environmental Protection Agency (EPA) Method 6010B. The Total Threshold Limit Concentration (TTLC) from California Code of Regulations (CCR) Title 22, §66261.24 Table II is presented for each tested metal in parts per million (ppm) in Table 2-2. The TTLC values are used as a preliminary screening test to plan for hazardous waste disposal procedures and to determine if lead abatement procedures will be required. If a paint sample exceeds the TTLC limit, any work that is performed on the coating, such as welding or abrasive blasting, will require hazardous material handling for personnel.

If the California lead concentration limit of 600 ppm (0.06% by weight) is exceeded, it will require lead abatement procedures per CCR Title 8, §1532.1. The requirement for worker health and safety measures during the removal of a lead-based paint depends on the amount of airborne lead to which the workers will be exposed during a specified length of time as outlined in CCR Title 8 §1532.1. It states that "...the employer shall not expose an employee to lead at a concentration greater than 30

micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) averaged over an 8-hour period." V&A recommends including lead abatement in coating specifications whenever lead concentrations of existing coatings exceed 600 ppm.

The waste that is generated during the abrasive blasting of the surfaces to be coated must be tested per Toxicity Characteristic Leaching Procedure (TCLP) before the waste can be removed from the job site. If the TCLP results from the waste exceed the limits of CCR Title 22, §66261.24 Table I, then it must be classified as hazardous waste, requiring an EPA manifest and permit before being disposed of at a hazardous waste disposal site.

2.3.3 Coating Condition

Coating condition was evaluated using the ASTM D610-01 Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces and specifically the General Rust Grade for painted surfaces. Figure 2-1 shows an example of general rust grade ratings. Similar rating scales are available for pinpoint and spot rusting. The complete standardized rating scale for visually assessing coating condition is presented in Table 2-3.

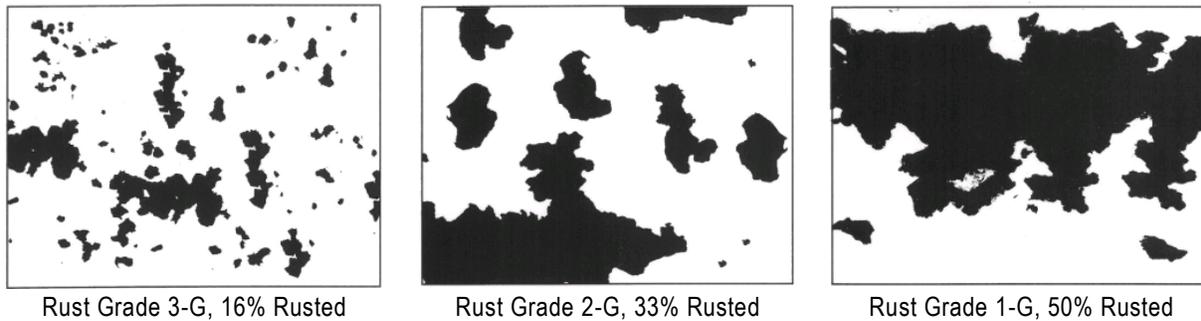


Figure 2-1. ASTM D610 General Rust Grade Ratings

Table 2-3. Visual Rating System for Coated Metal

Rating Scale	Percent of Surface Exhibiting Corrosion	Spot	General	Pinpoint
9	Greater than 0.01% and up to 0.03%	9-S	9-G	9-P
8	Greater than 0.03% and up to 0.1%	8-S	8-G	8-P
7	Greater than 0.1% and up to 0.3%	7-S	7-G	7-P
6	Greater than 0.3% and up to 1%	6-S	6-G	6-P
5	Greater than 1% and up to 3%	5-S	5-G	5-P
4	Greater than 3% and up to 10%	4-S	4-G	4-P
3	Greater than 10% and up to 16%	3-S	3-G	3-P
2	Greater than 16% and up to 33%	2-S	2-G	2-P
1	Greater than 33% and up to 50%	1-S	1-G	1-P
0	Greater than 50%	No rating given		

2.3.4 Adhesion Testing (Metal Structure)

Coating adhesion tests were performed in accordance with ASTM D6677 "Standard Test Method for Evaluating Adhesion by Knife" (2022). V&A used an X-Cut Test to evaluate the adhesion of coatings. The procedure involves cutting an "X" entirely through the coating to the metal substrate with a sharp tool such as a razor blade, scalpel, utility knife, or other appropriate cutting device. The cutting tool was guided by a straight edge of steel or other metal to ensure that a straight incision was cut through the coating. The test surface was free of blemishes or other defects and imperfections, clean, and dry. The cuts were made along the straight edge in one steady motion, penetrating the coating to the substrate for a distance of at least 1.5 inches. A second cut was made that crosses the first cut midway along its length at a 30-to-45-degree angle. Employing the point of the knife and beginning at the vertex of the angle, an attempt was made to lift up the coating from the substrate or from the coating below. The rating system to be used to describe the degree of coating adhesion is presented in Table 2-4 below.

Table 2-4. Adhesion Test Rating System per ASTM D6677

Rating	Post-Test Observations
10	Coating is extremely difficult to remove; fragments no larger than approximately 1/32 in. by 1/32 in. removed with great difficulty.
8	Coating is difficult to remove; chips ranging from approximately 1/16 in. by 1/16 in. to 1/8 in. by 1/8 in. can be removed with difficulty.
6	Coating is somewhat difficult to remove; chips ranging from approximately 1/8 in. by 1/8 in. to 1/4 in. by 1/4 in. can be removed with slight difficulty.
4	Coating is somewhat difficult to remove; chips in excess of 1/4 in. by 1/4 in. can be removed by exerting light pressure with the knife blade.
2	Coating is easily removed; once started with the knife blade, the coating can be grasped with one's fingers and easily peeled to a length of at least 1/4 in.
0	Coating can be easily peeled from the substrate to a length greater than 1/4 in.

3 Findings

3.1 Tank 1

3.1.1 Tank Interior

Photo 3-1 through Photo 3-10 illustrate the condition of the interior surfaces of the knuckle and the rafters in the outer radius. The coating failures in the northern half of the tank have exposed the steel, resulting in minor corrosion (VANDA Level 2) with isolated areas of moderate corrosion (VANDA Level 3). The corrosion observed in the upper and lower horizontal welds in the knuckle, shown in Photo 3-1 and Photo 3-3, appear to have resulted from two plates overlapping one another which has trapped water in an uncoated seam. The severe coating failures presented in Photo 3-5 through Photo 3-10 are believed to have originated at the horizontal welds of the knuckle on the northern half of the tank.



Photo 3-1. Coating failure at the welds of the knuckle and Rafter 1.



Photo 3-2. Coating failure along a weld of the knuckle.



Photo 3-3. Two plates overlap each other at the bottom weld of the knuckle, which traps water.



Photo 3-4. Minor surface corrosion on the interior of the overflow pipe.



Photo 3-5. Knuckle coating failure above Rafter 5.



Photo 3-6. Coating failure between Rafters 7 & 8.



Photo 3-7. Coating failure at Rafter 15.



Photo 3-8. Coating failure above Rafter 17.



Photo 3-9. Coating failure above Rafter 18.



Photo 3-10. Coating failure above Rafter 19.

The coating failures observed on the outer radius rafters were spread across the web and flange surfaces as seen in Photo 3-11 through Photo 3-16. Most of the roof plates were in good to fair overall condition with minor corrosion (VANDA Level 2) except for areas near Rafter 28, Rafter 32, and Rafter 39 which were showed widespread moderate corrosion (VANDA Level 3) as demonstrated in Photo 3-13, Photo 3-14, and Photo 3-16. The overall rating of 4 per ASTM D610 is given to the rafters and knuckle surfaces of the outer radius of the tank. No twisting or bending of the roof support structural steel members were observed.



Photo 3-11. Rafter 3 coating failure and up to 12% metal loss on the lower flange.



Photo 3-12. Rafter 1 coating failure.



Photo 3-13. Roof plate corrosion at Rafter 28.



Photo 3-14. Coating failure and corrosion on roof plate near Rafter 39.



Photo 3-15. Coating failures and minor corrosion on the knuckle near Rafter 28.



Photo 3-16. Coating failures on Rafter 32 and on the roof plate.

Closer to the center of the tank, the horizontal W24x103 I-beams that are supported by the six columns were generally in VANDA Level 2 condition with minor corrosion typical throughout, similar to Photo 3-17. The coating on the roof plates has also failed resulting in minor corrosion in isolated areas as demonstrated in Photo 3-18 and Photo 3-20. Isolated areas of coating failures were observed on Rafters 25 and 34 as shown in Photo 3-19, Photo 3-21, and Photo 3-22. No twisting or bending of the roof support structural steel members were observed.

The outer rafters rested on the horizontal W24x103 I-beams and were supported by 1 inch-thick by 4 inch-wide shim plates of various heights as shown in Photo 3-23 and Photo 3-24. The coating on two of the plates had completely failed as shown in Photo 3-23 and Photo 3-24. The measured metal loss on the shim plate shown in Photo 3-23 was only 13% (refer to Section 3.3). Photo 3-25 and Photo 3-26 show the two areas on the lower tank wall with coating blisters and minor corrosion. The dive assessment report rates these regions a 5 per ASTM D610.



Photo 3-17. The coating on the Inner radius rafters was in good condition.



Photo 3-18. The coating on the center roof plates had failed and minor corrosion was observed.



Photo 3-19. Isolated area of corrosion on the W24x103 horizontal I beam. Photo courtesy of CSI.



Photo 3-20. Minor corrosion on the center column and roof plates. Photo courtesy of CSI.



Photo 3-21. Inner radius horizontal beam coating failures on upper flange near Rafter 25.



Photo 3-22. Coating failure on the horizontal beam near Rafter 34.



Photo 3-23. Shim plate corrosion, closeup.



Photo 3-24. Coating failure, closeup.



Photo 3-25. Isolated area of surface corrosion on the lower tank wall. Photo courtesy of CSI.



Photo 3-26. Isolated area of surface corrosion on the lower tank wall. Photo courtesy of CSI.

3.1.2 Tank Exterior

Photo 3-27 through Photo 3-34 illustrate the exterior condition of the tank. Minor corrosion (VANDA Level 2) was observed on the tank roof surface, as demonstrated in Photo 3-27 through Photo 3-29. The exterior roof surfaces are rated 4 and the exterior shell is rated 9 per ASTM D6677. The wire mesh screen and support brackets for the center vent were in good condition as seen in Photo 3-30. The exterior ladder and landing are in good condition. The tank walls are in good condition, except for the small areas of graffiti near the manway, as shown in Photo 3-33. The majority of the tank shell did not have any coating failures or corrosion staining. The manways were in good condition.



Photo 3-27. Roof plates in good condition near access hatch.



Photo 3-28. Coating failure and corrosion on roof plates.



Photo 3-29. Center roof vent plate corrosion.



Photo 3-30. Center roof vent underside.



Photo 3-31. The coating on the east side upper tank walls are rated a 9 per ASTM D610.



Photo 3-32. The coating on the west side upper walls are rated a 9 per ASTM D610.



Photo 3-33. Rear access hatch.



Photo 3-34. East exterior wall and overflow spout.

3.2 Tank 2

3.2.1 Tank Interior

Photo 3-35 through Photo 3-46 illustrate the condition of the interior surfaces of the tank above the water surface was in VANDA Level 2 condition. Overall, the interior floor, walls, ceiling and roof support structures above the water surface were observed to be in VANDA Level 2 condition with isolated corrosion along welds as seen in Photo 3-37 and Photo 3-38. The surfaces above the water surfaces are rated an 8 per ASTM D6677 due to the minor corrosion that was observed as seen in Photo 3-39 through Photo 3-44. Coating delamination without corrosion were observed on Rafter 26 as shown in Photo 3-40.

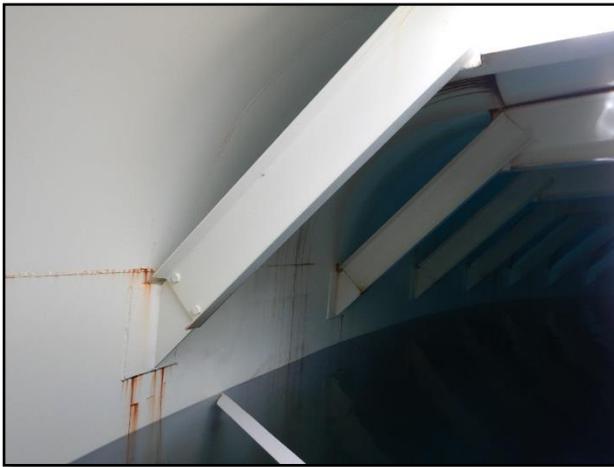


Photo 3-35. Minor corrosion at the weld of the beam to the knuckle.



Photo 3-36. The coating and steel were in VANDA Level 1 condition near the roof hatch.



Photo 3-37. Corrosion at the crevice between the overlapping plates on the upper knuckle.



Photo 3-38. Corrosion at the crevice between the overlapping plates near the roof hatch.



Photo 3-39. Roof plates and rafters are in VANDA Level 1 condition on the south side.



Photo 3-40. Isolated coating failures on Rafter 26, south side.



Photo 3-41. Inner rafters are in VANDA Level 1 condition.



Photo 3-42. Inner rafters are in VANDA Level 1 condition.

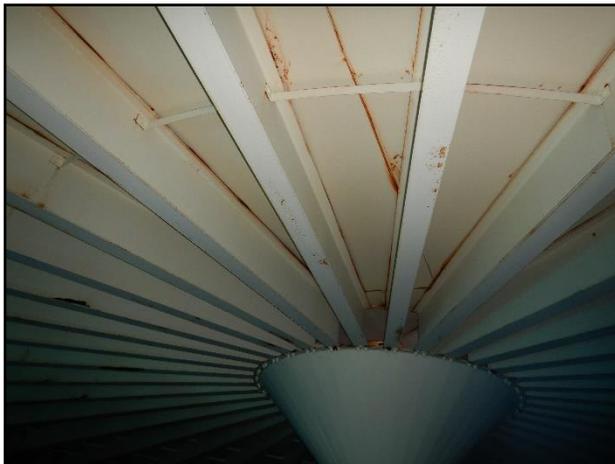


Photo 3-43. Inner rafters and center column are in VANDA Level 1 condition.



Photo 3-44. Inner rafters and center column are in VANDA Level 1 condition.

The outer radius rafters and inner radius rafters rested on a total of six W36x160 I-beams. The W36x160 beams rested on six columns similar to those shown in Photo 3-49 and Photo 3-50. Most of the surfaces of the beams were in VANDA Level 1 condition however, there were three isolated areas with coating failures and corrosion as seen in Photo 3-45 through Photo 3-50. Photo 3-45 and Photo 3-46 show a W36x160 I-beam on the west side of the tank with an area of exposed steel. Photo 3-47 and

Photo 3-48 show an area on a W36x160 I-beam with a measured metal loss of 10% (refer to Section 3.3).



Photo 3-45. The edge of the W36x160 I-beam on the south side.



Photo 3-46. Detail of the edge of the W36x160 I-beam indicated up to 29% loss.



Photo 3-47. Coating failures on the lower flange of the W36x160 I-beam on the north side.



Photo 3-48. Small area of corrosion on the lower flange of the W36x160 I-beam on the north side.



Photo 3-49. VANDA Level 2 corrosion on a girder support column.



Photo 3-50. The underside of a typical girder support column.

The diver assessment was able to identify several areas of corrosion on the lower 8 feet of the interior wall as seen in Photo 3-51 through Photo 3-53. Small amounts of sediment were observed on the floor of the tank however there are small blisters similar to those seen in Photo 3-54. The tank shell is rated a 5 and the floor is rated a 6 per ASTM D610 due to coating failures.

The CP system was not energized at the time of the assessment and may not be functioning. The existing CP system wiring is secured between the center column and the walls with ropes. Photo 3-55 and Photo 3-56 show a cable and a rope, respectively, that are resting on the surface of the tank floor.



Photo 3-51. Coating blisters on the lower shell near the eastern manway. Photo courtesy of CSI.



Photo 3-52. Coating blisters on the lower shell near the eastern manway. Photo courtesy of CSI.



Photo 3-53. Coating blisters on the lower shell



Photo 3-54. Coating blisters and sediment buildup on the floor. Photo courtesy of CSI.



Photo 3-55. Cathodic protection system cable is resting on the floor near the wall. Photo by CSI.



Photo 3-56. The rope securing the CP cables was observed on the floor. Photo by CSI.

3.2.2 Tank Exterior

Photo 3-57 through Photo 3-64 illustrate the exterior condition of the tank. The tank roof is in VANDA Level 2 condition due to minor corrosion typical throughout the surface and a rust rating of 0 per ASTM D610 due to the widespread exposure of the steel. The coating on the shell was in good condition with the exception of two areas with graffiti that are shown in Photo 3-59 and Photo 3-60. The roof vent, wire screen, and anchor bracket are in great condition with no defects noted (VANDA Level 1).



Photo 3-57. The prime coat is visible on most of the roof.



Photo 3-58. Tank roof exterior has large areas of coating failure.



Photo 3-59. Roof vent had moderate coating failure.



Photo 3-60. Vent screen and bracket in VANDA Level 1 condition.



Photo 3-61. Graffiti on the south side of the tank.



Photo 3-62. Graffiti on the south east side of the tank.



Photo 3-63. Tank foundation ties in good condition.



Photo 3-64. The coating on the tank south wall is intact.

3.3 Ultrasonic Thickness Testing

UT measurements were performed on the surfaces of the roof support structural members and roof plates. A total of 90 readings were recorded. The individual UT readings and location map are provided in Appendix A. The data for Tanks 1 and 2 was grouped by area based on location and is summarized in Table 3-1 and Table 3-2, respectively. The assumed nominal thickness values are based on the American Institute of Steel Constructors 13th Edition and average thickness values in non-corroded areas, where applicable. The greatest recorded thickness loss on Tank 1 was 13% on the Rafter 36 support; otherwise, measured wall thickness loss typically ranged from 0 to 13, indicating negligible to minor corrosion and VANDA Level 1 condition.

Table 3-1. Tank 1 UT Data Summary

ID	Location	Surface	Assumed Nominal Thickness (inches)	Min. Thickness (inches)	Avg. Thickness (inches)	Max. Thickness (inches)	Max. Metal Loss (%)
1	Rafter 1 W12x19 I beam	web	0.235	0.232	0.233	0.234	1%
2	Rafter 1 W12x19 I beam	web	0.235	0.222	0.225	0.229	6%
3	Rafter 1 W12x19 I beam	web	0.235	0.229	0.230	0.231	3%
4	Rafter 1 W12x19 I beam	flange	0.35	0.331	0.333	0.336	5%
5	Rafter 3 W12x19 I beam	flange	0.35	0.308	0.315	0.323	12%
6	Rafter 32 W12x19 I beam	web	0.235	0.231	0.232	0.233	2%
7	Rafter 34 W24x103 I beam	web	0.4375	0.405	0.439	0.460	7%
8	Rafter 10 W12x19 I beam	flange	0.35	0.315	0.338	0.355	10%
9	Rafter 37 W24x103 I beam	flange	0.55	0.568	0.578	0.592	0%
10	Rafter 37 W24x103 I beam	flange	0.55	0.630	0.631	0.631	0%
11	Rafter 5	knuckle	0.25	0.260	0.260	0.260	0%
12	Rafter 5	knuckle	0.25	0.259	0.259	0.259	0%
13	b/w Rafter 7-8	knuckle	0.25	0.256	0.257	0.257	0%
14	Rafter 18	knuckle	0.25	0.263	0.263	0.264	0%
15	Rafter 22	knuckle	0.25	0.266	0.266	0.266	0%
16	Rafter 28	knuckle	0.25	0.261	0.265	0.268	0%
17	Rafter 36	rafter shim plate	1.0	0.875	0.882	0.896	13%
18	Exterior roof exposed steel	various	0.1875	0.178	0.187	0.208	5%
19	Exterior tank	knuckle	0.25	0.257	0.258	0.258	0%
20	Rafter 12	roof plate	0.1875	0.185	0.186	0.187	1%
21	Rafter 20	roof plate	0.1875	0.187	0.188	0.188	0%
22	Exterior tank	3rd shell course	0.25	0.268	0.268	0.268	0%
23	Exterior tank	2nd shell course	0.3125	0.276	0.276	0.276	12%
24	Exterior tank	1st shell course	0.375	0.363	0.363	0.363	3%

The greatest measured wall thickness loss on Tank 2 was 29% on the flange of Column 1. Tank 2 also showed fewer areas with 0% loss, indicating greater overall wear and tear. Minor to moderate corrosion was observed as typical throughout the tank, resulting in an overall VANDA Level 2 condition rating. Areas with greater than 20% measured metal wall loss were confined to localized defects.

Table 3-2. Tank 2 UT Data Summary

ID	Location	Surface	Assumed Nominal Thickness (inches)	Min. Thickness (inches)	Avg. Thickness (inches)	Max. Thickness (inches)	Max. Metal Loss (%)
25	Column 1 below W36x160 I beam	horizontal	0.375	0.359	0.359	0.360	4%
34	Column 2 W36x160 I beam	flange	0.94	0.903	0.906	0.909	4%
26	Column 1 W36x160 I beam	flange	0.94	0.665	0.731	0.797	29%
27	Column 1 W36x160 I beam	web	0.625	0.608	0.627	0.636	3%
28	Column 1 W36x160 I beam	flange	0.94	0.896	0.897	0.898	5%
29	Rafter 21 W14x22 I beam	flange	0.335	0.334	0.344	0.364	0%
30	Rafter 35 W14x22 I beam	flange	0.335	0.322	0.323	0.326	4%
31	Rafter 38 W14x22 I beam	flange	0.335	0.274	0.293	0.307	18%
32	Rafter 23 W14x22 I beam	flange	0.335	0.257	0.282	0.306	23%
33	North W36x160 I beam	flange	0.94	0.904	0.913	0.918	10%
35	Center column		0.3125	0.313	0.314	0.314	0%
36	Column 5-6 plate		0.625	0.558	0.608	0.635	11%
37	roof plates		0.1875	0.176	0.183	0.190	6%
38	Exterior roof plates		0.1875	0.182	0.184	0.188	3%
39	Center roof vent pipe		0.1875	0.185	0.188	0.190	1%
40	course 1	outer wall	0.4375	0.430	0.430	0.431	2%
41	course 2	outer wall	0.375	0.361	0.364	0.366	4%
42	course 3	outer wall	0.25	0.240	0.240	0.240	4%
43	course 4	outer wall	0.25	0.238	0.247	0.252	5%

3.4 Dry Film Thickness

Table 3-3 summarizes the results of the DFT testing. DFT measurements were taken at locations of intact coating and not at locations of coating failures. Outside Coating System No. 5 (OCS No. 5) under AWWA D102-97 requires a minimum total system thickness of 6 mils. According to AWWA D102-97, the minimum DFT for Inside Coating System No. 1 (two-coat system) or No. 2 (three-coat system) is 8 or 12 mils for a high solids epoxy.

The exterior coating system on Tank 1 meets the minimum thickness of the OCS No. 5 except in areas of apparent coating failures on the roof. The interior coating system on Tank 1 meets the minimum thickness of ICS No. 1 and No. 2 except for the areas that are exposed due to coating failures such as the knuckle.

The exterior coating system on Tank 2 meets the minimum thickness of the OCS No. 5 except in areas of apparent coating failures on the roof. The interior coating system on Tank 2 meets the minimum thickness of ICS No. 1 and No. 2 except for Rafter 5 due to coating failures.

Table 3-3. Tank 1 DFT Data Summary

Location	No. of Meas.	Minimum (mils)	Average (mils)	Maximum (mils)	Std Dev (mils)
Area 5 Rafter	10	9.4	12.5	16.3	2.2
Area 10 Rafter	10	7	10.2	14.7	3.1
Area 22 Knuckle	10	6.7	10.7	13.2	1.9
Area 39 Rafter	10	8.1	11.1	14	2.2
Roof Exterior	25	5.1	9.2	16.4	2.4
Lower Shell Exterior	35	6.9	12.8	18.6	2.6

Table 3-4. Tank 2 DFT Data Summary

Location	No. of Meas.	Minimum (mils)	Average (mils)	Maximum (mils)	Std Dev (mils)
Rafter 5	10	6.1	7.7	9.8	1.1
Rafter 27	10	11.2	15.1	17.4	2.0
Interior Knuckle	10	7.6	9.0	10.3	1.0
Roof Exterior	40	0.38	3.9	13.8	3.0
Lower Shell Exterior	28	5.0	8.4	16.7	2.3

3.5 Coating Sample Testing

The coating sample was collected from the exterior roof and interior rafters of both tanks. Table 3-5 summarizes the results of the coating sample analysis of all four samples. The results indicate that neither the exterior nor the interior paint exceeds the TTLC limits for any of the hazardous metals tested. While all metal concentrations were within the TTLC limits, elevated levels of barium were observed at up to 9,400 ppm. This, however, is still below the TTLC limit of 10,000 ppm.

Table 3-5. Summary of Coating Sample Analysis.

Metal	California TTLC Limit (ppm)	Tank 1 Exterior (ppm)	Tank 1 Interior (ppm)	Tank 2 Exterior (ppm)	Tank 2 Interior (ppm)
Arsenic	500	1.4	1.1	ND	ND
Antimony	500	ND	ND	ND	ND
Barium	10000	9100	1000	9400	5200
Beryllium	75	ND	ND	ND	ND
Cadmium	100	ND	ND	ND	ND
Chromium	2500	7.1	4.5	2.4	9.5
Cobalt	8000	2.2	1.6	43	2.5
Copper	2500	59	120	18	120
Lead	1000	1.6	ND	ND	ND
Mercury	20	ND	ND	ND	ND
Molybdenum	3500	1.7	1.7	1.2	2.7
Nickel	2000	6.4	26	1.3	36
Selenium	100	ND	ND	ND	ND
Silver	500	ND	ND	ND	ND
Thallium	700	ND	ND	ND	ND
Vanadium	2400	2.9	2.4	2.5	3.1
Zinc	5000	23	7.7	6.9	7.5

3.6 Coating Adhesion Testing

The results of CSI’s adhesion tests on the exterior surfaces of the tanks are shown in Photo 3-65 through Photo 3-68. Due to the destructive nature of the tests, V&A did not conduct additional tests and will accept these results with the exception of the exterior roofs due to the widespread coating failures seen in Photo 3-28 and Photo 3-57 for Tank 1 and Tank 2, respectively.

The coating adhesion on the interior surfaces of the Tank 1 knuckle is 0 per ASTM D6677. The coating adhesion on the interior surfaces of Tank 2 is 8 per ASTM D6677.



Photo 3-65. The Tank 1 exterior shell is rated a 9 per ASTM D6677. Photo courtesy of CSI.

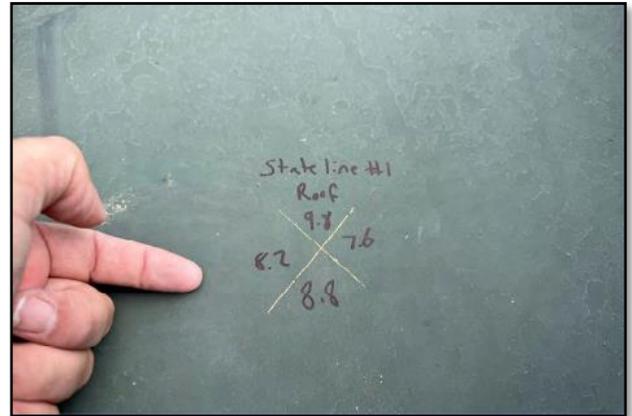


Photo 3-66. The Tank 1 exterior roof is rated a 8 per ASTM D6677. Photo courtesy of CSI.



Photo 3-67. The Tank 2 exterior shell is rated a 10 per ASTM D6677. Photo courtesy of CSI.

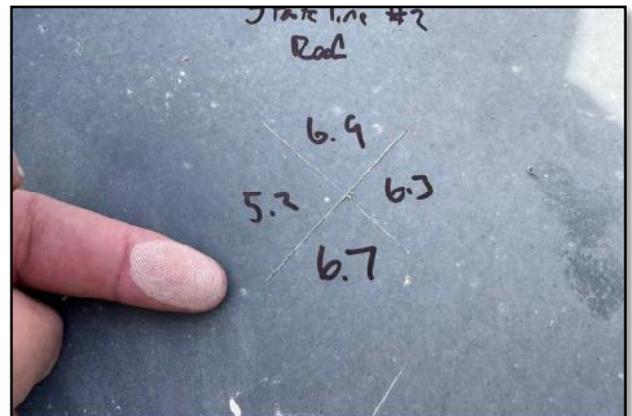


Photo 3-68. The Tank 2 exterior roof is rated a 10 per ASTM D6677. Photo courtesy of CSI.

3.7 New Coating Options

There are two coating system options that may be considered for each Stateline tank. According to AWWA D102-21, the minimum DFT for ICS No. 1 (two coat system) or ICS No. 2 (three-coat system) is 8 or 12 mils respectively. The minimum DFT for ICS No. 4 (one-coat system) is 20 mils for a 100% solids polyurethane. ICS No. 2 using a higher build coating available by multiple coating manufacturers is recommended for the interior of both Stateline tanks.

There are two coating options that will be considered for recoating the exterior of each tank: (1) Remove all existing coatings and apply a new coating system, (2) Perform spot repairs by lightly abrading (vacuum-shrouded power tools) the paint and overcoat all exterior surfaces with a new finish coat. The decision to replace or perform spot repairs depends on the condition of the existing coating on the surface. If the existing coating is thicker than 12 mils or results in an adhesion rating of 6 or less per ASTM D6677, it is recommended to replace the coating.

Photo 3-69 shows an example of coating application using rollers and an aerial lift to limit the overspray. The coating application would have to be timed correctly to do this so the surfaces are not too hot or foggy, which may delay the project. An alternative would be to require full containment, as shown in Photo 3-70, which would allow more flexibility to the contractor. The full containment will also help alleviate concerns of dust and coating overspray on the surrounding environment.



Photo 3-69. Application with rollers and no containment.



Photo 3-70. Full containment during abrasive blasting of exterior surfaces.

In accordance with AWWA D102-21 Outside Coating System No. 5, a three-coat system consisting of two coats of an epoxy and a finish coat of an aliphatic polyurethane is recommended. AWWA D102-21 requires a minimum dry film thickness of 6.5 mils for the complete system; however, due to the service environment, V&A recommends a minimum of 8 to 10 mils for the complete system.

There is another finish coat alternative, called polysiloxanes, that can eliminate the need for a full coat of an epoxy intermediate coat. Polysiloxanes are high gloss-retentive finish coats that are made for marine environments; however, the upfront material cost is higher than a traditional aliphatic polyurethane.

Table 3-6 compares the two options for the exterior recoating of the tank. Overcoating existing paint presents potential cost savings compared to the complete removal and recoat method; however, there will be a reduced service life. Based on the existing condition of the exterior coating, an overcoat is not recommended on the Tank 1 shell. An overcoat is feasible on the exterior shell of Tank 2.

Table 3-6. Comparison of Recoating vs. Overcoating the Tank Exterior

	Option 1: Complete Removal and Recoating	Option 2: Spot Repair and Overcoat of Entire Tank
Repair Description	Remove all existing exterior coatings and provide a complete recoating to the entire exterior surface.	Conduct spot repairs to the damaged areas along the tank's surface and apply a new overcoat over the entire existing coating.
Coating Type and Description	Provide a complete recoating using two coats of epoxy and finish coat of an aliphatic polyurethane to all exterior surfaces.	This spot repair and overcoat option would consist of a surface tolerant primer, epoxy intermediate, and finish coat of an aliphatic polyurethane coating.
Expected Design Life	25-30 Years	10-20 Years
Lead Based Paint (LBP) Abatement	Not required.	Not required.

3.8 Cathodic Protection Preliminary Measurements

The CP system on both tanks was inactive during the assessments. V&A is planning to conduct testing on the CP systems during an upcoming site visit.

4 Conclusions

Based on the field observations, the coating sample lab analysis, and V&A's experience with similar projects, the following conclusions are presented:

4.1 Stateline Tank 1

1. The corrosion observed in the upper and lower horizontal welds in the knuckle, shown in Photo 3-1 and Photo 3-3, appear to have resulted from two plates overlapping one another which has trapped water in an uncoated seam. The severe coating failures on the northern half of the tank are believed to have originated at the horizontal welds of the knuckle. The interior surfaces above the water surfaces are in VANDA Level 2 condition with isolated areas that are in VANDA Level 3 condition.
2. Photo 3-25 and Photo 3-26 show the two areas on the lower tank wall with coating blisters and minor corrosion which are rated a 5 per ASTM D610.
3. The exterior roof surface is rated 4 and the exterior shell is rated 9 per ASTM D6677.
4. If the existing coating is thicker than 12 mils or results in an adhesion rating of 6 or less per ASTM D6677, it is recommended to replace the coating. Based on the existing condition and thickness of the exterior coating, an overcoat is not recommended on the Tank 1 shell .
5. The measured metal loss on the exposed areas where coating has failed at the knuckle is considered negligible.
6. The greatest measured metal wall thickness loss on Tank 1 was 13% on the Rafter 36 shim support where active corrosion was observed as seen in Photo 3-23.
7. The interior and exterior coating system average DFT meets the AWWA D102 minimum requirements except for those areas where the coating has failed.
8. The interior and exterior coating samples do not exceed the California TTLC limits for hazardous metals.

4.2 Stateline Tank 2

1. The interior surfaces above the water surfaces are in VANDA Level 2 with isolated areas that are in VANDA Level 3 condition. The surfaces above the water surfaces are rated an 8 per ASTM D6677 due to the isolated areas of minor corrosion that were observed.
2. Photo 3-51 through Photo 3-54 show the interior areas on the lower tank wall and floor with coating blisters and minor corrosion which are rated a 5 per ASTM D610.
3. The tank exterior roof is in VANDA Level 2 condition due to minor corrosion and a rust rating of 0 per ASTM D610 due to the widespread exposure of the steel.
4. If the existing coating is thicker than 12 mils or results in an adhesion rating of 6 or less per ASTM D6677, it is recommended to replace the coating. Based on the existing condition and thickness of the exterior coating, an overcoat is not feasible on the exterior shell of Tank 2.
5. The greatest recorded thickness loss on Tank 2 was 29% on the lower flange of a W36x160 I beam where active corrosion was observed as seen in Photo 3-46.

6. The interior and exterior coating system average DFT meets the AWWA D102 minimum requirements except for those areas where the coating has failed.
7. The interior and exterior coating samples do not exceed the California TTLC limits for hazardous metals.
8. CSI's adhesion tests on the exterior surfaces of the tanks indicate good adhesion on the shell of both tanks. The roof for Tank 1 was rated 0, where testing was not performed due to widespread coating failure.

5 Recommendations

Based on the conclusions, V&A has the following recommendations for STPUD to consider:

5.1 Stateline Tank 1

1. Within 2 years, prepare the interior surfaces by abrasive blasting per SSPC SP10, Near White Blast Cleaning, with a minimum angular anchor profile of 2.5 mils. Apply AWWA D102 Inside Coating System No. 2 using a higher build coating available by multiple coating manufacturers is recommended for the interior of both Stateline tanks.
 - a. Seal the upper and lower horizontal welds of the knuckle with an NSF 61 approved sealant such as Sikaflex 1A.
2. Within 2 years, prepare the exterior roof surfaces by abrasive blasting per SSPC SP6, Commercial Blast Cleaning, with a minimum angular anchor profile of 2 mils. Apply AWWA D102 Outside Coating System No. 5 at 8 to 10 mils.
3. Repair the anchors and rope that secure the CP system.
4. V&A and CSI do not recommend structural repairs to the interior surfaces at this time.

5.2 Stateline Tank 2

5. Within 2 to 5 years, prepare the interior surfaces by abrasive blasting per SSPC SP10, Near White Blast Cleaning, with a minimum angular anchor profile of 2.5 mils. Apply AWWA D102 ICS No. 2 using a higher build coating available by multiple coating manufacturers is recommended for the interior of both Stateline tanks.
6. Within 2 to 5 years, prepare the exterior roof surfaces by abrasive blasting per SSPC SP6, Commercial Blast Cleaning, with a minimum angular anchor profile of 2 mils. Apply AWWA D102 Outside Coating System No. 5 at 8 to 10 mils.
7. V&A and CSI do not recommend structural repairs to the interior surfaces at this time.

Appendix A

UT Testing Data

Table A-1. Tank 1 UT Testing Data

Location	Surface	Point ID	Thickness	Assumed Nominal Thickness (inches)	Metal Loss (%)
Rafter 1	outer rafter, web	1	0.232	0.235	1%
		2	0.234	0.235	0%
		3	0.233	0.235	1%
Rafter 1	outer rafter, web	7	0.222	0.235	6%
		9	0.223	0.235	5%
		10	0.229	0.235	3%
Rafter 1	web	11	0.229	0.235	3%
		12	0.231	0.235	2%
		13	0.231	0.235	2%
Rafter 10	rafter, web	26	0.315	0.350	10%
		27	0.345	0.350	1%
		28	0.355	0.350	-1%
Rafter 32	web	45	0.232	0.235	1%
		46	0.233	0.235	1%
		47	0.231	0.235	2%
Rafter 34	horizontal beam, web	48	0.435	0.438	1%
		49	0.405	0.438	7%
		50	0.460	0.438	-5%
		51	0.455	0.438	-4%
Rafter 1	outer rafter, flange	4	0.336	0.350	4%
		5	0.332	0.350	5%
		6	0.331	0.350	5%
Rafter 3	outer radius, flange	14	0.308	0.350	12%
		15	0.313	0.350	11%
		16	0.323	0.350	8%
Rafter 37 W24x10 3 I beam	flange	55	0.575	0.550	-5%
		56	0.592	0.550	-8%
		57	0.568	0.550	-3%
Rafter 37 W24x10 3 I beam	flange	58	0.630	0.550	-15%
		59	0.631	0.550	-15%
		60	0.631	0.550	-15%

Location	Surface	Point ID	Thickness	Assumed Nominal Thickness (inches)	Metal Loss (%)
Rafter 5	knuckle	17	0.260	0.250	-4%
		18	0.260	0.250	-4%
		19	0.260	0.250	-4%
Rafter 5	knuckle	20	0.259	0.250	-4%
		21	0.259	0.250	-4%
		22	0.259	0.250	-4%
b/w Rafter 7-8	knuckle	23	0.257	0.250	-3%
		24	0.256	0.250	-2%
		25	0.257	0.250	-3%
Rafter 18	knuckle	32	0.263	0.250	-5%
		33	0.263	0.250	-5%
		34	0.264	0.250	-6%
Rafter 22	knuckle	39	0.266	0.250	-6%
		40	0.266	0.250	-6%
		41	0.266	0.250	-6%
Rafter 28	knuckle	42	0.261	0.250	-4%
		43	0.265	0.250	-6%
		44	0.268	0.250	-7%
Rafter 12	roof plate	29	0.187	0.188	0%
		30	0.186	0.188	1%
		31	0.185	0.188	1%
Rafter 20	roof plate	36	0.188	0.188	0%
		38	0.187	0.188	0%
Rafter 36	rafter support	52	0.876	1.000	12%
		53	0.875	1.000	13%
		54	0.896	1.000	10%
Exterior roof exposed steel	various	61	0.185	0.188	1%
		62	0.185	0.188	1%
		63	0.183	0.188	2%
		64	0.184	0.188	2%
		65	0.178	0.188	5%
		66	0.183	0.188	2%
		67	0.184	0.188	2%
		68	0.183	0.188	2%
		69	0.208	0.188	-11%
		70	0.184	0.188	2%
		71	0.187	0.188	0%
72	0.188	0.188	0%		
73	0.190	0.188	-1%		

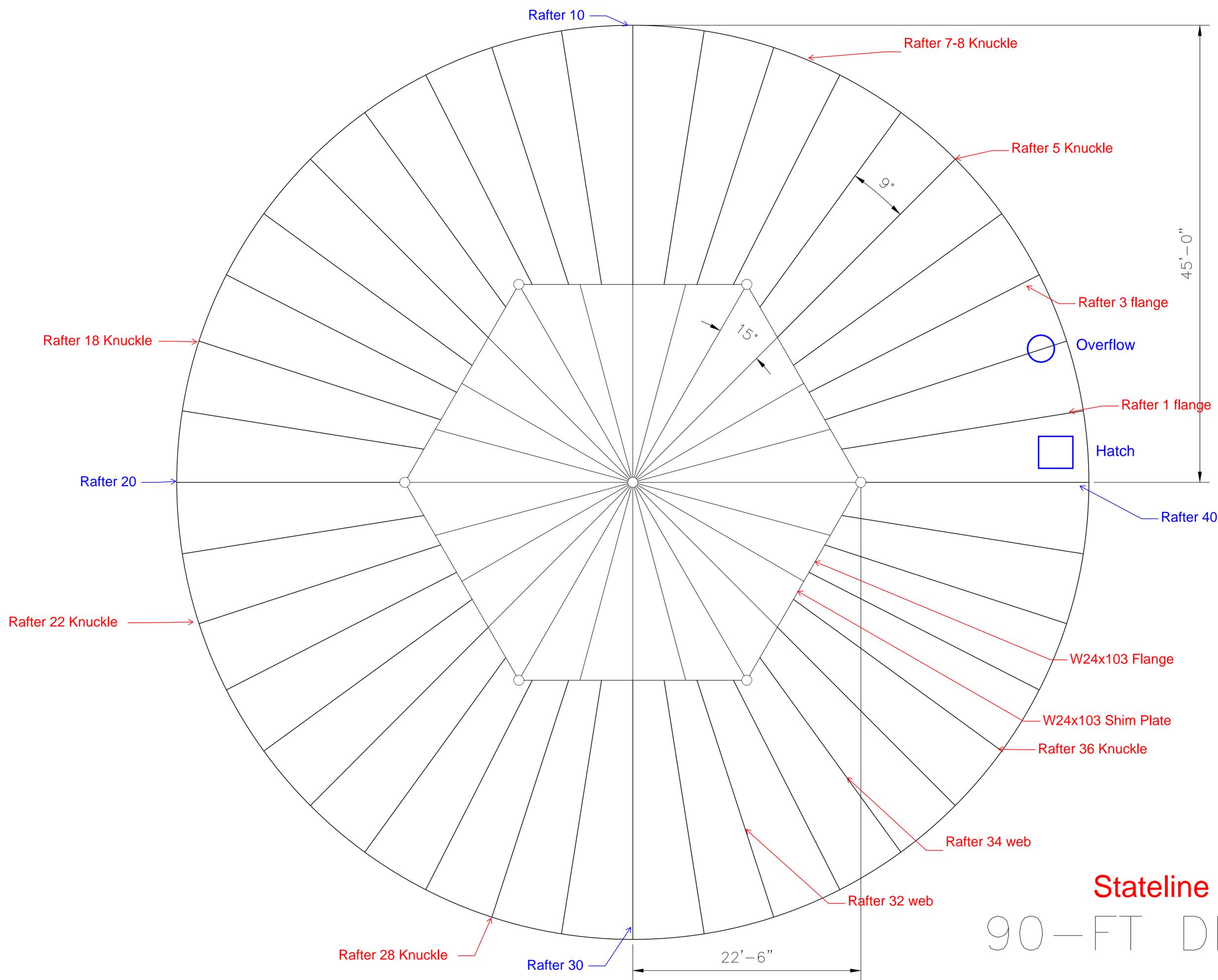
Location	Surface	Point ID	Thickness	Assumed Nominal Thickness (inches)	Metal Loss (%)
		74	0.187	0.188	0%
		75	0.186	0.188	1%
		76	0.186	0.188	1%
		77	0.191	0.188	-2%
		78	0.192	0.188	-2%
		79	0.187	0.188	0%
		80	0.188	0.188	0%
		81	0.188	0.188	0%
Exterior tank	knuckle	82	0.258	0.25	-3%
		83	0.258	0.25	-3%
		84	0.257	0.25	-3%
Exterior tank	3rd shell course	85	0.268	0.25	-7%
		86	0.268	0.25	-7%
		87	0.268	0.25	-7%
Exterior tank	2nd shell course	88	0.276	0.3125	12%
		89	0.276	0.3125	12%
		90	0.276	0.3125	12%
Exterior tank	1st shell course	91	0.365	0.375	3%
		92	0.364	0.375	3%
		93	0.363	0.375	3%

Table A-2. Tank 2 UT Testing Data

Location	Surface	Point ID	Thickness	Assumed Nominal Thickness (inches)	Metal Loss (%)
column #1	horiz beam flange 36"x12"	94	0.359	0.375	4%
		95	0.360	0.375	4%
		96	0.359	0.375	4%
column #1	flange	97	0.896	0.940	5%
		98	0.898	0.940	4%
		99	0.897	0.940	5%
column #2	flange	127	0.909	1.020	11%
		128	0.903	1.020	11%
center of horizontal beam	flange	103	0.797	0.750	0%
		105	0.665	0.750	11%
area 21	rafter flange	106	0.342	0.350	2%
		109	0.335	0.350	4%
		110	0.364	0.350	0%

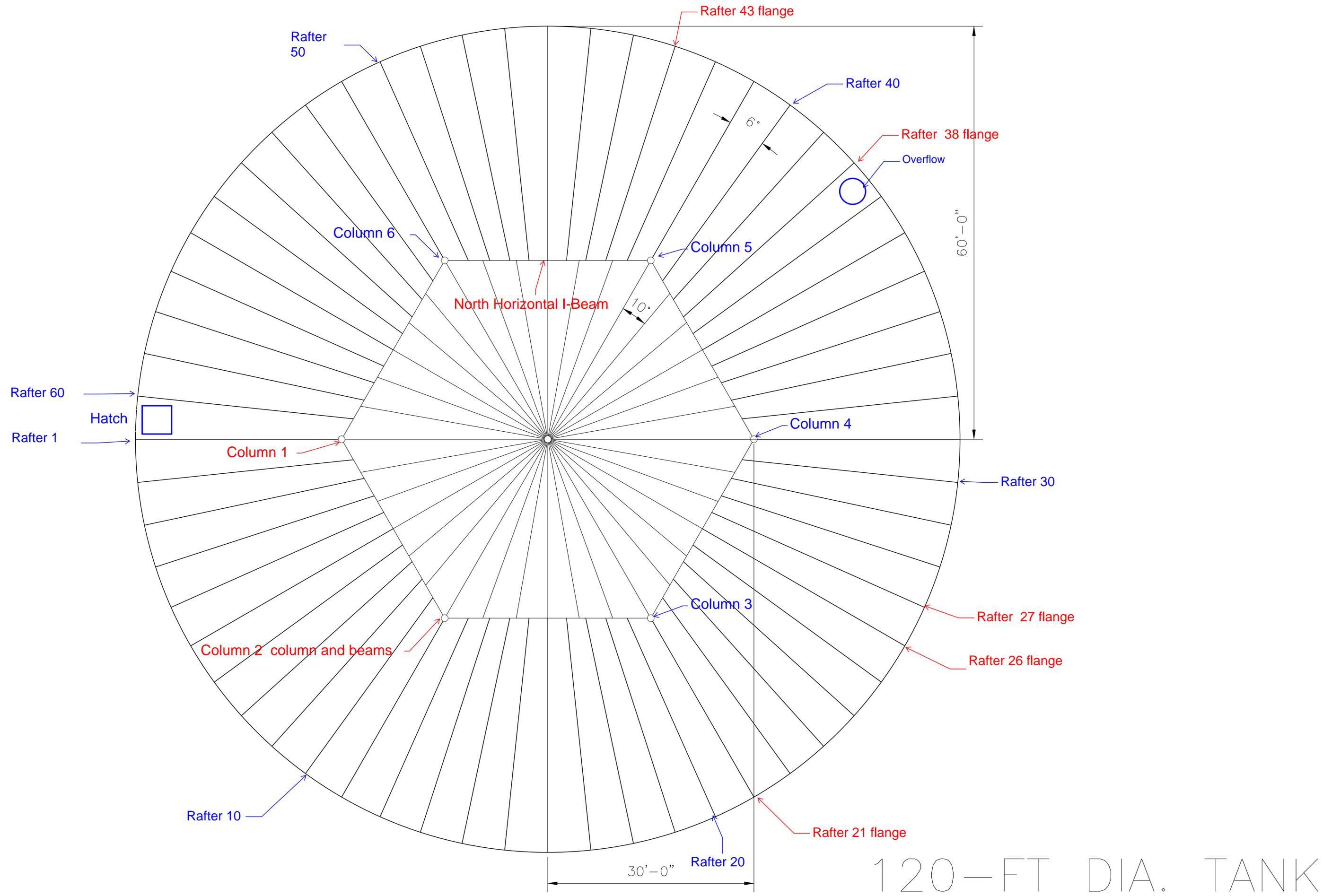
Location	Surface	Point ID	Thickness	Assumed Nominal Thickness (inches)	Metal Loss (%)
		111	0.334	0.350	5%
area 23	rafter flange (other side)	119	0.297	0.350	15%
		120	0.266	0.350	24%
		121	0.257	0.350	27%
		122	0.306	0.350	13%
area 35	rafter flange	112	0.322	0.350	8%
		113	0.322	0.350	8%
		115	0.326	0.350	7%
area 38	rafter flange	116	0.307	0.350	12%
		117	0.274	0.350	22%
		118	0.299	0.350	15%
column #1	web	100	0.636	0.625	0%
		101	0.636	0.625	0%
		102	0.608	0.625	3%
36" beam	web (other side)	123	0.904	1.020	11%
		124	0.916	1.020	10%
		126	0.918	1.020	10%
Center Column		131	0.313	0.313	0%
		132	0.314	0.313	0%
		133	0.314	0.313	0%
b/w column 5-6		134	0.631	0.625	0%
		135	0.630	0.625	0%
		136	0.603	0.625	4%
		137	0.594	0.625	5%
		138	0.607	0.625	3%
		139	0.558	0.625	11%
		140	0.635	0.625	0%
Roof Plates		141	0.176	0.188	6%
		142	0.182	0.188	3%
		143	0.183	0.188	2%
		145	0.180	0.188	4%
		146	0.177	0.188	6%
		147	0.190	0.188	0%
		148	0.184	0.188	2%
		149	0.184	0.188	2%
		151	0.184	0.188	2%
		152	0.188	0.188	0%
		153	0.185	0.188	1%
		154	0.185	0.188	1%

Location	Surface	Point ID	Thickness	Assumed Nominal Thickness (inches)	Metal Loss (%)
Ext Roof Plates	exposed areas	155	0.188	0.188	0%
		157	0.183	0.188	2%
		159	0.182	0.188	3%
		160	0.183	0.188	2%
center roof	vent	161	0.190	0.188	0%
		162	0.187	0.188	0%
		163	0.187	0.188	0%
		164	0.186	0.188	1%
		165	0.185	0.188	1%
		166	0.187	0.188	0%
		167	0.189	0.188	0%
		168	0.189	0.188	0%
		169	0.189	0.188	0%
		170	0.189	0.188	0%
Course 1	outer wall	171	0.430	0.438	2%
		172	0.431	0.438	1%
		173	0.430	0.438	2%
		174	0.430	0.438	2%
Course 2	outer wall	176	0.361	0.375	4%
		177	0.366	0.375	2%
		178	0.364	0.375	3%
Course 3	outer wall	179	0.240	0.250	4%
		180	0.240	0.250	4%
		181	0.240	0.250	4%
Course 4	outer wall	183	0.238	0.250	5%
		184	0.239	0.250	4%
		185	0.252	0.250	0%
		186	0.250	0.250	0%
		187	0.250	0.250	0%
		188	0.252	0.250	0%



Stateline No. 1

90-FT DIA. TANK



Appendix B

Diver Reports



P. O. Box 801357
Santa Clarita, CA 91380-2316
Phone: 877.274.2422
Fax: 661.775.7628
www.CSIServices.biz

Providing Quality Technical Services to the Coating Industry

Thursday, June 12, 2025

Via E-mail

Manuel Najjar, PE
V&A Consulting Engineers, Inc
1000 Broadway Ste 320
Oakland, CA 94607

Email: mnajar@vaengineering.com
Phone: 510-919-7973

Subject: Final Report - Tank Maintenance Inspection

Re: South Tahoe Public Utilities District – Stateline #1 Reservoir

Dear Manuel:

Please find attached the final report for the evaluation that was completed on the above referenced tank. Also attached is our invoice.

Thank you for your business and please let me know if you have any questions or comments about our findings. I can always be reached at 951.609.6991 or by e-mail at rgordon@csiservices.biz.

Sincerely,
CSI Services, Inc.

A handwritten signature in blue ink that reads 'N. Randy Gordon'.

N. Randy Gordon, PCS
Technical Services Manager

Hawaiian Office: P.O. Box 671, Aiea, HI 96701
Northern California Office: P.O. Box 371, Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.

Consulting

Evaluations

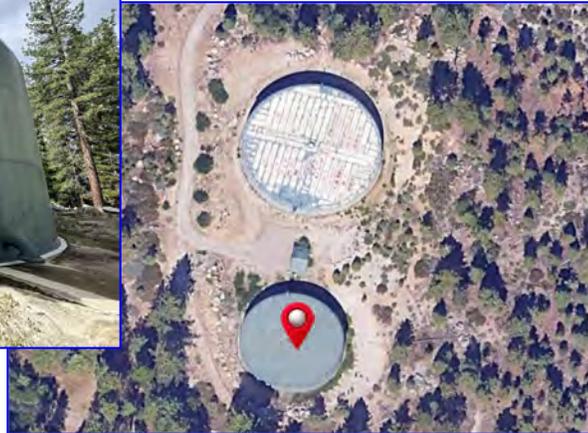
Tank Diving

Inspection



P. O. Box 801357, Santa Clarita, CA 91380 877.274.2422

Final Report
Maintenance Inspection
Stateline #1 Reservoir
South Tahoe Public Utilities District



Prepared for:

Manuel Najjar, PE
V & A Consulting Engineers, Inc
1000 Broadway Ste 320
Oakland, CA 94607

Prepared by:

CSI Services, Inc.

N. Randy Gordon, PCS
Technical Services Manager



June 12, 2025

Hawaiian Office: P.O. Box 671, Aiea, HI 96701
Northern California Office: P.O. Box 371, Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.

Consulting

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Inspection



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- Exterior Photos
- Interior Photos
- CSI Chart 1 – General Description of Conditions
- CSI Chart 2 – Rust Grade Criteria
- CSI Chart 3 – Corrosion Grade Criteria (Steel)
- CSI Chart 4 – Coating Chalking Criteria
- CSI Chart 5 – Coating Adhesion Criteria
- CSI Chart 6 – Coating Blistering Criteria

Hawaiian Office: P.O. Box 671, Aiea, HI 96701
Northern California Office: P.O. Box 371, Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.



Introduction

V & A Consulting Engineers, Inc. authorized CSI Services, Inc. (CSI) to conduct a Maintenance Inspection on the Stateline #1 Reservoir located at 3776 Montreal Rd, South Lake Tahoe CA. This report documents the findings of the inspection and services performed.

Recommendations have been made in accordance with the applicable requirements of American Water Works Association's Standard (AWWA) D102 "Coating Steel Water Storage Tanks," AWWA Standard M42 "Steel Water Storage Tanks," and CSI's experience with evaluating thousands of water storage facilities. A photo summary and narrated video are also included to document the condition of the tank

The field-work was completed on Tuesday, May 13, 2025 by a team primarily comprised of Steven Metcalf, Steven Metcalf Jr., and Anthony Jackson. The exterior shell observations were made mostly from grade level, while the exterior of the roof was examined close-up. The interior inspection was carried out with the tank's water level at approximately 27 feet using special underwater diving equipment and techniques. Steven Metcalf was the site supervisor, and Anthony Jackson was the lead diver. Mr. N. Randy Gordon, Technical Services Manager, reviewed the results of the field data and prepared recommendations for maintenance work. Mr. Gordon is a certified Level 3 inspector through NACE, an SSPC Certified Protective Coating Specialist, and has evaluated thousands of storage tanks and industrial structures.

Summary

The paint system on the exterior was found to be aged, weathered, and in fair condition overall. Although the exterior surfaces have only isolated spot rust, there were numerous areas of topcoat peeling. The adhesive properties of the paint system upon the roof and shell were both found to be satisfactory, making future overcoating strategies possible. It is recommended that the exterior paint system be spot repaired and overcoated or entirely removed and replaced in conjunction with the future relining project to best amortize costs.

Overall, the interior linings were found to be in a condition expected of a thin film epoxy that has reached the end of its serviceable lifespan. The area above highest water level (HWL) is impacted by corrosion at the roof structure and knuckle braces with some rust staining emanating from faying surfaces. The roof rafters and girders exhibit localized exfoliation corrosion and pitting. Although these major defects are present above the HWL, the lining below the HWL has only localized spot rust and pitting with numerous



patches of blisters. It is recommended that the tank lining be removed and replaced as soon as possible with the expectation that steel repair or replacement will not be necessary.

Background

The Stateline #1 Reservoir is a welded steel on grade structure and is the southernmost tank at this site of two tanks. The tank is approximately 90 feet in diameter by 27 feet high, providing a nominal capacity of 1,250,000 gallons. The tank has a manufacturer's dataplate and the date of construction is listed as 1994 by San Luis Tank.

The tank shell has three courses that are connected to a knuckle radiused, conical roof supported by rafters, girders and six internal columns. The tank has one roof vent, one roof hatch, and one 31" shell manway. There is no flush cleanout associated with the tank. There is one interior ladder and one exterior ladder with a vandal deterrent security cover. The tank is not seismically anchored to its concrete ring wall foundation. There is an impressed current cathodic protection (CP) system associated with this tank and the tank has a sensor but no mechanical water level indicator.

It is believed that the interior lining and exterior coating are first generation. The interior steel surfaces, including the roof and roof support members are coated with a thin-film multi-coat epoxy system. The exterior roof, shell, and appurtenances are painted with what appears to be a polyurethane system. The internal roof lap seams are not caulked.

Field Evaluation

The purpose of this survey was to assess the condition of the existing coatings and recommend maintenance coating work, where needed. The evaluation mainly involved visual observations but also involved various testing procedures. Photographs and video were taken to document the field inspections, and a photo summary and narrated video are included within this narrative report.

For survey purposes, the tank has been segmented into defined areas: exterior roof, exterior shell, interior roof, interior shell, and interior floor. The various appurtenances within each of these areas have also been evaluated. A rating system has been developed to quantify the condition of these various tank areas. Each of the rating criteria is found in the Attachments (Charts 1 through 6).

The condition of the coating systems was rated as being poor, fair, good, or excellent (Chart 1). The extent of any rust defects identified within each of the areas was generally determined using the guidelines set forth in ASTM D610 "Standard Test Method for



Evaluating the Degree of Rusting of Painted Steel Surfaces” (Chart 2). Where applicable, the characteristic or stage of corrosion was determined in accordance with CSI Corrosion Grade criteria (Chart 3). The degree of paint chalking was determined in accordance with ASTM D4214 “Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films,” Test Method D659, Method C (Chart 4). Coating adhesion was assessed in accordance with ASTM D3359 “Standard Test Method for Evaluating Adhesion by Tape Test, modified Method A and/or a modified version of ASTM D6677 “Standard Test Method for Evaluating Adhesion by Knife” (Chart 5). The modified version of ASTM D6677 was used in areas where destructive testing was not found to be practical. Any blistering that may have been present was rated in accordance with ASTM D714 “Standard Test Method for Evaluating the Degree of Blistering in Paints” (Chart 6), and the paint dry film thickness was measured with a Positector 6000FN3 Type II gage in accordance with the applicable guidelines set forth within SSPC PA2. The visual observations and data collected from the various areas of the tank are found below:

Exterior

Close-up visual observation of the paint system was limited to the first (lowest) shell course, upper shell areas adjacent to the ladder, and roof. The paint system on the roof is in poor condition with numerous defects throughout a heavily weathered paint system. The shell appears to be in good to excellent condition. The rust observed in all areas was rated to be dark rust (CSI Corrosion Grade 2) with the amount of rust on the roof was rated a 4 (ASTM D610), impacting less than 10 percent of the total surface area. The rust observed at the shell was rated a 9 (ASTM D610) which impacts less than 0.03% of the total surface area. Moderate chalking was identified (ASTM 4214, 8) in all areas. Dry film thicknesses ranged from 8 to 10 mils at the roof and 10 to 11 mils at the shell. Adhesion was rated as satisfactory (ASTM D6677, 4A) at the roof and satisfactory (ASTM D6677, 5A) at the shell.

The specific data collected from the exterior is found in the chart below:

Exterior Paint	Overall Condition				Good							
Paint Defects	Roof Quadrant				Shell Quadrant				Tank Support			
	Exterior		Poor		Exterior		Excellent		Exterior		Good	
	S	W	N	E	S	W	N	E	S	W	N	E
Rust spots (ASTM D610)	4	4	4	4	9	9	9	9			9	
Corrosion Grade	2	2	2	2							2	
Rusting at crevices												
Spot peeling	Yes	Yes	Yes	Yes								
Delamination												
Cracking (ASTM D661)												
Checking (ASTM D660)												
Chemical staining												
Chalking	8	8	8	8	8	8	8	8	8	8	8	8



Interior

The condition of the coating on the underside of the roof and support members, including the columns and bolted connections is in an overall poor condition (ASTM D610, 0) where rust impacts 100 percent of the overall surface area. There was dark rust (CSI Corrosion Grades 2, 3, 4) on the roof structure and roof plate. Rust staining was identified as minor and only impacted portions of the structure. The most notable lining defects and areas of corrosion were found at contact surfaces of the roof plate to rafter interface and rafter and girder flanges where exfoliation was observed. All roof structural members are upright with no bending or twisting noted.

The coating on the shell was found to be in fair condition with numerous defects. The localized defects involved dark rust (CSI Corrosion Grade 2) that were most common to the lowest, first shell course, and the mechanical connections for the reservoir accessories. The total amount of rust defects present on the shell has been rated a 5 (ASTM D610, 5) with less than 10 percent of the total surface area exhibiting corrosion. Blisters were widespread and rated a 4/Med Dense (ASTM 714) and most of the blisters appeared to have broken caps.

There was a minor layer of sediment covering the reservoir bottom. Spot inspections noted that the floor lining was in fair condition with a few dark rust spots and pitting located on some weld seams and the column base. The amount of rust on the tank bottom was rated a 6 (ASTM D610, 6) and affects less than 1 percent of the overall surface area. Ultrasonic thickness measurements ranged from 0.332” to 0.350” with an overall average of 0.334”. No visible pitting was noted during the inspection. Patterns of blisters were encountered and rated 4/Med Dense in accordance with ASTM 714. The majority of the blisters in this area are cracked but retain their blister caps. The specific data collected from the interior inspection is found within the table below:

Interior Paint	Above Water Condition				Poor				Below Water Condition				Fair			
	Roof Quadrant								Shell Quadrant				Floor Quadrant			
	Interior				Poor				Interior				Fair			
	S	W	N	E	S	W	N	E	S	W	N	E	S	W	N	E
Rust spots (ASTM D610)	0	0	0	0	5	5	5	5	6	6	6	6				
Rust areas (ASTM D610)																
Corrosion Grade	2,3,4	2,3,4	2,3,4	2,3,4	2	2	2	2	2	2	2	2	2	2	2	2
Rust staining	Minor	Minor	Minor	Minor												
Rusting at crevices	Yes	Yes	Yes	Yes												
Spot peeling	Yes	Yes	Yes	Yes									Yes			
Delamination																
Cracking (ASTM D661)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Blistering (ASTM 714) Size/Density					4/Med dense	4/Med dense	4/Med dense	4/Med dense	4/Med dense	4/Med dense	4/Med dense	4/Med dense				
Pitting (Estimated Amount)																
Pitting (Estimated Deepest Mils)																

Dive Inspection Video



Click on the link or paste into your browser window: <https://youtu.be/5F2Y08U5qLE>

Please note that the video content referenced in this report is hosted on YouTube as unlisted and is intended solely for the viewing and consideration of the intended recipients of this report. While the general public does not have access to this video, the link can be shared with others at your discretion. Access to this video is restricted to authorized individuals only, and any distribution, dissemination, or sharing of this video outside the scope of its intended audience is strictly prohibited.

Discussion

The exterior paint system on the tank is aged, relatively thin, and exhibits minimal to moderate chalking. There were numerous instances of peeling at the roof and in areas tested, adhesion was deemed to be satisfactory (ASTM D3359, 4A). At the shell, adhesion was found to be exceptional (ASTM D3359, 5A) and together, with the overall dry film thickness in the low teens, an overcoating strategy could be employed in the future. Although the roof surfaces have widespread dark rust, the most notable defect was the weathered paint system. The paint system is no longer providing proper barrier protection for the steel substrate as intended.

Peeling or delaminating coating is a symptom of an adhesion problem between the coating and substrate or from within layers of coating system. Adhesion is a function of a coating system's strength. Peeling is often a result of coated over contamination, incompatibility between coats, or from an undercoat being coated after its recoat window had closed. Catalyzed coatings, such as epoxies and urethanes continue to dry and then cure to a point to where they become too hard for topcoats to chemically adhere. Once the window for a chemical bond is closed, special procedures such as scarification are required to allow for a mechanical bond. Furthermore, if the exposed undercoat is epoxy,



it will begin to heavily chalk or weather away, which will lead to the steel substrate eventually corroding from lack of barrier protection.

Chalking is the term for the powdery characteristic of an aged coating that may also have a faded finish. Chalking is a result of the natural breakdown of a paint system's binder when it is exposed to sunlight. The binder (or resin) degrades in ultraviolet light, which leaves behind the unbound pigment or chalk. Aside from a faded appearance, chalking can result in corrosion as the film weathers (thins) away through cycles of wind and rain. As the paint endures years of direct sunlight, it begins to weather away, which results in the paint no longer providing enough barrier protection from corrosion.

Generally speaking, there are four possible approaches to maintenance painting. The coatings can be either completely removed and replaced (repainted), spot repaired, spot repaired and overcoated, or simply overcoated. In evaluating the condition of a coating to determine the best painting approach there are a number of different factors to consider. The first set of factors includes the determination of the coating's ability to withstand the added stress of an additional coat(s). Attributes impacting this decision include film thickness and adhesion. If the paint film is too thick or has poor adhesion, the tension from the curing stresses and/or weight of the additional paint can cause the existing system to disbond. The second set of factors to consider when determining what painting approach to take is the amount of surface area requiring repair, the overall difficulty in providing access to the structure, and whether the coating system contains heavy metals (i.e. lead, cadmium, and chromium). The final factor is the condition of the substrate.

When considering whether a spot repair approach is a viable option, a good rule of thumb is that spot repair, with or without overcoat, makes sense with up to 10 percent of the surface area requiring repairs. With more than 10% in disrepair, making spot repairs and overcoating becomes a diminishing return. With 10 percent rusting, overcoating may be an option if the adhesion is better than fair. If there is more than 10 percent rusting and the substrate is free of mill scale, overcoating may be considered an option if the adhesion is excellent. Once the amount of surface area in need of repair exceeds this range, the cost of cleaning and coating the individual rust spots approaches (or exceeds) the total cost of removal and replacement.

On this basis, the tank exterior paint system should be spot repaired and overcoated or completely removed and replaced within the next 2 to 3 years or in conjunction with a future relining project to best amortize costs.

The tank lining system was found to have numerous defects above the highest water level (HWL), and several defects below HWL. The lining has reached the end of its serviceable lifespan and its degradation has allowed severe corrosion to impact roof structural



elements.

A tank roof, including its roof support structure has many open, unsealed areas by design. These open areas are primarily at the inaccessible crevices that are between the top of the roof beam flanges and the roof plate. The cost of properly sealing these areas becomes a diminishing return, notably when one considers that small crevice areas often develop into dead-air space. The minor amount of rust staining is simply a result of some areas not being completely sealed by coatings.

The design and fabrication of a water storage tank is critical relative to the performance of the lining. For instance, tank and vessel internal surfaces to be lined should not be marred by gouges, handling marks, deep scratches, metal stamp marks, slivered steel, or other surface flaws. All rough welds should be ground to remove sharp edges and weld spatter removed. Flaws should be repaired by welding or grinding, as appropriate.

Rust is a result of ferrous metal essentially converting itself back to its original state, iron ore. It takes a tremendous amount of energy to convert an ore into a usable metal. These metals then try to naturally release this energy through the development of rust. Corrosion is a more generic term for a condition that has resulted in a substrate that has reacted with its environment. With respect to the stages of the rust or corrosion of steel, the process initiates itself as light colored orange surface rust. As the corrosion process continues, the rust becomes darker in color until it eventually results in advancing forms of metal loss. Metal loss can take the form of pitting, which is a localized corrosion cell that results in cavities or holes developing in the metal.

Pinpoint rusting can develop from a coating film thickness being too thin to provide a proper barrier or from pinholes/holidays in the film. If the coating was applied to thin or has thinned from degradation, the peaks of the substrates profile extend through the film and rust. Rusting pinholes are commonly isolated to localized spots of a coating system that did not receive proper coverage and are most commonly located at irregular surfaces. When specifying tanks and vessels that are to be internally lined to control corrosion, special design, fabrication, and surface finishing practices must be considered to obtain the desired performance of these linings for immersion service.

Exfoliation corrosion is a form of intergranular corrosion which involves selective attack of a metal at or adjacent to grain boundaries. In this process, corrosion products force metal to move away from the body of the material, giving rise to a layered, laminar appearance. Exfoliation corrosion is also known as layer corrosion or lamellar corrosion.

Since all of the blisters were underwater and below the common water level, it is presumed that the blisters are a result of osmotic forces. Osmotic blistering is typically



caused when coatings that are to be placed into immersion service are applied too thick, overcoated too soon, under colder weather conditions, and/or over contaminated surfaces. One form of osmotic blistering is solvent entrapment. Solvents are added to coatings to act as a vehicle during application. When coatings are applied too thick the coating solvents that were designed to be released during application are locked in-place when the catalyzed coating reaches a full chemical cure. Additionally, if coatings are applied under cold or cooler conditions, the solvents have a difficult time escaping from the film before it gets hard. Blisters that result from solvent entrapment tend to be localized to the coolest and lowest areas of a tank. Solvent vapors are typically heavier

Epoxy systems are typically designed for 25 to 30 years of service, and the interior lining is in a condition that should be expected of a tank lining that is approximately 30 years old. Due to the nature of the corrosion (Exfoliation) it is recommended that the lining be removed and replaced as soon as practicable. This work should include abrasive blast cleaning in accordance with near-white blast cleaning (SSPC-SP10) followed by a three-coat NSF certified epoxy lining.

There are many areas that have been patched underwater and it is believed that these maintenance activities have extended the life of the lining by preventing widespread undercutting corrosion from developing below the highest water level (HWL). It should be noted that underwater patches were applied during this inspection using underwater curing NSF 61 certified underwater curing epoxy. This process has prevented any coating breaks from exponentially growing in the form of undercutting. Undercutting is a characteristic of corrosion when it travels laterally up under a coating that has inadequate adhesion and this results in the corrosion growing exponentially.

The tank ventilation was found to have screening installed with gaps or penetrations.



Recommendations

The following activities are recommended for maintenance work:

Exterior:

- 1) Within the next 2 to 3 years, or in conjunction with a relining to better amortize costs, spot repair and overcoat the paint system. This work should include abrasive blast cleaning all surfaces to SSPC SP-18, “Thorough Spot and Sweep Blast Cleaning” followed by an epoxy at 4 to 6 mils per coat and a polyurethane at 3 to 5 mils per coat.

Alternatively, the existing paint system could be fully removed and replaced via SSPC SP-6, “Commercial Blast Cleaning” which would allow for future generations of overcoat paint systems.

Interior:

- 2) As soon as possible, remove and replace the lining system.
 - a) This work should include abrasive blast cleaning all surfaces to SSPC SP-10, “Near White Blast Cleaning” followed by three coats of an ANSI/NSF certified epoxy at 4 to 6 mils per coat.
 - b) Anticipate the need to perform some grinding in accordance with NACE SP0-178. However, it is unlikely that steel repair (welding) or steel replacement would be necessary.
 - c) Engage the services of a cathodic systems professional and verify the CP system is operating properly and within tolerances.

NOTICE: This report represents the opinion of CSI Services, Inc. This report is published in conformance with generally acceptable industry practices. While customary precautions were taken to ensure that the information gathered and presented is accurate, complete and technically correct, it is based on the information, data, time, and materials obtained and does not guarantee a leak proof tank.



P.O. Box 801357, Santa Clarita, CA 91380
 Phone: 877.274.2422 (toll free)
 Fax: 661.755.7628
www.CSIServices.biz

Page	1	of	1
Date	5-13-2025	Tuesday	
CSI Job No.	250151		
Completed By	Metcalf		

Field Water Tank Dive Inspection Report

Tank Name:	Stateline 1	Dive Supervisor:	Steven Metcalf
Tank Owner/Client:	South Lake Tahoe	Dive Leader:	Anthony Jackson
Client Contact:	Manuel Najar	Dive Tender:	Steven Metcalf Jr

Scope	Maintenance Inspection
--------------	------------------------

Site Information

Item	Description
Cross Street	Lake PKWY East
Tank Location	3776 Montreal Rd, South Lake Tahoe CA
GPS Coordinates	38.95352, -119.93617
Nearest Structures	Second Tank
Surrounding Site	Dirt

Interior Structural Characteristics

Item	Data
Roof Structure	rafters, girder and six columns
Column Design	Pipe
Upper Center Column	Cone
Column Base Design	Free plate with stabilizing clips
Connections	Mix of welded and bolted
Overflow Design	Funnel and pipe, Lower course exit
Inlet Interior Design	Floor Stub
Lining Type/Original	Epoxy Yes

Exterior Structural Characteristics

Item	Data
Capacity (gallons)	1,250,000
Diameter (feet)	90
Height (feet)	27
Erection Year	1994
Contract No.	3376
Tank Type	Welded Steel
Tank Profile	on grade
Tank Geometry	Cylinder
Number of Courses	three
Height of Each Course	8 foot + 3' Knuckle
Roof Design	Pitched roof with Knuckle
No. Shell Manways	one shell manway
Type of Manways	round
Manway Cover Design	bolted circle with hinge
Diameter of Manways	31 inches
No. Roof Hatches/Location	one near edge
Hatch Design	square
Size of Roof Hatch	36 in
No. Roof Vents/Location	one Center
Roof Vent Design	round hood
Construction Co.	San Louis Tank

Item	Notes	
Perimeter Fencing	No	No Comments
Site secured on arrival	Yes	Gate
Overhead Power Lines	No	None
Antenna on Tank	No	None
Roof Accessible	Yes	Stairs and gangways

Item	Data
Outlet Design	Floor Stub
No. Interior Ladder	Yes one
CP System/Type	Yes Impressed Current
Water Depth	27 feet
Water Agitator	No None
Barrier Walls	No
No. of Columns	Six Columns
Caulking	Roof No Columns No

Item	Data
Center Roof Vent Size	18 in
Roof Vent Sealed	Yes Satisfactory
Roof Rail System	Yes Corral
Roof Rail Satisfactory	Yes No Comments
Rail Location	Top of Ladder
No. & Type Roof Access	one Ladder
Exterior Vandal Deterrent	yes
Ext Ladder Satisfactory	one yes
Ext Ladder Fall Prevent	Yes
Roof Tie-Off Present	yes
Tank Piping	Floor Inlet and Outlet
Inlet Diameter	18 in
Outlet Diameter	18 in
Flexible Pipe Coupling	N/A
Overflow Pipe Diameter	16 in
Overflow Exterior Design	Screened Air Gap
Drain Location	Floor
Tank Foundation	concrete ring wall
Water Level Indicator	Sensor
Tank Type	Potable
Lining Type/Original	Urethane Yes

Miscellaneous Notes



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -001



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -002



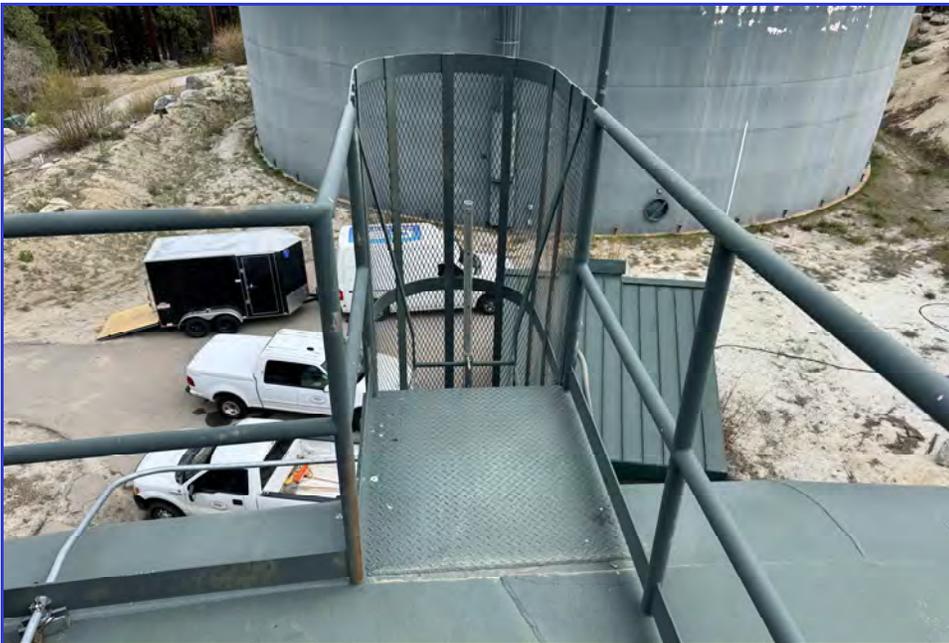
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -003



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -004



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -005



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -006



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -007



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -008



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -009



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -010



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -011



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -012



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -013



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -014



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -015



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -016



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -017



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -018



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -019



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -020



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -021



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -022



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -023



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -024



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -025



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -026



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -027



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -028



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -029



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -030



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -031



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -032



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -033



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -034



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -035



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -036



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -037



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -038



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -039



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -040



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -041



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -042



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -043



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -044



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -045



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -046



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -047



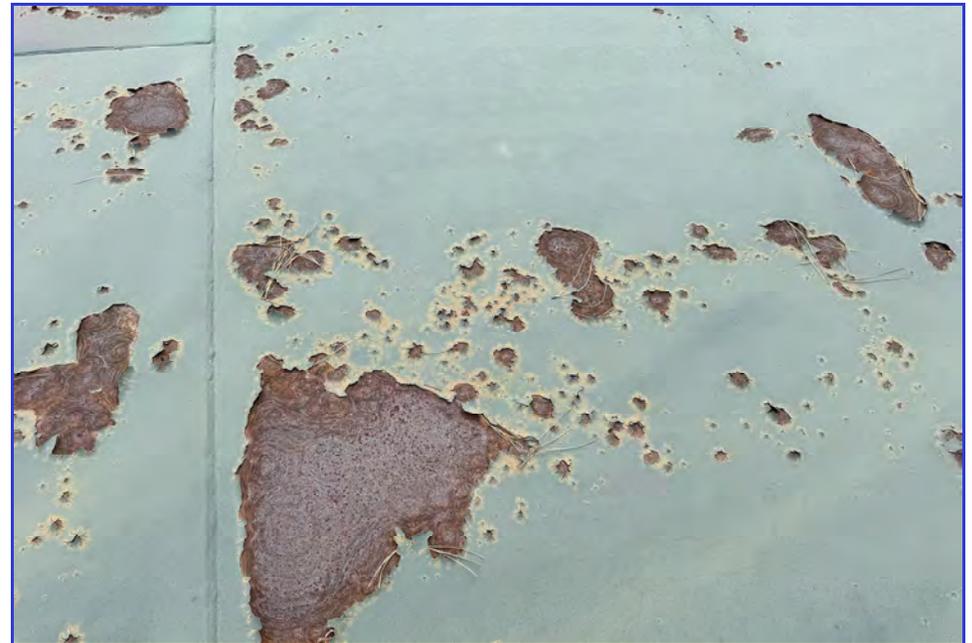
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -048



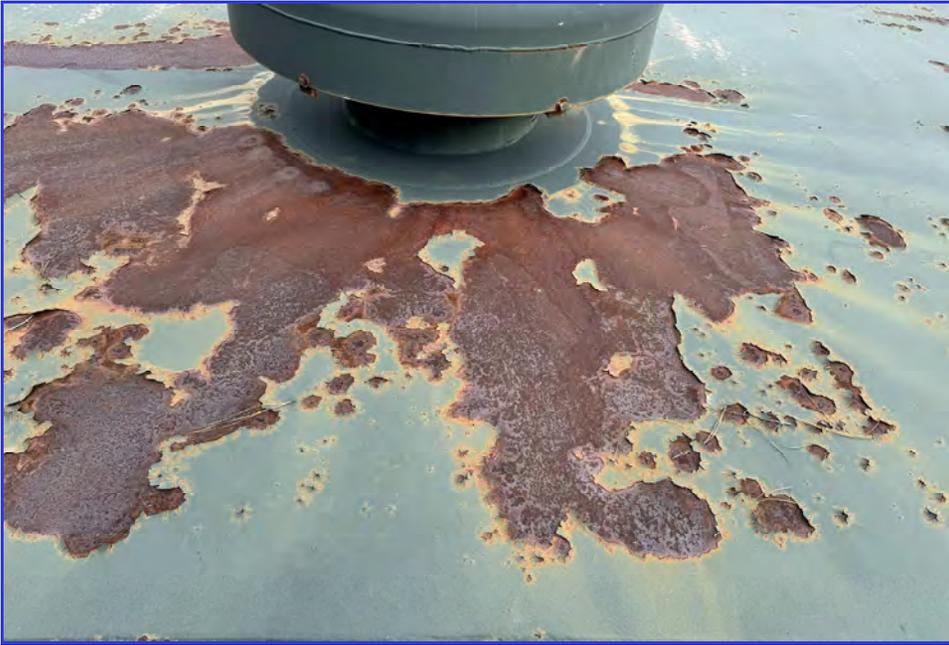
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -049



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -050



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -051



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -052



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -053



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -054



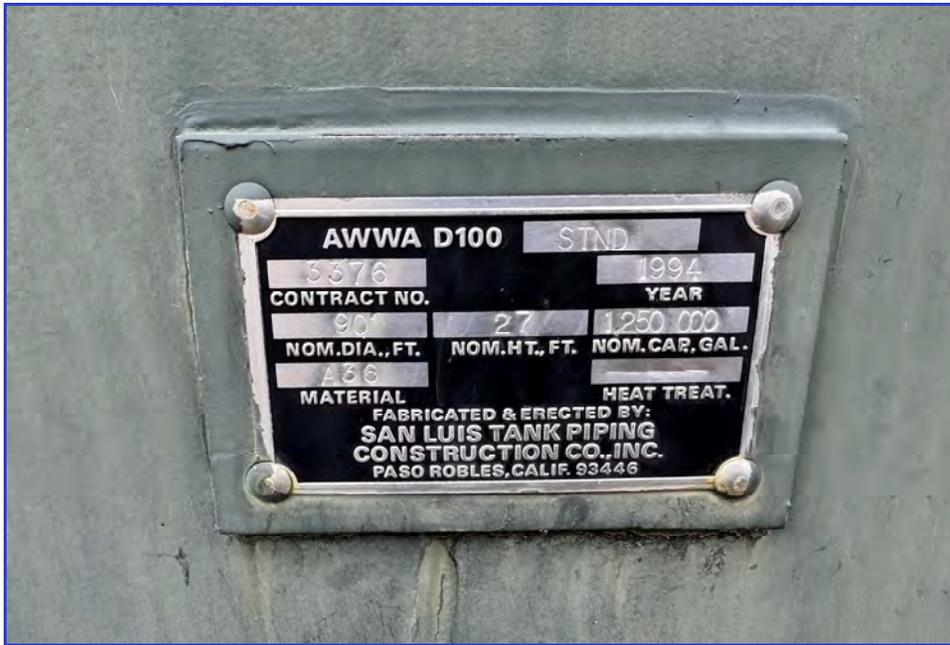
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -056



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -057



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -058



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -059



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -060



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -061



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -062



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -063



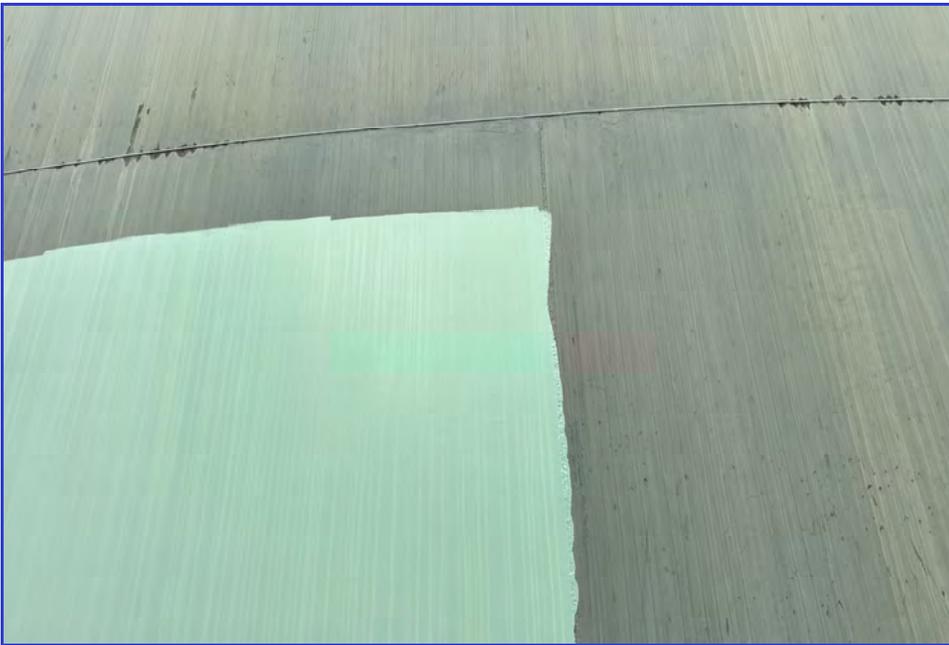
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -064



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -065



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -066



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -067



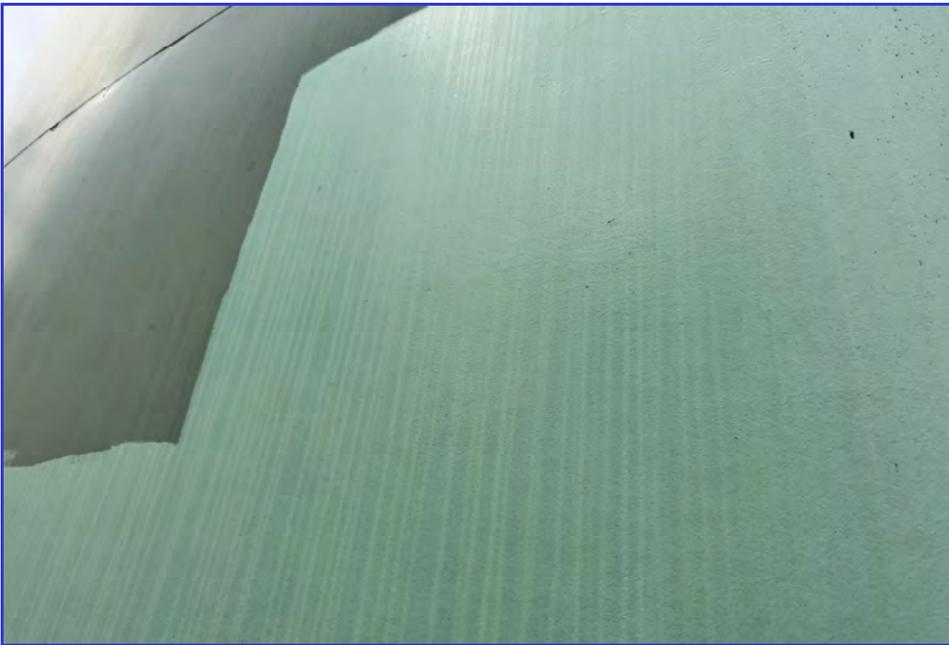
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -068



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -069



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -070



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -071



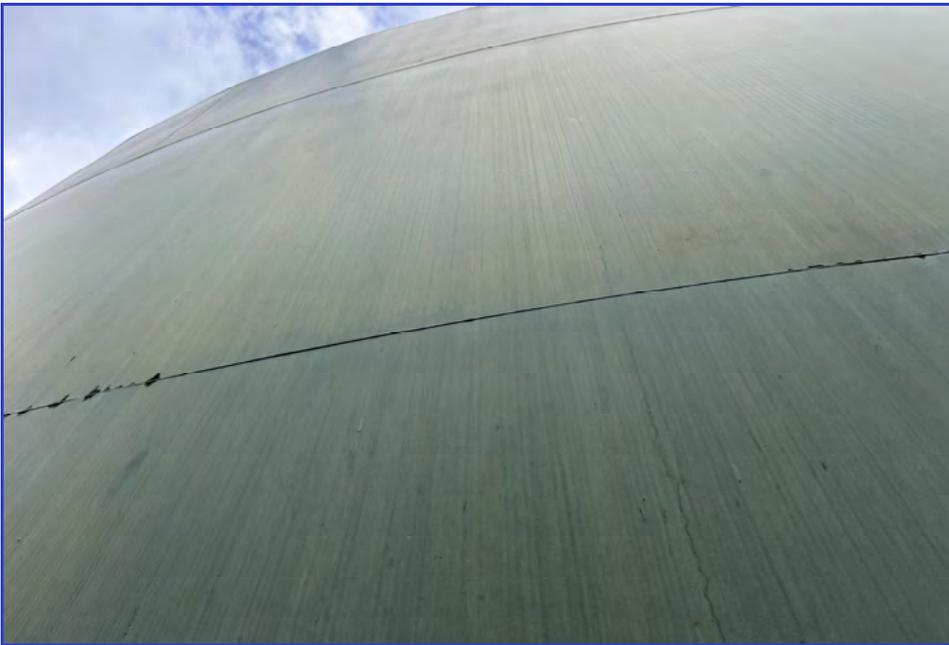
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -072



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -073



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -074



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -075



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -076



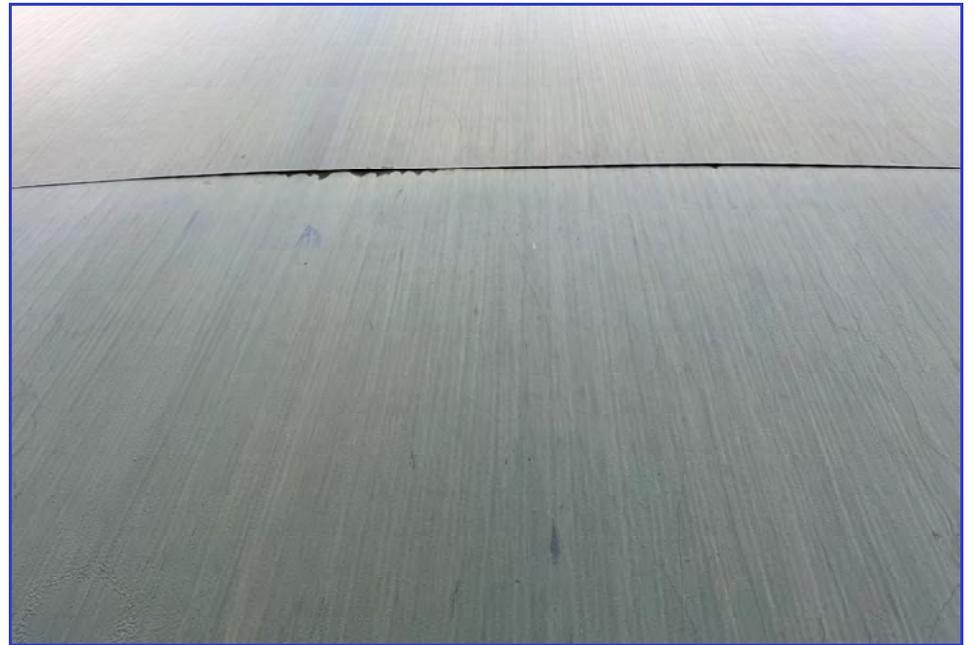
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -081



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -082



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -083



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -084



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -085



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -086



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -087



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -088



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -089



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -090



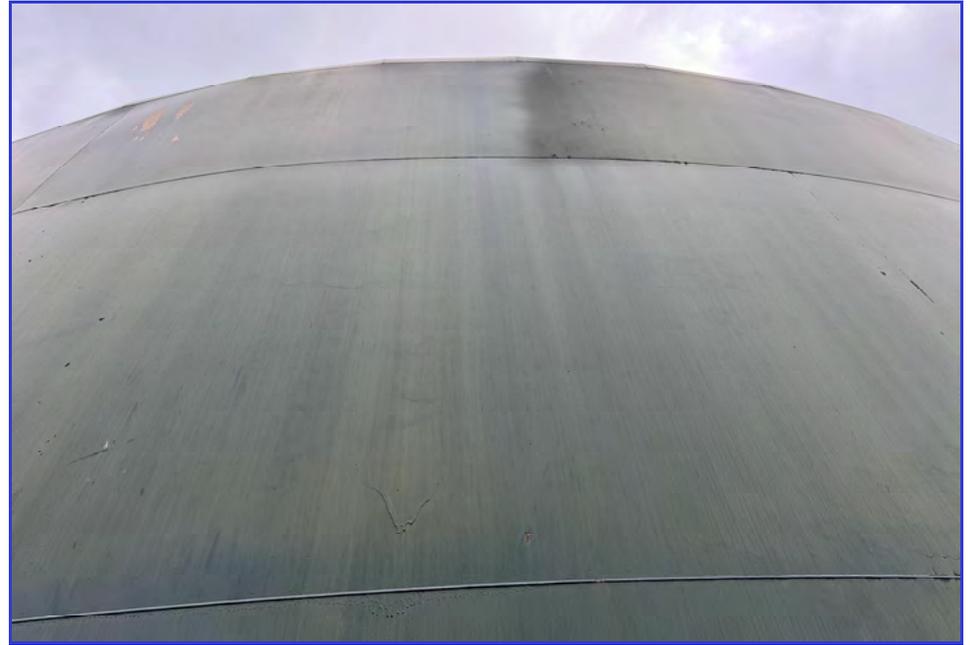
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -091



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -092



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -093



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -094



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -095



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -096



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -097



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -098



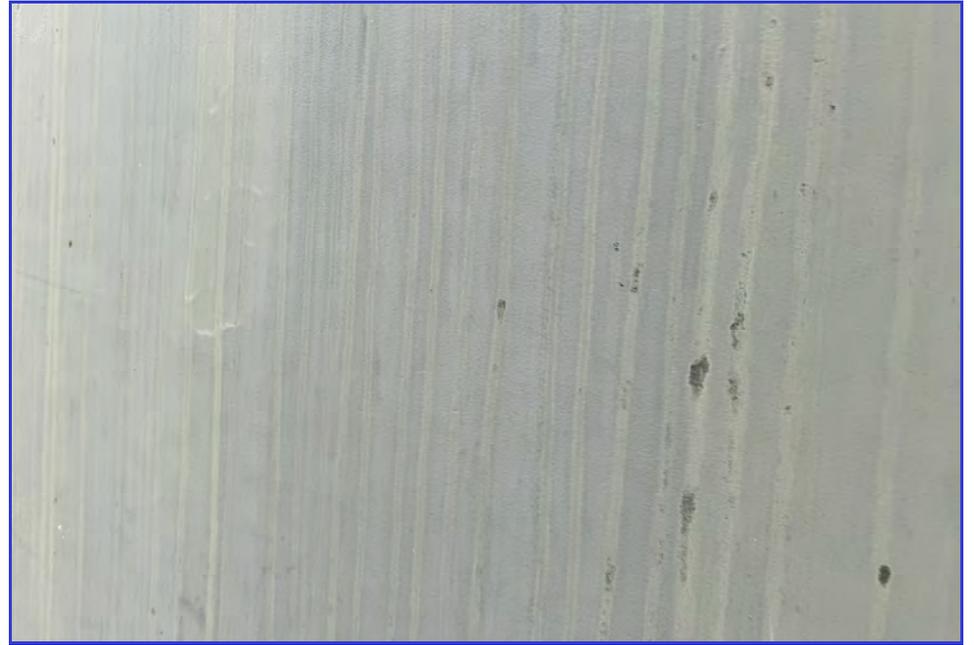
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -099



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -100



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -101



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -102



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -103



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -104



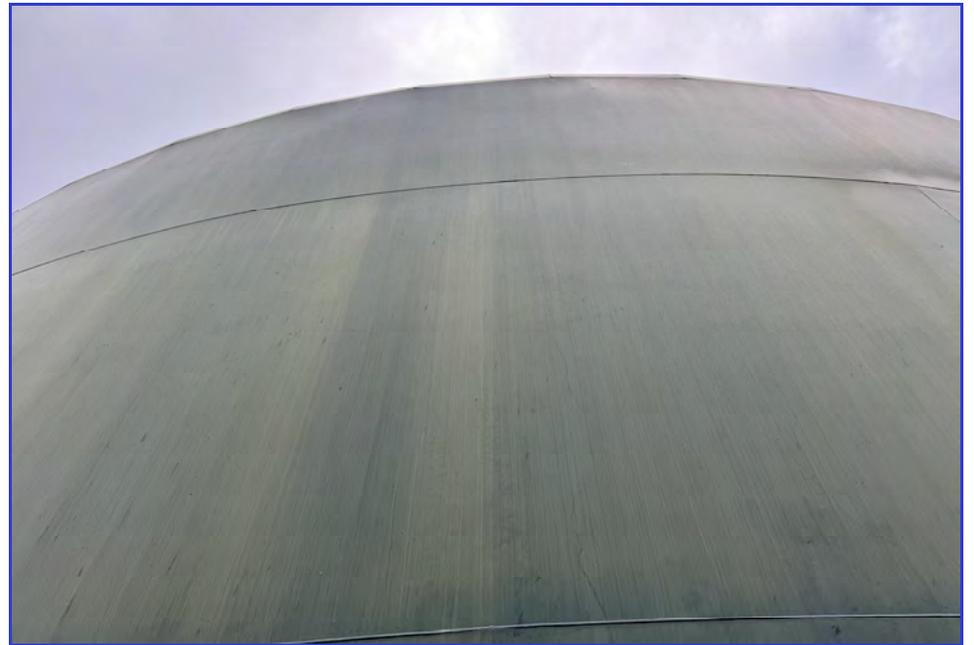
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -105



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -106



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -107



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -108



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -109



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -110



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -111



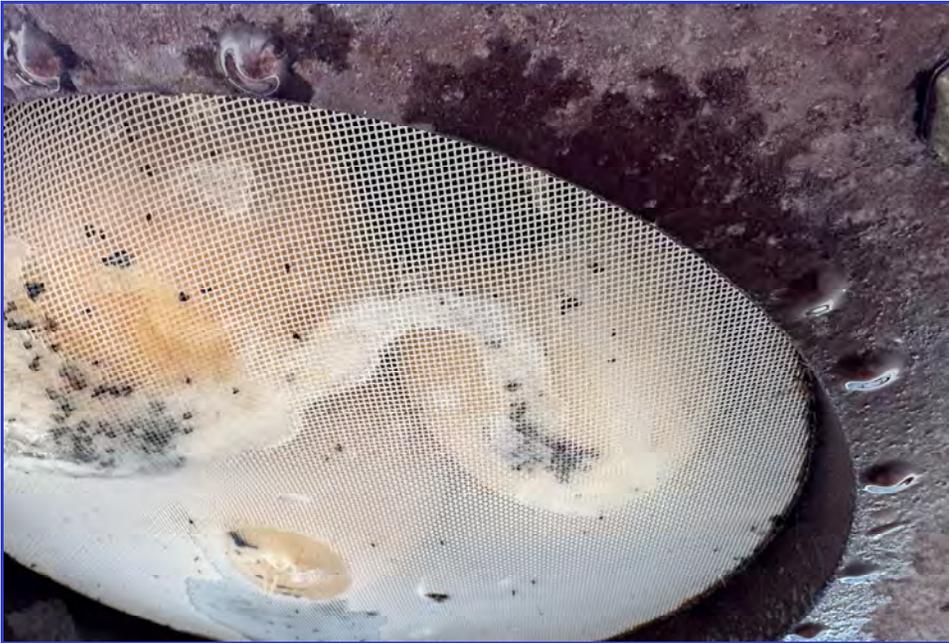
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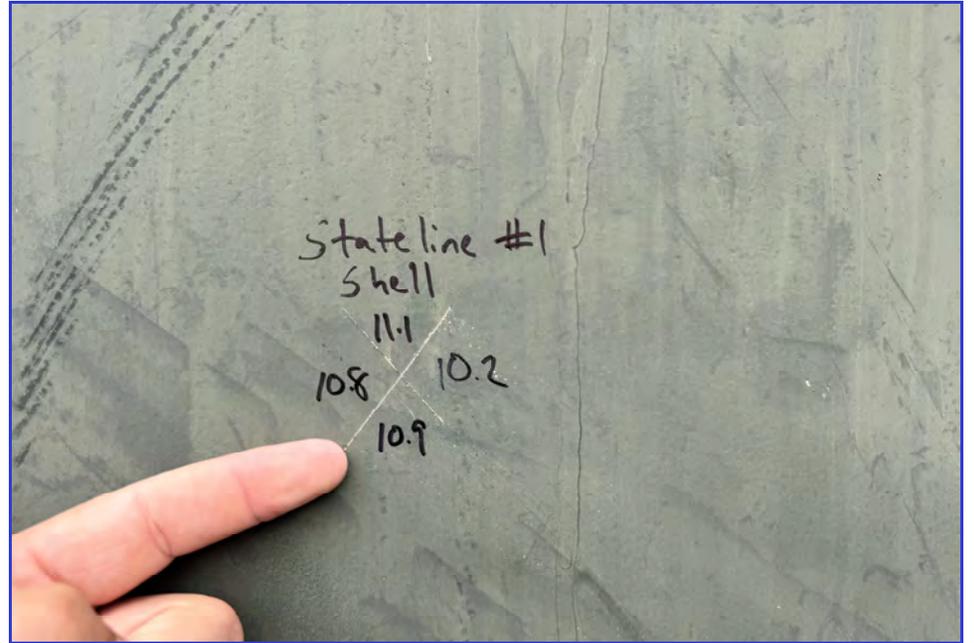
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -113



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -114



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -115



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -116



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -001



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -002



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -003



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -004



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -005



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -006



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -007



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -008



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -009



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -010



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -011



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -012



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -013



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -014



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -015



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -016



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -017



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -018



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -019



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -020



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -021



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -022



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -023



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -024



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -025



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -026



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -027



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -028



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -029



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -030



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -031



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -032



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -033



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -034



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -035



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -036



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -037



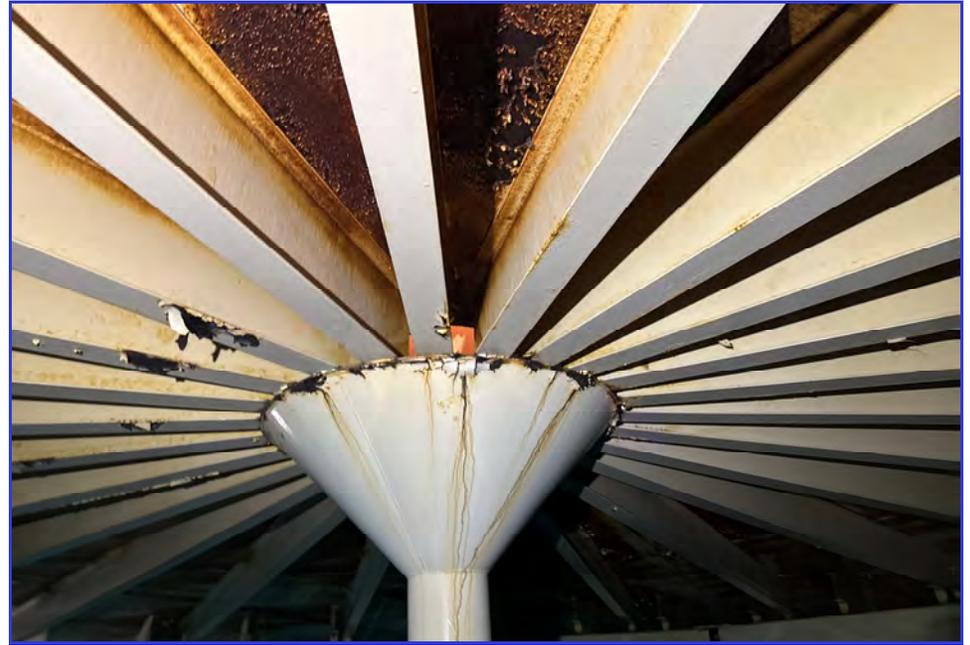
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -038



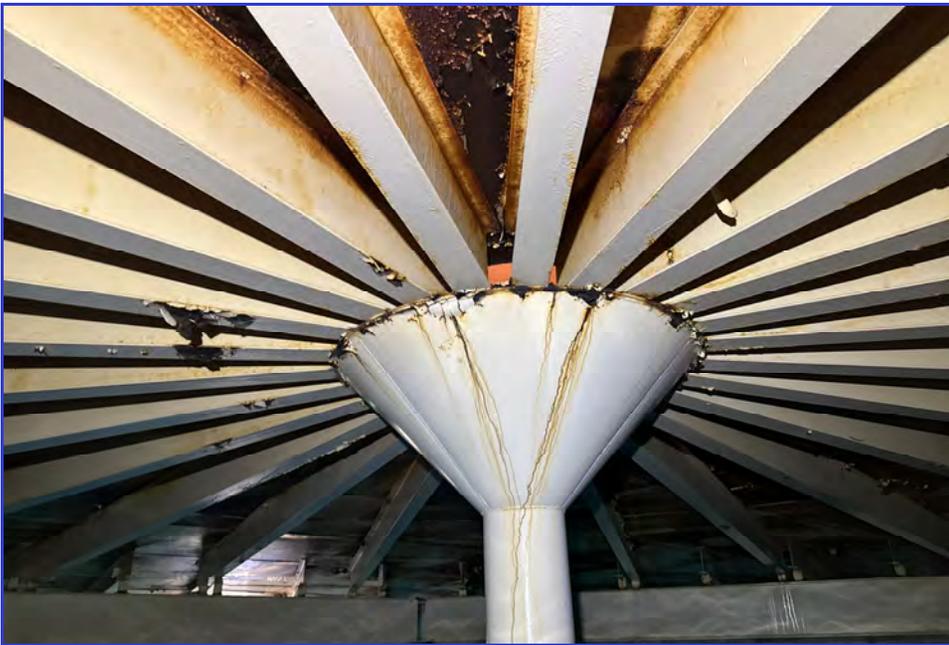
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -039



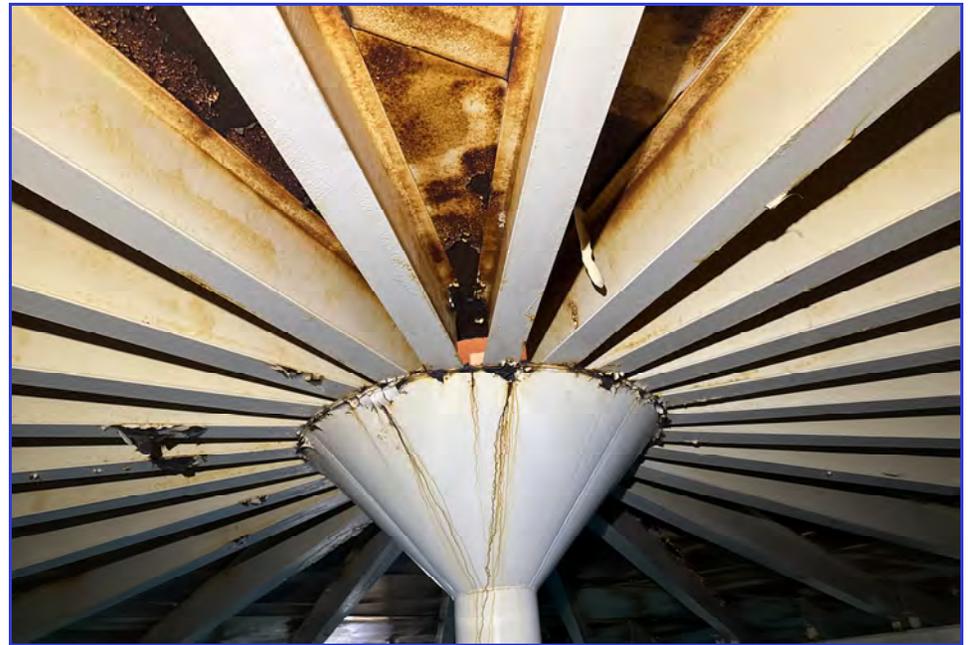
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -040



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -041



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -042



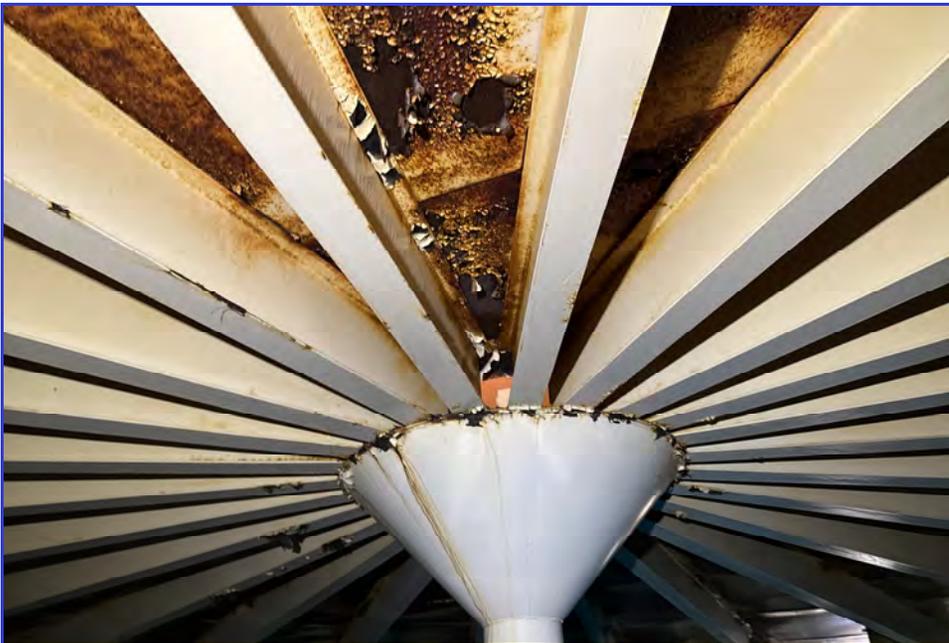
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -043



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -044



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -045



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -046



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -047



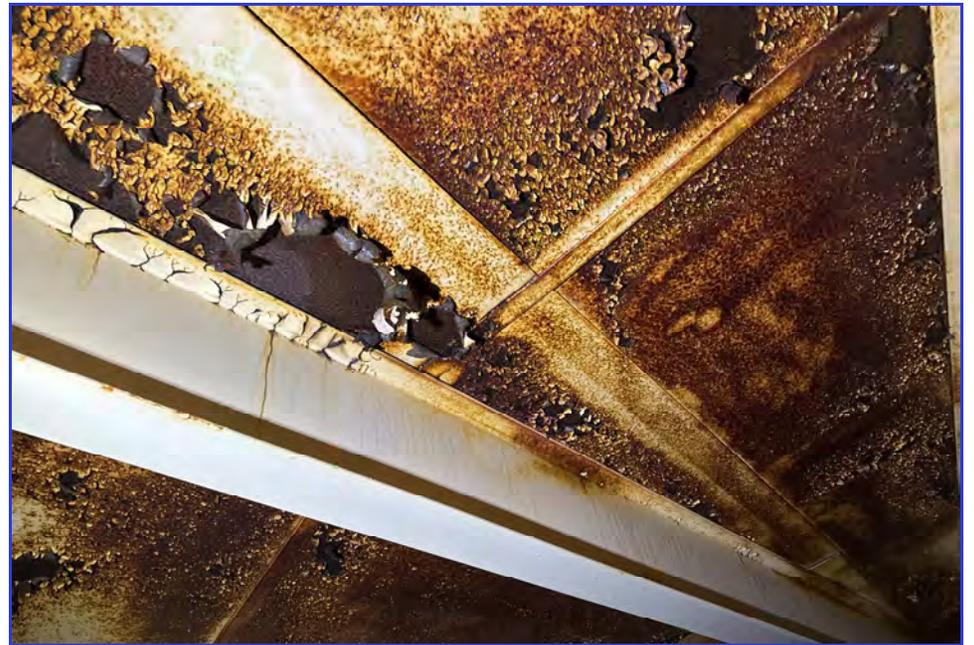
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -048



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -049



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -050



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -051



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -052



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -053



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -054



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -055



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -056



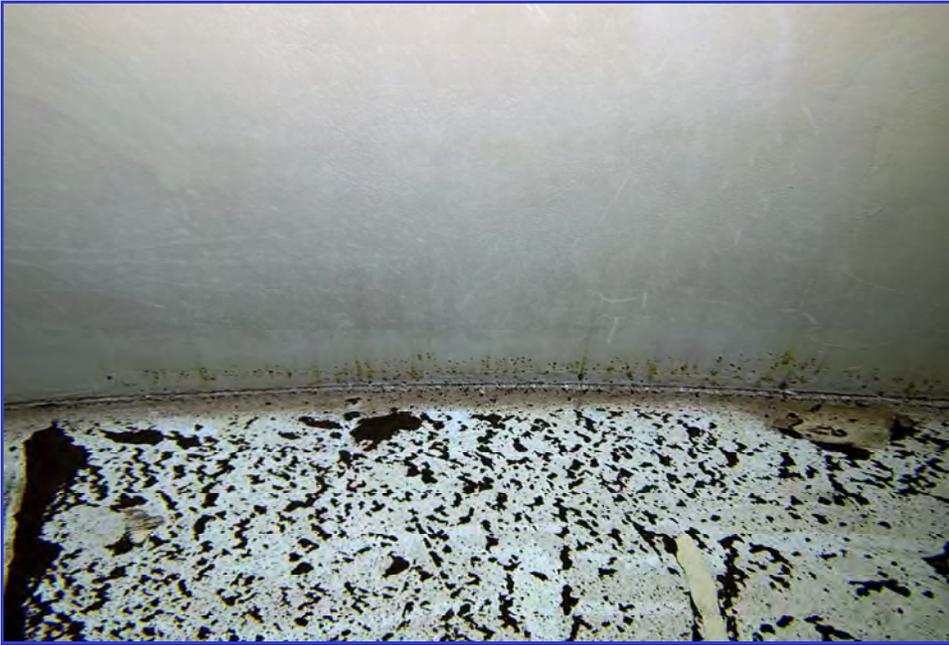
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -057



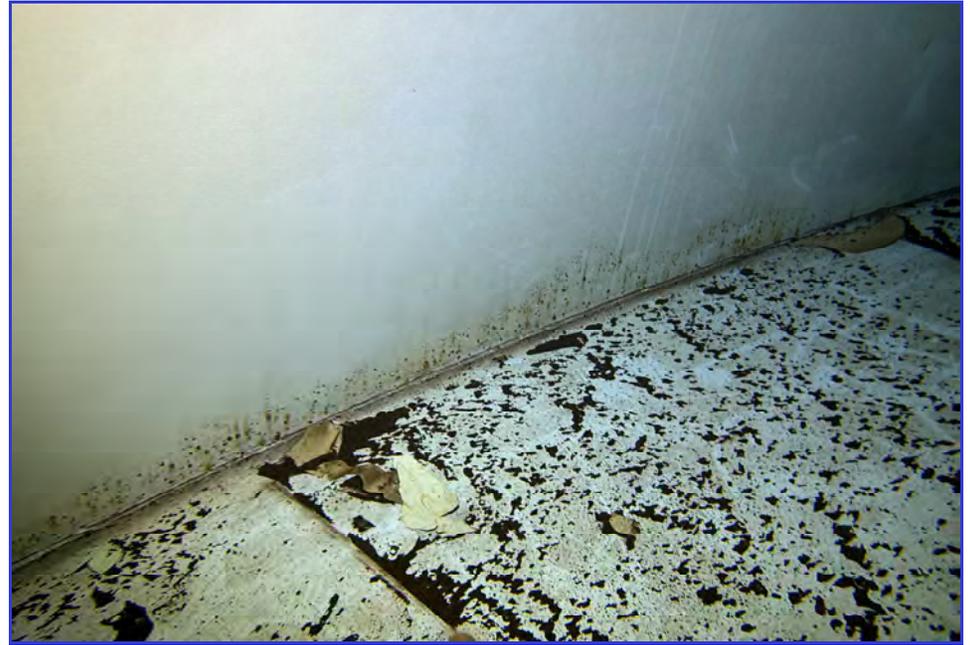
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -058



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -059



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -060



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -061



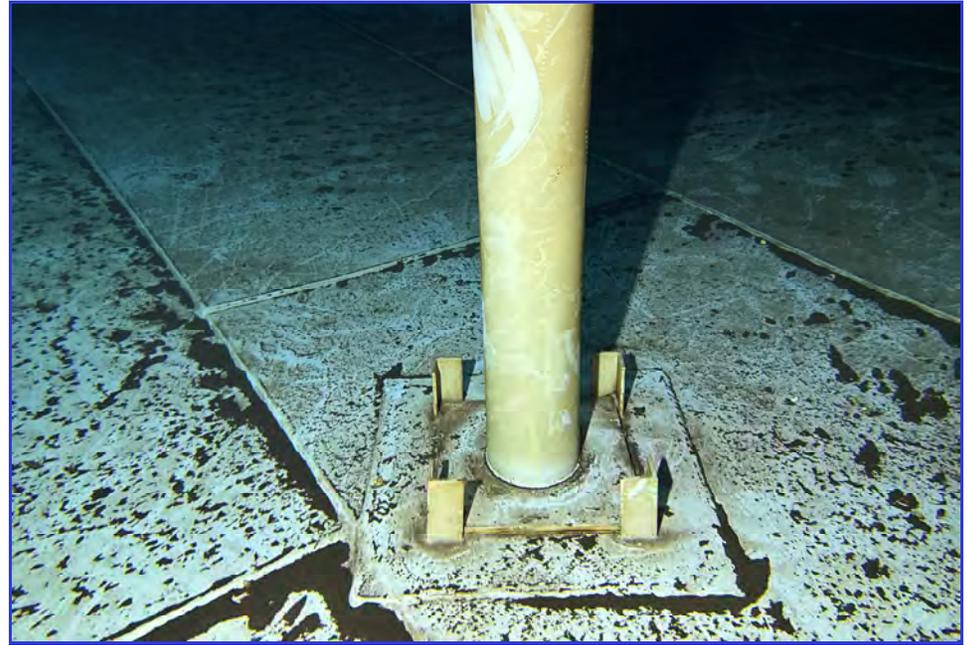
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -062



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -063



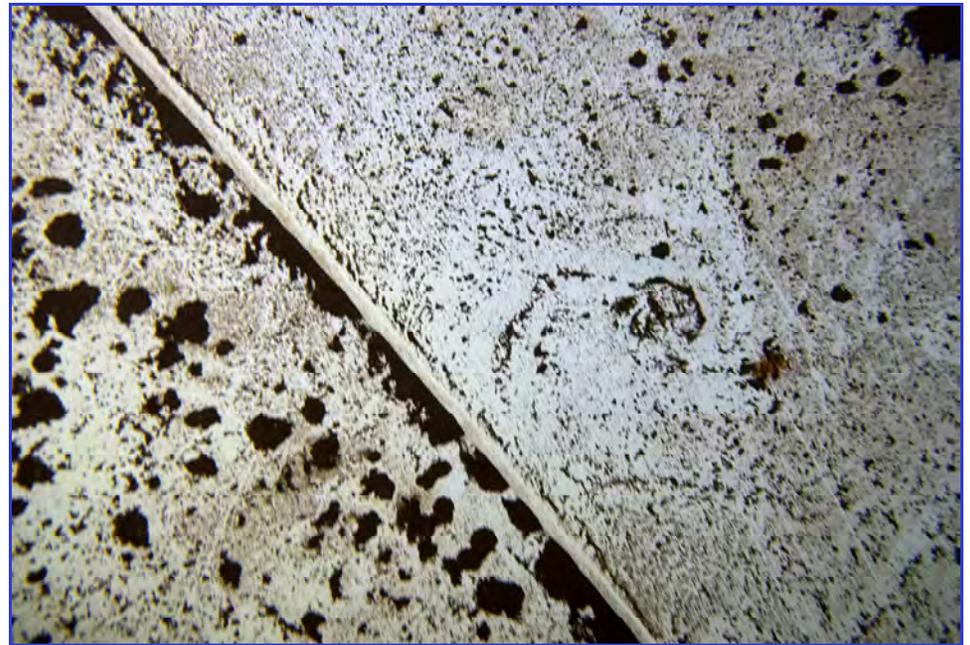
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -064



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -065



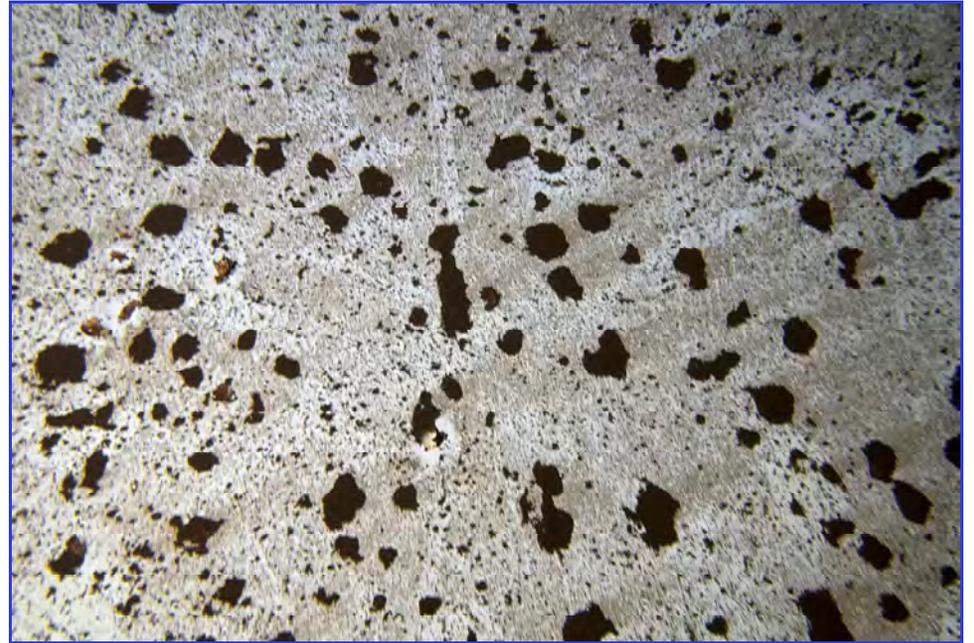
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -066



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -067



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -068



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -069



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -070



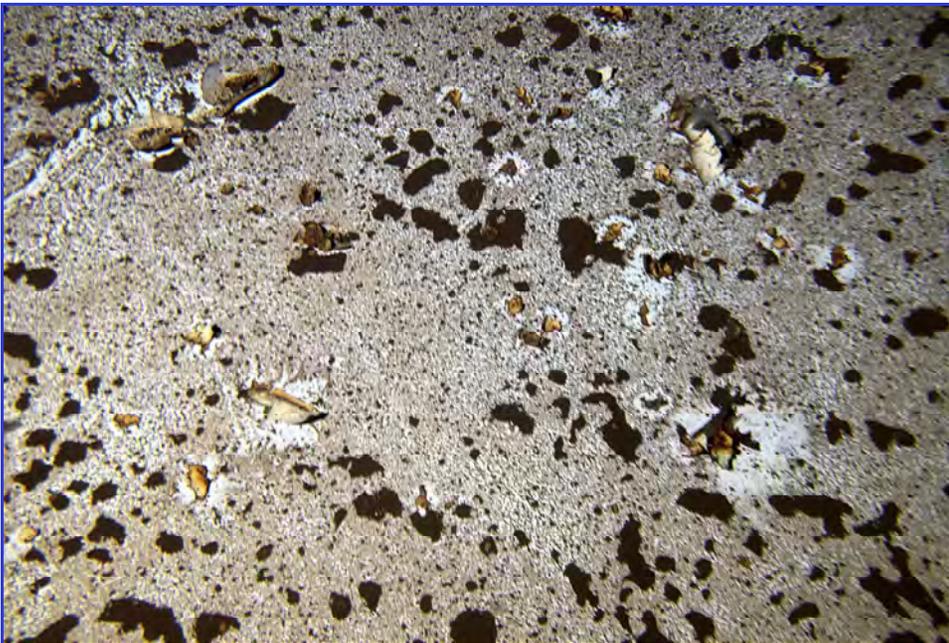
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -071



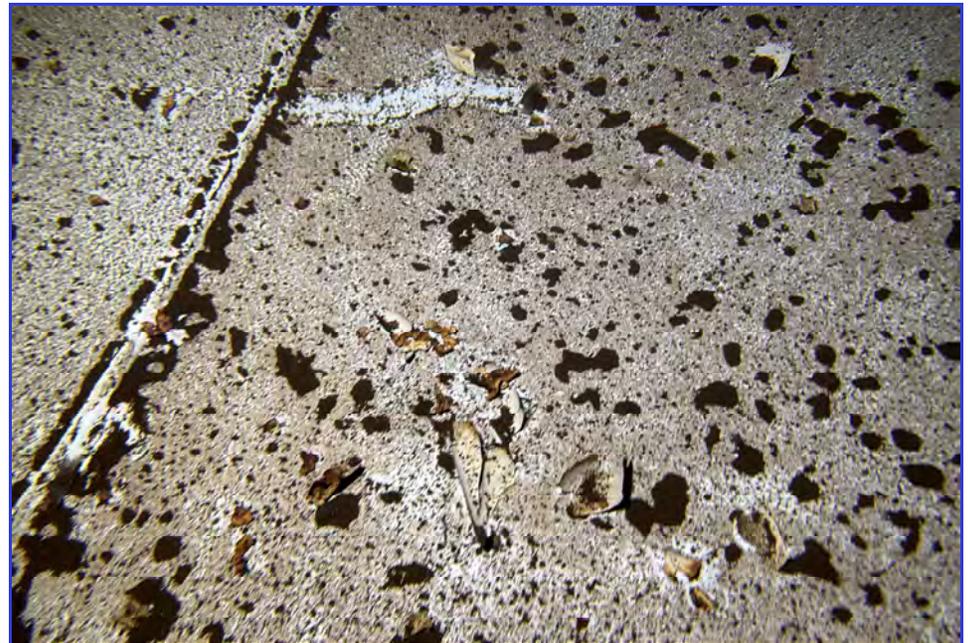
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -072



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -073



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -074



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -075



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -076



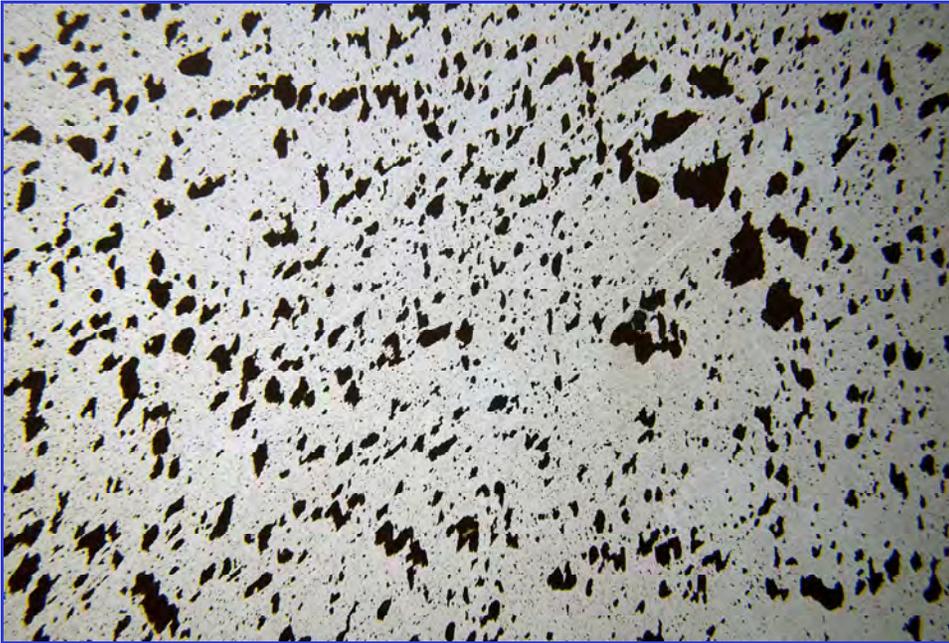
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -077



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -078



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -079



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -080



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -081



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -082



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -083



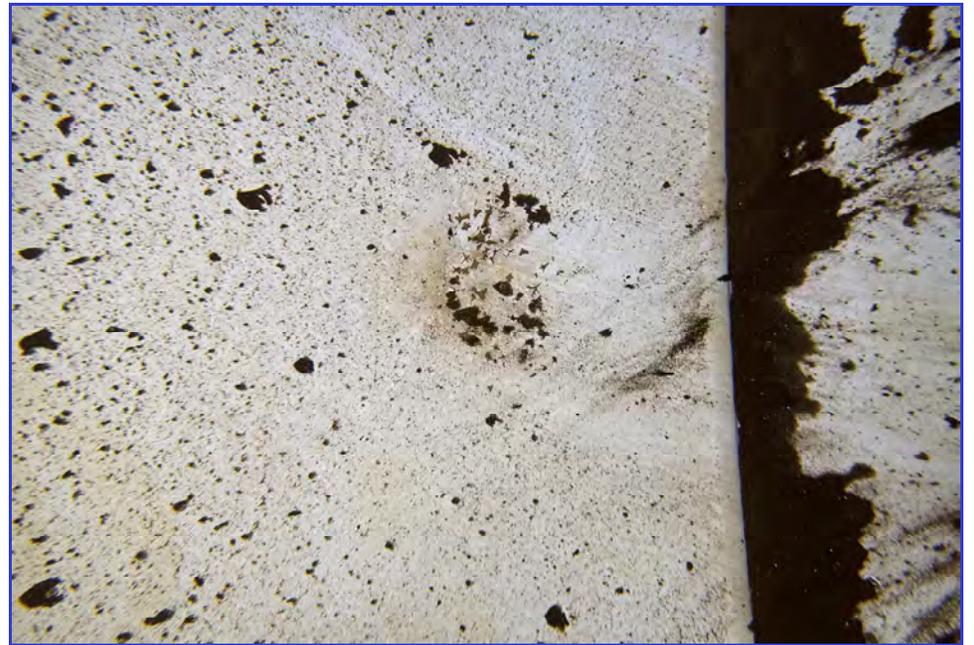
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -084



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -085



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -086



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -087



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -088



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -089



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -090



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -091



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -092



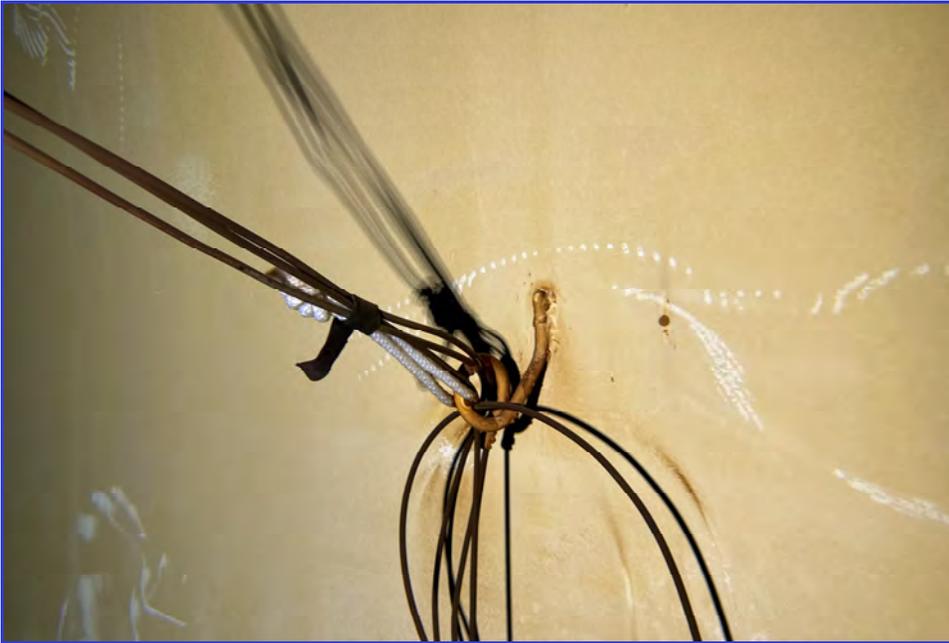
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -093



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -094



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -095



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -096



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -097



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -098



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -099



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -100



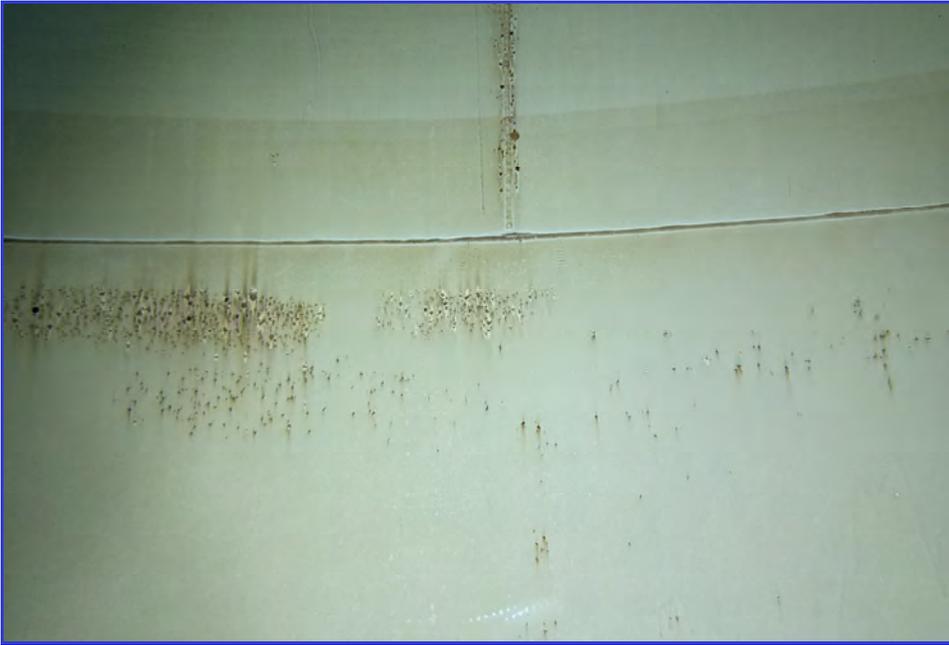
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -101



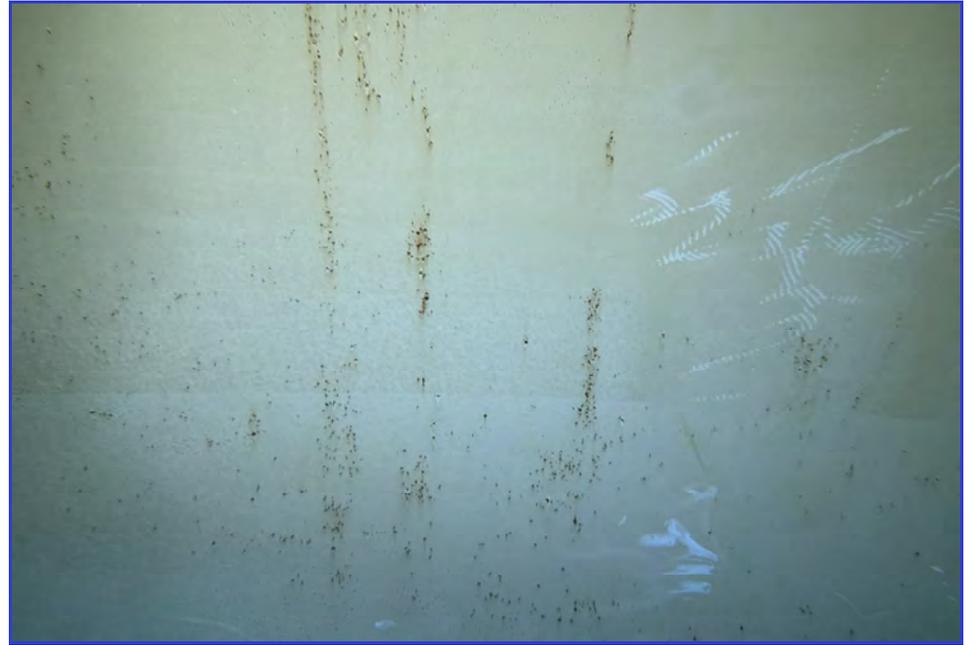
INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -102



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -103



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -104



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -105



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -106



INTERIOR - South Tahoe Public Utility District - Stateline Tank #1 - Maintenance Inspection -107

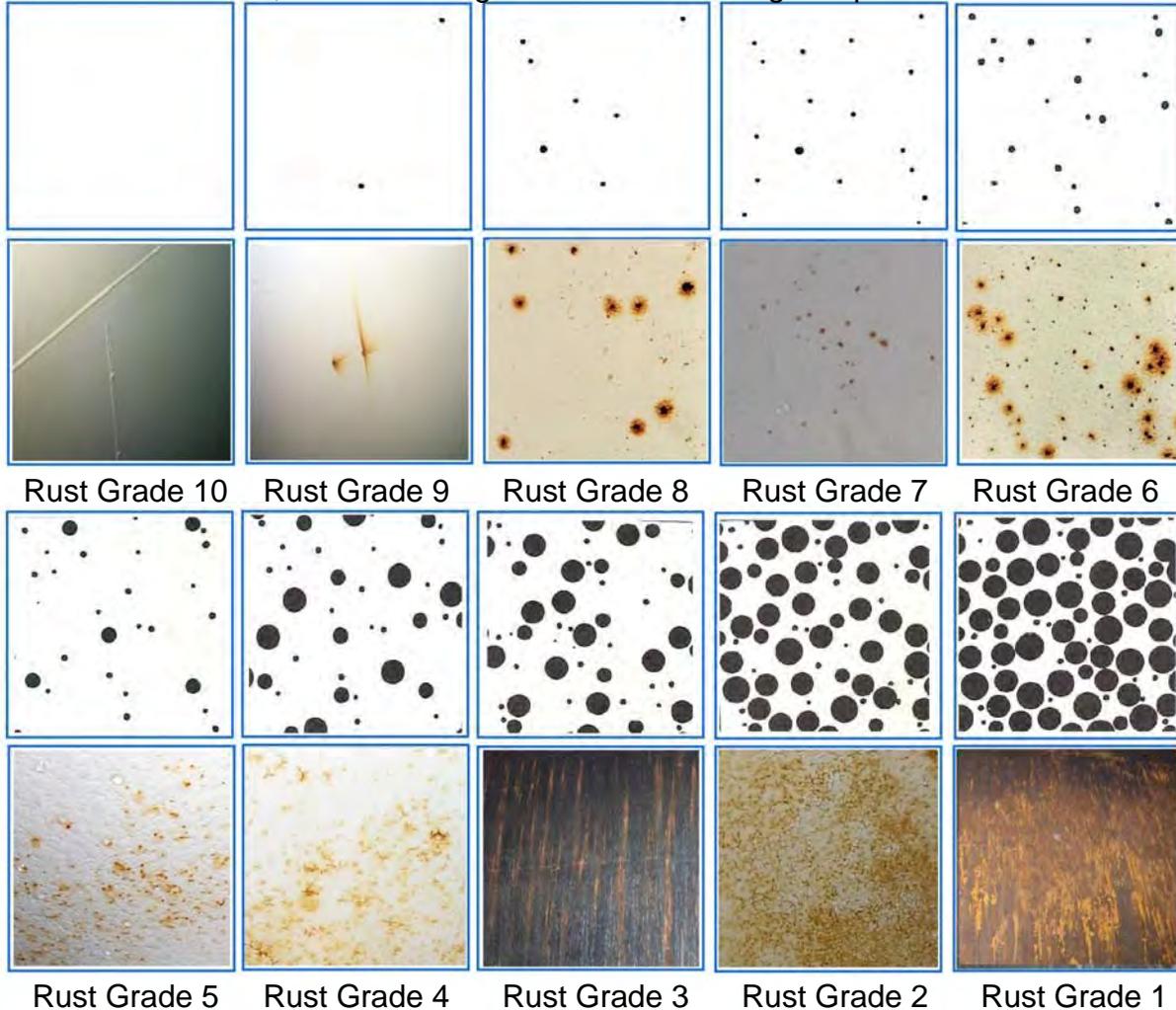


Chart 1 - Condition Rating The table below gives a basic description of the four different categories that CSI Services, Inc. uses to provide a general depiction of the condition of each defined area of a structure. The categories are Poor, Fair, Good, or Excellent. The development of these categories is based on historical knowledge and experience of various paint and lining systems over given periods of time in certain service environments. Basically, the rating is determined based on what should be expected of the paint or lining system at that point in its life cycle. As a result, different determinations are made for maintenance inspection versus warranty inspections. A detailed description of each rating with relative consideration addressed follows:

Rating	General Description of Conditions	
	Maintenance Inspection	Warranty Inspection
Poor	This condition is usually prioritized for rework in the short-term. Typically, these surfaces have considerably more coating defects and/or corrosion than what is expected for the age of the system.	This condition identifies an area with wholesale coating defects or corrosion concerns that will typically require significant removal and replacement of the coatings in the area.
Fair	Typically, these surfaces have a level of coating defects and/or corrosion that is slightly worse than what should be expected for the age of the system. This condition is placed on a short-term monitoring schedule.	This condition identifies an area with partial coating defects or corrosion concerns that will require significant rework.
Good	This condition is rated for areas without any considerable coating defects or corrosion. These surfaces are in a condition that is typical for the age of the coating system.	This condition identifies areas with coating defects or corrosion that is typically seen in one-year warranty inspections. Typically, only minor spot repairs are required.
Excellent	This condition is for areas without any considerable coating defects or corrosion. Typically, these surfaces are in a condition that is better than expected for the age of the system.	This condition identified areas that typically are in perfect condition and require no repair work.



Chart 2 -Rust Grade The black and white figures below depict the standards referenced in ASTM D610 “Standard Test Method for Evaluating Degree of Rusting on Painted Surfaces.” Below each standard is a photographic depiction of each level of corrosion, as used by CSI Services, Inc. The standards depict the percentage of rust on a scale from 0 to 10, with 10 having no rust and 0 having complete rust.



Rust Grade 10

Rust Grade 9

Rust Grade 8

Rust Grade 7

Rust Grade 6

Rust Grade 5

Rust Grade 4

Rust Grade 3

Rust Grade 2

Rust Grade 1



Rust Grade 0

Rust Grade	Description
10	No rusting or less than 0.01% of surface rusted
9	Minute rusting, less than 0.03% of surface rusted
8	Few isolated rust spots, less than 0.1% of surface rusted
7	Less than 0.3% of surface rusted
6	Excessive rust spots, but less than 1% of surface rusted
5	Rusting to the extent of 3% of surface rusted
4	Rusting to the extent of 10% of surface rusted
3	Approximately one-sixth of the surface rusted
2	Approximately one-third of the surface rusted
1	Approximately one-half of the surface rusted
0	Approximately 100% of the surface rusted



Chart 3 - Corrosion Grade The figure below depicts the photographic standards referenced by CSI Services, Inc. in the determination of the characteristics and stages of corrosion progression. This standard is used to better quantify the level of corrosion once it has progressed to Rust Grades 3, 2, 1, or 0 (see Chart 2). When applicable, CSI classifies an area as one or more of the five different Corrosion Grades. Corrosion Grades 1 through 5 are described below:

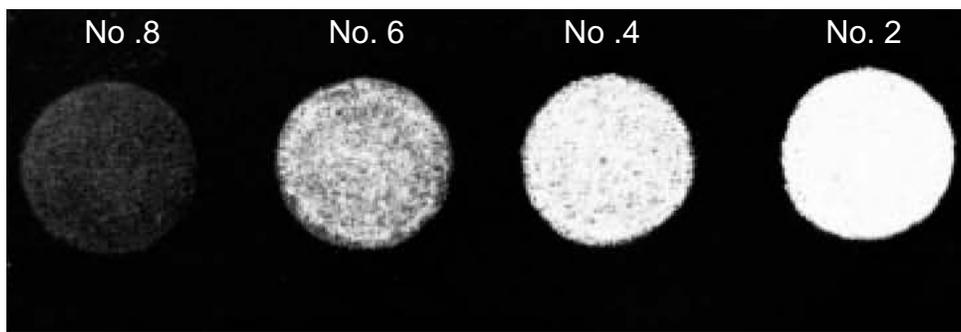
Grade	Description	Photo Examples
1	Light Rust - This condition involves relatively light colored rust that does not have any significant metal loss.	
2	Dark Rust - This condition involves relatively dark colored, thicker rust that is progressing towards the next phase, significant metal loss.	
3	Pitting - This condition involves isolated or widespread deep spot corrosion (pitting).	
4	Scale - Also known as lamellar or exfoliation corrosion. The edges of the affected area are leaf like and resemble the separated pages of a wetted book.	
5	Structural Loss - This condition involves metal loss or failure where components will require structural consideration	

The photos depicted are examples and were not taken on this project.



Chart 4 - Chalking The figure below depicts the photographic standards referenced in ASTM D4214 “Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films,” Method D659, Method C. Generally speaking, chalking is the degradation of a paint’s binder leaving behind loose pigments as the binder reacts with the environment, primarily ultraviolet light and oxygen. Evaluating chalking is a means to measure the performance of a coating system and its life cycle projection. It is also important to quantify for consideration of future overcoating options. This test uses these pictorial standards to quantify the amount of chalking present on paint films. The depictions below represent the amount of colored chalk removed onto a cloth during the test. The scale ranges from 2 to 8 with the rating 2 having the most chalk.

Light Colored Paints



Dark Colored Paints

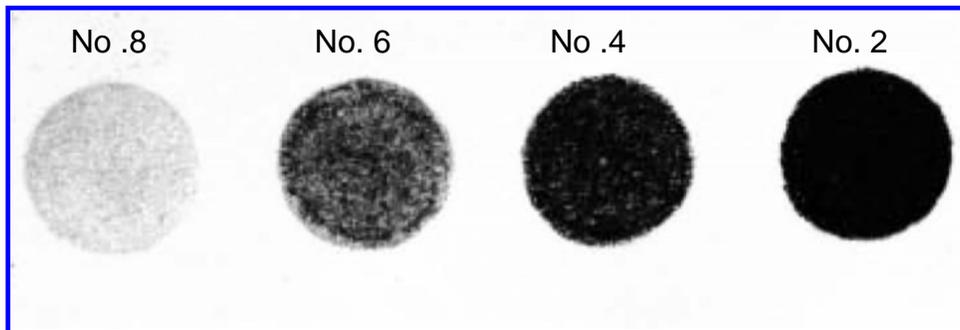
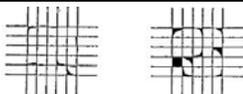
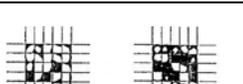
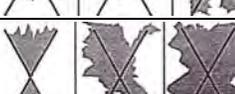


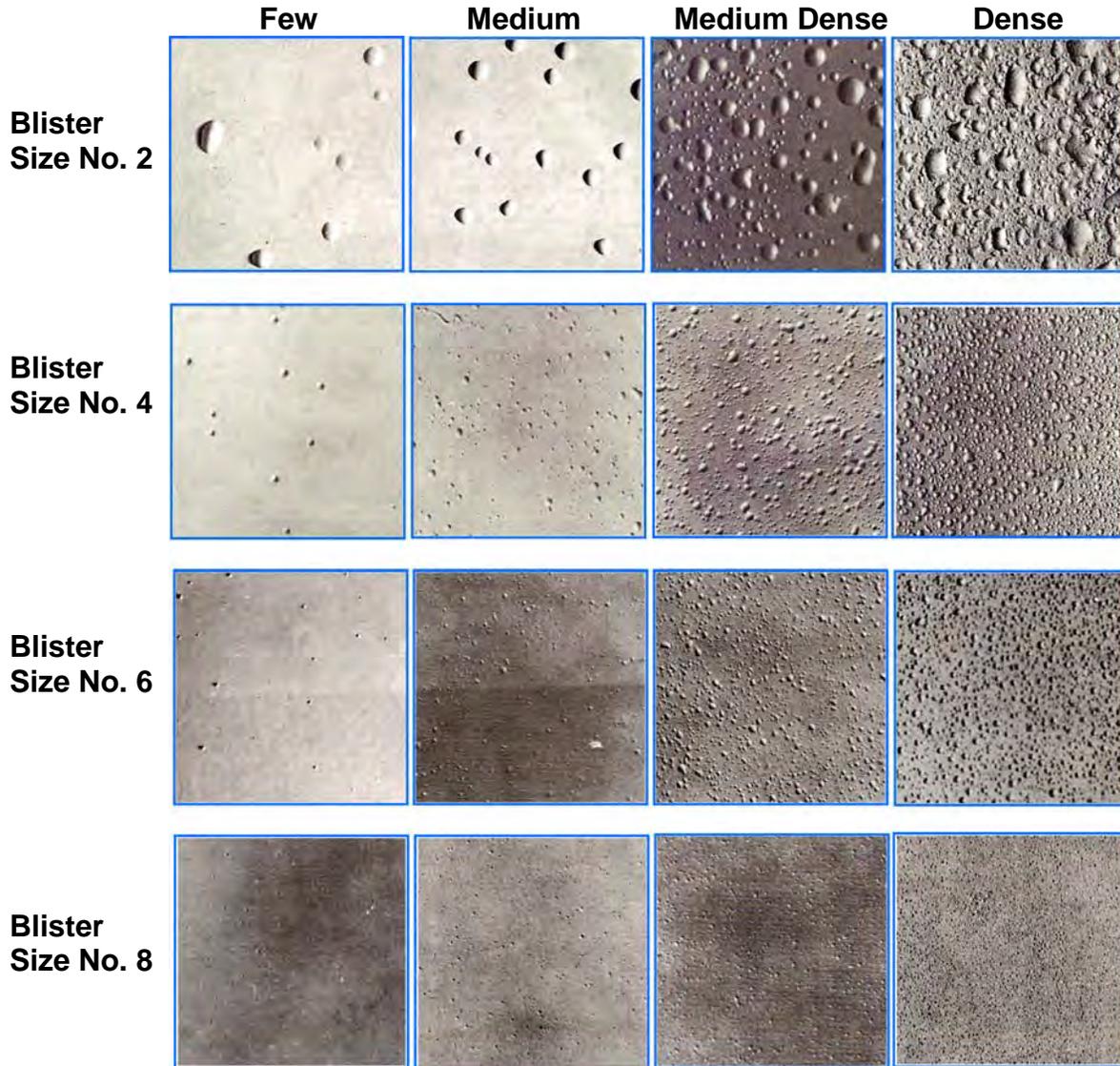


Chart 5 - Adhesion Rating The figures below depict the photographic standards and criteria referenced in ASTM D3359 “Standard Test Method for Evaluating Adhesion by Tape Test” and ASTM D6677 “Standard Test Method for Evaluating Adhesion by Knife.” Both Standards are used to assess the condition of a paint system for life-cycle projections. It is also used to evaluate an existing paint system’s ability to withstand the added stress that any overcoating strategies can create. Depending upon the thickness of the paint system, ASTM D3359 has two different test methods. The rating criteria for both standards follow:

ASTM D3359					
Method A			Method B		
Rating	Observation	Surface of X-cut from which flaking/peeling has occurred	Rating	Percent Area Removed	Surface of cross-cut area from which flaking has occurred for six parallel cuts and adhesion range by percent
5A	No peeling or removal	None	5B	0% none	
4A	Trace peeling or removal along incisions or their intersection		4B	Less than 5%	
3A	Jagged Removal along incisions up to 1/16" on either side		3B	5 – 15%	
2A	Jagged removal along most of incisions up to 1/8" on either side		2B	15 – 35%	
1A	Removal from most of the area of the X under the tape		1B	35-65%	
0A	Removal beyond the area of the X		0B	Greater than 65%	

ASTM D6677	
Rating	Description
10	Fragments no larger than $\frac{1}{32}$ " x $\frac{1}{32}$ " can be removed with difficulty
8	Chips up to $\frac{1}{8}$ " x $\frac{1}{8}$ " can be removed with difficulty
6	Chips up to $\frac{1}{4}$ " x $\frac{1}{4}$ " can be removed with slight difficulty
4	Chips larger than $\frac{1}{4}$ " x $\frac{1}{4}$ " can be removed with slight pressure
2	Once coating removal is initiated by knife, it can be peeled at least $\frac{1}{4}$ "
0	Coating can be peeled easily to length greater than $\frac{1}{4}$ "

Chart 6 – Blistering Rating The figure below depicts the photographic standards referenced in ASTM D714 “Standard Test Method for Evaluating Degree of Blistering of Paints”. This test uses these pictorial standards to quantify both the size and density of blisters that may develop in linings. Although the standard uses a blister size scale of 0 to 10 this chart uses the most common sizes of blisters found in the field. The standard does not use a reference for the size of each of the blisters depicted. CSI used this scale as a means for further quantification by qualifying the largest blister depicted as being 1 inch in width (Blister Size No. 2) and the smallest blister being 1/32 of an inch in width (Blister Size No. 8).





P. O. Box 801357
Santa Clarita, CA 91380-2316
Phone: 877.274.2422
Fax: 661.775.7628
www.CSIServices.biz

Providing Quality Technical Services to the Coating Industry

Thursday, June 12, 2025

Via E-mail

Manuel Najjar, PE
V&A Consulting Engineers, Inc
1000 Broadway Ste 320
Oakland, CA 94607

Email: mnajar@vaengineering.com
Phone: 510-919-7973

Subject: Final Report - Tank Maintenance Inspection

Re: South Tahoe Public Utilities District – Stateline #2 Reservoir

Dear Manuel:

Please find attached the final report for the evaluation that was completed on the above referenced tank. Also attached is our invoice.

Thank you for your business and please let me know if you have any questions or comments about our findings. I can always be reached at 951.609.6991 or by e-mail at rgordon@csiservices.biz.

Sincerely,
CSI Services, Inc.

A handwritten signature in blue ink that reads 'N. Randy Gordon'.

N. Randy Gordon, PCS
Technical Services Manager

Hawaiian Office: P.O. Box 671, Aiea, HI 96701
Northern California Office: P.O. Box 371, Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.

Consulting

Evaluations

Tank Diving

Inspection



P. O. Box 801357, Santa Clarita, CA 91380 877.274.2422

Final Report
Maintenance Inspection
Stateline #2 Reservoir
South Tahoe Public Utilities District



Prepared for:

Manuel Najjar, PE
V & A Consulting Engineers, Inc
1000 Broadway Ste 320
Oakland, CA 94607

Prepared by:

CSI Services, Inc.

N. Randy Gordon

N. Randy Gordon, PCS
Technical Services Manager



June 12, 2025

Hawaiian Office: P.O. Box 671, Aiea, HI 96701
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- CSI Chart 3 – Corrosion Grade Criteria (Steel)
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- CSI Chart 5 – Coating Adhesion Criteria
- CSI Chart 6 – Coating Blistering Criteria

Hawaiian Office: P.O. Box 671, Aiea, HI 96701
Northern California Office: P.O. Box 371, Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.



Introduction

V & A Consulting Engineers, Inc. authorized CSI Services, Inc. (CSI) to conduct a Maintenance Inspection on the Stateline #2 Reservoir located at 3776 Montreal Rd, South Lake Tahoe CA. This report documents the findings of the inspection and services performed.

CSI is a third-party independent consulting engineering firm that specializes in evaluations with specific expertise in protective coatings. The firm is an SSPC QP5 certified coating inspection firm that provides many different coating related services including failure analysis, expert witness, evaluations, SSPC QP5 in-process inspection, and testing.

Recommendations have been made in accordance with the applicable requirements of American Water Works Association's Standard (AWWA) D102 "Coating Steel Water Storage Tanks," AWWA Standard M42 "Steel Water Storage Tanks," and CSI's experience with evaluating thousands of water storage facilities. A photo summary and narrated video are also included to document the condition of the tank

Fri. May 16

The field-work was completed on Tuesday, May 13, 2025 by a team primarily comprised of Steven Metcalf, Steven Metcalf Jr., and Anthony Jackson. The exterior shell observations were made mostly from grade level, while the exterior of the roof was examined close-up. The interior inspection was carried out with the tank's water level at approximately 27 feet using special underwater diving equipment and techniques. Steven Metcalf was the site supervisor, and Anthony Jackson was the lead diver. Mr. N. Randy Gordon, Technical Services Manager, reviewed the results of the field data and prepared recommendations for maintenance work. Mr. Gordon is a certified Level 3 inspector through NACE, an SSPC Certified Protective Coating Specialist, and has evaluated thousands of storage tanks and industrial structures.

Summary

The paint system on the exterior was found to be aged, weathered, and in fair condition overall. Although the exterior surfaces have only isolated spot rust, only small areas of paint system topcoat have survived at the roof while the shell is largely intact. The adhesive properties of the paint system upon the roof and shell were both found to be satisfactory, making future overcoating strategies a possibility. It is recommended that the exterior paint system be spot repaired and overcoated or entirely removed and replaced in conjunction with the future relining project to best amortize costs.



Overall, the interior linings were found to be in a condition expected of a thin film epoxy that is reaching the end of its serviceable lifespan. The area above highest water level (HWL) is impacted by corrosion at the roof structure and roof plate edges, with moderate rust staining emanating from faying surfaces. The roof rafter and girder flanges exhibit localized exfoliation corrosion, however this phenomenon is a relatively recent development and is just now beginning to advance at a more rapid pace. Although these defects are present above the HWL, the lining below the HWL has only localized spot rust, shallow pitting and numerous groupings of blisters throughout. The impressed current CP system may not be operating within specification, and it was noted that the reference cell was lying upon the tank bottom. At this juncture, it is recommended that the tank lining be removed and replaced within the next 2 to 3 years with a multi-coat NSF Certified epoxy system.

Background

The Stateline #2 Reservoir is a welded steel on grade structure and is the southernmost tank at this site of two tanks. The tank is approximately 120 feet in diameter by 27 feet high, providing a nominal capacity of 2,500,000 gallons. The tank has a manufacturer's dataplate and the date of construction is listed as 1995 by Trusco Tank, Inc.

The tank shell has four courses that are connected to a knuckle radiused, conical roof supported by rafters, girders and six internal columns. The tank has one roof vent, one roof hatch, and two 24" shell manways. There is no flush cleanout associated with the tank. There is one interior ladder and one exterior ladder with a vandal deterrent security cover. The tank is seismically anchored to its concrete ring wall foundation by anchor bolts and chairs. There is an impressed current cathodic protection (CP) system associated with this tank and the tank has a sensor but no mechanical water level indicator.

It is believed that the interior lining and exterior coating are first generation. The interior steel surfaces, including the roof and roof support members are coated with a thin-film multi-coat epoxy system. The exterior roof, shell, and appurtenances are painted with what appears to be a polyurethane system. The internal roof lap seams are not caulked.



Field Evaluation

The purpose of this survey was to assess the condition of the existing coatings and recommend maintenance coating work, where needed. The evaluation mainly involved visual observations but also involved various testing procedures. Photographs and video were taken to document the field inspections, and a photo summary and narrated video are included within this narrative report.

For survey purposes, the tank has been segmented into defined areas: exterior roof, exterior shell, interior roof, interior shell, and interior floor. The various appurtenances within each of these areas have also been evaluated. A rating system has been developed to quantify the condition of these various tank areas. Each of the rating criteria is found in the Attachments (Charts 1 through 6).

The condition of the coating systems was rated as being poor, fair, good, or excellent (Chart 1). The extent of any rust defects identified within each of the areas was generally determined using the guidelines set forth in ASTM D610 “Standard Test Method for Evaluating the Degree of Rusting of Painted Steel Surfaces” (Chart 2). Where applicable, the characteristic or stage of corrosion was determined in accordance with CSI Corrosion Grade criteria (Chart 3). The degree of paint chalking was determined in accordance with ASTM D4214 “Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films,” Test Method D659, Method C (Chart 4). Coating adhesion was assessed in accordance with ASTM D3359 “Standard Test Method for Evaluating Adhesion by Tape Test, modified Method A and/or a modified version of ASTM D6677 “Standard Test Method for Evaluating Adhesion by Knife” (Chart 5). The modified version of ASTM D6677 was used in areas where destructive testing was not found to be practical. Any blistering that may have been present was rated in accordance with ASTM D714 “Standard Test Method for Evaluating the Degree of Blistering in Paints” (Chart 6), and the paint dry film thickness was measured with a Positector 6000FN3 Type II gage in accordance with the applicable guidelines set forth within SSPC PA2.

The visual observations and data collected from the various areas of the tank are found below:



Exterior

Close-up visual observation of the paint system was limited to the first (lowest) shell course, upper shell areas adjacent to the ladder, and roof. The paint system on the roof is in poor condition with numerous defects throughout a heavily weathered paint system. The shell appears to be in good to excellent condition. The rust observed in all areas was rated to be dark rust (CSI Corrosion Grade 2) with the amount of rust on the roof was rated a 0 (ASTM D610), impacting 100 percent of the total surface area. The rust observed at the shell was rated a 9 (ASTM D610) which impacts less than 0.03% of the total surface area. Moderate chalking was identified (ASTM 4214, 8) in all areas. Dry film thicknesses ranged from 8 to 10 mils at the roof and 10 to 11 mils at the shell. Adhesion was rated as satisfactory (ASTM D6677, 4A) at the roof and satisfactory (ASTM D6677, 5A) at the shell.

The specific data collected from the exterior is found in the chart below:

Exterior Paint	Overall Condition				Good							
Paint Defects	Roof Quadrant				Shell Quadrant				Tank Support			
	Exterior		Poor		Exterior		Excellent		Exterior		Good	
	S	W	N	E	S	W	N	E	S	W	N	E
Rust spots (ASTM D610)	0	0	0	0	9	9	9	9			9	
Corrosion Grade	2	2	2	2							2	
Rusting at crevices												
Spot peeling	Yes	Yes	Yes	Yes								
Delamination												
Cracking (ASTM D661)												
Checking (ASTM D660)												
Chemical staining												
Chalking	8	8	8	8	8	8	8	8	8	8	8	8



Interior

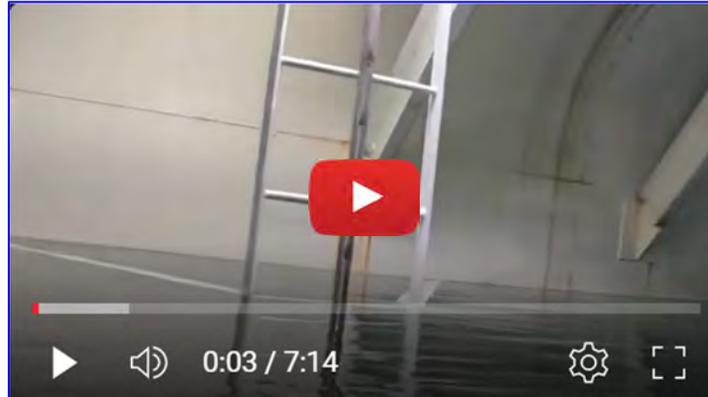
The condition of the coating on the underside of the roof and support members, including the columns and bolted connections, is in an overall good condition (ASTM D610, 8) where rust impacts 0.3 percent of the overall surface area. There was dark rust (CSI Corrosion Grades 2, 4) on the roof structure and roof plate. Rust staining was identified as moderate and only impacted portions of the structure. The most notable lining defects and areas of corrosion were found at contact surfaces of the roof plate to rafter interface and rafter and girder flanges where exfoliation was observed. All roof structural members are upright with no bending or twisting noted.

The coating on the shell was found to be in poor condition with numerous defects. The localized defects involved dark rust (CSI Corrosion Grade 2) that were most common to the lowest, first shell course, and the mechanical connections for the reservoir accessories. The total amount of rust defects present on the shell has been rated a 5 (ASTM D610, 5) with less than 10 percent of the total surface area exhibiting corrosion. Blisters were widespread and rated a 4/Med Dense (ASTM 714) and most of the blisters appeared to have cracked/broken caps.

There was a minor layer of sediment covering the reservoir bottom. Spot inspections noted that the floor lining was in poor condition with a few dark rust spots and pitting located on some weld seams and the column base. The amount of rust on the tank bottom was rated a 6 (ASTM D610, 6) and affects less than 1 percent of the overall surface area. Ultrasonic thickness measurements ranged from 0.330” to 0.340” with an overall average of 0.337”. No visible pitting was noted during the inspection. Patterns of blisters were encountered and rated 4/Med Dense in accordance with ASTM 714. The majority of the blisters in this area are cracked but retain their blister caps. The specific data collected from the interior inspection is found within the table below:

Interior Paint	Above Water Condition				Good				Below Water Condition				Poor			
	Roof Quadrant				Shell Quadrant				Floor Quadrant							
	Interior		Good		Interior		Poor		Interior		Poor					
	S	W	N	E	S	W	N	E	S	W	N	E				
Rust spots (ASTM D610)	8	8	8	8	5	5	5	5	6	6	6	6				
Rust areas (ASTM D610)																
Corrosion Grade	2,4	2,4	2,4	2,4	2	2	2	2	2	2	2	2				
Rust staining	Moderate	Moderate	Moderate	Moderate												
Rusting at crevices	Yes	Yes	Yes	Yes												
Spot peeling	Yes	Yes	Yes	Yes												
Delamination																
Cracking (ASTM D661)	2	2	2	2	2	2	2	2	2	2	2	2				
Blistering (ASTM 714) Size/Density					4Med dense	4Med dense	4Med dense	4Med dense	4Med dense	4Med dense	4Med dense	4Med dense				
Pitting (Estimated Amount)																
Pitting (Estimated Deepest Mils)																

Dive Inspection Video



Click on the link or paste into your browser window: <https://youtu.be/O9u0IMcE6ac>

Please note that the video content referenced in this report is hosted on YouTube as unlisted and is intended solely for the viewing and consideration of the intended recipients of this report. While the general public does not have access to this video, the link can be shared with others at your discretion. Access to this video is restricted to authorized individuals only, and any distribution, dissemination, or sharing of this video outside the scope of its intended audience is strictly prohibited.

Discussion

The exterior paint system on the tank is aged, relatively thin, and exhibits minimal to moderate chalking. There were numerous instances of peeling at the roof and in areas tested, the adhesion was deemed to be satisfactory (ASTM D3359, 4A). At the shell, adhesion was found to be exceptional (ASTM D3359, 5A). With the overall dry film thickness in the low teens, an overcoating strategy could be employed in the future. Although the roof surfaces have widespread dark rust, the most notable defect was the weathered paint system. The paint system is no longer providing proper barrier protection for the steel substrate as intended.

Peeling or delaminating coating is a symptom of an adhesion problem between the coating and substrate or from within layers of coating system. Adhesion is a function of a coating system's strength. Peeling is often a result of coated over contamination, incompatibility between coats, or from an undercoat being coated after its recoat window had closed. Catalyzed coatings, such as epoxies and urethanes continue to dry and then cure to a point to where they become too hard for topcoats to chemically adhere. Once the window for a chemical bond is closed, special procedures such as scarification are required to allow for a mechanical bond. Furthermore, if the exposed undercoat is epoxy,



it will begin to heavily chalk or weather away, which will lead to the steel substrate eventually corroding from lack of barrier protection.

Chalking is the term for the powdery characteristic of an aged coating that may also have a faded finish. Chalking is a result of the natural breakdown of a paint system's binder when it is exposed to sunlight. The binder (or resin) degrades in ultraviolet light, which leaves behind the unbound pigment or chalk. Aside from a faded appearance, chalking can result in corrosion as the film weathers (thins) away through cycles of wind and rain. As the paint endures years of direct sunlight, it begins to weather away, which results in the paint no longer providing enough barrier protection from corrosion.

Generally speaking, there are four possible approaches to maintenance painting. The coatings can be either completely removed and replaced (repainted), spot repaired, spot repaired and overcoated, or simply overcoated. In evaluating the condition of a coating to determine the best painting approach there are a number of different factors to consider. The first set of factors includes the determination of the coating's ability to withstand the added stress of an additional coat(s). Attributes impacting this decision include film thickness and adhesion. If the paint film is too thick or has poor adhesion, the tension from the curing stresses and/or weight of the additional paint can cause the existing system to disbond. The second set of factors to consider when determining what painting approach to take is the amount of surface area requiring repair, the overall difficulty in providing access to the structure, and whether the coating system contains heavy metals (i.e. lead, cadmium, and chromium). The final factor is the condition of the substrate.

When considering whether a spot repair approach is a viable option, a good rule of thumb is that spot repair, with or without overcoat, makes sense with up to 10 percent of the surface area requiring repairs. With more than 10% in disrepair, making spot repairs and overcoating becomes a diminishing return. With 10 percent rusting, overcoating may be an option if the adhesion is better than fair. If there is more than 10 percent rusting and the substrate is free of mill scale, overcoating may be considered an option if the adhesion is excellent. Once the amount of surface area in need of repair exceeds this range, the cost of cleaning and coating the individual rust spots approaches (or exceeds) the total cost of removal and replacement.

On this basis, the tank exterior paint system should be spot repaired and overcoated or completely removed and replaced within the next 2 to 3 years or in conjunction with a future relining project to best amortize costs.

The tank lining system was found to have numerous defects above the highest water level (HWL), and several defects below HWL. The lining has reached the end of its serviceable lifespan and its degradation has allowed severe corrosion to impact roof structural



elements.

A tank roof, including its roof support structure has many open, unsealed areas by design. These open areas are primarily at the inaccessible crevices that are between the top of the roof beam flanges and the roof plate. The cost of properly sealing these areas becomes a diminishing return, notably when one considers that small crevice areas often develop into dead-air space. The minor amount of rust staining is simply a result of some areas not being completely sealed by coatings.

The design and fabrication of a water storage tank is critical relative to the performance of the lining. For instance, tank and vessel internal surfaces to be lined should not be marred by gouges, handling marks, deep scratches, metal stamp marks, slivered steel, or other surface flaws. All rough welds should be ground to remove sharp edges and weld spatter removed. Flaws should be repaired by welding or grinding, as appropriate.

Rust is a result of ferrous metal essentially converting itself back to its original state, iron ore. It takes a tremendous amount of energy to convert an ore into a usable metal. These metals then try to naturally release this energy through the development of rust. Corrosion is a more generic term for a condition that has resulted in a substrate that has reacted with its environment. With respect to the stages of the rust or corrosion of steel, the process initiates itself as light colored orange surface rust. As the corrosion process continues, the rust becomes darker in color until it eventually results in advancing forms of metal loss. Metal loss can take the form of pitting, which is a localized corrosion cell that results in cavities or holes developing in the metal.

Pinpoint rusting can develop from a coating film thickness being too thin to provide a proper barrier or from pinholes/holidays in the film. If the coating was applied to thin or has thinned from degradation, the peaks of the substrates profile extend through the film and rust. Rusting pinholes are commonly isolated to localized spots of a coating system that did not receive proper coverage and are most commonly located at irregular surfaces. When specifying tanks and vessels that are to be internally lined to control corrosion, special design, fabrication, and surface finishing practices must be considered to obtain the desired performance of these linings for immersion service.

Exfoliation corrosion is a form of intergranular corrosion which involves selective attack of a metal at or adjacent to grain boundaries. In this process, corrosion products force metal to move away from the body of the material, giving rise to a layered, laminar appearance. Exfoliation corrosion is also known as layer corrosion or lamellar corrosion.

Since all of the blisters were underwater and below the common water level, it is presumed that the blisters are a result of osmotic forces. Osmotic blistering is typically



caused when coatings that are to be placed into immersion service are applied too thick, overcoated too soon, under colder weather conditions, and/or over contaminated surfaces. One form of osmotic blistering is solvent entrapment. Solvents are added to coatings to act as a vehicle during application. When coatings are applied too thick the coating solvents that were designed to be released during application are locked in-place when the catalyzed coating reaches a full chemical cure. Additionally, if coatings are applied under cold or cooler conditions, the solvents have a difficult time escaping from the film before it gets hard. Blisters that result from solvent entrapment tend to be localized to the coolest and lowest areas of a tank. Solvent vapors are typically heavier

Epoxy systems are typically designed for 25 to 30 years of service, and the interior lining is in a condition that should be expected of a tank lining that is approximately 30 years old. Due to the nature of the corrosion (Exfoliation) it is recommended that the lining be removed and replaced within the next 2 to 3 years. This work should include abrasive blast cleaning in accordance with near-white blast cleaning (SSPC-SP10) followed by a three-coat NSF certified epoxy lining.

The tank ventilation was found to have screening installed with gaps or penetrations.



Recommendations

The following activities are recommended for maintenance work:

Exterior:

- 1) Within the next 2 to 3 years, or in conjunction with a relining to better amortize costs, spot repair and overcoat the paint system. This work should include abrasive blast cleaning all surfaces to SSPC SP-18, “Thorough Spot and Sweep Blast Cleaning” followed by an epoxy at 4 to 6 mils per coat and a polyurethane at 3 to 5 mils per coat.

Alternatively, the existing paint system could be fully removed and replaced via SSPC SP-6, “Commercial Blast Cleaning” which would allow for future generations of overcoat paint systems.

Interior:

- 2) Within the next 2 to 3 years, remove and replace the lining system.
 - a) This work should include abrasive blast cleaning all surfaces to SSPC SP-10, “Near White Blast Cleaning” followed by three coats of an ANSI/NSF certified epoxy at 4 to 6 mils per coat.
 - b) Anticipate the need to perform some grinding in accordance with NACE SP0-178. However, it is unlikely that steel repair (welding) or steel replacement would be necessary.
 - c) Engage the services of a cathodic systems professional and verify the CP system is operating properly and within tolerances.

NOTICE: This report represents the opinion of CSI Services, Inc. This report is published in conformance with generally acceptable industry practices. While customary precautions were taken to ensure that the information gathered and presented is accurate, complete and technically correct, it is based on the information, data, time, and materials obtained and does not guarantee a leak proof tank.



P.O. Box 801357, Santa Clarita, CA 91380
 Phone: 877.274.2422 (toll free)
 Fax: 661.755.7628
www.CSIServices.biz

Page	1	of	1
Date	5-13-2025	Tuesday	
CSI Job No.	250151		
Completed By	Metcalf		

Field Water Tank Dive Inspection Report

Tank Name:	Stateline 2	Dive Supervisor:	Steven Metcalf
Tank Owner/Client:	South Lake Tahoe	Dive Leader:	Anthony Jackson
Client Contact:	Manuel Najar	Dive Tender:	Steven Metcalf Jr

Scope	Maintenance Inspection
--------------	------------------------

Site Information

Item	Description
Cross Street	Lake PKWY East
Tank Location	3776 Montreal Rd, South Lake Tahoe CA
GPS Coordinates	38.95410, -119.93615
Nearest Structures	Second Tank
Surrounding Site	Dirt

Interior Structural Characteristics

Item	Data
Roof Structure	rafters, girder and six columns
Column Design	Pipe
Upper Center Column	Cone
Column Base Design	Free plate with stabilizing clips
Connections	Mix of welded and bolted
Overflow Design	Funnel and pipe, Lower course exit
Inlet Interior Design	Floor Stub
Lining Type/Original	Epoxy Yes

Exterior Structural Characteristics

Item	Data
Capacity (gallons)	2,250,000
Diameter (feet)	120
Height (feet)	27
Erection Year	1995
Contract No.	470
Tank Type	Welded Steel
Tank Profile	on grade
Tank Geometry	Cylinder
Number of Courses	four
Height of Each Course	7 ft
Roof Design	Pitched roof with Nuckle
No. Shell Manways	two shell manways
Type of Manways	round
Manway Cover Design	Unibolt
Diameter of Manways	24 in
No. Roof Hatches/Location	one near edge
Hatch Design	square
Size of Roof Hatch	36 in
No. Roof Vents/Location	one Center
Roof Vent Design	round hood
Construction Co.	Trusco

Item	No	Notes
Perimeter Fencing	No	No Comments
Site secured on arrival	Yes	Gate
Overhead Power Lines	No	None
Antenna on Tank	No	None
Roof Accessible	Yes	No Comments

Item	Data
Outlet Design	Floor Stub
No. Interior Ladder	Yes one
CP System/Type	Yes Impressed Current
Water Depth	27 feet
Water Agitator	No None
Barrier Walls	No
No. of Columns	Six Columns
Caulking	Roof No Columns No

Item	Data
Center Roof Vent Size	24 in
Roof Vent Sealed	Yes Satisfactory
Roof Rail System	Yes Corral
Roof Rail Satisfactory	Yes No Comments
Rail Location	Top of Ladder
No. & Type Roof Access	One Ladder
Exterior Vandal Deterrent	Yes
Ext Ladder Satisfactory	One Yes
Ext Ladder Fall Prevent	Yes
Roof Tie-Off Present	Yes
Tank Piping	Floor Inlet and Outlet
Inlet Diameter	18 in
Outlet Diameter	18 in
Flexible Pipe Coupling	N/A
Overflow Pipe Diameter	16 in
Overflow Exterior Design	Screened Air Gap
Drain Location	Floor
Tank Foundation	concrete ring wall with Anchors
Water Level Indicator	Sensor
Tank Type	Potable
Lining Type/Original	Urethane Yes

Miscellaneous Notes

The information reported was obtained using visual observations and testing believed to be accurate. The information reported represents the data obtained from the specific representative areas inspected, tested, and/or verified. This document shall only be produced in its entirety.



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -001



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -002



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -003



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -004



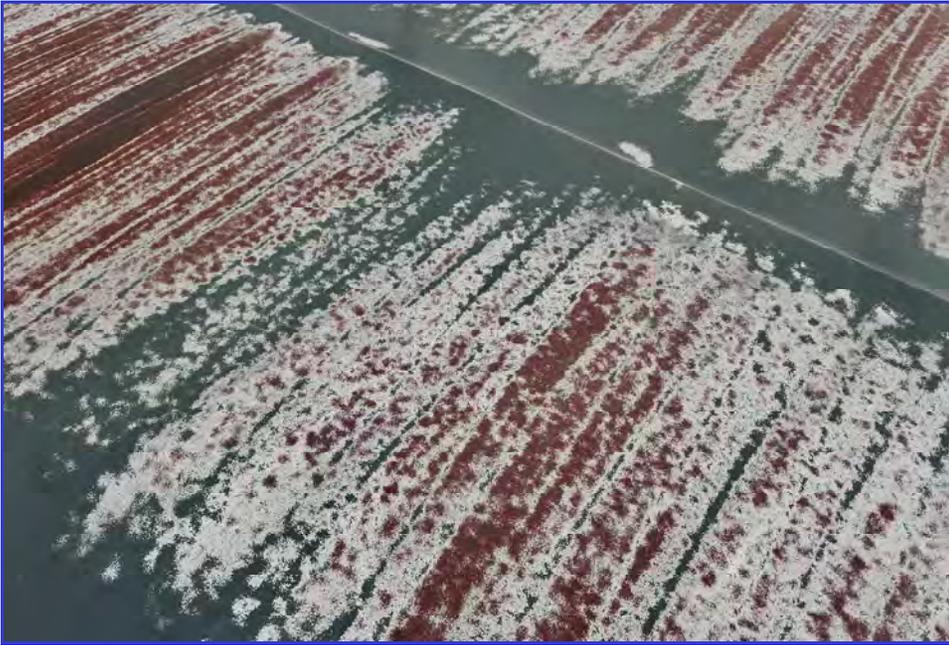
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EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -006



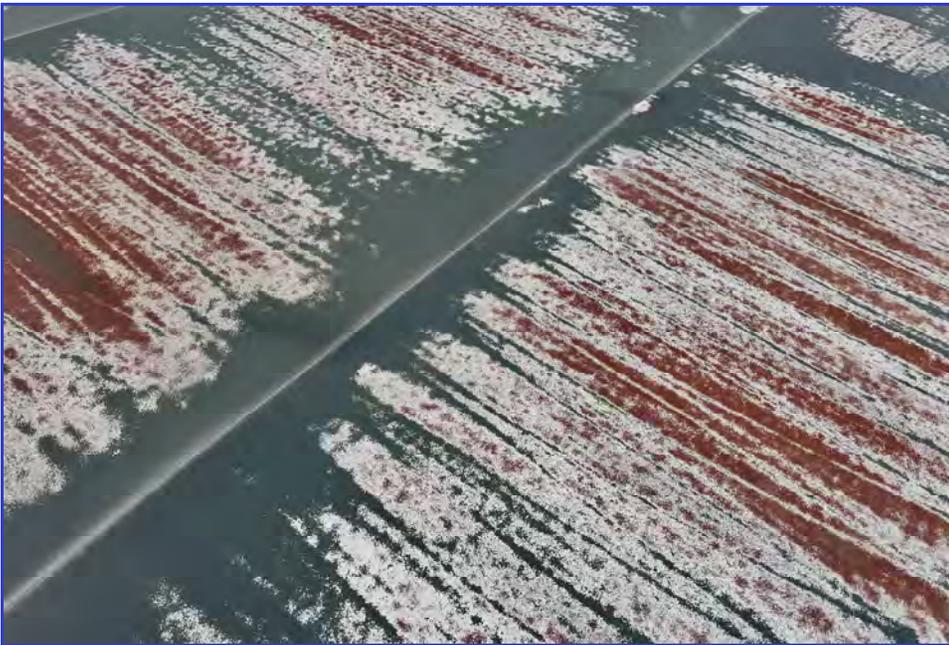
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -007



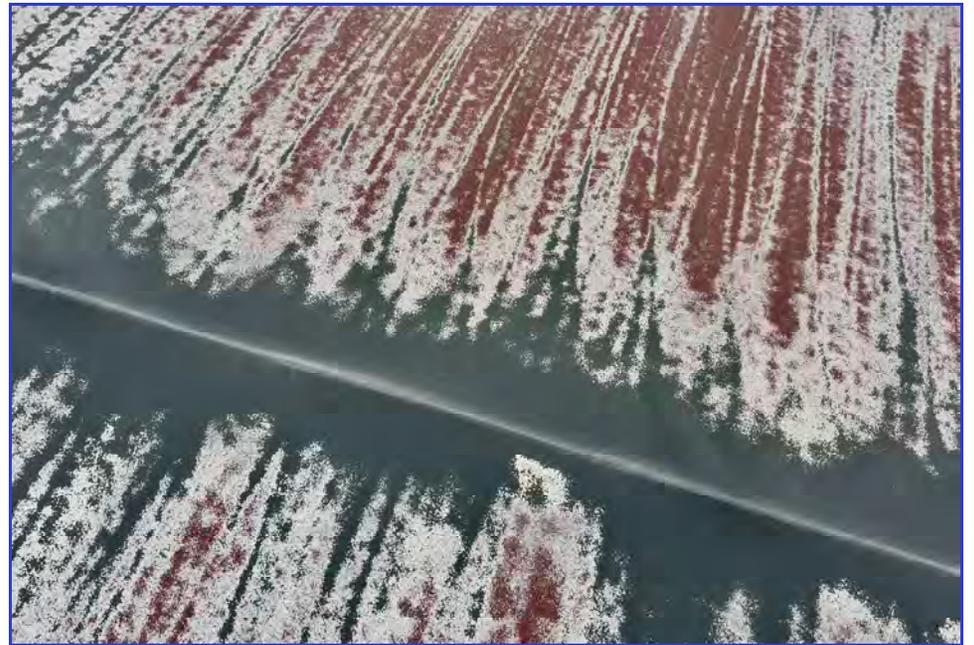
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -008



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -009



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -010



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -011



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -012



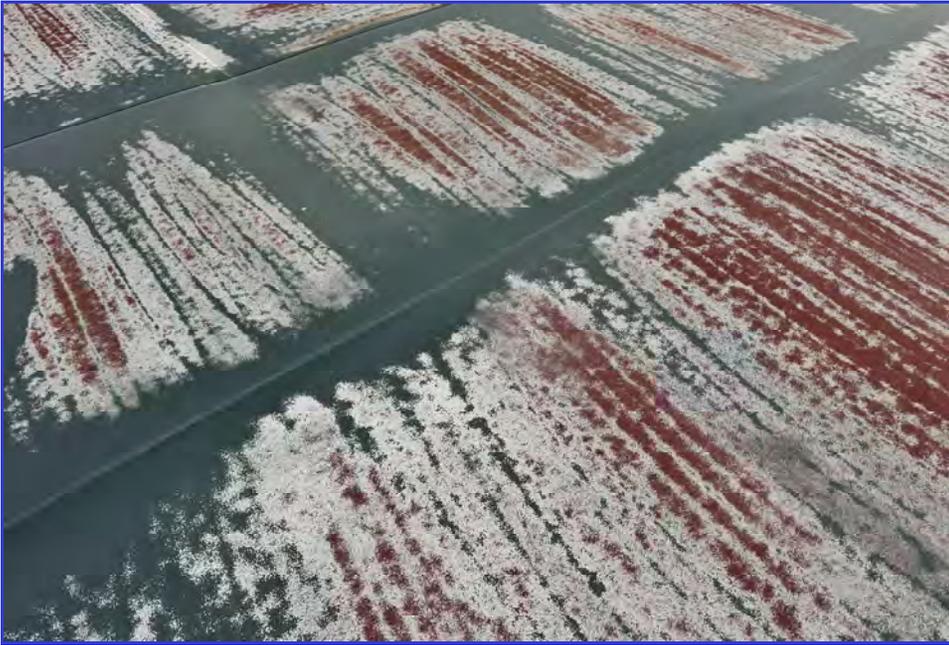
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EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -014



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -015



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -016



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -017



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -018



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -019



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -020



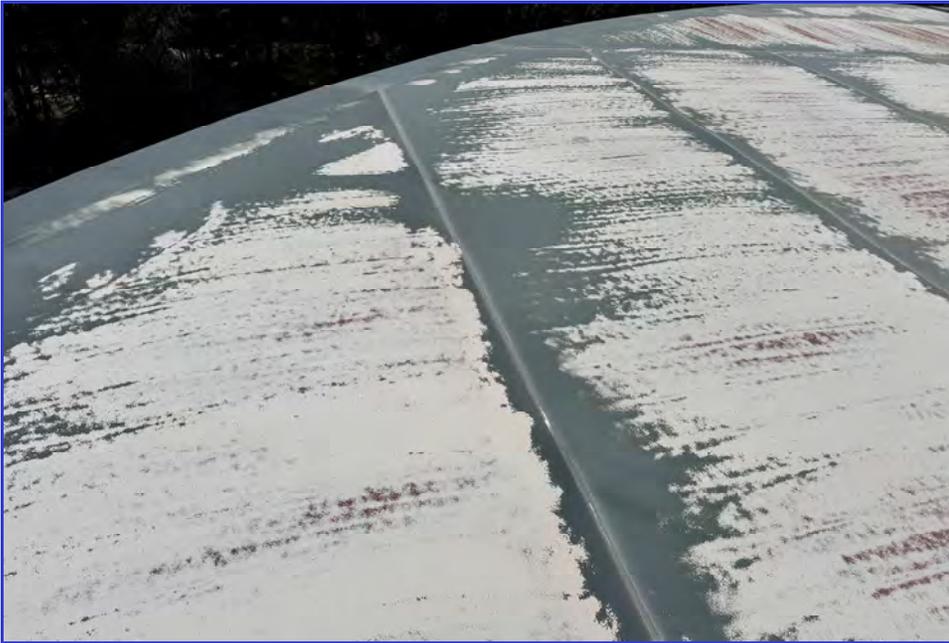
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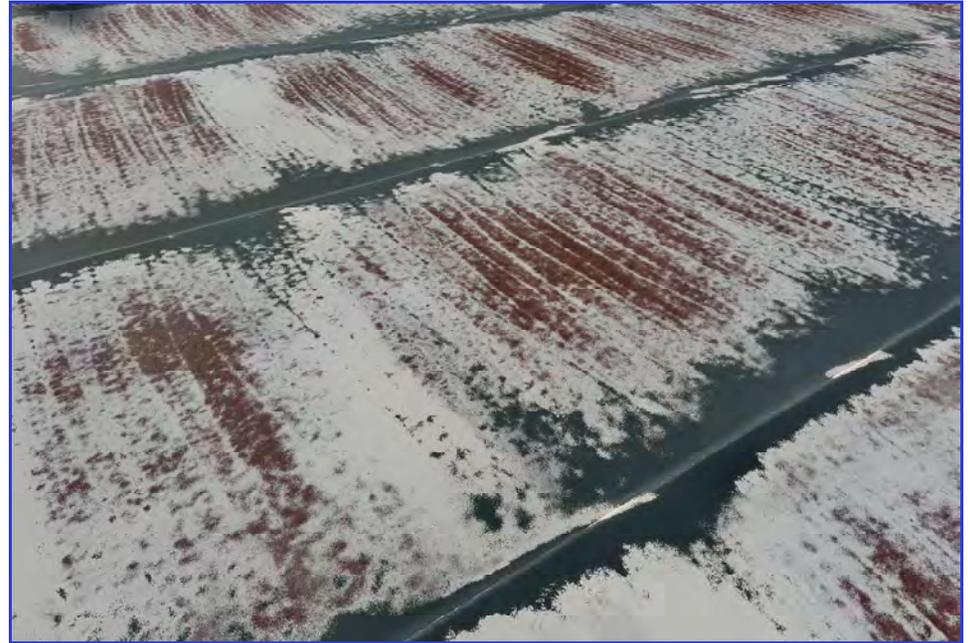
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -022



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -023



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -024



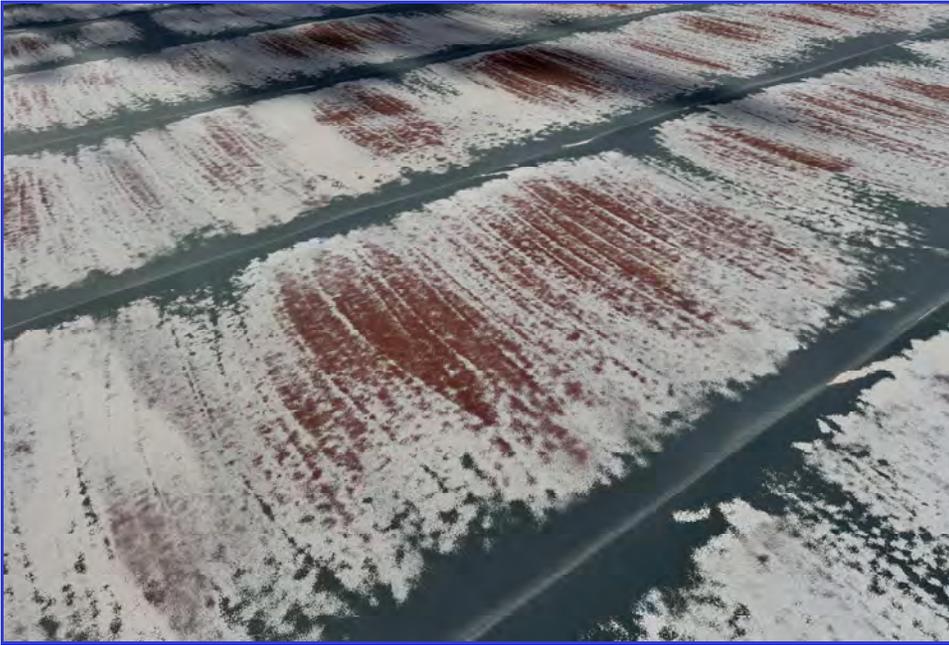
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -025



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -026



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -027



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -028



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -029



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -030



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -031



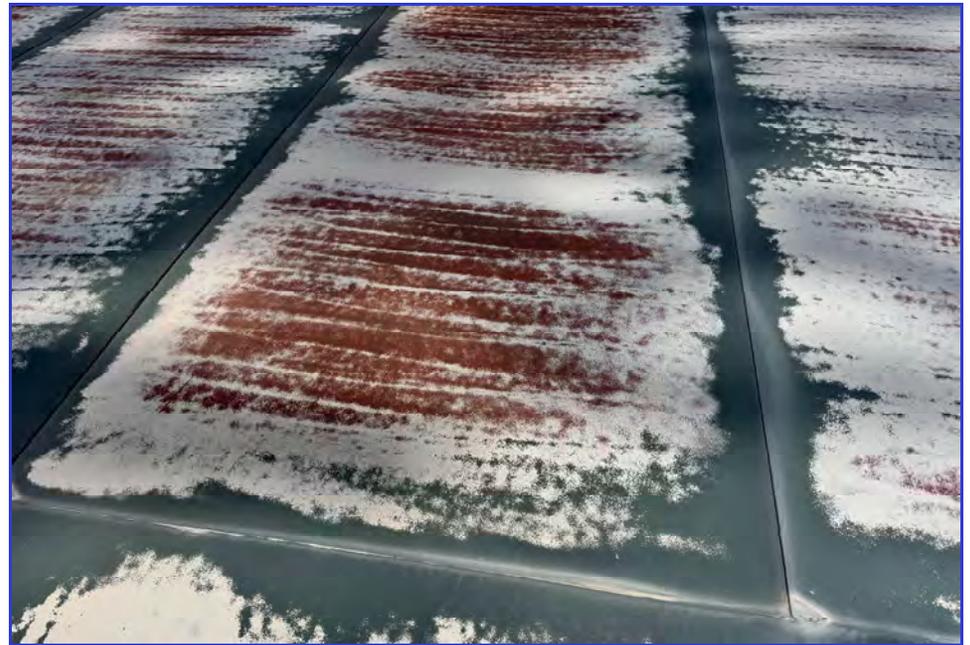
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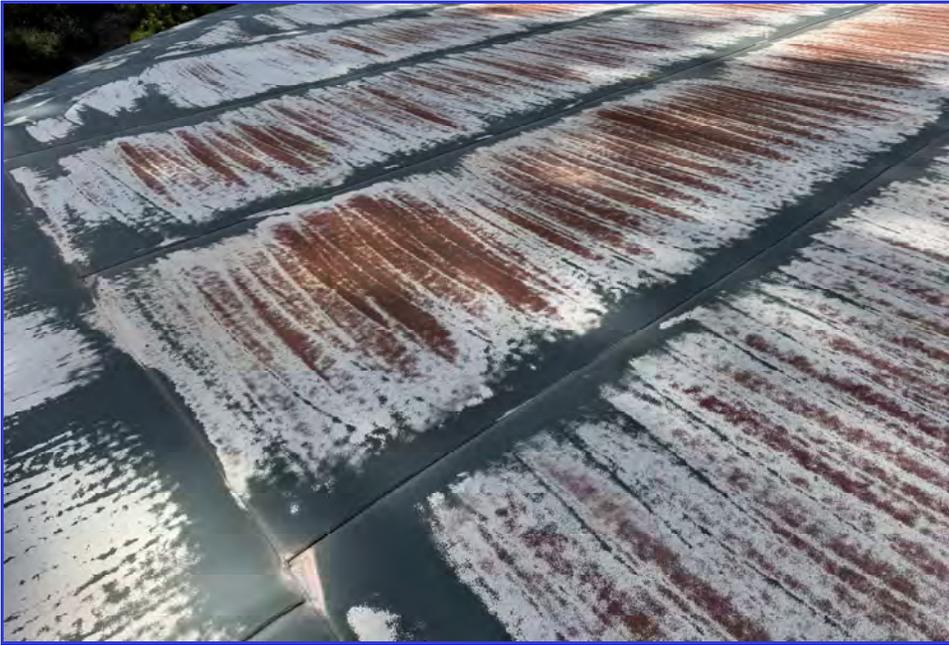
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -033



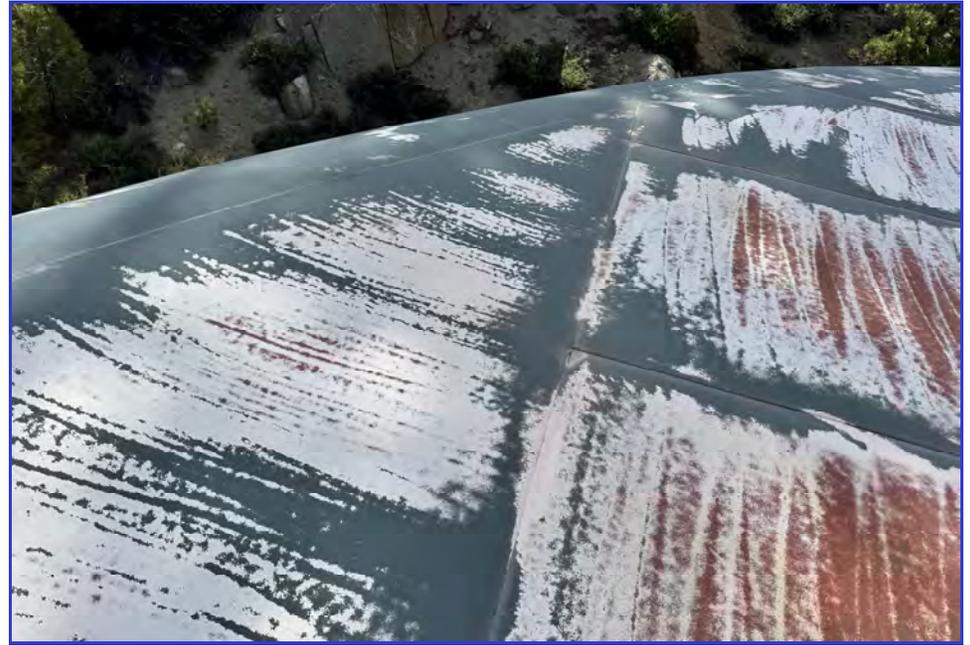
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -034



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -035



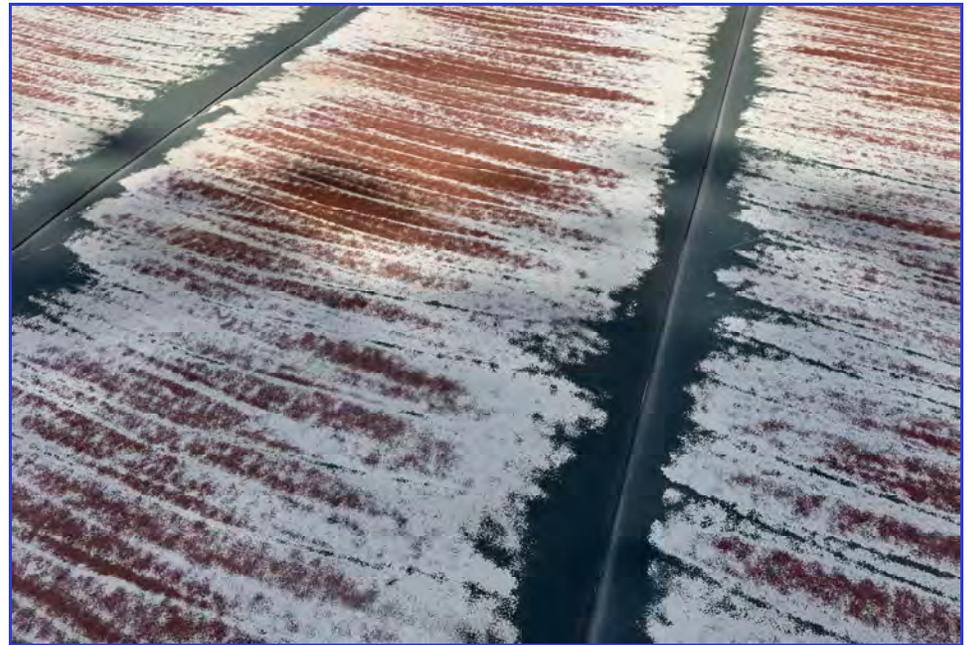
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -036



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -037



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -038



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -039



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -040



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -041



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -042



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -043



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -044



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -045



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -046



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -047



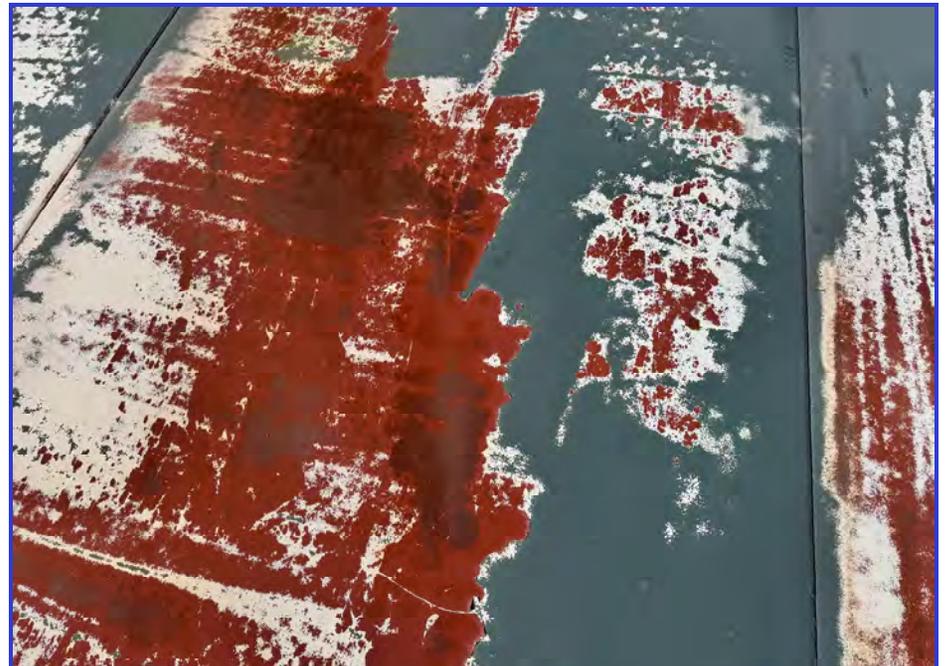
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -048



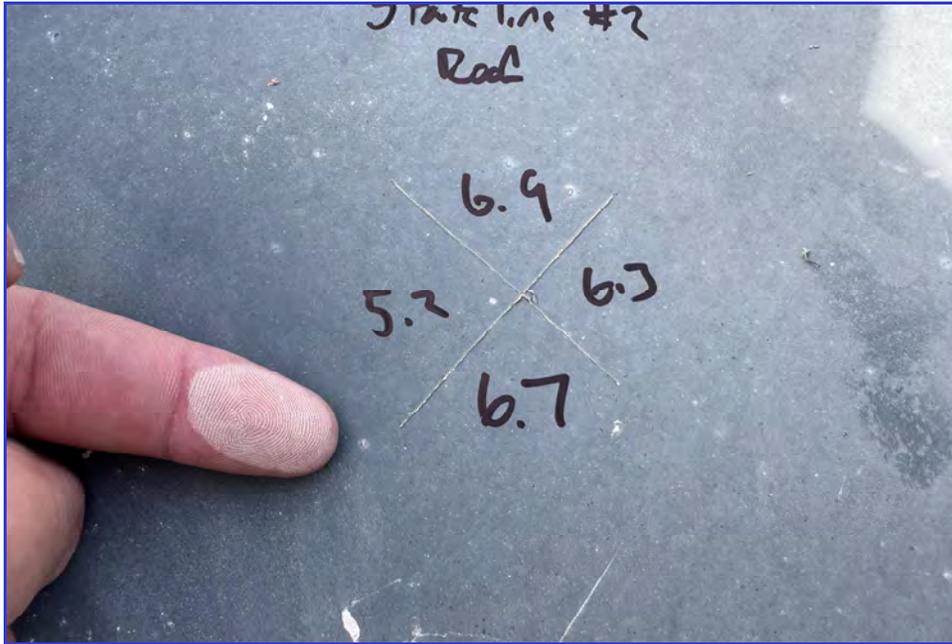
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -049



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -050



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2...



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -052



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -053



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -054



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -055



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -056



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -057



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -058



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -059



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -060



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -061



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -062



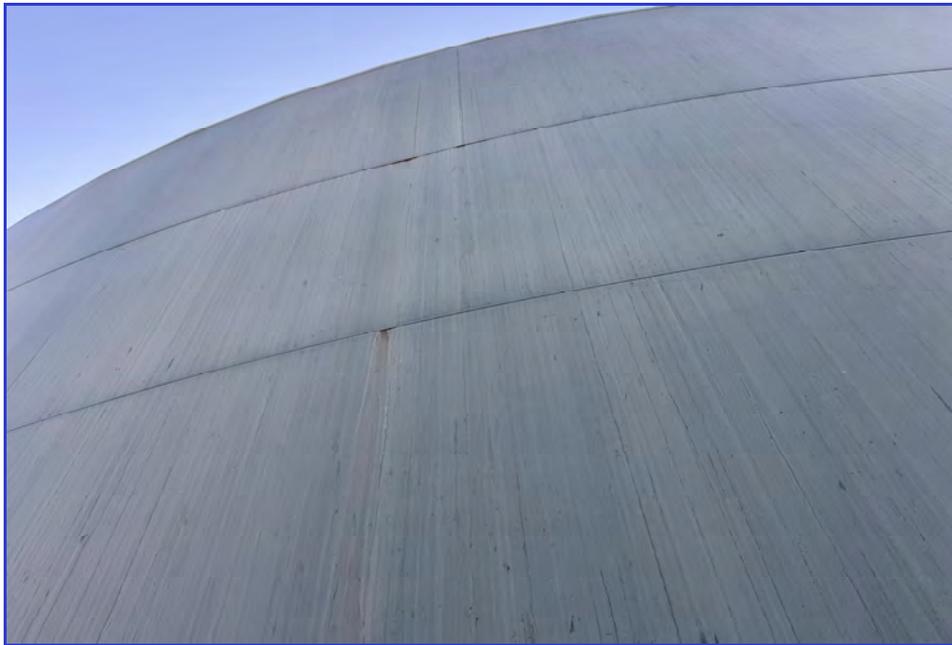
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EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -064



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -065



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -066



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -067



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -068



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -069



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -070



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -071



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -072



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -073



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -074



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -075



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -076



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -077



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -078



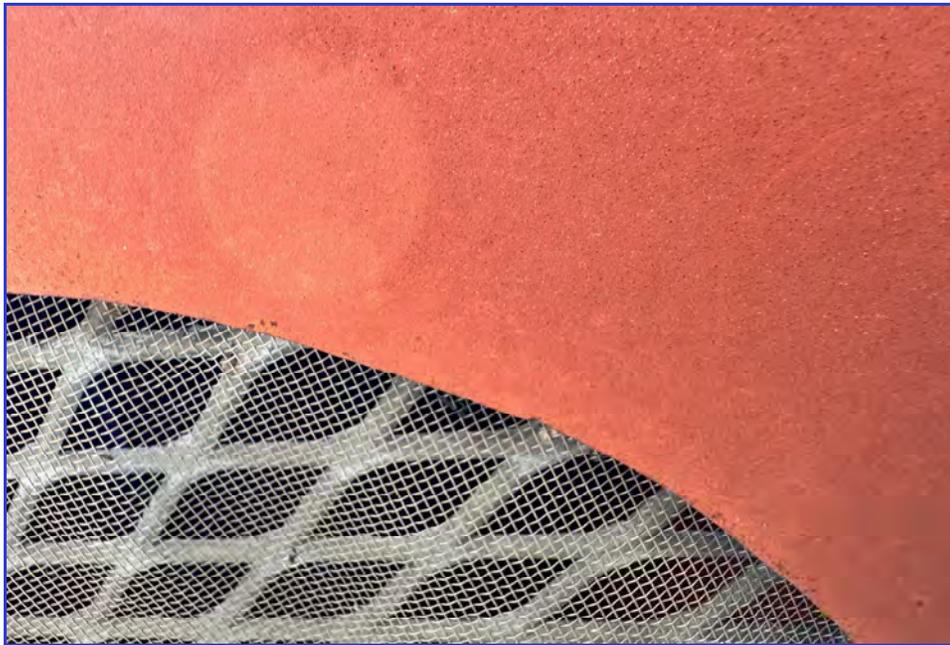
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -079



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -080



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -081



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -082



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -083



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -084



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -085



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -086



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -087



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -088



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -089



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -090



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -091



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -092



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EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -094



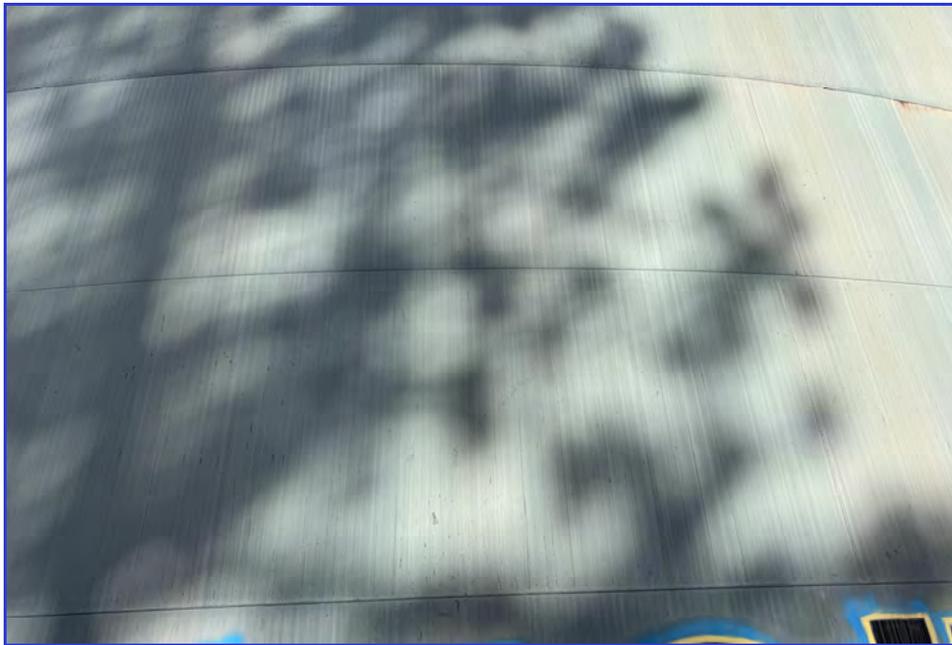
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -095



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -096



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -097



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -098



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -099



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -100



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -101



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -102



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -103



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -104



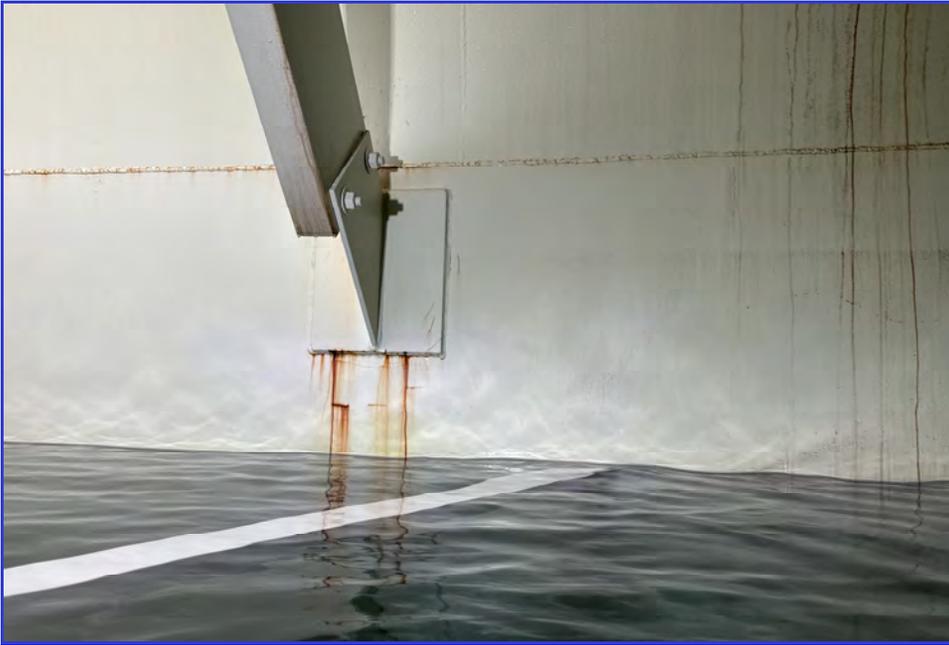
EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -105



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -106



EXTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -107



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -001



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -002



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -003



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -004



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -005



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -006



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -007



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -008



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -009



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -010



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -011



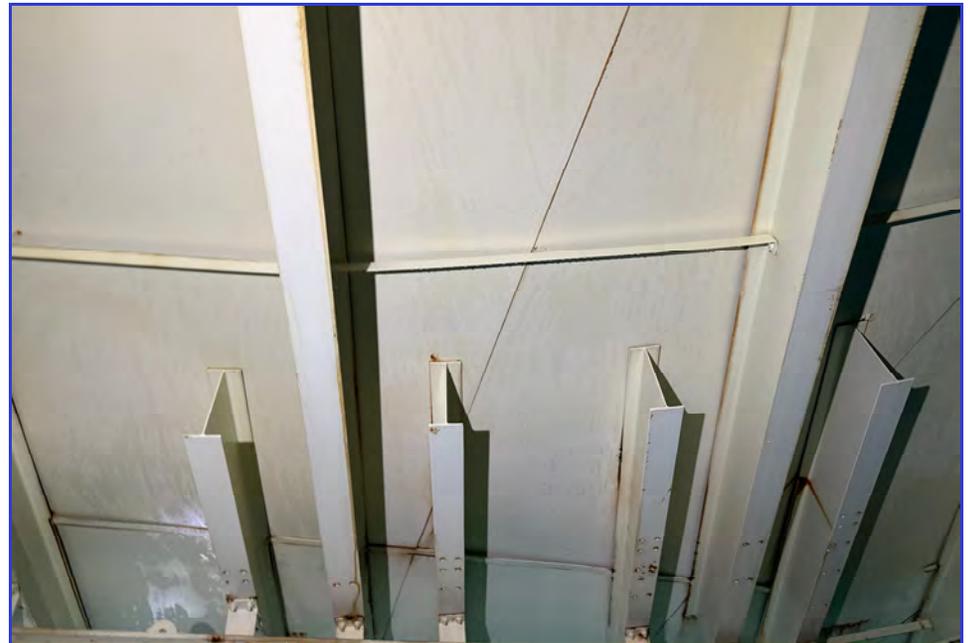
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -012



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -013



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -014



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -015



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -016



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -017



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -018



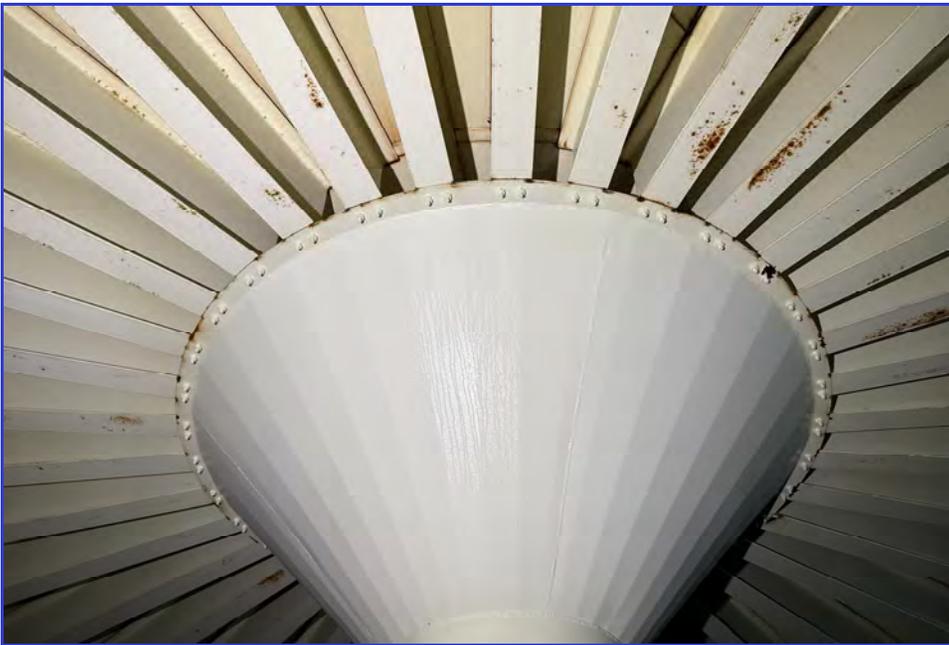
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -019



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -020



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -021



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -022



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -023



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -024



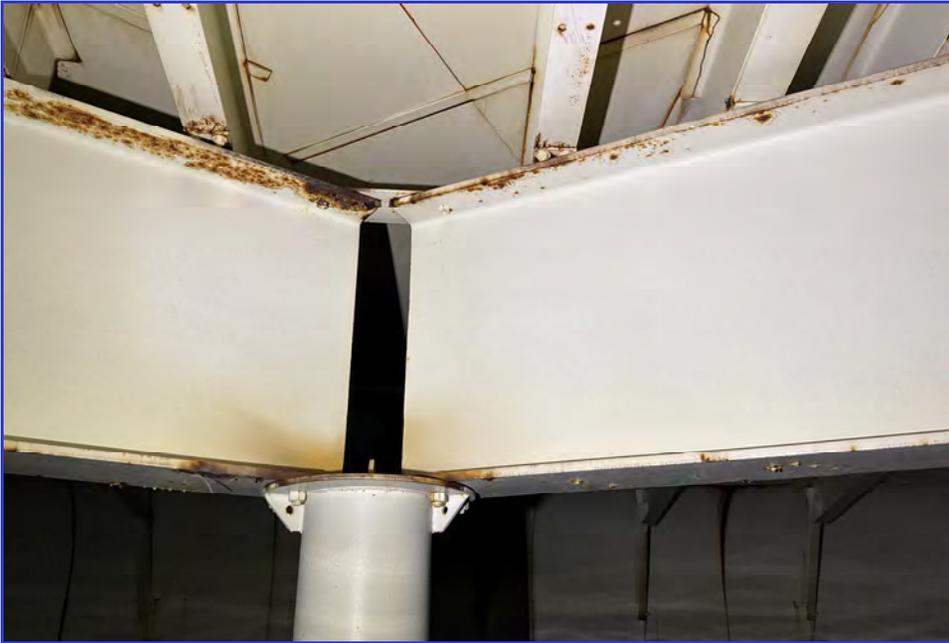
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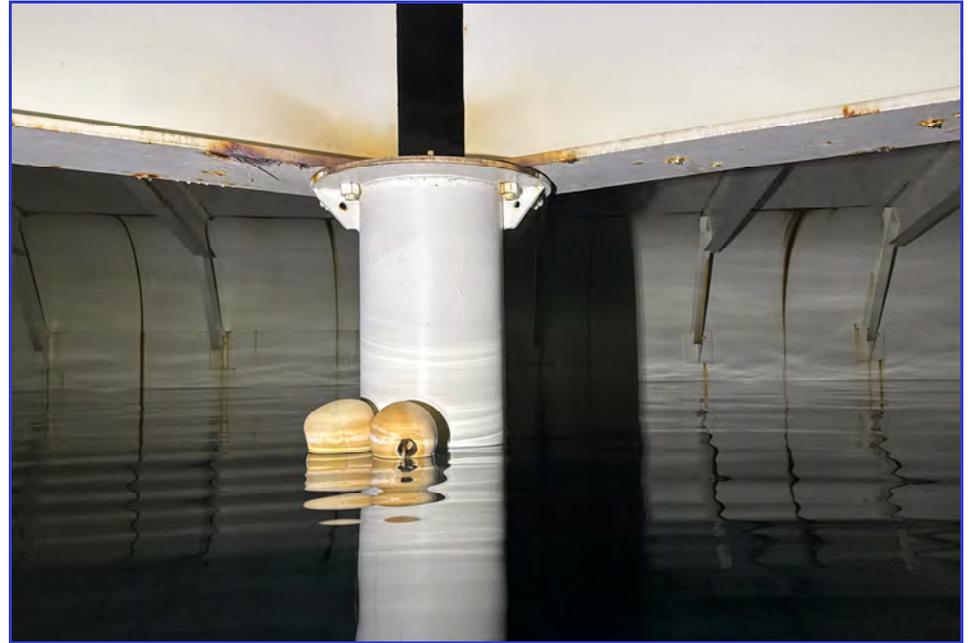
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INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -027



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -028



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -029



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -030



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -031



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -032



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -033



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -034



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -035



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -036



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -037



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -038



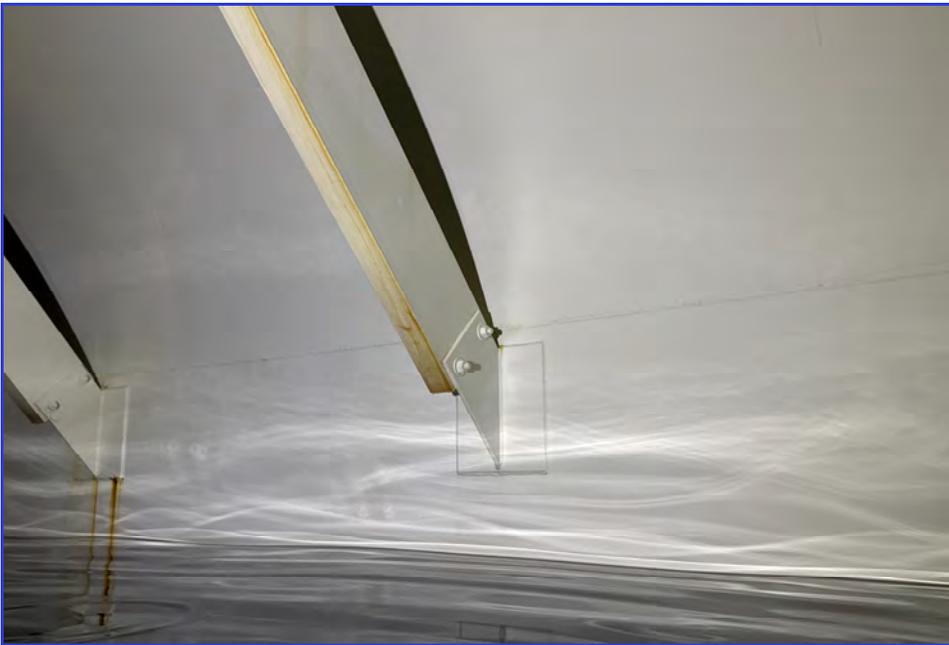
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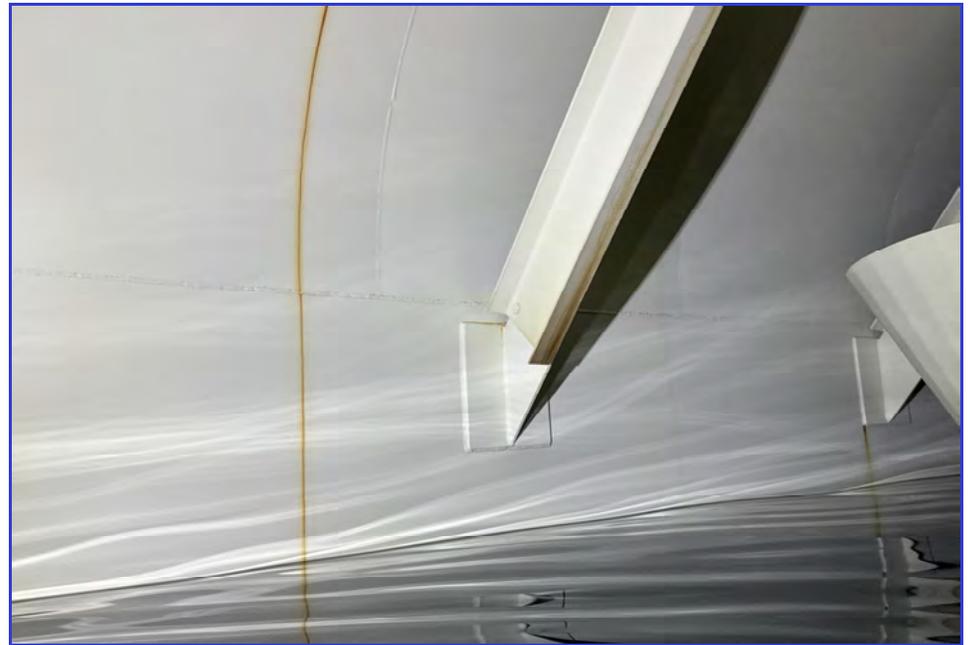
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -040



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -041



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -042



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -043



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -044



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -045



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -046



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -047



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -048



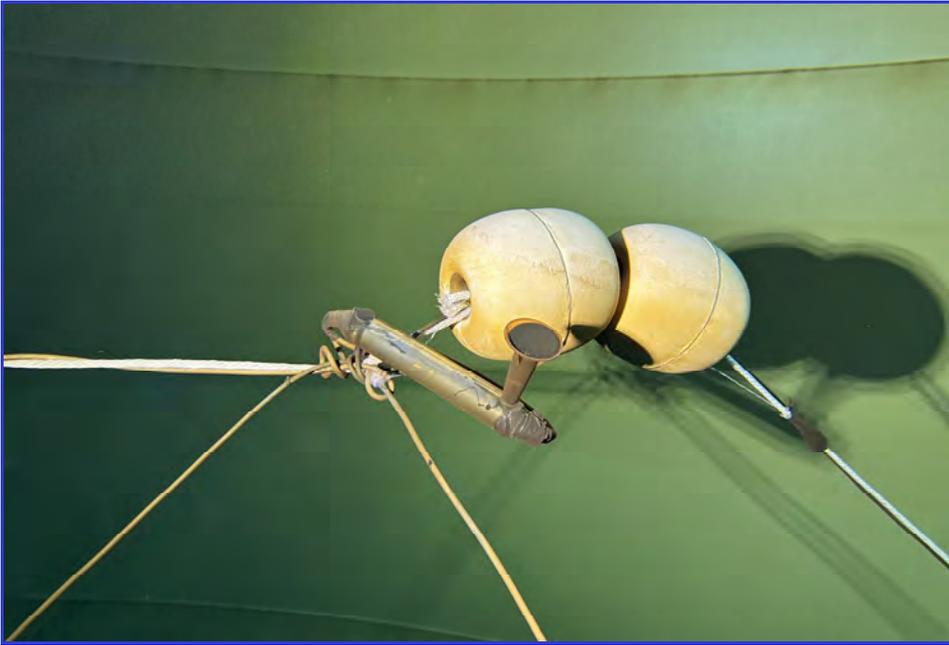
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -049



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -050



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -051



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -052



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -053



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -054



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -055



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -056



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -057



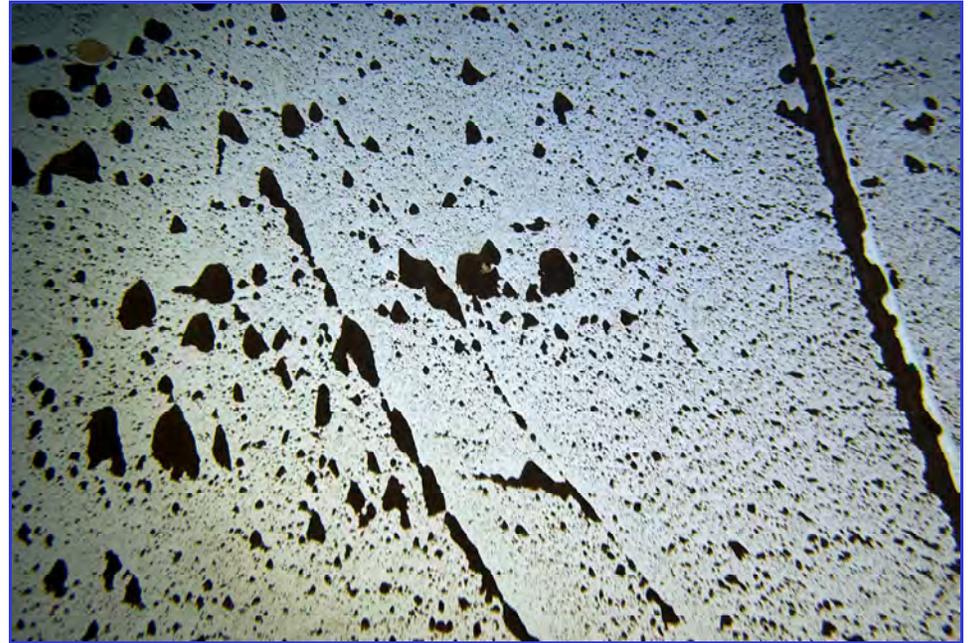
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INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -059



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -060



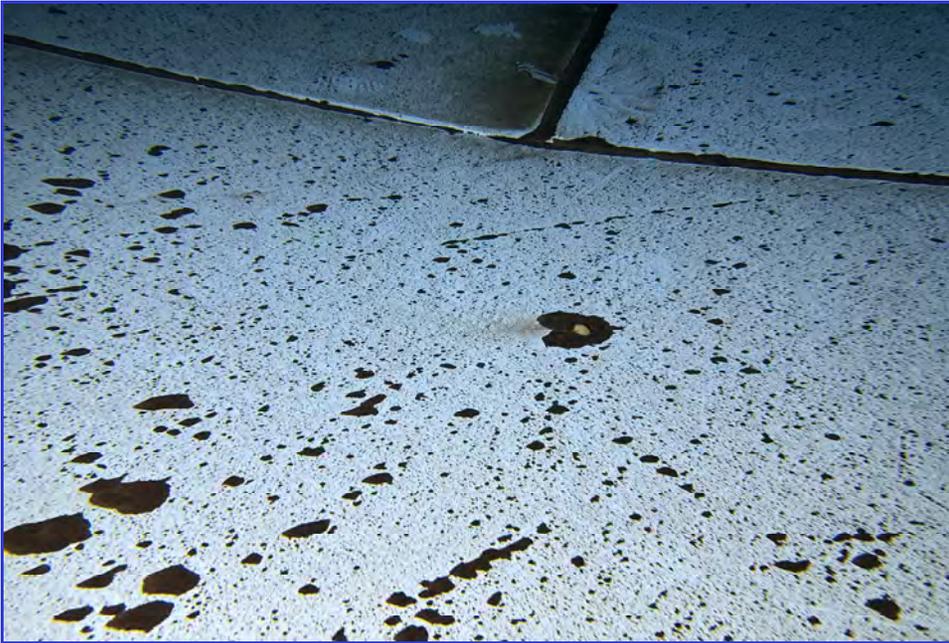
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -061



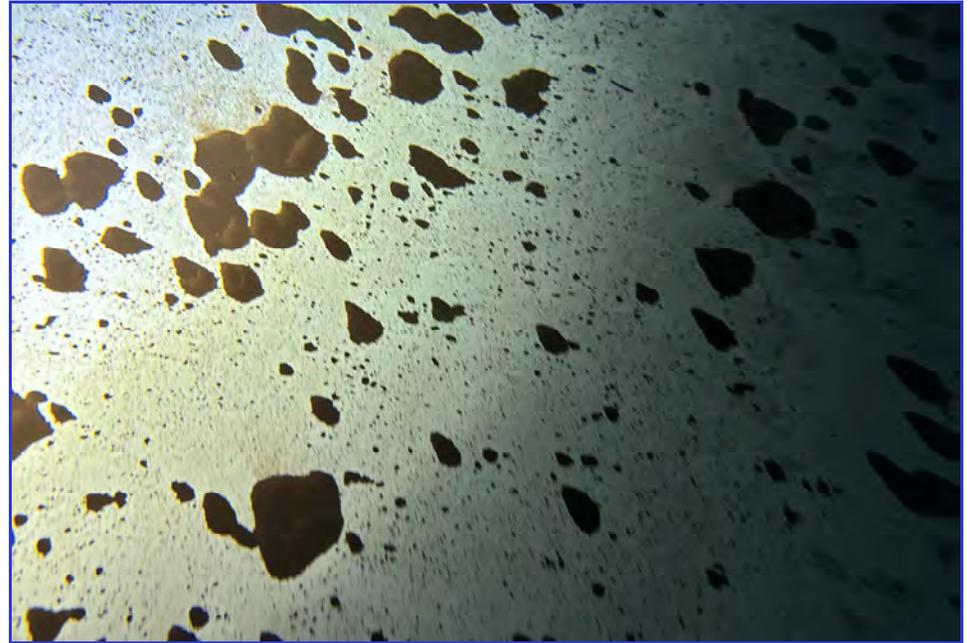
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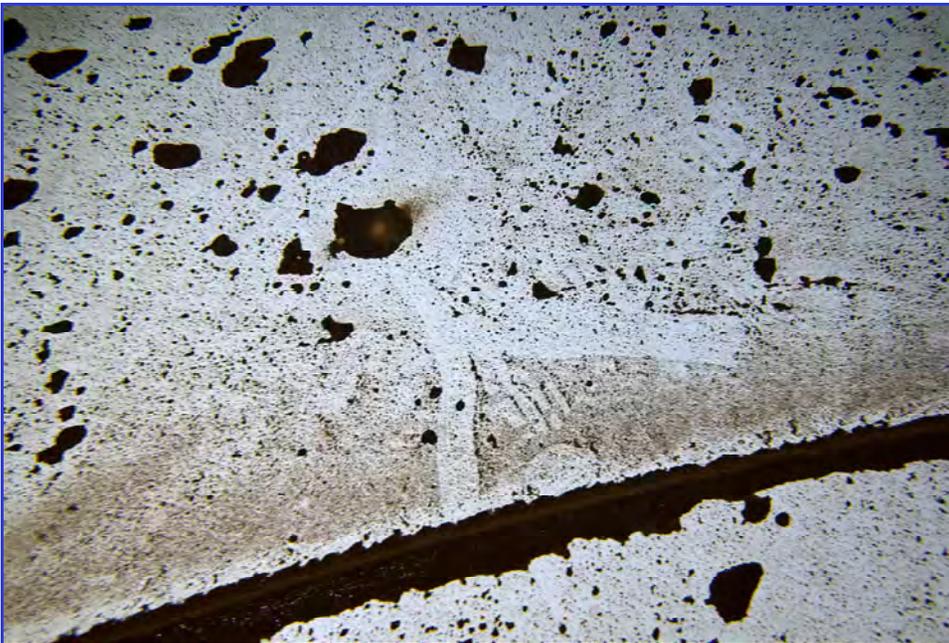
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -063



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -064



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -065



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -066



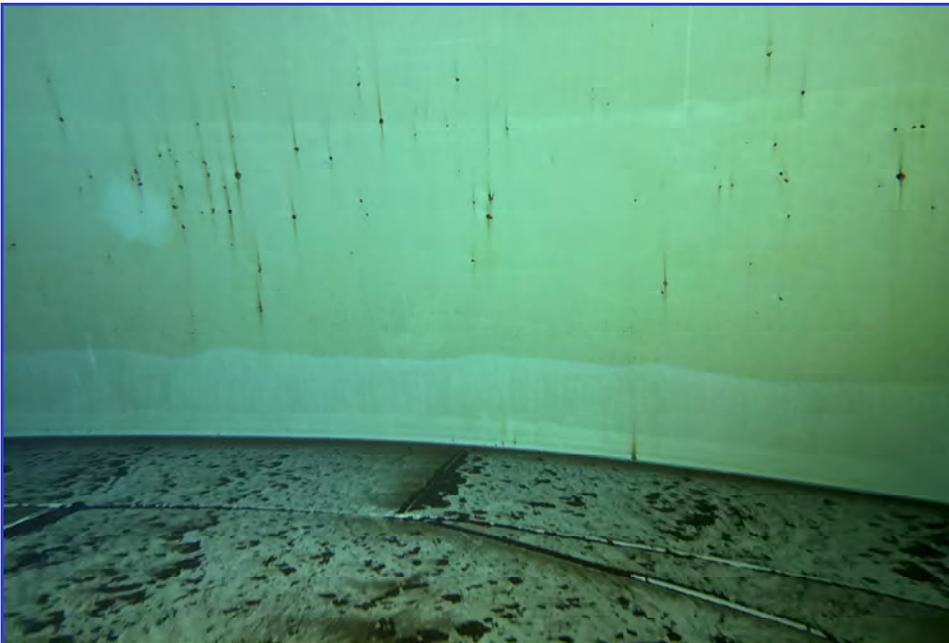
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INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -068



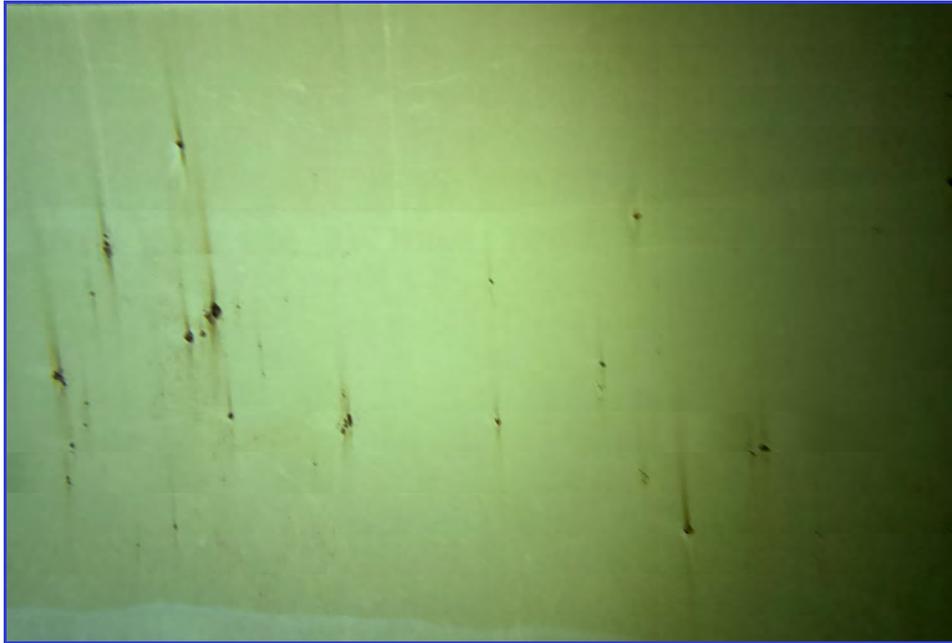
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -069



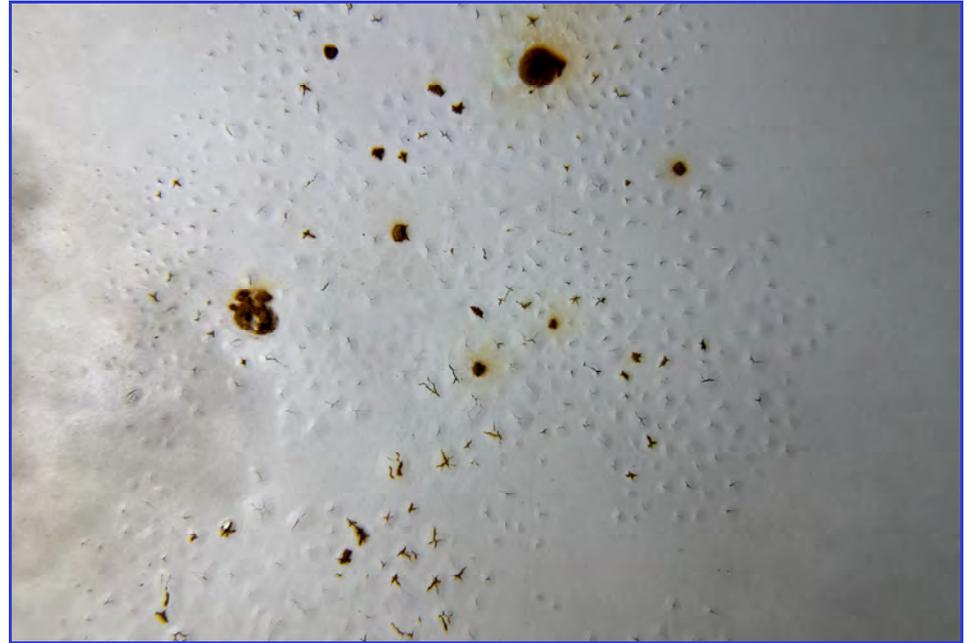
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -070



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -071



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -072



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -073



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -074



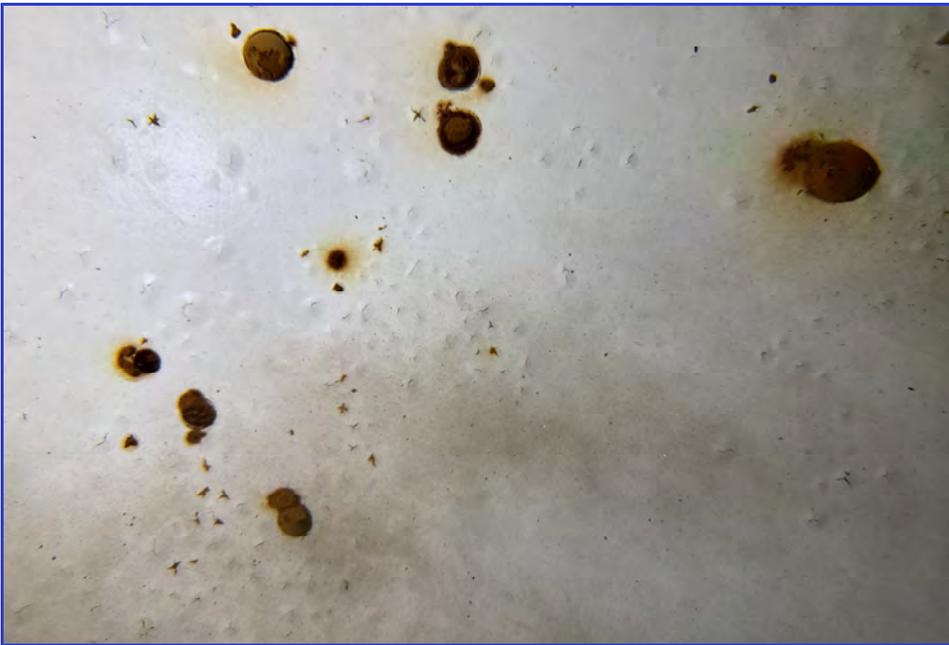
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INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -076



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -077



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -078



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -079



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -080



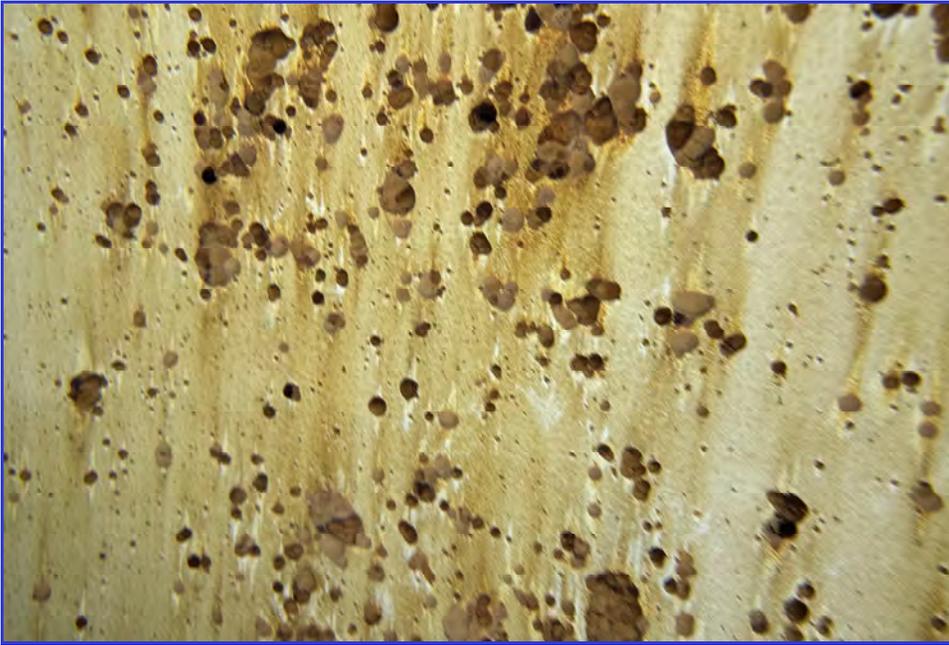
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INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -082



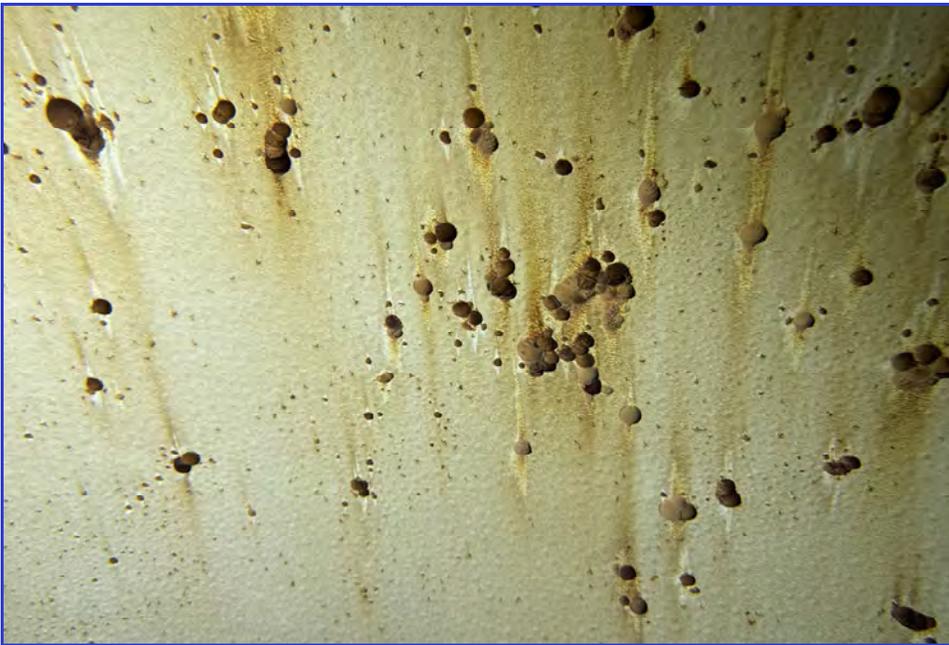
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -083



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -084



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -085



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -086



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -087



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -088



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -089



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -090



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -091



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -092



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -093



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -094



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -095



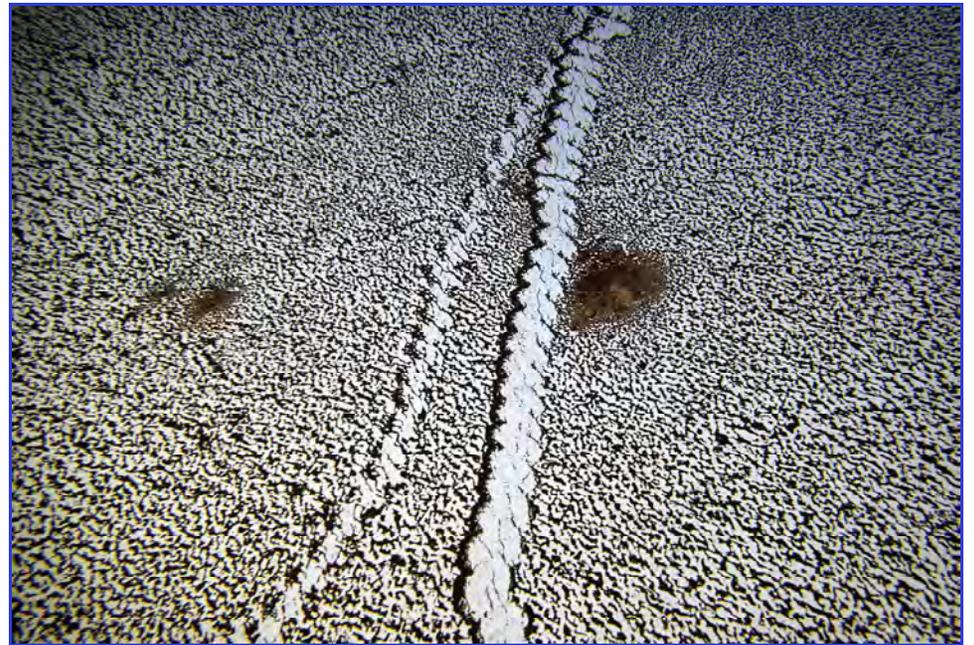
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -096



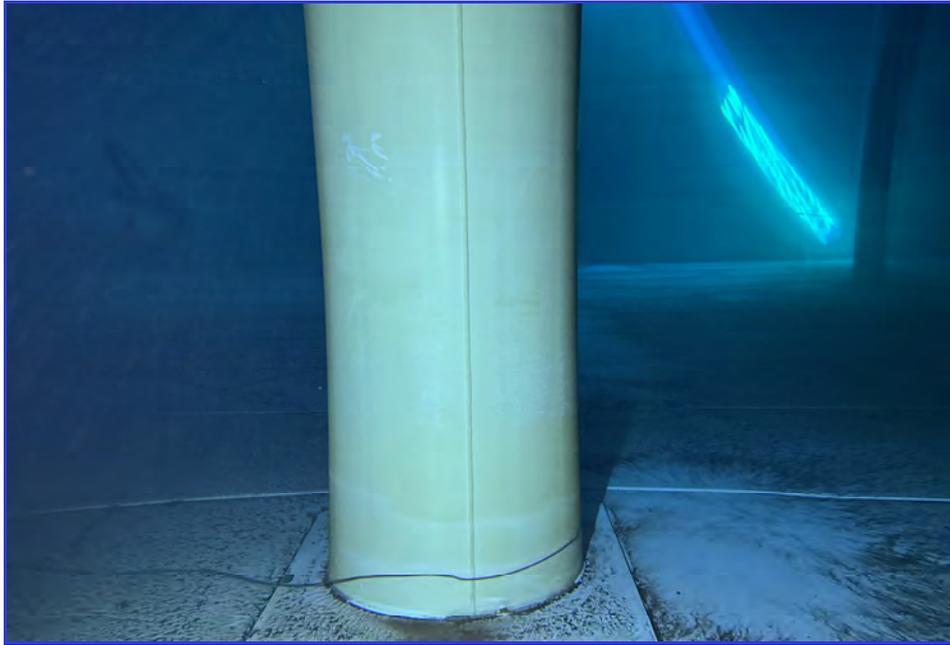
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -097



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -098



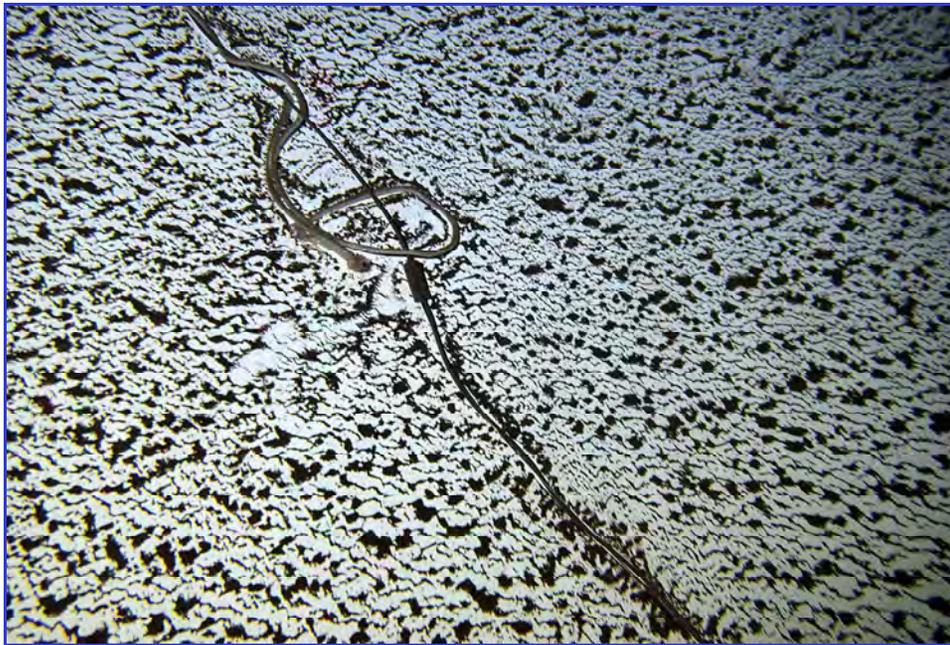
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -099



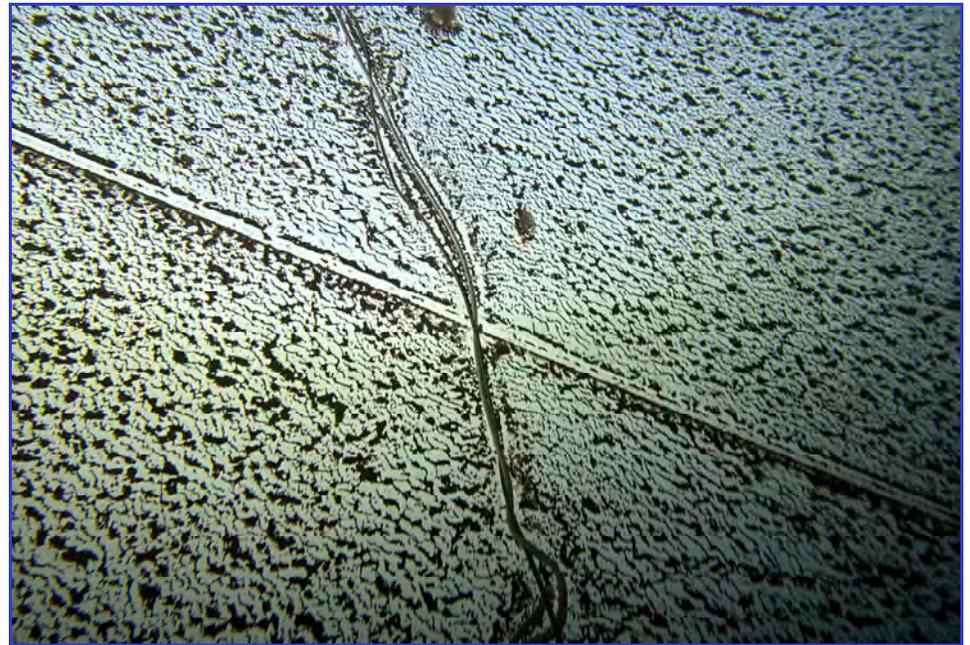
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -100



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -101



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -102



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -103



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -104



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -105



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -106



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -107



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -108



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -109



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -110



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -111



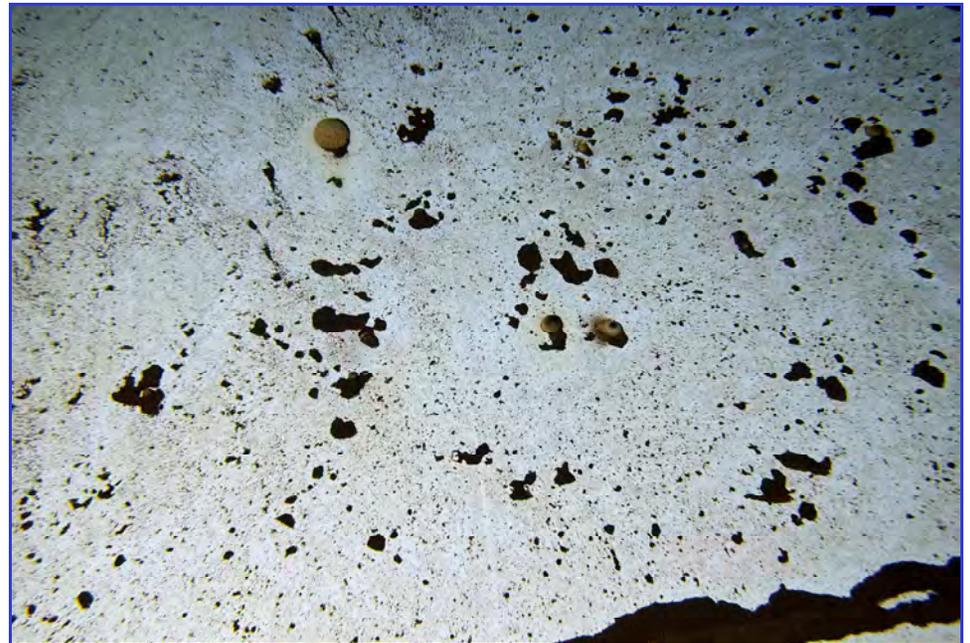
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -112



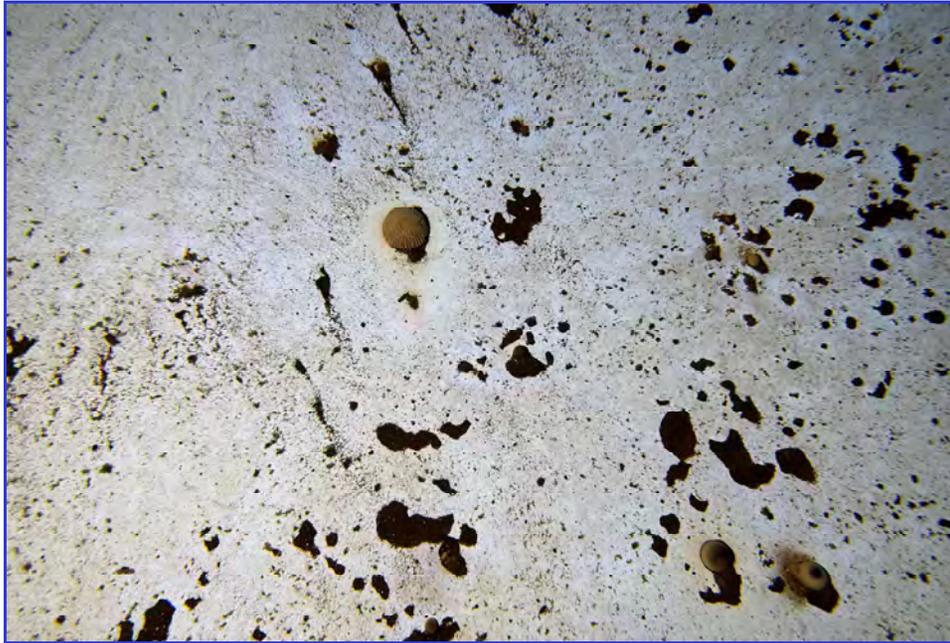
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -113



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -114



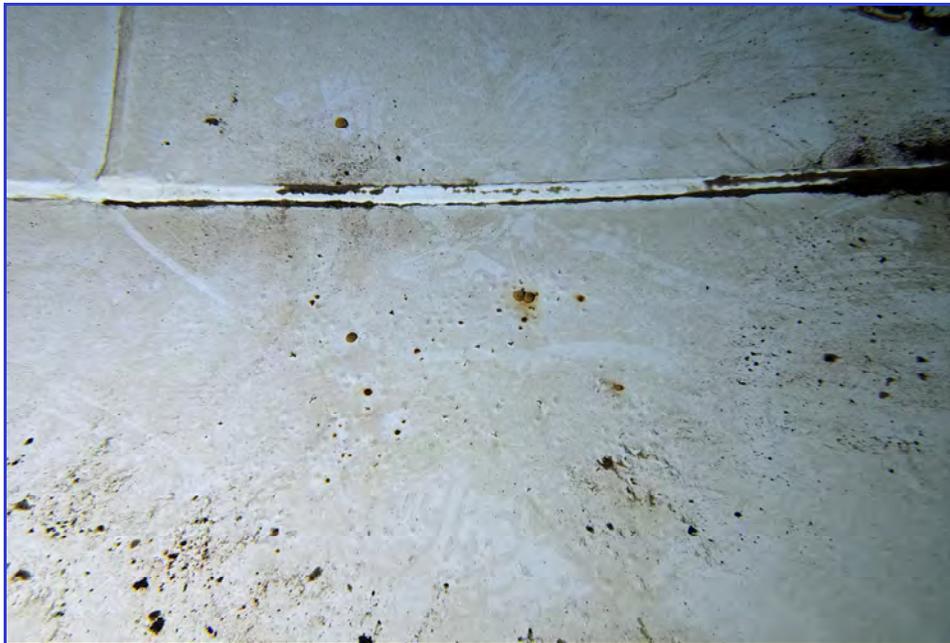
INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -115



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -116



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -117



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -118



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -119



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -120



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -121



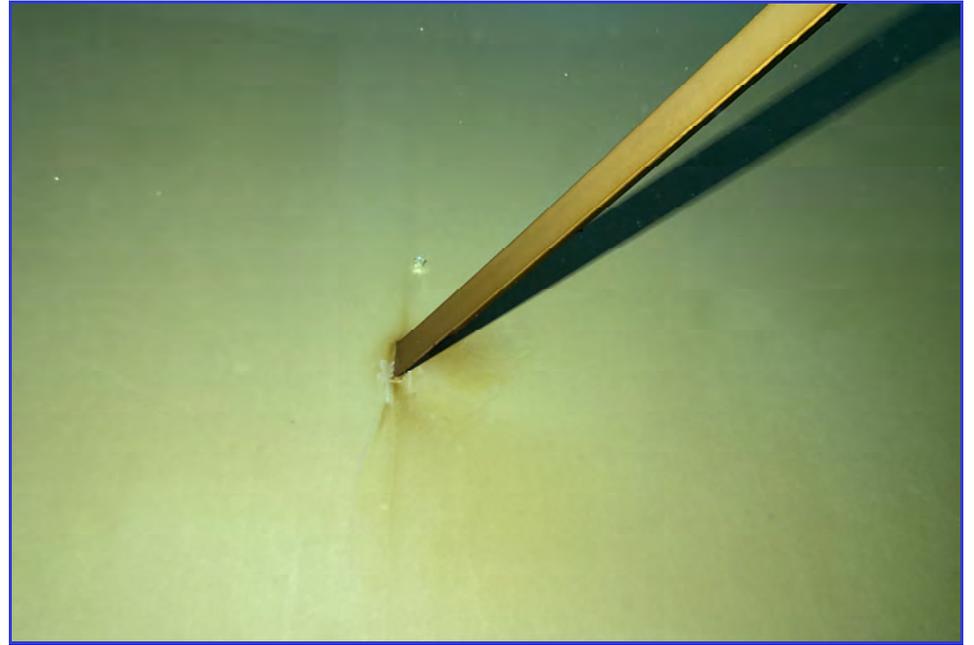
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INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -123



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -124



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -125



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -126



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -127



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -128



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -129



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -130



INTERIOR - South Tahoe Public Utility District - Stateline Tank #2 - Maintenance Inspection -131

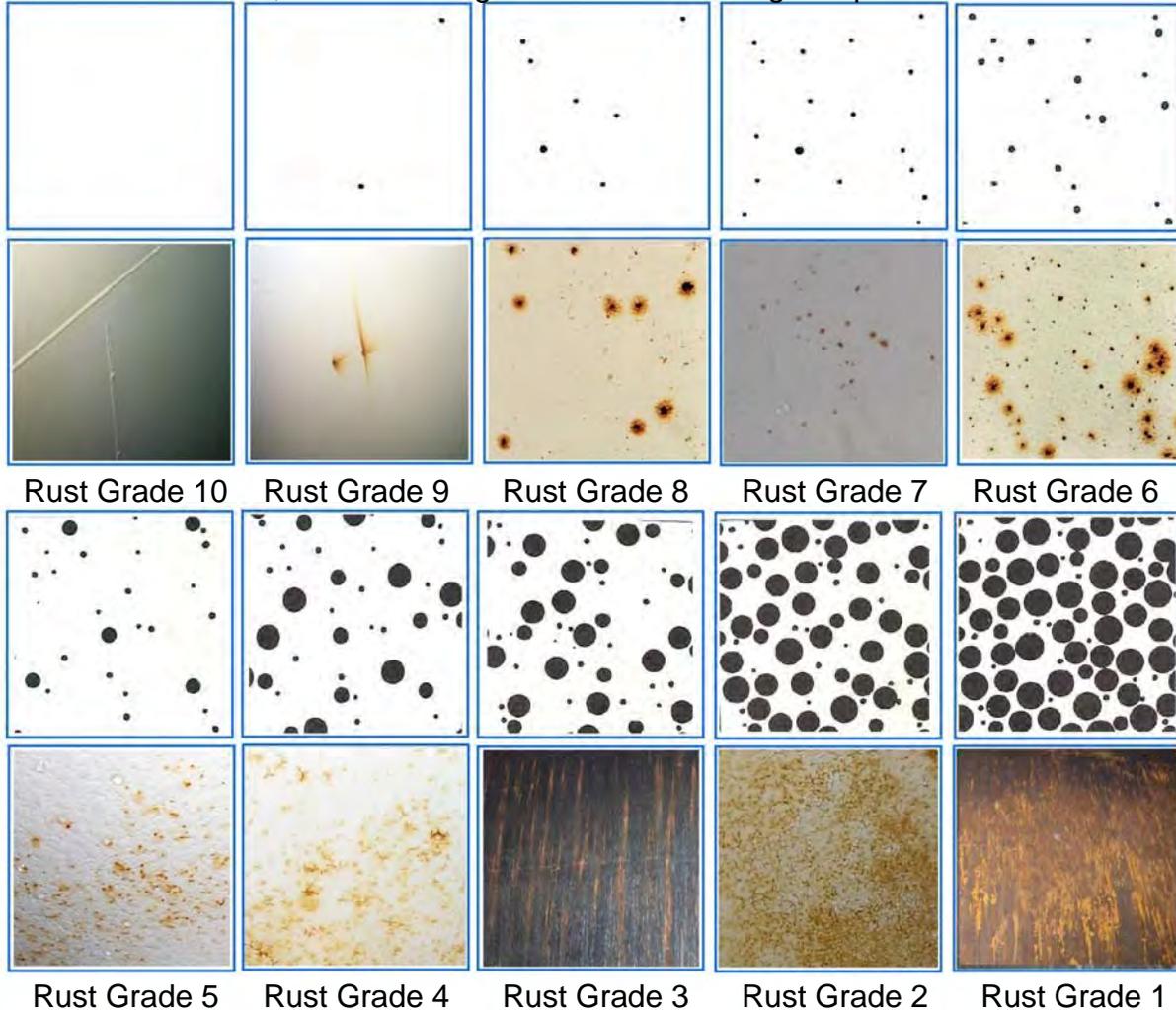


Chart 1 - Condition Rating The table below gives a basic description of the four different categories that CSI Services, Inc. uses to provide a general depiction of the condition of each defined area of a structure. The categories are Poor, Fair, Good, or Excellent. The development of these categories is based on historical knowledge and experience of various paint and lining systems over given periods of time in certain service environments. Basically, the rating is determined based on what should be expected of the paint or lining system at that point in its life cycle. As a result, different determinations are made for maintenance inspection versus warranty inspections. A detailed description of each rating with relative consideration addressed follows:

Rating	General Description of Conditions	
	Maintenance Inspection	Warranty Inspection
Poor	This condition is usually prioritized for rework in the short-term. Typically, these surfaces have considerably more coating defects and/or corrosion than what is expected for the age of the system.	This condition identifies an area with wholesale coating defects or corrosion concerns that will typically require significant removal and replacement of the coatings in the area.
Fair	Typically, these surfaces have a level of coating defects and/or corrosion that is slightly worse than what should be expected for the age of the system. This condition is placed on a short-term monitoring schedule.	This condition identifies an area with partial coating defects or corrosion concerns that will require significant rework.
Good	This condition is rated for areas without any considerable coating defects or corrosion. These surfaces are in a condition that is typical for the age of the coating system.	This condition identifies areas with coating defects or corrosion that is typically seen in one-year warranty inspections. Typically, only minor spot repairs are required.
Excellent	This condition is for areas without any considerable coating defects or corrosion. Typically, these surfaces are in a condition that is better than expected for the age of the system.	This condition identified areas that typically are in perfect condition and require no repair work.



Chart 2 -Rust Grade The black and white figures below depict the standards referenced in ASTM D610 “Standard Test Method for Evaluating Degree of Rusting on Painted Surfaces.” Below each standard is a photographic depiction of each level of corrosion, as used by CSI Services, Inc. The standards depict the percentage of rust on a scale from 0 to 10, with 10 having no rust and 0 having complete rust.



Rust Grade 10

Rust Grade 9

Rust Grade 8

Rust Grade 7

Rust Grade 6

Rust Grade 5

Rust Grade 4

Rust Grade 3

Rust Grade 2

Rust Grade 1



Rust Grade 0

Rust Grade	Description
10	No rusting or less than 0.01% of surface rusted
9	Minute rusting, less than 0.03% of surface rusted
8	Few isolated rust spots, less than 0.1% of surface rusted
7	Less than 0.3% of surface rusted
6	Excessive rust spots, but less than 1% of surface rusted
5	Rusting to the extent of 3% of surface rusted
4	Rusting to the extent of 10% of surface rusted
3	Approximately one-sixth of the surface rusted
2	Approximately one-third of the surface rusted
1	Approximately one-half of the surface rusted
0	Approximately 100% of the surface rusted



Chart 3 - Corrosion Grade The figure below depicts the photographic standards referenced by CSI Services, Inc. in the determination of the characteristics and stages of corrosion progression. This standard is used to better quantify the level of corrosion once it has progressed to Rust Grades 3, 2, 1, or 0 (see Chart 2). When applicable, CSI classifies an area as one or more of the five different Corrosion Grades. Corrosion Grades 1 through 5 are described below:

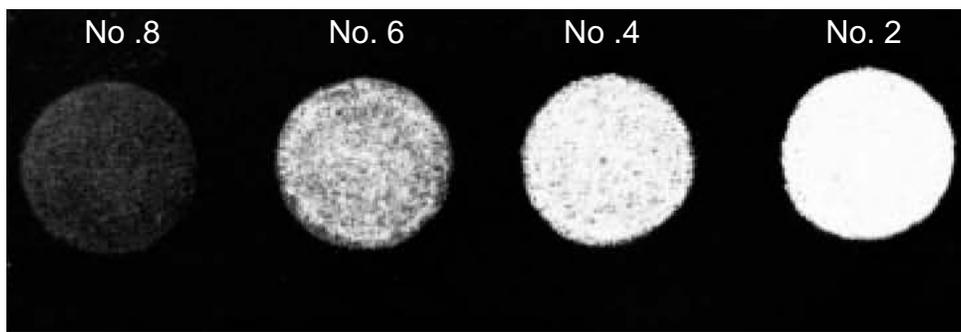
Grade	Description	Photo Examples
1	Light Rust - This condition involves relatively light colored rust that does not have any significant metal loss.	
2	Dark Rust - This condition involves relatively dark colored, thicker rust that is progressing towards the next phase, significant metal loss.	
3	Pitting - This condition involves isolated or widespread deep spot corrosion (pitting).	
4	Scale - Also known as lamellar or exfoliation corrosion. The edges of the affected area are leaf like and resemble the separated pages of a wetted book.	
5	Structural Loss - This condition involves metal loss or failure where components will require structural consideration	

The photos depicted are examples and were not taken on this project.



Chart 4 - Chalking The figure below depicts the photographic standards referenced in ASTM D4214 "Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films," Method D659, Method C. Generally speaking, chalking is the degradation of a paint's binder leaving behind loose pigments as the binder reacts with the environment, primarily ultraviolet light and oxygen. Evaluating chalking is a means to measure the performance of a coating system and its life cycle projection. It is also important to quantify for consideration of future overcoating options. This test uses these pictorial standards to quantify the amount of chalking present on paint films. The depictions below represent the amount of colored chalk removed onto a cloth during the test. The scale ranges from 2 to 8 with the rating 2 having the most chalk.

Light Colored Paints



Dark Colored Paints

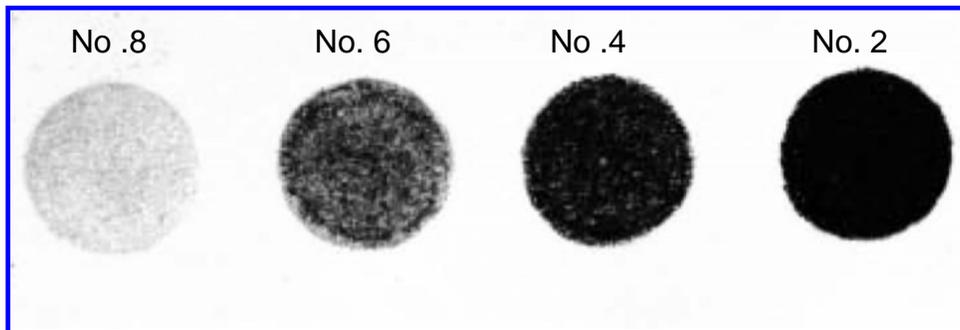
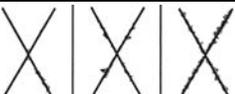
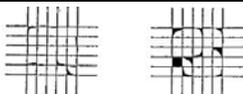
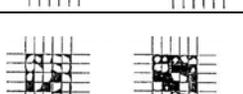
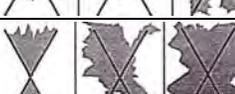


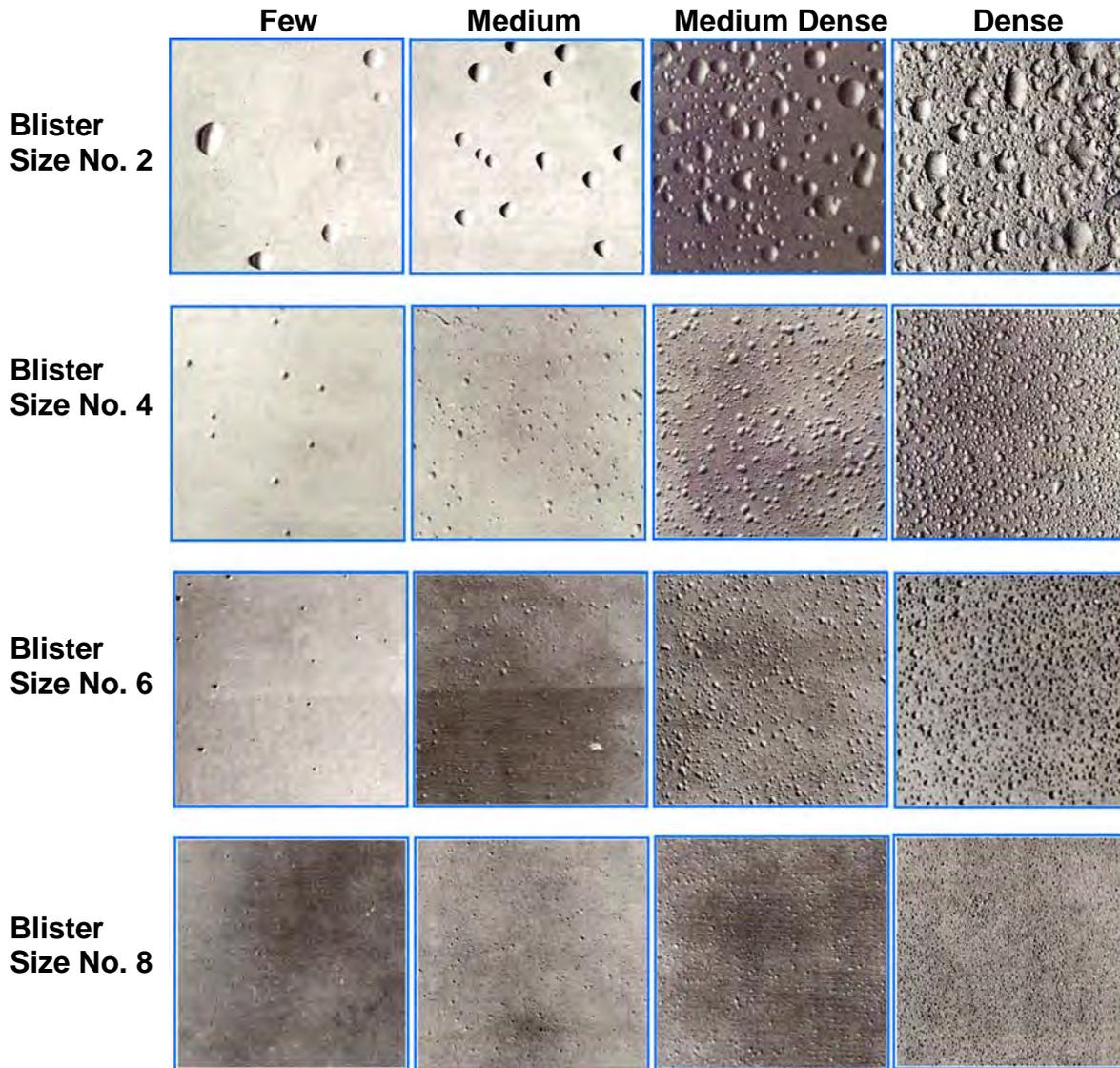


Chart 5 - Adhesion Rating The figures below depict the photographic standards and criteria referenced in ASTM D3359 “Standard Test Method for Evaluating Adhesion by Tape Test” and ASTM D6677 “Standard Test Method for Evaluating Adhesion by Knife.” Both Standards are used to assess the condition of a paint system for life-cycle projections. It is also used to evaluate an existing paint system’s ability to withstand the added stress that any overcoating strategies can create. Depending upon the thickness of the paint system, ASTM D3359 has two different test methods. The rating criteria for both standards follow:

ASTM D3359					
Method A			Method B		
Rating	Observation	Surface of X-cut from which flaking/peeling has occurred	Rating	Percent Area Removed	Surface of cross-cut area from which flaking has occurred for six parallel cuts and adhesion range by percent
5A	No peeling or removal	None	5B	0% none	
4A	Trace peeling or removal along incisions or their intersection		4B	Less than 5%	
3A	Jagged Removal along incisions up to 1/16" on either side		3B	5 – 15%	
2A	Jagged removal along most of incisions up to 1/8" on either side		2B	15 – 35%	
1A	Removal from most of the area of the X under the tape		1B	35-65%	
0A	Removal beyond the area of the X		0B	Greater than 65%	

ASTM D6677	
Rating	Description
10	Fragments no larger than $\frac{1}{32}$ " x $\frac{1}{32}$ " can be removed with difficulty
8	Chips up to $\frac{1}{8}$ " x $\frac{1}{8}$ " can be removed with difficulty
6	Chips up to $\frac{1}{4}$ " x $\frac{1}{4}$ " can be removed with slight difficulty
4	Chips larger than $\frac{1}{4}$ " x $\frac{1}{4}$ " can be removed with slight pressure
2	Once coating removal is initiated by knife, it can be peeled at least $\frac{1}{4}$ "
0	Coating can be peeled easily to length greater than $\frac{1}{4}$ "

Chart 6 – Blistering Rating The figure below depicts the photographic standards referenced in ASTM D714 “Standard Test Method for Evaluating Degree of Blistering of Paints”. This test uses these pictorial standards to quantify both the size and density of blisters that may develop in linings. Although the standard uses a blister size scale of 0 to 10 this chart uses the most common sizes of blisters found in the field. The standard does not use a reference for the size of each of the blisters depicted. CSI used this scale as a means for further quantification by qualifying the largest blister depicted as being 1 inch in width (Blister Size No. 2) and the smallest blister being 1/32 of an inch in width (Blister Size No. 8).



V&A Project No. 23-0254 T02



 **V&A**
consulting engineers
1000 Broadway
Suite 320
Oakland, CA
510.903.6600
510.903.6601, Fax

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