



PROJECT MANUAL FOR

WILLIAMS CREEK ROAD ELEVATED
STORAGE TANK REHAB
HR # 850-0803

Prepared for

Public Water Supply District No. 2
Jefferson County, Missouri

DATE: April 2024



HURST – ROSCHE INC.

3675 W. Outer Road, Suite 205 Arnold, Missouri 63010 (636) 333-3351

DOCUMENT 00 01 10

TABLE OF CONTENTS

Public Water Supply District No. 2
Williams Creek Road Elevated Storage Tank Rehab
High Ridge, Jefferson County, Missouri 63049
HR # 850-0803

PROCUREMENT AND CONTRACTION REQUIREMENTS GROUP
DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
INTRODUCTORY INFORMATION

<u>Section</u>	<u>Title.....</u>	<u>Pages</u>
00 01 10	Table of Contents.....	00 01 10 - 1-2

PROCUREMENT REQUIREMENTS

<u>Section</u>	<u>Title.....</u>	<u>Pages</u>
00 11 16	Invitation to Bid.....	00 11 16 - 1-2
00 21 14	Instructions to Bidders - AIA.....	00 21 14 - 1-10
00 41 43	Bid Form - Unit Price.....	00 41 43 - 1-7

CONTRACTING REQUIREMENTS

<u>Section</u>	<u>Title.....</u>	<u>Pages</u>
00 52 14	Agreement Form - AIA.....	00 52 14 - 1-3
00 72 14	General Conditions - AIA.....	00 72 14 - 1-1
00 73 13	Supplementary Conditions - AIA.....	00 73 13 - 1-6
00 82 50	Prevailing Wage Rate.....	00 82 50 - 1-1

SPECIFICATIONS GROUP
GENERAL REQUIREMENTS SUBGROUP
DIVISION 01 - GENERAL REQUIREMENTS

<u>Section</u>	<u>Title.....</u>	<u>Pages</u>
01 10 00	Summary.....	01 10 00 - 1-3
01 20 00	Price and Payment Procedures.....	01 20 00 - 1-5
01 30 00	Administrative Requirements.....	01 30 00 - 1-3
01 32 16	Construction Progress Schedule.....	01 32 16 - 1-2
01 33 00	Submittal Procedures.....	01 33 00 - 1-5
01 40 00	Quality Requirements.....	01 40 00 - 1-4
01 50 00	Temporary Facilities and Controls.....	01 50 00 - 1-6
01 60 00	Product Requirements.....	01 60 00 - 1-2
01 70 00	Execution and Closeout Requirements.....	01 70 00 - 1-7

DIVISION 09 - FINISHES

<u>Section</u>	<u>Title.....</u>	<u>Pages</u>
09 97 14	Steel Water Storage Tank Painting.....	09 97 14 - 1-12

DIVISION 33 - UTILITIES

Section	Title	Pages
33 13 13	Water Storage Tank Disinfection	33 13 13 - 1-3
33 16 13	Aboveground Water Utility Storage Tank	33 16 13 - 1-6

ATTACHMENTS

Attachment	Title	Pages
1	Steel Potable Water Reservoir Inspection Report	1-7
2	Existing Coating Sample Laboratory Results	1-8
3	Interior Tank Photos	1-6
4	Location Map	1-1
5	Aerial Map	1-1
6	General Tank Elevation View	1-1
7	Annual Wage Order No. 31 for Jefferson County	1-4

PROFESSIONAL SEALS AND CERTIFICATIONS

The following design professional(s) has/have signed and sealed the original plans and specifications for this project, Williams Creek Road Elevated Storage Tank Rehab for Public Water Supply District No. 2 of Jefferson County, Missouri, HR # 850-0803

Zachariah A. York, PE, PLS
 Professional Civil Engineer
 Missouri PE-2005001068
 Hurst-Rosche, Inc.
 3675 W. Outer Road, Suite 205
 Arnold, Missouri 63010
 Phone: (636) 333-3351



END OF SECTION

DOCUMENT 00 11 16

INVITATION TO BID

Project: Williams Creek Road Elevated Storage Tank Rehab
High Ridge, Jefferson County, Missouri 63049
HR# 850-0803

Owner: Public Water Supply District No. 2
195 Old Sugar Creek Road
High Ridge, MO 63049
Phone (636) 326-0200

Engineer: Hurst-Rosche, Inc.
3675 W. Outer Road, Suite 205
Arnold, Missouri 63010

Date: April 2024

The Owner will receive Bids until 2:00 PM local prevailing time on Thursday the 6 day of June 2024 at the Water District Office. Any bid received after this time will be returned to the Bidder unopened. The Bids will be opened and publicly read at the Water District Office for the following work:

Work includes limited interior rehabilitation of existing 1,000,000 gallon welded steel fluted pillar/column elevated water storage tank including interior dry full containment, sandblast cleaning and painting of interior dry areas in contact with wetted areas (i.e., interior dry bottom of bowl, interior dry wet riser / inlet/outlet pipe, interior dry access tube for roof access, and interior dry overflow pipe), tank disinfection, removal and disposal of existing interior condensation collection system, protection of existing interior improvements during limited rehabilitation work, all appurtenances and minor details necessary to make the completed improvements fully operational with the project specifications.

Prospective bidders are highly recommended to complete a site visit to review limiting site conditions/ constraints and site access. Bidding Documents, Drawings and Specifications may be obtained at the office of **Hurst-Rosche, Inc., 3675 W. Outer Road, Suite 205, Arnold, Missouri 63010, after April 26, 2024**, by paying a nonrefundable amount of \$60 for each set of specifications.

Bidding Documents, Drawings and Specifications, may be examined by prospective bidders and material suppliers at the office of **Hurst-Rosche, Inc., 3675 W. Outer Road, Suite 205, Arnold, Missouri 63010**, the Water District Office, and the following Plan Rooms:

1. MO-KAN, CCAC
4666 Natural Bridge
St. Louis, MO 63115
Phone: (314) 454-9675
Fax: (314) 361-9806
Email: planroom@mokanccac.org
2. Dodge Data & Analytics
3315 Central Avenue
Hot Springs, AR 71913
Phone: (314) 781-2504
Fax: (314) 645-2643
Email: dodge.docs@construction.com
3. ConstructConnect
30 Technology Parkway South, Suite 100
Norcross, GA 30092
Phone: (800) 424-3996
Fax: (800) 467-2860
Email: projects@cmdgroup.com

4. ePlan Online Plan Room
4115 S. Providence Road
Columbia, Missouri 65203

Phone: (573) 447-7130
Fax: (573) 355-5404
Email: eplan@eplanbidding.com

Bidding Documents, Drawings and Specifications will be available for viewing on the internet at: www.hurst-rosche.com. The documents are being provided for reference purposes only. Bidders must obtain a signed and sealed hardcopy set of the bidding documents, including bid form from the offices of **Hurst-Rosche, Inc., 3675 W. Outer Road, Suite 205, Arnold, Missouri 63010** to submit a bid for this project.

The Owner requires the Project to be completed in 90 calendar days from the Construction Start Date as stipulated in the Notice to Proceed. Work to be completed in Fall 2024 after Labor Day (September 2, 2024). Notice to Proceed will be issued accordingly based on work being completed in Fall 2024.

Bidders will be required to provide Bid security of a sum no less than 5 percent of the Bid Sum. The bid security shall be either certified check, cashier's check, bank money order or bid bond issued by surety licensed to conduct business in the State of Missouri. Hereinafter this bid security shall be referred to as the bid bond.

Submit one copy of your Bid on the Bid Form provided. Bidders may supplement this form as appropriate.

Your Bid submittal will be required to be under a condition of irrevocability for a period of **Ninety (90)** days after submission.

The Owner reserves the right to accept or reject any or all Bids or any part thereof, to waive any informality in bidding, and to accept bids deemed most favorable to the Owner.

END OF DOCUMENT

DOCUMENT 00 21 14

INSTRUCTIONS TO BIDDERS - AIA

PART 1 GENERAL

1.1 SUMMARY

- A. Document Includes:
 - 1. Instructions to Bidders.
 - 2. Site examination.
 - 3. Prebid conference.

- B. Related Documents:
 - 1. Document 00 11 16 - Invitation To Bid.
 - 2. Document 00 41 43 - Bid Form - Unit Price.
 - 3. Document 00 72 14 - General Conditions - AIA.
 - 4. Document 00 73 13 - Supplementary Conditions - AIA.

1.2 INSTRUCTIONS TO BIDDERS

- A. These Instructions to Bidders amend or supplement AIA Document A201-2007 - Instructions to Bidders and other provisions of Bidding Documents and Contract Documents.

- B. To be considered all bids must be in accordance with these Instructions to Bidders.

- C. Those interested parties may obtain sets of Specifications from the Engineer upon non-refundable deposit of \$60 for each set of specifications.

1.3 SITE EXAMINATION

- A. Bidders shall carefully examine documents and construction site to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions, which can be determined by examining site and these documents.

- B. Contact Public Water Supply District No. 2 at the following address and phone number to arrange date and time to visit Project site:
 - 1. Address: 195 Old Sugar Creek Road
High Ridge, MO 63049
 - 2. Telephone: (636) 326-0200

1.4 THE SCHEDULE FOR BIDDING THIS PROJECT IS AS FOLLOWS

- A. Plans Available: April 26, 2024

- B. Latest Time to Submit
Request for Interpretation: May 30, 2024

- C. Latest Time to Issue an Addendum: June 3, 2024

- D. Bid Closing June 6, 2024 at 2:00 PM
Water District Office
- E. Bid Opening June 6, 2024 at 2:00 PM
Water District Office
- F. All requests for interpretations shall be in writing via mail or e-mail addressed to the Engineer and must be received seven (7) calendar days prior to date fixed for opening of bids in order to be given consideration. All questions must be submitted on the "Request for Interpretation Pre-Bid Question and Comment Form" included at the end of this section, and questions not submitted in accordance with this form and specified time frame will not be accepted. Any and all interpretations and supplemental instructions will be made by addendum to the Drawings and Specifications and forwarded to all bidders either by certified mail or e-mail transmittal. All responses by the Engineer must be in writing to be binding. Any response general in nature or affecting these Instructions to Bidders shall be sent via addendum as previously described. All bidders are required to return the signature page of the addendum signed to the Engineer within 24 hours after receipt. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from an obligation under the bid as submitted. All addenda so issued shall become part of the Contract Documents. No addendum will be issued later than three (3) calendar days prior to bid date except one withdrawing the request for Bids or one postponing date for receiving Bids. Oral interpretations, changes or corrections will not be binding and Bidders shall not rely upon such interpretations, changes and corrections. Each Bidder shall ascertain prior to submitting Bid that all addenda issued have been received and shall acknowledge receipt in Bid.

Questions shall be directed to:

e-mail: zyork@hurst-rosche.com
lheibel@hurst-rosche.com

- G. Materials, products and equipment described in Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Engineer has received a written request for approval at least ten days prior to the date for receipt of Bids. Each such request shall include name of material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or other work that incorporation of the substitute would require shall be included. The burden of proof of the merit of proposed substitute is upon the proposer. Engineer's decision of approval or disapproval of a proposed substitution shall be final. If the Engineer approves any proposed substitution prior to receipt of Bids, such approval will be set forth in an addendum. Bidders shall not rely upon approvals made in any other manner. The Contractor may submit a request for substitution after Bids, however such a request will require justification for such substitution and may be rejected by the Engineer and or Owner for any reason.
- H. Bids shall be made on unaltered Bid Forms furnished by the Engineer. Fill in all blank spaces and submit one (1) copy. Bids shall be signed with name typed below signature. Where bidder is a corporation, bids must be signed with legal name of corporation

followed by name of state of incorporation and legal signature of an officer authorized to bind the corporation to a contract.

- I. Each bidder submitting a bid shall submit on form provided a list of any subcontractors and major suppliers he proposes to use with the bid. Failure to do so could disqualify the bid.
- J. Each bidder shall designate on the attached bid form one person who shall serve as the bidder's contact person for all matters pertaining to the bid. In absence of such designation, the person who signs the bid shall be deemed the bidder contact.
- K. Each bid shall be accompanied by bid bond made payable to the Owner, in the amount of 5 percent of the bid sum. Security shall be either certified check, cashier's check, bank money order or bid bond issued by surety licensed to conduct business in the State of Missouri. Successful bidder's security will be retained until he has signed the contract and furnished required separate 100% payment and 100% performance bonds. Owner reserves the right to retain security of the next two (2) lowest bidders until the lowest bidder enters into contract or until Ninety (90) days after bid opening, whichever is shorter. All other bid security will be returned as soon as practicable. If any bidder refuses to enter into a contract, Owner will retain bid security as liquidated damages, but not as a penalty.
- L. All costs associated with the preparation and submission of a bid is the sole responsibility of the bidder. These costs shall not be chargeable to the Owner by any successful or unsuccessful bidder. All bids become the property of the Owner and shall not be returned except in the case of a late submission.
- M. Simultaneously, with delivery of the executed contract, the successful bidder, at its own expense, shall furnish surety in the form of separate performance and labor and material payment bonds each in the amount of one hundred percent (100%) of the contract amount. Surety for such bonds shall be a company duly authorized and licensed in the State of Missouri and acceptable to the Owner. The Attorney-In-Fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney. Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and authorized to transact business in Missouri.
- A. All copies of the bid, bid security and any other documents required to be submitted with bid shall be enclosed in a sealed opaque envelope. Envelope shall be addressed to **Public Water Supply District No. 2, 195 Old Sugar Creek Road, High Ridge, MO 63049**, and shall be identified with project name, bidder's name and address. Mailed bid envelopes shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof. Oral, telephonic or telegraphic Bids are invalid and will not receive consideration. Bids shall be deposited at the location designated in the Invitation to Bid prior to time and date designated for opening, or any extension thereof made by addendum. Bidder shall assume full responsibility for timely delivery at location designated for receipt of Bids. Bids received after time and date for receipt of bids will be returned unopened.
- B. A bid may not be modified, withdrawn or canceled during the Ninety (90) days immediately following bid opening, and each bidder so agrees in submitting his Bid. Any bidder may withdraw, cancel or modify its bid, at any time prior to scheduled time for opening of bids, by letter or telegram actually received by Owner prior to bid time, or,

with proper identification, by personally securing bid submitted; if by telegram, written confirmation over signature of bidder shall be mailed and postmarked on or before date and time of bid opening. Withdrawn bids may be resubmitted up to bid opening time provided that they are in full compliance with these Instructions to Bidders.

C. Protests

1. Any bidder who submitted a bid and believes the bid was improperly rejected or that the bid selected by the Owner is not in the best interest of the Owner may submit a written notice of intent to protest the bid to the Owner within seven (7) days. The Owner shall consider all protests before execution of a contract. Each protest must specify the reasons supporting the protest. The Owner may require that additional information be provided. Failure to supply such required information shall be cause for dismissal of the protest.
2. The Owner shall immediately investigate the allegations against the Owners actions and shall issue a written response to the protest.
3. This provision allowing for the submission of protest shall not confer any right on any bidder but is intended solely to assist the Owner in determining the best responsible bid.

D. Any complaint or protest of the bidding procedure must be filed by the bidder to the Owner within 7 days of bid opening. The bidder shall notify the Owner in writing of his intent to protest bidding. The bidder shall perfect this notice of intent within 7 days.

E. Owner reserves right to disqualify bids and bidders, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon part of bidder, lack of responsibility as evidenced by poor workmanship and progress of past work, incomplete work which, in judgment of Owner, might hinder or prevent prompt completion of additional work if awarded, for being in arrears on existing contracts, in litigation with the Owner, or having defaulted on a previous contract.

F. Bidder's attention is directed to the fact that all Federal and Missouri State Laws, municipal ordinances and regulations of any and all authority having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full. Successful Bidders shall be required to observe the Prevailing Wage Determination, as issued by the Missouri Department of Labor.

G. Owner is exempt from payment of Missouri Department of Revenue's Use and Sales Tax on material entering permanently into structure. Retail sales tax shall not be included in the bid amount.

H. Bids will be opened as announced in Invitation for Bids.

I. Owner reserves the right to reject any or all bids or any part thereof, to waive any informality in bidding and to accept bids deemed most favorable to the Owner.

J. Notwithstanding any delay in preparation and execution of the formal Contract Agreement, each bidder shall be prepared, upon written notice of bid acceptance, to commence work within ten (10) days following receipt of official written Notice to Proceed, or on date stipulated in such notice.

- K. Any work in providing or preparing to provide the services specified herein that is commenced by the successful bidder prior to execution of a written contract agreement shall be at the bidder's expense.
- L. Accepted bidder shall assist and cooperate with the Owner in preparing the formal Contract Agreement, and, within fifteen (15) days following its presentation, shall execute it and return it to Owner.
- M. The Owner requires the Project to be substantially complete by 90 consecutive days from the Construction Start Date as stipulated in the Notice to Proceed. Work to be completed in Fall 2024 after Labor Day (September 2, 2024). Notice to Proceed will be issued accordingly based on work being completed in Fall 2024. Should the Contractor fail to complete the Work within such time, contractor agrees to pay and will apply to the Owner for each and every day of such delay in completion of the Work beyond the Contract Time the sum of **Five Hundred Dollars (\$500)** per day for Work not completed by the substantial completion date as liquidated damages.
- N. Accepted bidder shall provide the Owner a copy of all laborer's driver's license, OSHA card, and title for prevailing wage purposes.
- O. If the successful bidder is doing business in the State of Missouri under a fictitious name, he/she shall furnish to the Owner, attached to the Bid Form, a properly certified copy of the certificate of Registration of Fictitious Name from the State of Missouri, and such certificate shall remain on file with the Owner.
- P. Any successful bidder that is a corporation organized in a state other than Missouri shall furnish to the Owner, attached to the Bid Form, a properly certified copy of its current Certificate of Authority to do business in the State of Missouri, such certificate to remain on file with the Owner. No contract will be awarded by the Owner unless such certificate is furnished by the bidder.
- Q. Any successful bidder that is a corporation organized in the State of Missouri shall furnish at its own cost to the Owner, if requested, a Certificate of Good Standing issued by the Secretary of State, such certificate to remain on file with the Owner.
- R. Section 285.230-234 RSMo 1994, transient employers (out-of-state employers who temporarily transact any business in the State of Missouri) may be required to file a bond with the Missouri Department of Revenue. No contract will be awarded by the Owner unless the successful bidder certifies that he/she has complied with all applicable provisions of Section 285.230-234 RSMo.
- S. Occupational Safety and Health Administration (OSHA) Training - Pursuant to Section 292.675 RSMo, any person signing a contract to work on the construction of public works for any public body shall provide a ten-hour Occupational Safety and Health Administration (OSHA) construction safety program for their on-site employees which includes a course in construction safety and health approved by OSHA or a similar program approved by the Missouri Department of Labor and Industrial Relations which is at least as stringent as an approved OSHA program. ALL employees are required to complete the program within sixty (60) days of beginning work on such a construction project.
1. Pursuant to Section 292.675 RSMo, if Contractor fails to provide the required OSHA safety training, the Contractor shall forfeit to the Owner, as a penalty, \$2,500 plus \$100 for each on-site employee of the Contractor or its

Subcontractors, for each calendar day, or portion thereof, such on-site employee is employed without the safety training required under the OSHA Safety Training paragraph above.

1.5 ILLEGAL IMMIGRATION REFORM AND IMMIGRANT RESPONSIBILITY ACT

- A. The Contractor understands and agrees that by signing a contract for this project, they certify the following:
 - 1. The Contractor shall only utilize personnel authorized to work in the United States in accordance with applicable federal and state laws. This includes but is not limited to the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and INA Section 274A.
 - 2. If the Contractor is found to be in violation of this requirement or the applicable laws of the state, federal and local laws and regulations, and if the Owner has reasonable cause to believe that the Contractor has knowingly employed individuals who are not eligible to work in the United States, the Owner shall have the right to cancel the contract immediately without penalty or recourse and the State of Missouri may suspend or debar the Contractor from doing business with the State.
 - 3. The Contractor agrees to fully cooperate with any audit or investigation from federal, state or local law enforcement agencies.

1.6 FEDERAL WORK AUTHORIZATION AFFIDAVIT

- A. Employment of Unauthorized Aliens Prohibited - Pursuant to Section 285.530 RSMo, regarding employment of unauthorized aliens prohibited, Contractor shall provide the Owner with a sworn Affidavit affirming its enrollment, supporting enrollment documentation, and participation in a Federal work authorization program.
- B. Pursuant to §285.530.1, RSMo, the contractor assures that it, as well as its subcontractors do not knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the State of Missouri, and shall affirm, by sworn affidavit and provision of documentation, its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. Further, the contractor assures that it, as well as its subcontractor shall sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.
- C. In accordance with sections 285.525 to 285.550, RSMo a general contractor or subcontractor of any tier shall not be liable when such contractor or subcontractor contracts with its direct subcontractor who violates subsection 1 of section 285.530, RSMo if the contract binding the contractor and subcontractor affirmatively states that the direct subcontractor is not knowingly in violation of subsection 1 of section 285.530, RSMo and shall not henceforth be in such violation and the contractor or subcontractor receives a sworn affidavit under the penalty of perjury attesting to the fact that the direct subcontractor's employees are lawfully present in the United States.

1.7 STATEMENT OF BIDDER'S QUALIFICATIONS

- A. At the Owner request, each bidder may have to submit as part of the bid, a statement of bidder's qualifications which may be a part of the bid submittal documents as to provide a summary of past work experience. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform the work and the

bidder shall furnish to the Owner such additional information and data for this purpose as is requested. The Owner reserves the right to reject any bid where an investigation or consideration of the information submitted by such bidder does not satisfy the Owner that the bidder is qualified and experienced in performing the requirements of the contract documents.

1.8 **OWNER APPROVAL OF CONTRACTOR'S SUBCONTRACTORS, PROFESSIONAL CONSULTANTS AND MAJOR SUPPLIERS**

- A. The Owner reserves the right to review and approve all Contractor's subcontractors, professional consultants and major suppliers, proposed to be used on this contract. The Owner is endeavoring the use of subcontractors, professional consultants and major suppliers, who have past experience with the type of construction, professional services and supplier of construction materials that the project requires, for the successful and timely completion. All professional consultants shall be registered in the State of Missouri to provide the services to be rendered for this project. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the subcontractors, professional consultants and suppliers to perform their contract requirements, and the Contractor shall furnish to the Owner a statement of qualifications for such purpose, with the Owner having the right to request additional information. The Owner reserves the right to reject any of the Contractor's subcontractors, professional consultants and suppliers where an investigation or consideration of the information submitted does not satisfy the Owner that the subcontractor, professional consultant or supplier is qualified and experienced to perform their respective obligations and duties of the contract documents. Contractor shall be required to resubmit names and credentials of replacement firms, within seven (7) days after receipt of a Letter of Denial, for those firms not approved by the Owner. Owner's denial of any of the Contractor's subcontractors, professional consultants or major suppliers will not cause the Contractor to be entitled to any additional compensation for having to replace unapproved firm(s), nor abrogate the Contractor's responsibility to complete and fulfill this contract in a satisfactory and timely manner.

1.9 **TRANSFER OF ELECTRONIC FILES**

A. **USE AND LIMITATIONS OF DIGITAL PLAN INFORMATION**

Subsequent to award of contract and execution of an agreement between A/E and receiving party for transfer of electronic files, digital plan information will be provided by the Engineer to the Contractor for the express purpose of locating existing project control points and benchmarks, and locating limited proposed plan information. All information will be provided in a "read only" standard AutoCAD 2010 format. Digital plan information is for users convenience and not contract documents.

WARNING

These electronic files are non-certified recordings of printed documents and are not a part of the contract documents. These files are provided only for the convenience of the receiving party and are intended solely for the exclusive use by that party for the purposes expressly authorized. In accordance with standard industry practice, only printed copies of documents conveyed to you may be relied upon. Any use of the information obtained or derived from these electronic files will be at the receiving party's sole risk. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the receiving party

agrees that it has the obligation to perform acceptance tests prior to using any of the data. Upon use of the data, receiving party shall be deemed to have accepted the data thus transferred. Please check this electronic file for virus contamination prior to use. The receiving party also agrees to all terms and conditions contained within the agreement for transfer of electronic files.

AGREEMENT FOR TRANSFER OF ELECTRONIC FILES TERMS AND CONDITIONS

1. A/E makes no representation as to the compatibility of the Electronic files with any hardware or software.
2. Since the information set forth on the Electronic files can be modified unintentionally or otherwise, the A/E reserves the right to remove all indicia of its ownership and/or involvement from each Electronic display.
3. All information on the Electronic files is considered instruments of the services of the A/E and shall not be used for other projects, for additions to this project, or completion of this project by others. Electronic files shall remain the property of the A/E, and in no case shall the transfer of these files be considered a sale.
4. A/E makes no representation or warranties (either expressed or implied) regarding the accuracy, completeness, or permanence of Electronic files, nor for their merchantability or fitness for a particular purpose. Addenda information or revisions made after this date indicated on the Electronic files may not have been incorporated. In the event of a conflict between the A/E's sealed contract drawings and Electronic files, the sealed contract drawings shall govern. It is the Contractor's responsibility to determine if any conflicts exist. The Electronic files shall not be considered to be Contract Documents as defined by the General Conditions of the Contract for Construction. In no event shall the A/E be liable for any loss of profit or any consequential damages as a result of your use or reuse of these Electronic files.
5. The use of the Electronic files prepared by the A/E shall not in any way obviate the receiving party's responsibility for the proper checking and coordination of dimensions, details, member sizes and gage, and quantities of materials as required to facilitate complete and accurate fabrication and erection.
6. The receiving party shall, to the fullest extent permitted by law, indemnify, defend and hold harmless the A/E and its sub consultants from all claims, damages, losses, expenses, penalties and liabilities of any kind, including attorney's fees, arising out of or resulting from the use of the Electronic files by the Contractor, or third party recipients of the Electronic files from the receiving party.
7. The A/E believes that no licensing or copyright fees are due to others on account of the transfer of the Electronic files, but to the extent any are, the receiving party will pay the appropriate fees and hold the A/E harmless for such claims.
8. This agreement shall be governed by the laws of the principal place of business of the A/E.

1.10 EXISTING UTILITIES INFORMATION

- A. Contractor shall review all existing utilities information, including information contained herein, when considering their bid for this project for possible utility conflicts, possible utility relocations and/or possible construction damage to existing utilities. Any underground facilities, structures, or utilities that have been shown are from available records. Therefore, the relationship between the proposed work and the existing facilities, structures, or utilities must be considered approximate. It is the contractor's responsibility to notify all the local, and/or governing utility companies prior to construction to determine their exact locations and the existence of any not shown. Contractor shall coordinate with utility companies and the Owner as to the relocation or removal of any utilities shown or not shown.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

Project No.: 850-0803

Hurst-Rosche, Inc.
 E-mail: zyork@hurst-rosche.com

REQUEST FOR INTERPRETATION PRE-BID QUESTION AND COMMENT FORM

(All information entered shall be typed in black).

PROJECT NAME: Public Water Supply District No. 2, Williams Creek Road Elevated Storage Tank Rehab

BIDDER: _____ **SUBMITTED BY (Name):** _____ **Date:** _____

ADDRESS: _____ **CITY:** _____ **STATE:** _____ **PHONE:** _____ **Sheet** _____ **of** _____

Question No.	Page (or Drawing Sheet) Number	Drawing No. or Spec. Section Article & Paragraph Number	Question by Bidder

NOTE: ANY AND ALL QUESTIONS PERTAINING TO THIS BID MUST BE TYPED AND SUBMITTED ON THIS FORM AND MAILED OR E-MAILED TO RECEIVE A RESPONSE.

END OF DOCUMENT

DOCUMENT 00 41 43

BID FORM - UNIT PRICE

To: Public Water Supply District No. 2
195 Old Sugar Creek Road
High Ridge, MO 63049
Phone (636) 326-0200

Project: Williams Creek Road Elevated Storage Tank Rehab
High Ridge, Jefferson County, Missouri 63049
HR # 850-0803

Date: _____

Submitted by: _____
(full name)

(full address) _____

Contact Name: _____

PART 1 GENERAL

1.1 OFFER

- A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Engineer for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Unit Prices listed in this bid form in lawful money of the United States of America.
- B. We have included the security Bid Bond as required by the Instruction to Bidders.
- C. All applicable federal taxes are included in the Unit Prices.

1.2 REVIEW OF BID DOCUMENTS

- A. The bidder represents that he is skilled and experienced in the use and interpretation of drawings and specifications such as those included in the bid documents for this contract. He has carefully reviewed the drawings, specifications and other bid documents, and has found them free of ambiguities and sufficient for bid purposes. Further, the Bidder has carefully examined the site of the work and, from his own observations, has satisfied himself as to the nature and location of the work; the character, quality and quantity of

materials; the difficulties likely to be encountered; and any other items which may affect the performance of the Work. He has based his bid solely on these documents and observations, and has not relied in any way on any explanation or interpretation, oral or written, from any other source.

1.3 ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for 90 days from the bid closing date.
- B. If the Owner accepts this bid within the time period stated above, we will:
 - 1. Execute the Agreement within 15 days of receipt of Notice of Award.
 - 2. Furnish the required bonds within 15 days of receipt of Notice of Award in the form described in Supplementary Conditions.
 - 3. Commence work within 10 days after written Notice to Proceed of this bid.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required bonds, the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.
- D. In the event our bid is not accepted within the time stated above, the required security deposit will be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.4 CONTRACT TIME

- A. Undersigned agrees that, if awarded the Contract for Work bid upon herein, work will start on date designated in a written Notice to Proceed order issued by the Engineer and will be completed in accordance with the contract documents, with all phases of work completed and operational and ready for acceptance by the Owner no later than 90 calendar days from the Construction Start Date as stipulated in the Notice to Proceed. Work to be completed in Fall 2024 after Labor Day (September 2, 2024). Notice to Proceed will be issued accordingly based on work being completed in Fall 2024.

1.5 UNIT PRICES

- A. The following are Unit Prices for specific portions of the Work as listed. The following is the list of Unit Prices:

BASE BID

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Provide Interior Dry Full Containment for Removal of Existing Interior Coating for Tank	1	Lump Sum		

2	Interior Surface Preparation for Dry Area System in Contact with Wetted Area System (i.e., Interior Dry Bottom of Bowl, Interior Dry Wet Riser / Inlet/Outlet Pipe, Interior Dry Access Tube for Roof Access, and Interior Dry Overflow Pipe): SSPC-SP 6 Commercial Blast Tank	1	Lump Sum		
3	Apply Interior Coating Dry Area System in Contact with Wetted Area System (i.e., Interior Dry Bottom of Bowl, Interior Dry Wet Riser / Inlet/Outlet Pipe, Interior Dry Access Tube for Roof Access, and Interior Dry Overflow Pipe) with 10 Year Warranty (Paint and Primer) per Paint and Manufacturer's Requirements for Warranty and per Specified Paint Schedule and Mils (Color to be Chosen by Owner)	1	Lump Sum		
4	Remove and Properly Dispose of Waste to Proper Landfill in Accordance with MoDNR Requirements	1	Lump Sum		
5	Tank Disinfection per MoDNR and AWWA Requirements	1	Lump Sum		
6	Remove and Properly Dispose of Existing Interior Condensation Collection System	1	Lump Sum		
7	Protection of Existing Interior Improvements During Limited Rehabilitation Work, Etc.	1	Lump Sum		
8	Insurance, Bonds and Permits, Etc.	1	Lump Sum		
9	Mobilization / Demobilization	1	Lump Sum		
TOTAL					

TOTAL _____ Dollars
(Amount in Words)

B. The following are Unit Prices for additive alternates; price for additive alternates shall not be included in the base bid and shall not be used for determining low bidders. The following is the list of Unit Prices:

ADDITIVE ALTERNATES

ITEM NO.	DESCRIPTION	UNIT	UNIT COST
1	Sheet Steel Welding for Repairs Discovered During Tank Rehabilitation	Lineal Foot	
2	Sheet Steel Reinforcement and/or Replacement for Repairs Discovered During Tank Rehabilitation	Square Foot	

1.6 INCIDENTALS

The following Items are incidental to the construction:

- All items indicated on the plans or referenced in the specifications shall be included in the bid price under appropriate line items. All specified testing services and construction staking services shall be included in the bid price. All installations, piping, fittings, fitting restraints, mega-lugs restraints, accessory kits, glands, gaskets, valves, tapping sleeves, fire hydrant assemblies, blowoff assemblies, line stops, water meter settings, casing pipe, casing spacers, casing end seals, thrust blocks, granular bedding, backfilling, full height granular backfill, rock boring, heavy stone revetment blanket, trench excavation, all rock excavation and removal, rock excavation for fire hydrants, spoiling unsuitable materials and replacement with approved materials, tracer wire and tracer wire accessories, pressure testing, disinfection of watermains, installation of 6" of top soil, additional fill upon settlement of trenches, asphalt sawcutting, concrete sawcutting as necessary, protection from storm inflows, all appurtenances and other necessary components shall be included in the construction.
- Construction staging and washdown area onsite, onsite siltation control (including any required inlet protection), and additional siltation control as necessary during construction.
- Existing fencing that is necessary to be removed and replaced to install proposed improvements shall be removed and replaced to the same location prior to removal, once the existing fencing is removed during construction the contractor shall install temporary interim fencing and said temporary fencing shall be maintained and remain in place until the existing fencing is to be replaced as close to its original condition as possible, temporary fencing to be structurally sound. Contractor may reuse existing fencing materials so long as the materials are in good, stable, aesthetically pleasing condition, if not, the existing fencing materials shall be replaced with new materials of same type of construction, size and dimensions, existing fencing materials to be coordinated with and agreed upon by the District for reuse on the project. Contractor shall verify all fencing that may have to be removed and replaced prior to submitting a Bid and, include the cost for said removal and replacement in their Bid.
- Contractor to provide all necessary items for equipment and worker ingress and egress during construction, such items but not limited to, traffic control flagmen, pedestrian control flagmen, sidewalk protection from equipment, curb protection from equipment, timbers to mount vertical curbs, continuous use of sidewalk by pedestrians except during equipment crossing and any other items necessary. All necessary items being considered incidental to the work including any repairs to pavement, curb, sidewalk or any other items.
- Contractor shall protect and abstain from damage all existing utilities, pavement, curb and gutter, sidewalk, guardrail, trees, bushes and all other existing improvements during boring process or any other construction process. Contractor will be responsible for any damages to any existing improvement and damage repair, at Contractor's expense. Contractor will include all parties that need to be listed as additional insured as describe in the Contract Documents.
- All additional items shown on the Drawings, Technical Specifications or Contract Documents, or small items, appurtenances and minor details not mentioned, which are clearly necessary to make the completed improvements fully functional and operational in full accordance with the Contract Documents and Technical Specifications shall be included in the construction.

1.7 AWARD OF CONTRACT

- A. Contract will be awarded to the lowest responsive, responsible bidder for the base bid of the contract.

1.8 BIDDER AGREE TO THE FOLLOWING:

- Bidder shall include the required security deposit as required by the Instruction to Bidders.

- All applicable federal taxes are included in the Bid Sum.
- Cost associated with obtaining separate 100% Performance and 100% Payment Bonds are included in the Bid Sum.
- Costs associated with obtaining all required construction permits and any other necessary permits are included in the Bid Sum.
- Bidder agrees to pay not less than the hourly rate of wages as determined by the Department of Labor and Industrial Relations, State of Missouri, in accordance with Sections 290.210 through 290.340 as amended RSMo 1978.
- Bidder certifies compliance with the provisions of Section 285.230-234 RSMo 1994 regarding transient employers.
- Bidder certifies compliance with the provisions of the Illegal Immigration Reform and Immigrant Responsibility Act.
- Bidder certifies compliance with the provisions of Section 285.530 RSMo regarding federal work authorization program.
- Bidder certifies compliance with the provisions of Section 292.675 RSMo regarding OSHA approved construction safety and health training for all on-site project employees and failure to provide safety training.
- Bidder agrees to an agreement between A/E and receiving party for transfer of electronic files.
- Bidder agrees/certifies compliance with the provisions as required by the Instruction to Bidders.

1.9 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Price.

1. Addendum # _____ Dated _____
2. Addendum # _____ Dated _____
3. Addendum # _____ Dated _____

1.10 APPENDICES

A. The following information is included with Bid submission:

Subcontractors: Names

Major Suppliers: Names

1.11 EQUAL EMPLOYMENT OPPORTUNITY

During performance of this contract, Contractor agrees as follows:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- b. The contractor will in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- c. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, notice advising the labor union or worker's representative of the contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor.
- e. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and order of the Secretary of Labor pursuant thereto, and will permit access to his books, records and accounts by the Department of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- f. In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any such rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies involved as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
- g. The contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with the subcontractor or vendor as a result of such direction by the Department, the contractor may request the United States to enter into such litigation to protect the interest of the United States.

1.12 NOT BARRED

- A. The Contractor by submitting its bid certifies that the Contractor is not barred from bidding on the contract as a result of a conviction for either bid-rigging or bid-rotating.

1.13 DRUG FREE WORKPLACE

- A. The Contractor by submitting its bid certifies that it will provide a drug free workplace and that it is in compliance with the requirements of the Drug Free Workplace Act and the Substance Abuse Prevention on Public Works Projects Act.

1.14 SEXUAL HARASSMENT POLICY

- A. The Contractor by submitting its bid certifies that it has (i) a written sexual harassment policy, (ii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties; (v) the legal resource, investigative and complaint process through the Missouri Department of Human Rights; (vi) directions on how to contact the Department and Commission; and (vii) protection against retaliation for exercising rights under the policy.

1.15 BID FORM SIGNATURES

The Corporate Seal of

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

(Authorized signing officer)

(Title)

(Seal)

(Authorized signing officer)

(Title)

(Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF DOCUMENT

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AGREEMENT FORM - AIA

PART 1 GENERAL

1.1 SUMMARY

- A. Document Includes:
 - 1. Contract Agreement.
- B. Related Documents:
 - 1. Document 00 72 14 - General Conditions - AIA.
 - 2. Document 00 73 13 - Supplementary Conditions - AIA.

1.2 CONTRACT AGREEMENT BETWEEN OWNER AND CONTRACTOR

A. THIS AGREEMENT made and entered into as of the _____ day of _____ in the year of 2024 by and between _____ hereinafter and in the Contract Documents called "Contractor" and the Public Water Supply District No. 2, hereinafter and in the Contract Documents called "Owner."

B. WITNESSETH: That for and in consideration of the mutual covenants and agreements, hereinafter stated, Contractor and Owner covenant and agree as follows:

C. THE CONTRACT WORK:

- 1. Contractor covenants and agrees to furnish all labor, materials, equipment, transportation, construction plant and facilities necessary to perform all Work required by the Contract Documents, for the Project entitled:

**Public Water Supply District No. 2
Williams Creek Road Elevated Storage Tank Rehab
High Ridge, Jefferson County, Missouri 63049
HR # 850-0803**

As shown on Drawings and described in Specifications prepared by Hurst-Rosche, Inc., acting as, and in these Contract Documents referred to as Engineer and covenants and agrees to do and perform all acts and things required of Contractor by this Contract and the Contract Documents.

D. TIME OF COMPLETION:

- 1. The Owner requires the Project to be substantially complete by 90 consecutive days from the Construction Start Date as stipulated in the Notice to Proceed. Work to be completed in Fall 2024 after Labor Day (September 2, 2024). Notice to Proceed will be issued accordingly based on work being completed in Fall 2024. Should the Contractor fail to complete the Work within such time, contractor agrees to pay and will apply to the Owner for each and every day of such delay in completion of the Work beyond the Contract Time the sum of Five Hundred Dollars (\$500) per day for Work not completed by the substantial completion date as liquidated damages.

E. CONTRACT SUM AND TERMS OF PAYMENT:

1. Contract Sum: The Owner, if Contractor shall faithfully fulfill and perform this Contract, covenants and agrees to pay Contractor in current funds, subject to additions and deductions by Change Order as provided in the Contract Documents, the sum of _____ Dollars (\$ _____), which sum shall constitute the Contract Sum, said Contract Sum being derived from Contractor's Bid dated _____. It is understood and agreed that should there be any increase in wage rates, or in cost of materials or equipment, or in any other of Contractor's costs or should Contractor be compelled to pay premium wages, or for overtime work, during the life of this Contract and/or prior to completion of Contractor's work thereunder, Contractor shall absorb all such increased costs, without addition to the Contract Sum except when otherwise expressly provided in Contract Documents.
2. Payments: Owner shall make payments for work performed under the Contract as provided in Article Nine of the General Conditions and in accordance with other applicable articles of the Supplementary Conditions and Contract Documents.

F. CONTRACT DOCUMENTS:

1. Contract Documents include the Contract Agreement, Contractor's Bid as accepted by Owner, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, and all Addenda issued prior to and all Modifications issued after execution of the Contract Agreement.

G. MISSOURI LABOR:

Contractor shall comply with all Missouri Department of Labor statutory requirements regarding labor, including, but not limited to, the following:

1. Successful Bidders shall be required to observe the Prevailing Wage Determination, as issued by the Missouri Division of Labor Standards, Annual Wage Order (Number as included in Contract Documents).
2. Section 285.230-234 RSMo 1994, transient employers (out-of-state employers who temporarily transact any business in the State of Missouri) may be required to file a bond with the Missouri Department of Revenue. No contract will be awarded by the Owner unless the successful bidder certifies that he/she has complied with all applicable provisions of Section 285.230-234 RSMo.
3. Pursuant to Section 285.530 RSMo, Contractor shall provide the Owner with a sworn Affidavit affirming its enrollment and participation in a Federal work authorization program.
4. Pursuant to Section 292.675 RSMo, Contractor and its Subcontractors shall provide the Owner with a sworn Affidavit and proof that all on-site project employees have completed a ten (10) hour course in OSHA approved construction safety and health training, such proof to be provided within sixty (60) days of the date project work commences.

H. PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND:

1. Within fifteen (15) days immediately following date of his receipt of this contract, Contractor shall furnish Owner the signed Contract and separate Performance and Labor and Material Payment Bonds as required by and in accordance with the terms of Contract Documents each in a penal sum of one hundred percent (100%) of the Contract sum.
2. In the event Contractor fails to furnish Owner such Contract and Bonds within said period, this Contract shall thereupon become null and void at Owner's option, exercised by written registered notice and mailed to Contractor by said Owner within five (5) days thereafter. Owner may then retain and enforce as liquidated damages, bid guarantee heretofore deposited with it in connection with Contractor's proposal for this Contract or the difference between his bid and a subsequent awarded bid, whichever is lesser.

I. IN WITNESS HEREOF, the parties hereto have executed this agreement as of the day and year first written above.

OWNER:

Public Water Supply District No. 2

Attest:

BY _____

BY _____
Clerk

TITLE _____

CONTRACTOR:

Attest:

BY _____

BY _____
Secretary

TITLE _____

(Corporate Seal)

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF DOCUMENT

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DOCUMENT 00 72 14

GENERAL CONDITIONS - AIA

PART 1 GENERAL

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
- B. Related Documents:
 - 1. Document 00 52 14 - Agreement Form - AIA.
 - 2. Document 00 73 13 - Supplementary Conditions - AIA.

1.2 GENERAL CONDITIONS

- A. AIA Document A201-2007, General Conditions of the Contract for Construction, is the General Conditions of the Contract. A copy of this document may be purchased online on www.aia.org at the following link: <https://documentsondemand.aia.org/>.

1.3 SUPPLEMENTARY CONDITIONS

- A. Refer to Document 00 73 13 for modifications to General Conditions.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF DOCUMENT

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DOCUMENT 00 73 13

SUPPLEMENTARY CONDITIONS - AIA

PART 1 GENERAL

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
 - 2. Supplementary Conditions.
- B. Related Documents:
 - 1. Document 00 41 13 - Bid Form - Unit Price
 - 2. Document 00 52 14 - Agreement Form - AIA

1.2 GENERAL CONDITIONS

- A. The General Conditions of the Contract for Construction, AIA Document A201, Sixteenth Edition, 2007, Articles 1 through 15, is a part of this Contract and is incorporated herein as fully as if here set forth. Copies of the General Conditions are on file and may be reviewed at the offices of the Engineer, or may be obtained from the American Institute of Architects website: <https://documentsondemand.aia.org/>.

1.3 SUPPLEMENTARY CONDITIONS

- A. The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction," AIA Document A201, Sixteenth Edition, 2007. Where any Article of the General Conditions is modified or changed or any Paragraph, Subparagraph or Clause thereof is modified, changed or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

1.4 REFERENCE TO DIVISION 01

- A. Where provisions of General Conditions relate to project administrative or work-related requirements of the Contract, and those provisions differ from those specified in Division 01, provisions outlined in Division 01 shall prevail.

1.5 ARTICLE 1: GENERAL PROVISIONS

- A. 1.5.1 In the second line following the word "Specifications" insert the words "and Project Manual,".
- B. 1.6 TRANSMISSION OF DATA IN DIGITAL FORM: Add new subparagraph 1.6.1:
 - 1. 1.6.1 Electronic drawings provided by the Owner or Architect are for informational purposes only and are not intended for any other use. The paper copies provided are a true representation of the completed design and if

discrepancies should exist between the paper copy and the electronic copy, the paper copy shall govern.

C. Delete Subparagraph 1.1.8 its entirety and substitute the following:

1. 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2. If the Initial Decision Maker is not specifically identified in the Agreement, the responsibilities of the Initial Decision Maker shall default to the Architect.

D. DEFINITIONS: Add Paragraph 1.1.9

1. 1.1.9 PROJECT MANUAL

The Project Manual is the collection of documents which includes the bidding requirements, sample forms and, certain Contract Documents such as the Conditions of the Contract and the Specifications.

1.6 ARTICLE 2: OWNER

A. 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER:

B. Delete Subparagraphs 2.2.3 and 2.2.5 in their entireties and substitute the following:

1. 2.2.3 The Owner shall, at the request of the Contractor, furnish to Contractor any survey or other similar descriptive information of project site that Owner has in his possession. Upon demonstration of need by Contractor for specific additional survey information, Owner shall obtain and furnish such information to Contractor.
2. 2.2.5 Contractor will be furnished, free of charge, 4 copies of Drawings, Specifications, and Project Manual as set forth in Division 1 of the Specifications. Additional copies will be furnished to Contractor at cost of reproduction, postage and handling.

1.7 ARTICLE 3: CONTRACTOR

A. 3.2. REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR: Add Subparagraphs 3.2.5 and 3.2.6:

1. 3.2.5 The Contractor by executing the Contract represents that he has carefully examined the Site of the Work at each location and that he has full knowledge of and fully understands the facilities, site conditions, difficulties and restrictions attending performance of the Work. Contractor further represents that he has taken all required measurements and carefully inspected existing constructions, irregularities and interferences which may affect the Work. No additional compensation will be allowed for conditions increasing Contractor's cost which were not known to or appreciated by him prior to executing the Contract if they

could have been discovered by him following the foregoing procedures and thoroughly informing himself of all existing conditions affecting the Work.

2. 3.2.6 Contractor will not, however, be required to excavate, penetrate or demolish any constructions or other work and conditions prior to executing the Contract in order to uncover and/or expose concealed conditions that affect the Work. If, during course of construction, Contractor uncovers conditions that affect the work that could not have been known and understood by the above described careful examination of conditions affecting the Work, he shall promptly notify the Architect, in writing, who will determine if claims for additional costs or extensions of time are justified. If such claims are found to be justified, Contract will be modified in accordance with Article 7 of the General Conditions.

1.8 ARTICLE 4: ARCHITECT

- A. 4.1 GENERAL: Delete Subparagraph 4.1.1 in its entirety and substitute the following:
 1. 4.1.1 The Owner shall retain an architect or engineer (who will be working within their field of expertise as dictated by the scope of the Project) lawfully licensed to practice architecture or engineering or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

1.9 ARTICLE 5: SUBCONTRACTORS

- A. 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK: Add new Subparagraph 5.2.1.1.:
 1. 5.2.1.1. Within ten (10) days of notification of acceptance of his proposal, Contractor shall submit the names of those to whom he intends to award a Subcontract.

1.10 ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

- A. 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS: Delete Subparagraph 6.1.3 in its entirety and substitute the following:
 1. 6.1.3 General Contractor shall have responsibility of coordinating efforts of all contractors and to maintain overall direction of job progress. Each Contractor shall coordinate operational methods with other contractors and encourage communications among all trades. All Contractors shall make other contractors aware of any problems, delays in materials shipments or lack of work force, and assist other contractors in maintaining job momentum and direction of overall project.

1.11 ARTICLE 9: PAYMENTS AND COMPLETION

- A. 9.3 APPLICATIONS FOR PAYMENT: Add new Subparagraph 9.3.1.3
 - 1. 9.3.1.3.: Until Substantial Completion, the Owner will pay 90 percent of the amount due Contractor on account of approved progress payments.

1.12 ARTICLE 11: INSURANCE AND BONDS

- A. 11.1.1 In the first line following the word "maintain," insert the words "in a company or companies licensed to do business in the state in which the project is located."

- B. Add new Subparagraph 11.1.1.9:

- 1. 11.1.1.9 General Liability Insurance shall be comprehensive, on occurrence, and shall include:
 - a. Premises and Operations.
 - b. Independent Contractors.
 - c. Products and Completed Operations.
 - d. Broad Form Property Damage.
 - e. Personal Injury.
 - f. Explosion, Collapse and Underground damage where the hazard exists.
 - g. Contractual liability.

- C. Add the following Sub-Subparagraphs to Subparagraph 11.1.2:

- 1. 11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

- 1. Worker's Compensation:
 - a. State: Statutory
 - b. Applicable Federal: Statutory
 - c. Employer's Liability: \$1,000,000
- 2. Comprehensive General Liability:
 - a. Bodily Injury:

\$ 500,000	Each Person
\$1,000,000	Aggregate
 - b. Property Damage:

\$ 500,000	Each Occurrence
\$1,000,000	Aggregate
\$1,000,000	Combined Single
 - c. \$1,000,000 Combined Single

Limit Coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

- 3. Personal Injury:

\$ 1,000,000	Combined single limit including owned non-owned, and hired motor vehicle.
--------------	---

4. Comprehensive Automobile Liability:
 - a. Bodily Injury:

\$1,000,000	Each Person
\$1,000,000	Each Occurrence
 - b. Property Damage:

\$ 500,000	Each Occurrence
\$1,000,000	Aggregate
 - c. \$1,000,000 Combined Single

Limit coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

2. 11.1.2.2 Umbrella Form Liability Coverage:

An Umbrella Form Liability coverage to not less than \$2,000,000 for any one occurrence and subject to the same aggregate over the Employer's Liability, Comprehensive General Liability, and Comprehensive Automobile Liability coverage is required.

D. Add the following Subparagraph 11.1.3.1:

1. 11.1.3.1 Contractor shall furnish one copy each of Certificates of Insurance herein required for each copy of the Agreement which shall specifically set forth evidence of all coverage required by Paragraph 11.1. The form of the Certificate shall be AIA Document G705, Certificate of Insurance. Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits. The Contractor shall furnish to the Owner notice of any policy cancellation at least 30 days prior to the effective date of cancellation. The Contractor shall submit copies of subcontractor's Certificates of Insurance prior to the beginning of work.

E. Add the following Subparagraph 11.1.4.1:

1. 11.1.4.1 The Owner and Architect shall be named as additional insureds by endorsement for the purpose of coverage only with no liability for premium payments.

F. 11.3. PROPERTY INSURANCE: Delete Subparagraph 11.3.1 in its entirety and substitute the following:

1. 11.3.1: The General Contractor shall be responsible to maintain property (builder's risk) insurance upon the completed value of all work at the site under this contract to the full insurable value thereof. This insurance shall include the interests of the Owner, the General Contractor, Subcontractors, and Sub-subcontractors in the work and as their interests may appear in the work, and shall be an all-risk type policy, including theft, subject to the exclusions generally accepted in the insurance industry. This coverage is not intended to, and shall not, provide coverage for tools, equipment, scaffolding, forms, or other devices used by the Contractors or Subcontractors in performing work under this contract.

2. 11.3.1.2 Delete this Paragraph in its entirety.

G. Delete Subparagraphs 11.3.1.3 in its entirety and substitute the following:

1. 11.3.1.3 If the property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles.

1.13 ARTICLE 13: MISCELLANEOUS PROVISIONS

A. Add new paragraph 13.8 as follows:

1. 13.8 REFERENCED STANDARDS

13.8.1 No provision of any referenced standard specification, manual or code; whether or not specifically incorporated by reference in the Contract Documents; shall be effective to change the duties and responsibilities of Owner, Contractor or Architect, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Architect, or any of Architect's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Articles 1 through 15.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

DOCUMENT 00 82 50

PREVAILING WAGE RATE

PART 1 GENERAL

- 1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations. The applicable state wage rates for this contract are detailed in “**Annual Wage Order No. 31 - Section 050 Jefferson County**” (4 pages) that is attached to this bidding document.
- 1.2 Pursuant to Missouri Revised Statutes, Sections 290.210 through 290.340 as amended 1978, these specifications list, on the following pages, the Missouri Department of Labor and Industrial Relations prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.
- 1.3 **Not less** than the prevailing hourly rate of wages, as set out in the wage order attached to and made part of the specification for work under the contract, **must** be paid to all workers performing work under the contract.
- 1.4 The contractor will forfeit a penalty to the contracting public body of \$100 per day (or portion of a day) for each worker that is paid less than the prevailing rate for any work done under the contract by the contractor or by any subcontractor.
- 1.5 The contractor and all subcontractors to the contract must require all on-site employees to complete the ten-hour construction safety training program required under Section 292.675, RSMo, (enclosed in the laws section), if they have not previously completed the program and have documentation of having done so.
- 1.6 The contractor will forfeit a penalty to the contracting public body of \$2,500 plus an additional \$100 for each employee employed by the contractor or subcontractor, for each calendar day, or portion thereof, such employee is employed without the required training.
- 1.7 Every transient employer as defined in section 285.230, RSMo, enclosed in the law section, must post in a prominent and easily accessible place at the work site a clearly legible copy of the following: (1) The notice of registration for employer withholding issued to such transient employer by the director of revenue; (2) Proof of coverage for workers’ compensation insurance or self-insurance signed by the transient employer and verified by the compensation; and (3) The notice of registration for unemployment insurance issued to such transient employer by the division of employment security. Any transient employer failing to comply with these requirements shall, under section 285.234, RSMo, enclosed in the laws section, be liable for a penalty of \$500 per day until the notices required by this section are posted as required by that statute.

END OF DOCUMENT

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SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site.
- C. Owner occupancy.
- D. Specification Conventions.
- E. Contractor's Duties
- F. Contract Documents

1.2 CONTRACT DESCRIPTION

- A. Work of the Project includes:

Limited interior rehabilitation of existing 1,000,000 gallon welded steel fluted pillar/column elevated water storage tank including interior dry full containment, sandblast cleaning and painting of interior dry areas in contact with wetted areas (i.e., interior dry bottom of bowl, interior dry wet riser / inlet/outlet pipe, interior dry access tube for roof access, and interior dry overflow pipe), removal and disposal of existing interior condensation collection system, protection of existing interior improvements during rehabilitation work, tank disinfection, all appurtenances and minor details necessary to make the completed improvements fully operational with the project specifications.

- B. Perform Work of Contract per unit price cost with Owner in accordance with Conditions of the Contract.

1.3 CONTRACTOR'S USE OF SITE

- A. Limit use of site to allow:
 - 1. Owner occupancy.
 - 2. Work by Others and Work by Owner.
- B. Access to Site: Limited to normal working hours.
- C. Construction Operations: Limited to areas noted on Drawings and in Specifications.
- D. Allow for public use of all adjoining streets and sidewalks.

1.4 OWNER OCCUPANCY

- A. The Owner will occupy the site during the entire period of construction for use of the existing watermains and appurtenances.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.5 SPECIFICATION CONVENTIONS

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

1.6 CONTRACTOR'S DUTIES

- A. Except as specifically noted, Contractor shall provide and pay for:
 - 1. All labor, materials, and equipment used for construction of and/or incorporated into the project.
 - 2. All tools, construction equipment and machinery.
 - 3. Required building permits, and all inspection fees by governmental authorities.
 - 4. Other facilities and services necessary for proper execution and complete of work.
- B. Owner is exempt from sales tax on product permanently incorporated in work.
 - 1. Obtain sales tax exemption certificate number from Owner.
 - 2. Place exemption certificate number on invoices for materials incorporated in work.
 - 3. Upon completion of work, file with Owner a notarized statement that all purchases made under exemption certificate were entitled to be exempt and furnish copies of invoice to Owner.
 - 4. Pay legally assessed penalties for improper use of exemption certificate number.
- C. Comply with codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities, which bear on performance of work.
- D. Promptly submit written notice to Engineer of observed variance of contract documents from legal requirements.
 - 1. It is not the Contractor's responsibility to make certain that drawings and specifications comply with codes and regulations.
 - a. Appropriate modifications to contract documents will account for/reflect necessary changes.
 - b. Assume responsibility for work known to be contrary to such requirements if written notice is not provided by the Contractor to the Architect/Engineer.
- E. Enforce strict discipline and good order among employees.
- F. Do not unreasonably encumber site with materials or equipment.

- G. Do not load structure with weight that will endanger structure.
- H. Assume full responsibility for protection and safekeeping of products stored on premises.
- I. Move any stored products, which interfere with operations of Owner or other Contractors.
- J. Obtain and pay for use of additional storage or work areas needed for operations.
- K. Contractor shall maintain buildings free from entrance of water at all times during construction.
- L. Contractor shall furnish, erect and maintain temporary ladders, ramps, or hoists as may be required for performance of his work.
 - 1. All such equipment shall be substantially designed, constructed, and maintained in accordance with applicable federal, state, and local laws, ordinances, and regulations, and shall be promptly removed when no longer needed.
- M. Contractor shall design, furnish, erect, maintain, and move all ladders and scaffolding required for this work.
 - 1. All ladders and scaffolding shall be designed, constructed, and maintained in accordance with applicable federal, state, and local law, ordinances, and regulations, and shall be promptly removed when no longer needed.

1.7 CONTRACT DOCUMENTS

- A. Contractor will be furnished free of charge two (2) copies of drawings and specifications.
- B. On request, additional copies will be furnished to Contractor at cost of reproduction, postage and handling.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Applications for payment.
- B. Change order procedures.
- C. Defect assessment.
- D. Unit prices.

1.2 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application on form supplied by Engineer or Contractor's standard form or electronic media printout will be considered.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. For payment of stored materials (when permitted by the contract), include a line for Stored Materials on the Pay Application. (The contractor may wish to submit a sample payment application for Engineer Approval or request a payment application from the Engineer.) A separate schedule listing the stored and installed materials should be included as well as supplier price quotes justifying the price of the stored materials. The payments for stored materials will be deducted from the application as they are installed. All payments of stored materials shall be in accordance with paragraph K of this Section.
- E. Payment Period: Submit applications for payment to Engineer for processing no later than 10 days prior to date established for progress payment meeting.
- F. Submit with transmittal letter as specified for Submittals in Section 01 33 00.
- G. Submit lien waivers.
- H. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Current construction photographs specified in Section 01 33 00.
 - 2. Partial release of liens from major subcontractors and vendors.
 - 3. Record documents as specified in Section 01 70 00, for review by Owner/Engineer, which will be returned to Contractor.
 - 4. Affidavits attesting to off-site stored products.
 - 5. Construction progress schedules, revised and current as specified in Section 01 32 16.

- I. Application for Payment No. 1 shall be accompanied by a notarized statement on Contractor's letterhead as follows:
 - 1. I certify that the funds requested for the accompanying Pay Request No. 1 will be used to pay all just and lawful bills against the undersigned and his subcontractors for labor, material and equipment employed in the performance of the work. I further certify that such bills will be paid no later than ten (10) calendar days from date of receipt of the Owner's disbursement.
 - 2. Execute statement with signature of a responsible officer of contracting firm.

- J. Each subsequent application for progress payment shall be accompanied by the following supporting documents:
 - 1. Partial or final waivers of lien in monetary amount from Contractor, each material supplier and/or subcontractor reflecting amounts incorporated into preceding request for progress payment.
 - 2. A notarized Affidavit of Payment to Material Suppliers and Subcontractors.
 - a. Affidavit shall be submitted in exact text as exhibit furnished by Engineers, signed by Contractor or Subcontractor.
 - b. Include unit item, actual amount of contract without overhead or profit, amount paid to date, and amount to become due (balance of account).

- K. Progress payments will be made for materials and equipment not incorporated in the work provided that:
 - 1. Such materials and equipment have been delivered to and suitable stored at site or some other location approved in writing by Owner and Engineer. All such materials stored off-site shall be marked or tagged with identification of project to which they are assigned.
 - 2. Contractor submits evidence of title to such materials and equipment.
 - 3. Care and custody of such materials and equipment and all costs incurred for movement and storage shall be responsibility of Contractor.
 - 4. Such materials and equipment are suitably insured by Contractor. Contractor shall submit a certificate of insurance showing the Owner as an additional insured and showing amount of insurance coverage of suitable proof that material and equipment are stored in a bonded warehouse.

- L. Refer to section 01 70 00 for submittal requirements for application for final payment and related closeout procedures.

- M. If Owner Fails to make payment thirty (30) days after receipt of the Contractor's application for payment, in addition to other remedies available to the Contractor, then shall be added to each such payment interest in accordance with section 34.047 RSMo.

1.3 CHANGE ORDER PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

- B. The Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum or Contract Time by issuing supplemental instructions in writing.

- C. The Engineer may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with stipulation of overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 10 days.
- D. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors. Document requested substitutions in accordance with Section 01 60 00.
- E. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work, which are not pre-determined, execute Work under Construction Change Order. Changes in Contract Sum or Contract Time will be computed as specified for Change Order.
- F. Engineer may issue directive, on HR Field Change Order form signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum or Contract Time. Promptly execute change.
- G. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum and Contract Time as provided in Contract Documents.
- H. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- I. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.
- J. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- K. Correlation Of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 - 3. Promptly enter changes in Project Record Documents.

1.4 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.

- B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct appropriate remedy or adjust payment.
- C. Individual specification sections may modify these options or may identify specific formula or percentage sum reduction.
- D. Engineer and the Owner or Owner's representative have the authority to assess defects and identify payment adjustments.
- E. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.5 UNIT PRICES

- A. Authority: Measurement methods are delineated in individual specification sections.
- B. Measurement methods delineated in individual specification sections complement criteria of this section. In event of conflict, requirements of individual specification section govern.
- C. Contractor shall take measurements and compute quantities. Engineer and/or Owner will verify measurements and quantities.
- D. Unit Quantities: Quantities and measurements indicated in Bid Form are for contract purposes only. Quantities and measurements supplied or placed in the Work shall determine payment. Actual quantities provided and installed shall determine payment.
 - 1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at unit sum/prices contracted.
 - 2. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim for Contract Price adjustment.
- E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of item of the Work; overhead and profit.
- F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.
- G. Measurement of quantities shall be as follows unless otherwise stated in the pertinent Technical Specification Section:
 - 1. Weigh Scales: Inspected, tested and certified by applicable state Weights and Measures department within past year.

2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
3. Metering Devices: Inspected, tested and certified by applicable state department within past year.
4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
5. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
6. Measurement by Area: Measured by square dimension using mean length and width or radius.
7. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Progress meetings.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of the Contract Documents to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- C. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

- A. Employ Land Surveyor registered in State of Missouri and acceptable to the Owner and Engineer.
- B. Verify set-backs and easements; confirm drawing dimensions and elevations.
- C. Provide field-engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- D. Maintain complete and accurate log of control and survey work as Work progresses.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

1.4 PRECONSTRUCTION MEETING

- A. Engineer will schedule meeting after Notice of Award.
- B. Attendance Required: Owner, Engineer, and Contractor.
- C. Agenda:
 - 1. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
 - 2. Designation of personnel representing parties in Contract, and Engineer.
 - 3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 4. Scheduling.
- D. Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with one copy to Engineer, Owner, and those affected by decisions made.

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to Work.
- E. Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with one copy to Engineer, Owner, and those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Format.
- B. Schedules.
- C. Submittals.
- D. Review and evaluation.
- E. Updating schedules.
- F. Distribution.

1.2 FORMAT

- A. Listings: Reading from left to right, in ascending order for each activity. Identify each activity with applicable specification section number.
- B. Diagram Sheet Size: 8-1/2" x 11"

1.3 SCHEDULES

- A. Illustrate order and interdependence of activities and sequence of work; how start of given activity depends on completion of preceding activities, and how completion of activity may restrain start of subsequent activities.
- B. Illustrate complete sequence of construction by activity, identifying work of separate stages. Indicate dates for submittals including dates for Owner furnished items and return of submittals; dates for procurement and delivery of critical products; and dates for installation and provision for testing. Include legend for symbols and abbreviations used.
- C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
 - 1. Preceding and following event numbers.
 - 2. Activity description.
 - 3. Estimated duration of activity, in maximum 15 day intervals.
 - 4. Earliest start date.
 - 5. Earliest finish date.
 - 6. Actual start date.
 - 7. Actual finish date.
 - 8. Latest start date.
 - 9. Latest finish date.
 - 10. Monetary value of activity, keyed to Schedule of Values.
 - 11. Percentage of activity completed.
 - 12. Responsibility.

- D. Required Sorts: List activities in sorts or groups:
 - 1. By preceding work item or event number from lowest to highest.
 - 2. Listing of activities on critical path.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.

1.5 REVIEW AND EVALUATION

- A. Review and Evaluate project status to determine work behind schedule and work ahead of schedule.

1.6 UPDATING SCHEDULES

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update diagrams to graphically depict current status of Work.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. Indicate changes required to maintain Date of Substantial Completion.
- E. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken or proposed and its effect including effects of changes on schedules of separate contractors.

1.7 DISTRIBUTION

- A. Following joint review, distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Engineer, Owner and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Test reports.
- G. Certificates.
- H. Manufacturer's instructions.
- I. Manufacturer's field reports.
- J. Construction photographs.

1.2 SUBMITTAL PROCEDURES

- A. **Transmit each submittal with shop drawing submittal form found at the end of this section**, which identifies the project, contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- B. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- C. Schedule submittals to expedite Project, and deliver to Engineer at 3675 W. Outer Road, Suite 205, Arnold, Missouri 63010.
- D. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- E. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- F. Allow space on submittals for Contractor and Engineer review stamps.
- G. When revised for resubmission, identify changes made since previous submission.

- H. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- I. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Prepare Construction Progress Schedule in accordance with Section 01 32 16.
- B. Submit initial schedules within 20 days after date established in Notice to Proceed. After review, resubmit required revised data within 10 days.
- C. Submit revised Progress Schedules with each Application for Payment.
- D. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- E. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- F. Indicate delivery dates for Owner furnished products.
- G. Revisions To Schedules:
 - 1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
 - 3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.

1.4 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

- A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus 3 copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

- E. After review, produce copies and distribute in accordance with Submittal Procedures article and for record documents described in Section 01 70 00.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of opaque reproductions Contractor requires, plus 3 copies Engineer will retain.
- C. After review, produce copies and distribute in accordance with Submittal Procedures article and for record documents described in Section 01 70 00.

1.7 TEST REPORTS

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.8 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.9 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.10 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Engineer's benefit as contract administrator or for Owner.
- B. Submit report in duplicate within 30 days of observation to Engineer for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CONSTRUCTION PHOTOGRAPHS

- A. Photographs: Take photographs as evidence of existing project conditions.
- B. Identify each print on back. Identify name of Project, contract number, orientation of view, date and time of view.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.



SHOP DRAWING SUBMITTAL

PROJECT: Williams Creek Road Elevated Storage Tank Rehab
For Public Water Supply District No. 2
High Ridge, Jefferson County, Missouri

DATE: _____

A/E PROJECT NO: 850-0803

CONTRACTOR: _____

PRESENTED BY: _____
(Subcontractor/Supplier) Company Name

Address

Phone/Fax

Contact Person

ITEM: _____

SPEC SECTION: _____

By approving and submitting these shop drawings, product data and samples, we represent that we have determined and verified all materials, field measurements and field construction criteria related thereto, or will do so, and that we have checked and coordinated information contained within submittal with requirements of the work and contract documents.

Contractor's Signature

Date

END OF SECTION

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SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances.
- C. References.
- D. Testing and inspection services.
- E. Manufacturers' field services.
- F. Examination.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.5 TESTING AND INSPECTION SERVICES

- A. Contractor will employ and pay for specified services of an independent firm to perform inspection services.
- B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Engineer or Owner.
- C. The Contractor will perform testing services when indicated by the pertinent specifications section.
- D. When testing services require laboratory services, the following will apply:
 - 1. Laboratory: Authorized to operate in State of Missouri.
 - 2. Laboratory Staff: Maintain full time specialist on staff to review services.
 - 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- E. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Engineer or Owner.
- F. Reports will be submitted by independent firm to Engineer, Owner and Contractor, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- G. Contractor shall cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

- H. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- I. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm or other firm on instructions by Engineer. Payment for re-testing or re-inspection shall be the Contractor's responsibility.
- J. Agency Responsibilities:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at site. Cooperate with Engineer, Owner and Contractor in performance of services.
 - 3. Perform specified sampling and testing of products in accordance with specified standards.
 - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 5. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.
 - 6. Perform additional tests required by Engineer or Owner.
 - 7. Attend preconstruction meetings and any progress meetings.
- K. Agency Reports: After each test, promptly submit one copy of report to Engineer, Owner and Contractor. When requested by Engineer, provide interpretation of test results. Include the following:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and specifications section.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
 - 10. Conformance with Contract Documents.
- L. Limits On Testing Authority:
 - 1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency or laboratory may not approve or accept any portion of the Work.
 - 3. Agency or laboratory may not assume duties of Contractor.
 - 4. Agency or laboratory has no authority to stop the Work.

1.6 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

- B. Submit qualifications of observer to Engineer 30 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, Manufacturers' Field Reports article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Temporary lighting for construction purposes.
 - 3. Temporary heating.
 - 4. Temporary cooling.
 - 5. Temporary ventilation.
 - 6. Temporary water service.
 - 7. Temporary sanitary facilities.
- B. Construction Facilities:
 - 1. Vehicular access.
 - 2. Parking.
 - 3. Progress cleaning and waste removal.
 - 4. Traffic regulation.
- C. Temporary Controls:
 - 1. Barriers.
 - 2. Enclosures and fencing.
 - 3. Security.
 - 4. Water control.
 - 5. Dust control.
 - 6. Erosion and sediment control.
 - 7. Noise control.
 - 8. Pollution control.
- D. Removal of utilities, facilities, and controls.
- E. Clean Air Act.
- F. Clean Water Act.
- G. Historical or Archaeological.

1.2 TEMPORARY ELECTRICITY

- A. Provide and pay for power service required from utility source as needed for construction operation.
- B. Complement existing power service capacity and characteristics as required for construction operations.
- C. Permanent convenience receptacles may be utilized during construction.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels or as construction project requires.
- B. Maintain lighting and provide routine repairs.

1.4 TEMPORARY HEATING

- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.

1.5 TEMPORARY COOLING

- A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations.

1.6 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.7 TEMPORARY WATER SERVICE

- A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations. Connect to existing water source. Owner to provide water free of charge for testing purposes. Exercise measures to conserve energy.

1.8 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.9 VEHICULAR ACCESS

- A. Extend and relocate vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow.
- B. Provide unimpeded access for emergency vehicles. Maintain 12 foot wide driveways with turning space between and around combustible materials.
- C. Provide and maintain access to fire hydrants and control valves free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Use designated existing on-site roads for construction traffic.
- F. Access to site from limited access highways not permitted except at permitted access points.

1.10 PARKING

- A. Arrange for surface parking areas to accommodate construction personnel.
- B. When site space is not adequate, provide additional off-site parking.
- C. Do not allow heavy vehicles or construction equipment in parking areas.
- D. Do not allow vehicle parking on existing pavement.
- E. Use of existing on-site streets and driveways used for construction traffic is not permitted.
- F. Permanent Pavements And Parking Facilities:
 - 1. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
- G. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- H. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.11 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

1.12 TRAFFIC REGULATION

- A. Signs, Signals, And Devices:
 - 1. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction.
 - 2. Traffic Control Signals: As approved by authority having jurisdiction.
 - 3. Traffic Cones and Drums, Flares and Lights: As approved by authority having jurisdiction.
 - 4. Flagperson Equipment: As required by authority having jurisdiction.
- B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

- C. Flares And Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
- D. Haul Routes:
 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
- E. Traffic Signs And Signals:
 1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
 2. Provide, operate, and maintain traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
 3. Relocate as Work progresses, to maintain effective traffic control.
- F. Removal:
 1. Remove equipment and devices when no longer required.
 2. Repair damage caused by installation.
 3. Remove post settings to depth of 2 feet.

1.13 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.14 ENCLOSURES AND FENCING

- A. Construction: Plastic construction netting or chain link.

1.15 SECURITY

- A. Security Program:
 1. Protect Work from theft, vandalism, and unauthorized entry.
 2. Initiate program at project mobilization.
 3. Maintain program throughout construction period until Owner occupancy.

1.16 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.17 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.18 EROSION AND SEDIMENT CONTROL

- A. Refer to Erosion Control and SWPPP Specification.
- B. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal area. Prevent erosion and sedimentation.
- C. Minimize surface area of bare soil exposed at one time.
- D. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.
- E. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- F. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.19 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.20 POLLUTION CONTROL

- A. Refer to Erosion Control and SWPPP Specification.
- B. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- C. Comply with pollution and environmental control requirements of MoDNR.

1.21 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to final inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.22 CLEAN AIR ACT

- A. All parties of the contract are required to comply with the Clean Air Act [42 U.S.C. 7506 (C)].

1.23 CLEAN WATER ACT

- A. All parties of the contract are required to comply with the Clean Water Act (33 U.S.C. 1368).

1.24 HISTORICAL OR ARCHAEOLOGICAL

- A. If during the course of construction evidence of deposits of historical or archaeological interest is found, the contractor shall cease operations affecting the find and shall notify the owner who shall notify the Missouri Department of Natural Resources and the Director, Division of State Parks, State Historic Preservation Office, P.O. Box 176 Jefferson City, Missouri 65102, Telephone (573) 751-7858. No further disturbances of the deposits shall ensue until the contractor has been notified by the owner that he may proceed. The owner will issue a notice to proceed only after the state official has surveyed the find and made a determination to the Missouri Department of Natural Resources and the owner. Compensation to the contractor, if any, for lost time or changes in construction to avoid the find, shall be determined in accordance with changed conditions or change order provisions of the specifications.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

- F. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during bidding period to requirements specified in this section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for Substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work, which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner and Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Starting of systems.
- D. Demonstration and instructions.
- E. Testing, adjusting, and balancing.
- F. Protecting installed construction.
- G. Project record documents.
- H. Operation and maintenance data.
- I. Manual for materials and finishes.
- J. Manual for equipment and systems.
- K. Spare parts and maintenance products.
- L. Product warranties and product bonds.
- M. Maintenance service.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer required by authorities having jurisdiction.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.

- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove rocks from grassed or landscaped areas.
- E. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 STARTING OF SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Engineer seven days prior to start-up of each item.
- C. When specified in individual specification Sections, 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.
- D. Submit a written report in accordance with Section 01 33 00 that equipment or system has been properly installed and is functioning correctly.

1.5 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of final inspection.
- B. Demonstrate Project equipment and instruct in classroom environment located at Owners office and instructed by qualified manufacturer's representative who is knowledgeable about the Project.
- C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at designated location.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- F. Required instruction time for each item of equipment and system is specified in individual sections.

1.6 TESTING, ADJUSTING AND BALANCING

- A. Contractor will appoint, employ, and pay for services of independent firm to provide testing, adjusting, and balancing.
- B. Reports will be submitted by independent firm to Engineer indicating observations and results of tests and indicating compliance or non-compliance with requirements of Contract Documents.

1.7 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Prohibit traffic from landscaped areas.

1.8 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
 - 7. Permits including the following:
 - a. Land Disturbance (NPDES) and Storm Water Pollution Prevention Plan
 - b. MDNR Water/Sewer Extension
 - c. MoDOT Right-of-Way Permit
 - d. Local Agency Permits (building, plumbing, etc.)
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 3. Field changes of dimension and detail.
 - 4. Details not on original Contract drawings.
- G. Submit documents to Engineer with claim for final Application for Payment.

1.9 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11 inch text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section or as accepted by the Owner. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Originals of warranties and bonds.

1.10 MANUAL FOR MATERIALS AND FINISHES

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes fifteen days prior to final inspection. Draft copy be reviewed and returned after final inspection, with Engineer comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form within 10 days after final inspection.

- E. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom manufactured products.
- F. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- G. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.
- H. Additional Requirements: As specified in individual product specification sections.
- I. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.11 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes fifteen days prior to final inspection. Draft copy to be reviewed and returned after final inspection, with Engineer comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form within 10 days after final inspection.
- E. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- F. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- G. Include color-coded wiring diagrams as installed.
- H. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.
- I. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- J. Include servicing and lubrication schedule, and list of lubricants required.

- K. Include manufacturer's printed operation and maintenance instructions.
- L. Include sequence of operation by controls manufacturer.
- M. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- N. Include control diagrams by controls manufacturer as installed.
- O. Include Contractor's coordination drawings, with color-coded piping diagrams as installed.
- P. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- Q. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- R. Include test and balancing reports as specified in Section 01 40 00.
- S. Additional Requirements: As specified in individual product specification sections.
- T. Include listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

1.12 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to Project site and place in location as directed by Owner; obtain receipt prior to final payment.

1.13 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.
- F. Submit prior to final Application for Payment.

- G. Time Of Submittals:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
 2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.14 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components indicated in specification sections during warranty period.
- B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.
- D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 09 97 14

STEEL WATER STORAGE TANK PAINTING

PART 1 GENERAL

1.1 SCOPE

- A. The Contractor shall furnish all equipment, coating materials, tools, rigging, labor, insurance, taxes and any other requirements to prepare the surfaces and paint all surfaces defined in the Project.
- B. It is the intent of this specification to prescribe first class workmanship, materials and procedures; however, it shall be the responsibility of the Contractor to provide first class workmanship at all times.
- C. Related Sections:
 - 1. Section 33 13 13 - Water Storage Tank Disinfection
 - 2. Section 33 16 13 - Aboveground Water Utility Storage Tank

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D2247 - Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
 - 2. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test.
- B. American Water Works Association:
 - 1. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
 - 2. AWWA D102 - Standard for Painting Steel Water Storage Tanks.
- C. NFPA: National Fire Protection Association:
 - 1. NFPA 22 - Standard for Water Tanks for Private Fire Protection.
- D. NSF (National Sanitation Foundation) International:
 - 1. NSF 61 - Drinking Water System Components - Health Effects. Materials in contact with potable water.
 - 2. NSF 600 - Drinking Water System Components - Health Effects Solvent Criteria. Materials in contact with potable water.
- E. OSHA: Occupational Safety and Health Administration:
 - 1. Part 1910 - Occupational Safety and Health Standards.
- F. SSPC: The Society for Protective Coatings:
 - 1. SSPC PA 1 - Shop, Field, and Maintenance Painting of Steel.
 - 2. SSPC SP 2 - Hand Tool Cleaning.
 - 3. SSPC SP 3 - Power Tool Cleaning.
 - 4. SSPC SP 6 - Commercial Blast Cleaning.
 - 5. SSPC SP 7 - Brush-Off Blast Cleaning.
 - 6. SSPC SP 10 - Near-White Blast Cleaning.
 - 7. SSPC-SP WJ-4 - Waterjet Cleaning - Light Cleaning.

- G. Steel Structures Painting Council Manual:
 - 1. Volume 1 - Good Painting Practice.
 - 2. Volume 2 - Systems and Specifications.

- H. Missouri Department of Natural Resources:
 - 1. Minimum Design Standards for Missouri Community Water Systems - December 10, 2013.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data on finishing products.
- C. Manufacturer's Installation Instructions: Submit special surface preparation procedures, substrate conditions requiring special attention.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted surfaces.

1.5 QUALITY ASSURANCE

- A. Paint:
 - 1. Comply with AWWA D102.
 - 2. Certified by NSF International in accordance with NSF 61 and NSF 600, as acceptable for surfaces in contact with potable water.

- B. Obtain paint products from single source for Work specified in this section.
 - 1. The Contractor shall furnish, until final acceptance of coating, inspection devices in good working condition for detection of holidays and measurement of dry-film thickness gauge and certified instrumentation to test accuracy of holiday detectors.
 - 2. Dry-film thickness gauges and holiday detectors shall be made available for the Engineer's or Owner's Representative's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer or Owner's Representative.
 - 3. Include on label of container:
 - a. Manufacturer's name, product name, and number.
 - b. Type of paint and generic name.
 - c. Color name and number.
 - d. Storage and temperature limits.
 - e. Mixing and application instructions, including requirements for precautions which must be taken.
 - f. Drying or curing time.

- C. The Contractor shall hold a valid State Contractor's license, if required, for performing surface preparation and coating work and shall have three years practical experience and successful history in the application of specified products to surfaces of steel water tanks.

Upon request, he shall substantiate this requirement by furnishing a list of reference jobs completion.

- D. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer or Owner's Representative.
- E. Surface Preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces" - SSPC-Vis-1-89 Visual Standard for Abrasive Blast Cleaned Steel.
- F. No coating shall be applied: When the surrounding air temperature or the temperature of the surface to be coated is below manufacturers printed instructions; to wet or damp surfaces or in rain, snow, fog or mist; when the temperature is less than 5°F above the dew point. Dew point shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with US Department of Commerce Weather Bureau Psychrometric Tables.
- G. If above conditions are prevalent, coating shall be delayed or postponed until conditions are favorable. The day's coating shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- B. Applicator: Company will have a NACE level three inspector on staff and at least one NACE level one inspector on all services provided for this project, and will include the names and qualifications of the inspectors in this bid. Company will have minimum ten years practical experience in performing work of this section and will include a list of experience with references in this bid.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Paint Materials: Store as required by manufacturer's instructions.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.

- B. Protection:
 - 1. Protect equipment from abrasion and paint damage.
- C. Tank Interior Work:
 - 1. Ventilate tank interior to remove dust, fumes, and volatile gases as required by authorities having jurisdiction.
 - 2. Keep manholes and other vent openings open during cleaning, surface preparation, painting and curing operations.
 - 3. Provide Engineer, Owner's Representative and laboratory personnel required to enter tank during cleaning or painting operations with safety equipment required by authority having jurisdiction.
- D. Protect surfaces from rapid curing caused by wind or sun exposure.
- E. Prevent rapid changes in temperature during curing and thermal shock cracks in finish material.

1.9 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.
- B. A 10 year warranty is available for the interior finish coating system. Warranty and finish coat colors must be approved by paint manufacturer prior to application. Owner is requesting a manufacturer 10 year warranty using said interior finish coating system.

The warranty must be approved by Tnemec Company, Inc. prior to application. The warranty procedures are as follows, painting contractor will notify Tnemec Representative regarding pre-qualification form. Upon approval, Contractor will present Warranty drafts to Owner/Owner's Representative for signature. Completed paperwork shall be sent to the Warranty Administrator, Tnemec Company, Inc., 6800 Corporate Drive, Kansas City, MO 64120. Contractor will be supplied with panels to be coated with interior finish coat system. These panels are to be sent to the Warranty Administrator at the above address. Upon completion of tank painting, original warranty and copies will be sent to the respective individuals. The Contractor shall be responsible in obtaining this warranty, and no additional compensation will be allowed if a new painter or method is needed to obtain the warranty.

1.10 SAFETY

- A. In accordance with the requirements of the OSHA Regulations for Construction, the Contractor shall provide and require the use of personal protective and lifesaving equipment for all persons working in or about the project.
- B. All pertinent local, state and federal safety regulations shall be adhered to rigidly. All safety precautions noted on the manufacturers Product Data Sheet and Material Safety Data Sheet shall be observed.
- C. Material Safety Data Sheets (MSDS) and Product Data Sheets for all paint, solvents and chemicals used, shall be available on the job site at all times.
- D. No smoking will be permitted in water tanks.

- E. Spray equipment must be grounded at all times during sandblasting and painting. Ground to scaffolding is not sufficient.
- F. Head and face protection and respiratory devices: Applicable health and safety precautions required by appropriate regulatory agencies such as OSHA, ANSI, etc. shall be followed.
- G. Ventilation shall be adequate to reduce the concentration of air contaminant to the degree that a hazard to the worker does not exist.
- H. Whenever the occupational noise exposure exceeds the maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protective devices. Noise levels cannot exceed OSHA or local regulations for other workers or residents.
- I. All temporary ladders and scaffolding shall conform to the applicable requirements of the OSHA Regulations for Construction. They shall be erected where requested by the Owner's Representative to facilitate proper inspection and be moved by the Contractor to locations requested by the Owner's Representative.
- J. The Contractor shall follow and strictly adhere to all applicable health and safety regulations and precautions as required by local, state, and federal regulatory agencies such for the surface preparation, removal, and waste disposal of all lead-based paint systems.

PART 2 MATERIALS

2.1 GENERAL

- A. All materials specified herein shall be manufactured by the Tnemec Co., Inc. Materials specified are those that have been evaluated for the specified service. Products of the Tnemec Co. are listed to provide a standard of quality. Equivalent material of other manufacturers may be substituted on written approval of the owner only. Any requests for substitution shall include manufacturer's literature for each project listing the name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified test data showing results to equal the performance criteria of the products listed herein. In addition, a list of ten projects shall be submitted in which each product has been used and rendered satisfactory service. All requests for product substitutions shall be made at least ten (10) days prior to the bid date of this project. All material savings shall be passed on to the owner in the form of contractor dollar reduction.
- B. Manufacturer's color charts shall be submitted to the owner at least 30 days prior to paint application. The contractor shall coordinate work so as to allow sufficient time for paint to be delivered to jobsite. Colors, where not specified, shall be as selected by the Owner.
- C. Coating systems shall carry appropriate approvals from NSF (National Sanitation Foundation)/ANSI/CAN Standard 61 and Standard 600 for Coatings and Linings. All coatings shall meet all current U.S.E.P.A. Requirements for VOC (Volatile Organic Compounds) Compliance Level. All interior coatings shall be modified for low temperature applications down to 35°F to facilitate curing.

- D. All materials shall be brought to jobsite in original sealed containers. They shall not be used until the Engineer or Owner's Representative has inspected contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- E. All coatings shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings must be stored to conform to City, County, State and Federal safety codes for flammable coating materials. At all times, coatings shall be protected from freezing.
- F. Hereinafter in this portion of the specification, when referred to, the word "paint" shall also apply to any protective coatings so specified herein or as shown on the drawings, unless as specifically otherwise indicated.
- G. The dry film thickness specified shall be obtained by repeated coats of paint as the specified thickness and not by the number of coats of paint specified.
- H. All painting shall be done strictly in accordance with manufactures instructions.

2.2 TANK DIMENSIONS

- A. Welded Steel Fluted Pillar/Column Elevated Water Storage Tank: 1,000,000 Gallon (\pm), 74' Diameter (\pm), 40' Head Range (\pm), 52' Flute Diameter (\pm) and 96' Tall (\pm) to the Tank Overflow.

2.3 INTERIOR COATING DRY AREA SYSTEM IN CONTACT WITH WETTED AREA SYSTEM

- A. AREA DESCRIPTION: The interior coating dry insulative system for areas in contact with wetted area system includes interior dry bottom of bowl, interior dry wet riser / inlet/outlet pipe, interior dry access tube for roof access, and interior dry overflow pipe to help with interior condensation control within the dry interior of the tank.
- B. SURFACE PREPARATION: All surfaces shall be cleaned in accordance with SSPC-SP 6 Commercial Blast Cleaning. All surfaces are to be clean, dry and free of contaminants. Contractor to provide interior dry full containment for removal and disposal of paint from tank, and to protect existing interior improvements during limited rehabilitation work. Contractor to protect other interior dry surfaces (walls and floor) to avoid fracturing or damaging the existing coating. Any fracturing or damage that may occur during construction shall be repaired by the Contractor at no additional cost to the Owner.
- C. PRIME COAT: Apply one (1) full coat of Tnemec Series 91-H2O or 94-H2O Hydro-Zinc at 2.5 to 3.5 mils Dry Film Thickness (color to be determined by Tnemec based on finish coat color).
- D. STRIPE COAT: Brush apply one (1) full coat of Tnemec Series N140 or N140F Pota-Pox Plus at 2.0 to 3.0 mils Dry Film Thickness to all edges, weld seams and overlapping plate seams (color to be determined by Tnemec based on finish coat color).
- E. FIRST INTERMEDIATE COAT: Apply one (1) full coat of Tnemec Series 971 Aerolon Acrylic at 45.0 to 50.0 mils Dry Film thickness (color to be determined by Tnemec based on finish coat color).

- F. SECOND INTERMEDIATE COAT: Apply one (1) full coat of Tnemec Series 971 Aerolon Acrylic at 45.0 to 50.0 mils Dry Film thickness (color to be determined by Tnemec based on finish coat color).
- G. FIRST FINISH COAT: Apply one (1) full coat of Tnemec Series 1028 Enduratone at 2.0 to 3.0 mils Dry Film Thickness (color to be chosen by Owner and approved by Tnemec).
- H. SECOND FINISH COAT: Apply one (1) full coat of Tnemec Series 1028 Enduratone at 2.0 to 3.0 mils Dry Film Thickness (color to be chosen by Owner and approved by Tnemec).
- I. Total minimum Dry Film thickness shall not be less than 96.5 mils.

2.4 INTERIOR COATING DRY AREA SYSTEM FOR SPOT REPAIRS (IF NECESSARY)

- A. SURFACE PREPARATION: All surfaces shall be cleaned in accordance with SSPC-SP 6 Commercial Blast Cleaning. All surfaces are to be clean, dry and free of contaminants. Contractor to provide interior dry full containment for removal and disposal of paint from tank, and to protect existing interior improvements during limited rehabilitation work. Contractor to protect other interior dry surfaces (walls and floor) to avoid fracturing or damaging the existing coating. Any fracturing or damage that may occur during construction shall be repaired by the Contractor at no additional cost to the Owner.
- B. PRIME COAT: Apply one (1) full coat of Tnemec Series 91-H2O or 94-H2O Hydro-Zinc at 2.5 to 3.5 mils Dry Film Thickness (color to be determined by Tnemec based on finish coat color).
- C. STRIPE COAT: Brush apply one (1) full coat of Tnemec Series N140 or N140F Pota-Pox Plus at 2.0 to 3.0 mils Dry Film Thickness to all edges, weld seams and overlapping plate seams (color to be determined by Tnemec based on finish coat color).
- D. INTERMEDIATE COAT: Apply one (1) full coat of Tnemec Series N140 or N140F Pota-Pox Plus at 4.0 to 6.0 mils Dry Film thickness (color to be determined by Tnemec based on finish coat color).
- E. FINISH COAT: Apply one (1) full coat of Tnemec N140 or N140F Pota-Pox Plus at 4.0 to 6.0 mils Dry Film Thickness (color to be chosen by Owner and approved by Tnemec).
- F. Total minimum Dry Film thickness shall not be less than 10.5 mils.

PART 3 EXECUTION

3.1 GENERAL

- A. All coatings shall be mixed and applied in strict accordance with the manufacturer's instructions. Solvents for thinning or cleaning shall be the same manufacture as the coating.
- B. Suitable industrial type vacuum cleaners shall be provided and used to remove all residual sand and dust from all surfaces after sandblasting and prior to coating. All coated surfaces shall be cleaned before subsequent coats are applied. Particular attention

shall be given to removal of sand and dust from welds, lids and edges of structural shapes and other crevices where sand may be trapped.

- C. Blasting and painting shall proceed only when the metal surface is free from dampness (precipitation and condensation). All blasted areas shall be primed within six hours after blasting, except that there shall remain unpainted a 6" x 12" border of blasted steel at the end of each workday, to prevent rusting and oxidation of cleaned surfaces. Exception of above only by Owner's written approval.
- D. Allow each coat to dry thoroughly before applying the next coat.
- E. Finish coats shall be uniform in color and sheen without streaks, runs, sags or misses.
- F. Containing Blasting Debris. The Contractor shall ensure that no detectable release of blasting debris escapes the containment. The ground surrounding the site shall be protected from all debris and other materials generated in the cleaning operations. All blasting (except vacuum blasting) shall be enclosed. All materials shall be maintained free of tears, cuts or holes. All seams shall be in a manner that insures a seal, which does not allow openings in the containment. Dust collectors shall be used in conjunction with the forced airflow. The Contractor shall be responsible for all materials that are used and for the apparatus or enclosure used to contain debris. The enclosure shall be designed not to impose excessive loading on the structures and appurtenances and if damage would occur it is the responsibility of the Contractor to return owner's property to its original condition. The owner reserves the right to stop work or to require additional or different enclosure methods, if the Contractor's operations create a nuisance beyond the containment in the sole opinion of the Owner's Representative or any regulatory agency.

3.2 THINNING AND APPLICATION

- A. All coating materials shall be thinned only to the degree necessary for proper application to specified film thickness. Thinners used shall be only those approved by the coating manufacturer for that specific purpose and product, and in strict accordance with the manufacturer's printed instructions. The resulting spread rate of any thinned coatings shall not exceed manufacturer's published instructions.
- B. Application of Material may be made by brush, roller or spray, but in strict accordance with manufacturer's recommendations and printed instructions. The spraying of surfaces shall only be done by permission of the Owner or Owner's Representative and with due regard to any hazard to the adjacent area.

3.3 SPECIAL REQUIREMENTS

- A. The work shall be performed in strict accordance with manufacturer's instructions and in a safe workman like manner.
- B. All phases of work shall be available for observation by the paint manufacturer's representative.
- C. The contractor shall provide necessary safety precautions such as air movement in the painting area and suitable safety masks.
- D. The paint and coatings shall be delivered to the site in original sealed containers.

- E. Defective areas, runs, over spray roughness, scratches, holidays or other signs of improper application shall be repaired and re coated in accordance with instructions from the paint manufacturer.
- F. Build Thickness shall be determined with a Mikrotest thickness gauge or similar instrument. Inspection for pinholes or holidays will be done with Tinker Razor or similar low voltage (less than 100 volts) instrument. Contractor shall provide test instruments and gauges.
- G. No paint shall be applied when the surrounding air temperature, as measured in the shade, is below 40°F. No paint shall be applied when the temperature of the surface to be painted is below 35°F. Paint shall not be applied to wet or damp surfaces, or when the humidity exceeds 85%.

3.4 SURFACE PREPARATION

- A. No coating work shall begin before the prepared surfaces or the manner of preparation is inspected and the Owner or Owner's Representative takes no exceptions to the work.
- B. All surfaces shall be prepared in accordance with the coating manufacturer's current Product Data Sheets.
- C. Steel and Iron Surfaces
 1. After abrasive blasting, dust and spent sand shall be removed from the surfaces by brushing or vacuum cleaning. The prime coat shall be applied as soon as possible after the blasting preparation is finished and always before the surface starts to rust. No abrasive blasted surface shall stand overnight before coating, exception being by Owner's verbal approval
 2. Only unused fresh sand, grit, or abrasive will be used.
 3. All sharp edges and welds shall be ground smooth to a rounded contour and all weld spatter shall be removed after sandblasting.

3.5 COATING SYSTEMS:

- A. Previous coats of paint must be cured in accordance with the manufacturer's data sheet before application of succeeding coats. Each coat of paint shall be tinted to make it distinguishable from succeeding coats. Each coat of paint shall be inspected and approved by the Owner's Representative before application of succeeding coats; otherwise, no credit for coat applied will be given; and the work in question shall be re-coated.
- B. Two-part systems, consisting of a base and catalyst shall be mixed as directed in the manufacturer's instruction to ensure complete chemical interaction and homogeneity. Pot life stated in manufacturer's product data sheets shall be strictly observed. Any material, which thickens or excessively jells, shall be discarded.

3.6 PREPARATION AND APPLICATION

- A. The paint shall be delivered to the job in original containers marked with the name of the manufacturer and the specification number of paint contained therein. The manufacturer's brand, type of paint, color of paint, and instructions for thinning and applying shall be included on the label.

- B. It is to be understood that the color or extent of the color pigment is important and a sample of one (1) pint of the paint to be used shall be provided to the Owner or Owner's Representative for approval prior to application. The right to reject the samples submitted and to require modification thereto and resubmittal of samples is expressly reserved by the Owner or Owner's Representative.
- C. The contractor shall not place an order for paint prior to approval of the sample by the District's Representative as outlined above. Any order placed prior to such approval shall be at the contractor's own risk and he shall bear any additional costs arising therefrom. There shall be no painting when the metal temperature is below 50°F or above 100°F when metal temperature is at or below dew point temperature. The contractor shall examine all shop-primed materials and determine compatibility with the field coats specified. If there are any incompatible surfaces, the contractor shall notify the Engineer or Owner's Representative for action immediately.
- D. Apply paint in accordance with manufacturer's instructions and SSPC PA 1.
- E. Paint is to be applied in strict accordance with the paint manufacturer's recommendations and printed instructions. If sprayed or rolled, the surface shall be brushed out where necessary and worked into all corners and crevices to assure a finished job equal to that obtained by first class brush work.
- F. At all times, the Engineer or Owner's representative shall have access to the work in progress. Tests for wet film thickness, and dry film thickness. No pinholes will be allowed. The inspector will also check application practices. The contractor shall repaint all areas found defective and remove and replace any coating placed using improper practices. The contractor shall furnish the Inspector a dry film thickness mil gauge for checking paint thickness.
- G. In addition to tests for wet film thickness, dry film thickness and pinholes, which will be made during the progress of the work, the Engineer or Owner's representative will check the coatings after the completion of the application for compliance with these specifications.
- H. All the painting shall be free from cracks, runs, blisters, crazing and other defects. All defects shall be promptly corrected.

3.7 INSPECTION

- A. At all times the Owner and/or the Owner's Representative shall have access to the work in progress. Contractor shall assist, when requested, in the inspections. Tests will be made for surface condition and profile after blasting, wet film thickness, dry film thickness and pinholes. No pinholes will be allowed. The inspector will also check application practices. The Contractor shall re-paint all areas found defective and remove and replace any coatings placed using improper practices.
- B. In addition to the tests for surface profile, wet film thickness, dry film thickness and pin holes, which will be made during the progress of the work, the Owner will check the coatings after completion of the application for compliance with these specifications. Contractor shall promptly correct all defects.
- C. Owner or Owner's Representative shall be kept informed by Contractor as to the progress of the work. If Contractor fails to notify the Owner or Owner's Representative of

progressing work and the inspector has doubts of uninspected work, the Contractor will be responsible to take whatever measures necessary including but not limited to re-blasting and/or re-painting areas in question.

1. Key Areas of Owner or Owner's Representative Notification by Contractor:
 - a. Profile of blast
 - b. Prime coat film thickness
 - c. Stripe coat application and film thickness
 - d. Intermediate coat film thickness
 - e. Finish coat film thickness
- D. Contractor shall work between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday unless given verbal notification by Owner or Owner's Representative to do otherwise.
- E. Owner or Owner's Representative shall be kept informed by Contractor as to progress of work and any delays due to weather or equipment failure.

3.8 CLEAN-UP

- A. The Contractor is responsible for removing all sand and paint residue from the project
- B. Upon completion of job Contractor shall remove all debris, cans, rags, etc. from the site.
- C. Damage, if any, to buildings, fences, grounds (to include shrubs and trees), and roads shall be repaired and returned to their original condition.

3.9 DISINFECTION AND COMMISSIONING

- A. See Specification Section 33 13 13 - Water Storage Tank Disinfection

3.10 WARRANTY

- A. The Contractor shall warrant and guarantee that the materials and workmanship furnished under this contract on all coatings shall be as specified and shall be free from defects for a period of two years from the date of final payment.
- B. Within the guarantee period and upon notification of the Contractor by the Owner, the Contractor shall promptly make all needed adjustments, repairs, or replacements arising out of defects which, in the judgment of the Owner, and/or Owner's Representative, become necessary during such period
- C. The costs of all materials, parts, labor, transportation, supervision, special tools and supplies required for replacement of parts, repair of parts, or correction of abnormalities shall be paid for by the Contractor, or by his surety under the terms of the Performance and Payment Bond.
- D. The Contractor also extends the terms of this guarantee to cover repair work and all replacement parts furnished under the guarantee provisions for a period of two years from the date of completion thereof.
- E. The coating will be inspected after one year and two years to assure that no coating failure has occurred. Contractor shall provide a representative to attend each warranty inspection. If any corrosion, bubbling, delaminating or other indications of failure are

detected, the Contractor will repair all affected areas. Inspection and repair will be per AWWA D102.

3.11 SHOP DRAWINGS

- A. Shop drawings shall be submitted in accordance with the General Conditions and General Requirements

END OF SECTION

SECTION 33 13 13

WATER STORAGE TANK DISINFECTION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Water tank disinfection.
 - 2. Bacteriological testing.
- B. Related Sections:
 - 1. Section 09 97 14 - Steel Water Storage Tank Painting
 - 2. Section 33 16 13 - Aboveground Water Utility Storage Tank

1.2 REFERENCES

- A. American Water Works Association:
 - 1. AWWA B300 - Hypochlorites.
 - 2. AWWA B301 - Liquid Chlorine.
 - 3. AWWA C652 - Disinfection of Water Storage Facilities.
 - 4. AWWA C655 - Field Dechlorination.
- B. Missouri Department of Natural Resources:
 - 1. Minimum Design Standards for Missouri Community Water Systems - December 10, 2013.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Disinfection Procedure: Submit procedure description including type of disinfectant to and calculations indicating quantities of disinfectants required to produce specified chlorine concentration in accordance with Section 3 and 4 of AWWA C652.
- C. Test Reports: Indicate results of bacteriological and residual chlorine laboratory test reports.
- D. Manufacturer's Certificate:
 - 1. Certify Products meet or exceed specified requirements.
 - 2. Certify disinfectants meet or exceed AWWA Standards requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with AWWA C652.
- B. Perform Work in accordance with Missouri Department of Natural Resources Minimum Design Standards for Missouri Community Water Systems, December 10, 2013 and Recommended Standards for Water Works, 2012 Edition.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Store disinfectants in cool, dry place away from combustibles such as wood, rags, oils and grease.
- C. Handle disinfectants with caution; protect skin and eyes from contact; avoid breathing vapors; wear gloves, aprons, goggles, and vapor masks.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Furnish personnel working inside tank during disinfection with equipment to comply with Federal and State regulations for work conducted in hazardous atmosphere.
- B. Neutralize disinfectant solution before disposal.
- C. Legally dispose of disinfection solution off Project site.
- D. Repair damage caused by disinfectant solution and disinfection procedures.

PART 2 PRODUCTS

2.1 DISINFECTANTS

- A. Chlorine Forms: In accordance with AWWA C652, Section 4.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Conduct inspection of tank interior before beginning disinfection.
 - 1. Verify tank is clean and free of polluting materials.
 - 2. Verify tank pipe and vent connections are properly made and clear of obstructions.
 - 3. Verify paint is thoroughly cured in accordance with paint manufacturer's instructions.

3.2 PREPARATION

- A. Protect aquatic life and vegetation from damage from disinfectant solution purged from tank.

3.3 APPLICATION

- A. Use any one or a combination of the three methods for disinfecting tank specified in Section 4 of AWWA C652:
 - 1. Chlorination Method 1.
 - 2. Chlorination Method 2.
 - 3. Chlorination Method 3.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements and Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Collect samples of water from filled tank for bacteriological analysis in accordance with Section 5 of AWWA C652; take inlet and outlet water samples.
- C. Test water samples for bacterial contamination and residual chlorine in accordance with State Health Standards for potable water.
- D. When water samples fail to meet State Health Standards for potable water perform the following corrective measures until water quality conforms to State Health Standards:
 - 1. Inlet and Outlet Water Sample Failure: Eliminate source of contamination in water supply, repeat disinfection, and retest water quality.
 - 2. Outlet Water Sample Failure: Repeat disinfection, and retest water quality.

END OF SECTION

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SECTION 33 16 13

ABOVEGROUND WATER UTILITY STORAGE TANK

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Welded steel elevated water tank.
 - 2. Tank painting.
- B. Related Sections:
 - 1. Section 09 97 14 - Steel Water Storage Tank Painting.
 - 2. Section 33 13 13 - Water Storage Tank Disinfection.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 318 - Building Code Requirements for Structural Concrete.
- B. ASTM International:
 - 1. ASTM A6 - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling.
 - 2. ASTM A36 - Standard Specification for Carbon Structural Steel.
 - 3. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 4. ASTM A283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
 - 5. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 6. ASTM A633 - Standard Specification for Normalized High-Strength Low-Alloy Structural Steel Plates.
 - 7. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
- C. American Society of Mechanical Engineers:
 - 1. ASME Section IX - Boiler and Pressure Vessel Code - Welding and Brazing Qualifications.
- D. American Petroleum Institute:
 - 1. API Standard 653- Tank Inspection, Repair, Alteration, and Reconstruction
- E. American Water Works Association:
 - 1. AWWA D100 - Welded Steel Tanks for Water Storage.
 - 2. AWWA D102 - Coating Steel Water Storage Tanks.
 - 3. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- F. American Welding Society:

1. AWS B2.1 - Specification for Welding Procedure and Performance Qualifications.
 2. AWS D1.1 - Structural Welding Code - Steel.
 3. AWS D1.4 - Structural Welding Code - Reinforcing Steel.
- G. Society for Protective Coatings:
1. SSPC SP 6 - Commercial Blast Cleaning.
 2. SSPC SP 10 - Near-White Blast Cleaning.
- H. Missouri Department of Natural Resources
1. Minimum Design Standards for Missouri Community Water Systems - December 10, 2013.

1.3 DEFINITIONS

- A. PURCHASER used in AWWA D100 means Owner.

1.4 SYSTEM DESCRIPTION

- A. Limited interior rehabilitation to existing 1,00,000 gallon (\pm) welded steel fluted pillar/column elevated water storage tank [74' diameter (\pm), 40' head range (\pm), 52' flute diameter (\pm) and 96' tall (\pm) to the tank overflow] for current safety requirements and Missouri Department of Natural Resources Drinking Water compliance requirements.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Shop Drawings: Signed and sealed by a Licensed Professional Engineer licensed in the State of Missouri. Indicate the following:
1. Tank Shop Drawings:
 - a. Structural plat and support member sizes and thickness.
 - b. Weld types and sizes.
 - c. Ladder, ladder supports, ladder gate and ladder safety device details.
 - d. Handrail with toe plate details.
 - e. Manway details.
 - f. Water supply and overflow piping, pipe supports, fittings, duck bill check valve and weir box details.
 - g. Tank repair contractor's standard published warranty shall be included with submittal information.
- C. Product Data:
1. Submit data ladder, ladder gate and ladder safety devices.
- D. Design Data: Submit structural calculations for tank structural repair items and necessary improvements to correct tank deficiencies that may be encountered during the tank repair work, signed and sealed by a Licensed Professional Engineer licensed in the State of Missouri.
- E. Manufacturer's Certificate: Certify products and design used on this tank repair meet or exceed specified requirements and AWWA standards.

- F. Test Reports: Submit radiographic films, identified to shell plate diagrams, at completion of the Work.
- G. Certificates:
 - 1. Submit names and qualifications of welders, welding operators and tackers before performing welding.
- H. Manufacturer's Field Reports: Certify tank accessories and tank repair improvements have been properly installed.
- I. Details of Welded Joints: AWWA D100, Sections 3.11, 3.12 and 8.

1.6 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record actual location layout and final configuration of elevated tank and accessories.

1.7 QUALITY ASSURANCE

- A. Perform Work in accordance with AWWA D100.
- B. Perform Work in accordance with API Standard 653.
- C. Perform Work in accordance with Missouri Department of Natural Resources Minimum Design Standards for Missouri Community Water Systems, December 10, 2013.
- D. Maintain one copy of each document on site.

1.8 QUALIFICATIONS

- A. Fabricator: Company specializing in performing work of this section with minimum ten years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum ten years documented experience.
- C. Welders, Welding Operators, and Tackers: ASME Section IX qualified within previous 12 months.
- D. AWWA D100, Section 11.3 - Welders Credentials: Refer to AWWA D100, Section 8.2 and 8.3.
- E. Design welded steel water storage tank and accessories under direct supervision of a Licensed Professional Engineer experienced in design of this Work and licensed in the state of Missouri.

1.9 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

- B. Convene minimum one week prior to commencing work of this section or as determined by the Owner.

1.10 FIELD MEASUREMENTS

- A. Verify filed measurements prior to fabrication.

1.11 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
- B. Coordinate work with connecting to water distribution system.

1.12 MAINTENANCE MATERIALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance materials.
- B. Furnish two safety climb harnesses for ladder safety climb cable system.

PART 2 PRODUCTS

2.1 WELDED STEEL GROUND STORAGE WATER TANK

- A. Furnish materials complying with this specification and standards specified in AWWA D100, Section 2.
- B. Furnish materials in accordance with Missouri Department of Natural Resources Minimum Design Standards for Missouri Community Water Systems, December 10, 2013.

2.2 TANK REPAIRS

- A. In conformance with requirements listed in AWWA D100, Paragraph III.A.1, pages xxi-xxiv as noted, supplemented, or modified below:
 1. Pipe and Fittings for Fluid Conductors: AWWA D100, Section 2.2.11 - Steel Pipe for Fluid Conductors: Only welded joints for conductors are acceptable.
 2. Corrosion Allowance and Protection: AWWA D100, Section 3.9.
 3. Butt-Joint Welds: AWWA D100, Section 8 - Welding. Lap welds tack welded on one side are not permitted, seal welding is required.
 4. Written Report Certifying Work: Prepare and submit as specified in AWWA D100, Section 11.2.
 5. Submit radiographic film and test segments as specified in AWWA D100, Section 11.4.1.
 6. Complete-Joint-Penetration Welded Shell Butt-Joints: Inspection as specified in AWWA D100, Section 11.
 7. Surface Preparation and Field Painting: Refer to Section 09 97 14.
 8. Seal Welding: AWWA D100, Section 8.14.2. Provide seal welds for lap joints in wet areas including interior roof surfaces.
 9. AWWA D100, Section 2 - Materials:

- a. Section 2.2.2 - Reinforcing Steel: Use only Grade 60.
- 10. AWWA D100, Section 3 - General Design:
 - a. Section 3.10 - Minimum Thickness and Size: For parts of tank in contact with water, parts not in contact with water, cylindrical shell plates, brace rods, overflow piping, rolled shapes, anchors and butt-welded annulus.
- 11. Any structural steel components of the existing tank found to be damaged, deficient or not compliant with AWWA D100 shall be repaired and / or reinforced with new structural steel components in accordance with AWWA D100. All portions of existing tank shell plates found to be pitted beyond allowable tolerances are to be reinforced with new structural steel. The required material grade, size, thickness and welding of the new structural steel components shall be in accordance with AWWA D100.

2.3 OTHER MATERIALS

- A. Furnish other materials in accordance with AWWA D100, Section 2.2 to complete installation.

2.4 FABRICATION

- A. AWWA D100, Section 9 - Shop Fabrication.

2.5 SOURCE QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.
- B. Inspect and test welds as follows:
 - 1. Examine weld joints in accordance with AWWA D100, Section 11 and Appendix A.
 - 2. Comply with procedure requirements of AWWA D100, Section 11 and Appendix A prior to proceeding with radiographic work.
 - 3. Immediately notify Engineer or Owner's Representative of weld locations failing to meet standards of AWWA D100, Section 11 and Appendix A.
 - 4. Repair and reinspect defective welds until acceptable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify existing elevations and grading for tank.

3.2 INSTALLATION

- A. Repair existing tank in accordance with AWWA D100 and the following:
 - 1. AWWA D102 - Coating Steel Water Storage Tanks:
 - a. Field paint. Refer to Section 09 97 14.
 - 2. AWWA C652 - Disinfection of Water Storage Facilities:

- a. Disinfecting. Refer to Section 33 13 13.

3.3 TANK ACCESSORIES

- A. Coordinate placement of tank accessories. Set items level, plumb, and in alignment with adjoining work.
- B. Provide anchors and inserts in sufficient number for proper fastening of items. Embed anchors to accurately align metal work at proper level.
- C. Drill holes as required for bolts and screws in supports and in metal work. Conceal fasteners where possible.
- D. Provide joint sealant as required to set, seal and secure metal items.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements and Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspection and Testing:
 - 1. Hydrostatic Testing:
 - a. Test completed and cleaned tank for liquid tightness by filling tank to its overflow elevation with water provided by Owner.
 - b. Correct leaks disclosed by this test.
 - c. Drain and legally dispose test water off site.
 - 2. Field Welds: Tested and inspected in accordance with AWWA D100, Section 11 - Inspection and Testing.

3.5 CONTRACTOR'S FIELD SERVICES

- A. Section 01 40 00 - Quality Requirements: Requirements for contractor's field services.
- B. Furnish field representative experienced in installation of tank repairs and accessories to supervise installation.
 - 1. Furnish installation certificate attesting that tank repairs and accessories are properly installed.

3.6 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.
- B. Clean interior and exterior of tank to remove debris, construction items, and equipment.
- C. Paint tank in accordance with Section 09 97 14.
- D. Disinfect tank in accordance with Section 33 13 13.

END OF SECTION

ATTACHMENT 1

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Liquid Engineering Corporation

Steel Potable Water Reservoir Inspection Report

Job Number: 56382

Utility: Jefferson County PWSD #2

Tank: Hydropillar

Date: 7/11/2022

Inspector: I. Rowley

Dive Controller: C. Foust

Capacity: 1MG

Dimensions: 96' TALL

SSPC Rating		SSPC Rating		SSPC Rating	
Grade	Description - Good Condition	Grade	Description - Fair Condition	Grade	Description - Poor Condition
10	No Rusting, or <0.01% of surface is rusted	7	Isolated rust, <.3% of surface is rusted	4	Approximately 10% of the surface is rusted
9	Minor rusting, or <0.03% of surface is	6	Extensive rusting, <1% of surface is rusted	3	Approximately 17% of the surface is rusted
8	Isolated rust, <.1% of surface is rusted	5	Approximately 3% of the surface is rusted	2	Approximately 33% of the surface is rusted
				1	Approximately 50% of the surface is rusted
				0	Approximately 100% of the surface is rusted

QUADRANT 1	QUADRANT 2	QUADRANT 3	QUADRANT 4
------------	------------	------------	------------

INTERIOR RESERVOIR ROOF

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Vents	3	Significant	N/A	-----	N/A	-----	N/A	-----
Roof Panels	6	Significant	6	Significant	6	Significant	6	Significant
Roof Support	N/A	-----	N/A	-----	N/A	-----	N/A	-----

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs

Over All Coating Condition Fair Average Blister Size N/A (See diagram for locations)

Over All Structural Condition Fair Current Weld Condition Fair Average Pit Depth N/A (See diagram for locations)

INTERIOR RESERVOIR WALLS

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Wall to Roof Joint	1	Significant	1	Significant	1	Significant	1	Significant
Lower Ring Panels	8	Minor	8	Minor	8	Minor	8	Minor
Middle Ring Panels	8	Minor	8	Minor	8	Minor	8	Minor
Upper Ring Panels	8	Minor	8	Minor	8	Minor	8	Minor
Internal Ladder	N/A	-----	N/A	-----	N/A	-----	N/A	-----

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs

Over All Coating Condition Fair Average Blister Size N/A (See diagram for locations)

Over All Structural Condition Good Current Weld Condition Fair Average Pit Depth N/A (See diagram for locations)

INTERIOR RESERVOIR FLOOR

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Floor / wall seam	8	Minor	9	Minor	9	Minor	9	Minor
Floor Panels	9	Minor	9	Minor	9	Minor	9	Minor

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs

Over All Coating Condition Good Average Blister Size N/A (See diagram for locations)

Over All Structural Condition Good Current Weld Condition Fair Average Pit Depth N/A (See diagram for locations)

INTERIOR RESERVOIR SUPPORT COLUMNS

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Column Structures	9	Minor	N/A	-----	N/A	-----	N/A	-----
Column Bases	9	Minor	N/A	-----	N/A	-----	N/A	-----
Column Capitals	6	Significant	N/A	-----	N/A	-----	N/A	-----

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs

Over All Coating Condition Fair Average Blister Size N/A (See diagram for locations)

Over All Structural Condition Good Current Weld Condition Good Average Pit Depth N/A (See diagram for locations)

DISCLAIMER

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Liquid Engineering Corporation
Potable Water Reservoir Immediate Needs Assessment

Job Number: 56382

Utility: Jefferson County PWSD #2

Tank: Hydropillar

Inspector: I. Rowley

Dive Controller: C. Foust

Date: 7/11/2022

1. Health and Safety Items

- Safety Climb System Installation:
- Vent Screen Repairs:

2. Testing Items

- Dye Testing for Leak Evaluation:

3. Repair Items

- Epoxy Coating Repairs:
- Temporary Leak Repairs:
- Float Operated Level Indicator Repairs / Maintenance:
- Hypalon Repairs:

4. Security Related Items *(Critical security upgrade information is immediately available)*

- Tank vents are not equipped with a security vent shroud:
- Tank hatches are not equipped with a security hatch locking device:
- Tank perimeter not adequately secured:

The above mentioned additional work is considered immediately necessary and is recommended to be completed. Some items may be completed in conjunction with work currently being performed while the crew is on site.

Reservoir Inspection Condition Supplemental

"HYDROPIILLAR" - C. FOUST - Upon entering the reservoir, the diver found 1/4" average of what appeared to be a calcium sediment. All of the sediment was removed during the cleaning process. The exposed floor panels were in good condition as only a few minor rust nodules were noted. The lower, mid and upper wall panels were in fair condition as there were minor rust nodules forming sporadically throughout. Approximately half of the wall to roof seam is corroded. The roof panels have a significant amount of uniform surface and intergranular corrosion forming primarily along the welded seams. The main vent has a screen that is in good condition. The common inlet/outlet appeared to be free from obstruction. Overall the reservoir was in fair condition.

Recommended:

- A clean/inspect every three years

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Potable Water Reservoir Security / Measurement Worksheet

Job Number 56382


Utility Name Jefferson County PWSD #2

Tank Name Hydropillar

Security

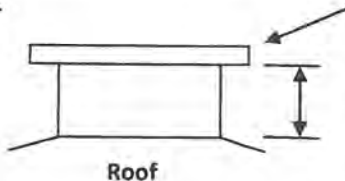
Is the area surrounding the tank well lit?	No
Is the tank surrounded by a Security Fence?	Yes
Are the access gates locked?	Yes
Is the tank equipped with a Vandal Guard on the primary access ladder?	Yes
If so, is the Vandal Guard locked?	Yes
Are the access roads in good repair?	Yes
Are all of the hatches equipped with electronic monitoring devices?	No
Are the external plumbing components housed in a secure vault or out-building?	Yes
Does the surrounding geography of the tank obscure it from public view?	No
Does the exterior of the tank show signs of trespass?	No

Measurements



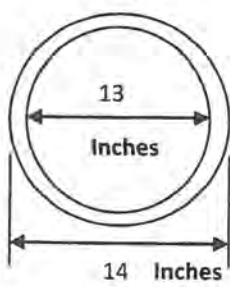
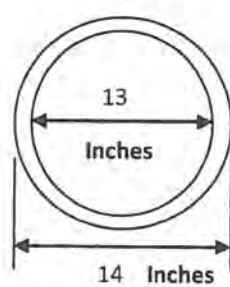
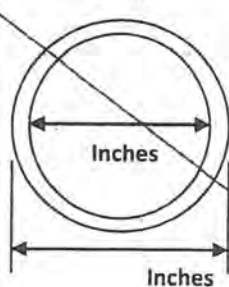
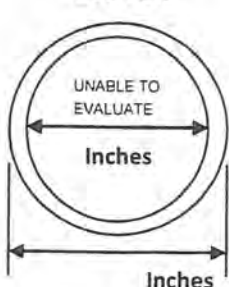
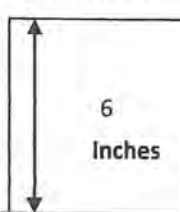
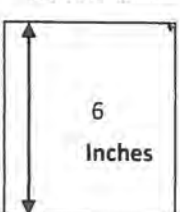
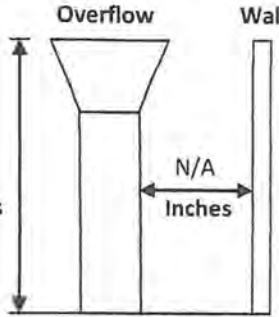

Vent

Outside Circumference
76 Inches



Roof

Flange Metal Thickness	1	Inches
Roof to Screen or Flange	4	Inches
Flange	Yes	
Number of Bolt Holes	8	
Size of Bolts	1.25	Inches

<p>Inlet</p>  <p>13 Inches</p> <p>14 Inches</p>	<p>Outlet</p>  <p>13 Inches</p> <p>14 Inches</p>	<p>Drain</p>  <p>13 Inches</p> <p>Inches</p>	<p>Overflow</p>  <p>UNABLE TO EVALUATE</p> <p>13 Inches</p> <p>Inches</p>
<p>Inlet Riser</p>  <p>6 Inches</p> <p>Floor</p>	<p>Outlet Riser</p>  <p>6 Inches</p> <p>Floor</p>	<p>Overflow</p>  <p>96' Feet/Inches</p> <p>N/A Inches</p> <p>Floor</p>	<p>Wall</p> 

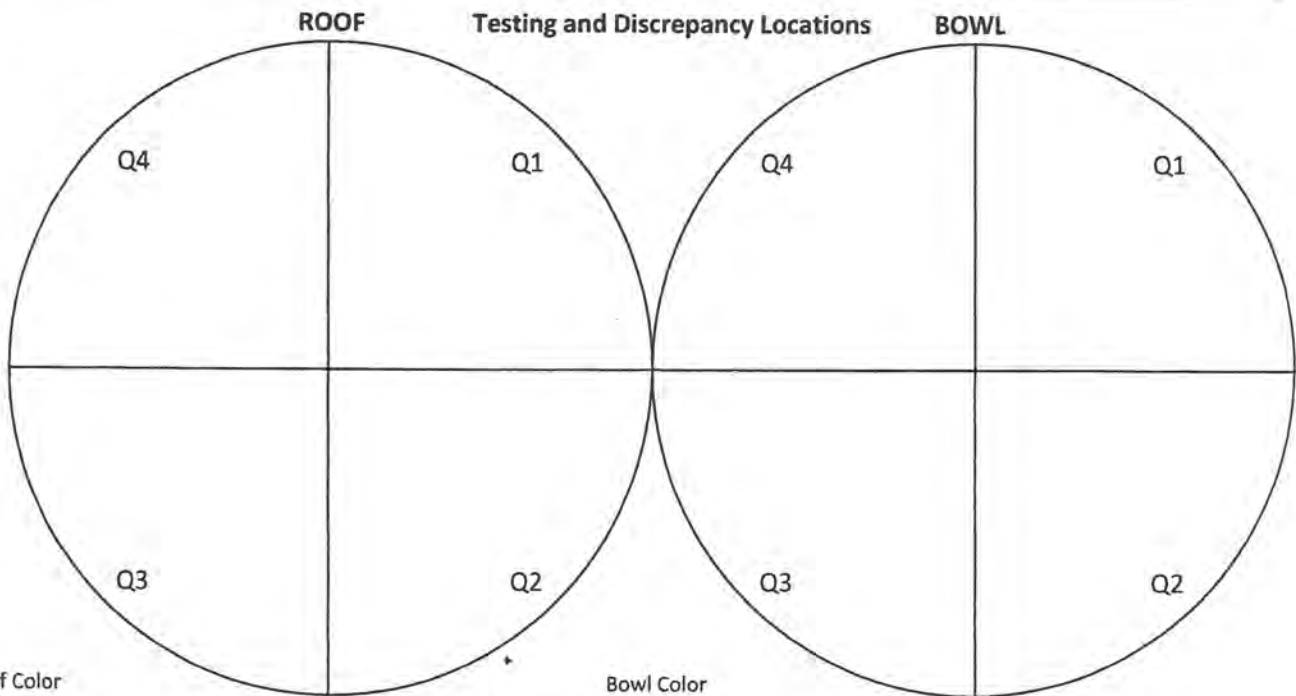
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Job Number 56382

Utility Name Jefferson County PWSD #2

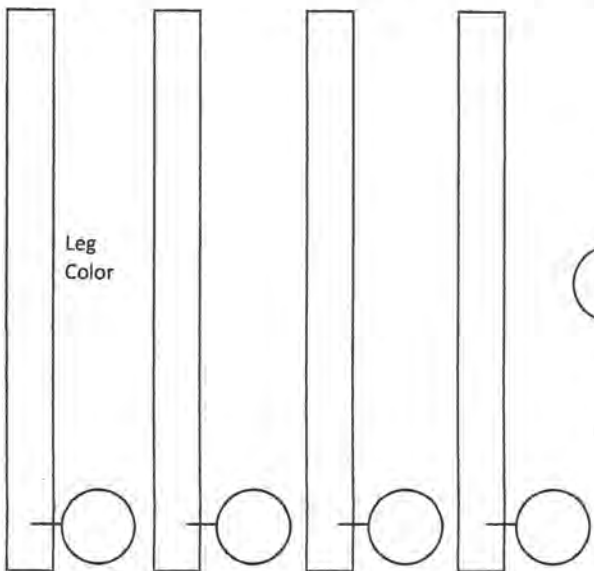
Tank Name Hydropillar

Quadrant 1	Quadrant 2	Quadrant 3	Quadrant 4
	Coating Color		

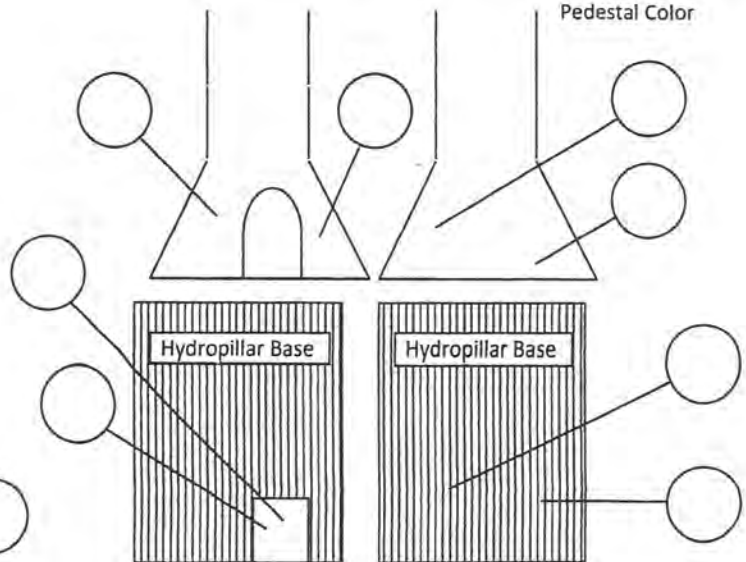


Roof Color

Bowl Color



Pedestal Color



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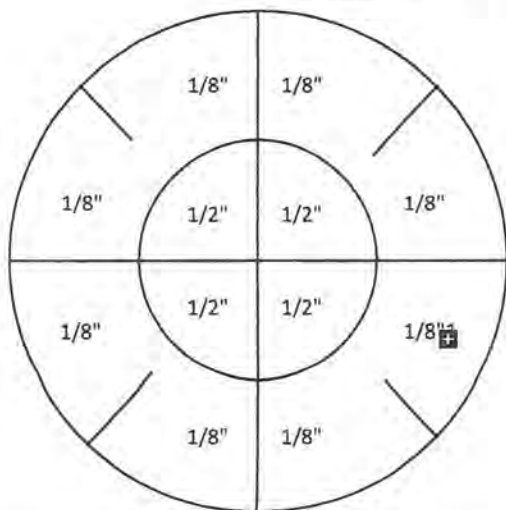
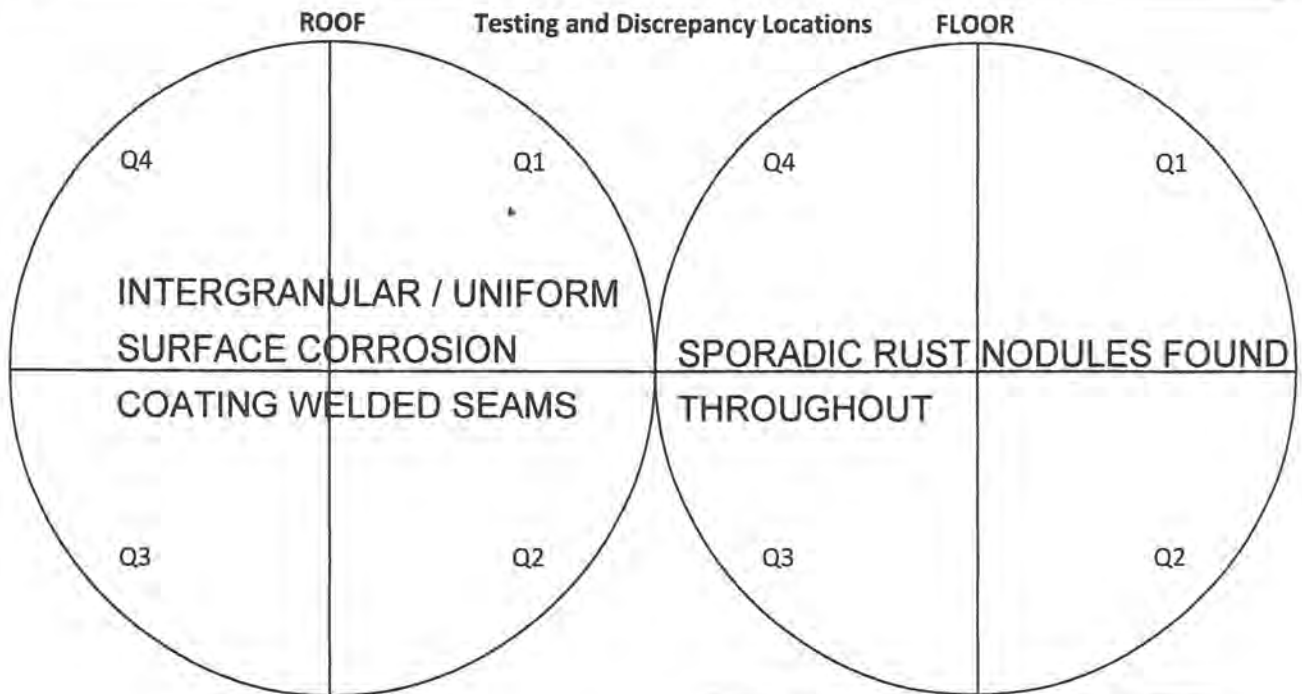
Liquid Engineering Corporation
Circular Tank Diagram / Information Worksheet

Job Number 56382

Utility Name Jefferson County PWSD #2

Tank Name Hydropillar

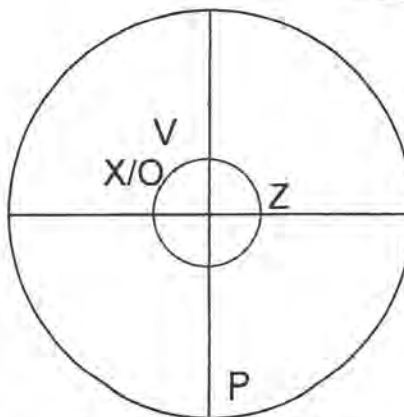
Quadrant 1	Quadrant 2	Quadrant 3	Quadrant 4
SPORADIC RUST NODULES FOUND THROUGHOUT			



Sediment Depth Measurements

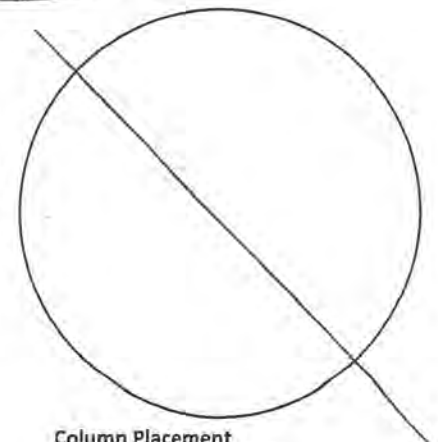
Average Sediment Depth = The sum of all measurements taken, divided by the number of measurements taken

Avg. Depth 1/4" Cubic Yardage N/A Sediment Type CALCIUM



Plumbing & Structure location

Plumbing and structure codes
 O=Outlet X=Inlet Z=Manway
 V=Vent D=Drain S=Sump
 L=Ladder H=Hatch P=Overflow
 F=Float Level Indicator
 T=Telemetry



Column Placement

Type of Column ○ □ I
 Base Structure ☐ ☐ I
 Top Structure ☐ ☐ I
 Column Construction -----

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Liquid Engineering Corporation
Potable Water Reservoir Contamination, Health and Safety Report (Primary)

Job Number: 56382
 Inspector: I. Rowley

Utility: Jefferson County PWSD #2
 Dive Controller: C. Foust

Tank: Hydropillar
 Date: 7/11/2022

FACILITY SAFETY & HEALTH

Primary Air Vent	Type: ---	Screen: ---	Pressure Vacuum / Frost Proof: ---
Exterior Overflow	Flapper: ---	Screen: ---	Gasket: --- Condition: ---
Cathodic Protection	System Installed: ---	Cathodic Access Covers	#: Properly Sealed: ---
Water Level Indicator	Type: ---	Condition: ---	Penetration Points Properly Sealed: ---
Heater System	Installed: ---	Type: ---	
1st Access Hatch	Type: ---	Size: N/A	in. (24" - 24" x 15" min) Properly Sealed: ---
Hatch Height: N/A	in. (min 4")	Lid Height: N/A	in (min 2") Properly Secured: ---
2nd Access Hatch	Type: ---	Size: N/A	in. (24" - 24" x 15" min) Properly Sealed: ---
Hatch Height: N/A	in. (min 4")	Lid Height: N/A	in (min 2") Properly Secured: ---

Primary Manway

Locations	Wall:	Leg:	Roof:	Riser Pipe:	Other:
Type and Size	Type: Round	Size: 21	in (24" - 18"x22")		
Support Structure	Type: Dogged	Condition: Fair			
WT Integrity	Leaks: No	Condition: Fair			

Primary Exterior Ladder

Location	Wall:	Leg:	Roof:	Riser Pipe:	Other:
Overall Ladder	Condition: ---	+Height:	Offset Landing: ---		
Vandal Guard	Present: ---	Locked: ---			
Ladder Rails & Rungs	Condition: ---	Anti-Skid Rungs: ---	Missing/Damaged Rungs: ---		
Rung Spacing & Depth	Spacing: in. (max 12")	Toe Depth: in. (min 7")			
Rail Spacing & Size	Width: in. (min 2")	Thickness: in. (min 1/4")	Rail to Rail: in. (min 16")		
Safety Climb System	Type: ---	Condition: ---			

Primary Balcony & Railing

Location	On Roof:	Around Bowl:	At Interior Landing:	Other:
Deck / Walkways	Condition: ---	Width: in. (min 24")		
Top Rails	Condition: ---	Height: in. (min 42" +/- 3")	Swing Gate Present: ---	
Mid Rails	Condition: ---	Height: in. (half the distance between top rail and floor)		
Toe Boards	Condition: ---	Height: in. (min 4")		

Roof Integrity:	Holes: ---	Cracking: ---	Standing Water: ---	Other:
Wall Integrity:	Holes: ---	Cracking: ---	Leaks: ---	Other:
Safety Tie-Off Points	Type: ---	#:	Condition: ---	
Antennas	Type: ---	#:	Location(s): Roof: Bowl: Leg: Other:	
Water Clarity	General Appearance: CLEAR *	Odor: NONE	Surface Debris: NONE	
Hypalon Floating Cover	Condition: ---	Holes: ---	Tears: ---	
Grounding System	Present: Yes			

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Steel Potable Water Reservoir Inspection Report

Job Number: 56382
Inspector: I. Rowley

Utility: Jefferson County PWSD #2
Dive Controller: C. Foust

Tank: Hydropillar
Date: 7/11/2022

QUADRANT 1	QUADRANT 2	QUADRANT 3	QUADRANT 4
------------	------------	------------	------------

INTERIOR RESERVOIR PLUMBING COMPONENTS

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Inlet Plumbing	N/A	---	N/A	---	N/A	---	N/A	---
Outlet Plumbing	N/A	---	N/A	---	N/A	---	N/A	---
Manways	N/A	---	N/A	---	N/A	---	N/A	---
Floor Drains	N/A	---	N/A	---	N/A	---	N/A	---
Interior Overflow	N/A	---	N/A	---	N/A	---	N/A	---
Other Plumbing	N/A	---	N/A	---	N/A	---	N/A	---

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs
 Over All Coating Condition --- Average Blister Size (See diagram for locations)
 Over All Structural Condition --- Current Weld Condition --- Average Pit Depth (See diagram for locations)

EXTERIOR RESERVOIR ROOF

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Vents	N/A	---	N/A	---	N/A	---	N/A	---
Roof Panels	N/A	---	N/A	---	N/A	---	N/A	---
Access Hatches	N/A	---	N/A	---	N/A	---	N/A	---

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs
 Over All Coating Condition --- Average Blister Size (See diagram for locations)
 Over All Structural Condition --- Current Weld Condition --- Average Pit Depth (See diagram for locations)

EXTERIOR RESERVOIR WALLS

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Wall to Roof Joint	N/A	---	N/A	---	N/A	---	N/A	---
Lower Ring Panels	N/A	---	N/A	---	N/A	---	N/A	---
Mid Ring Panels	N/A	---	N/A	---	N/A	---	N/A	---
Upper Ring Panels	N/A	---	N/A	---	N/A	---	N/A	---
Exterior Overflow	N/A	---	N/A	---	N/A	---	N/A	---

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs
 Over All Coating Condition --- Average Blister Size (See diagram for locations)
 Over All Structural Condition --- Current Weld Condition --- Average Pit Depth (See diagram for locations)

FOOTINGS / FOUNDATION

Foundation Type: Concrete Pad Concrete Pier Concrete Cradle
 Foundation Condition: Good Cracking Spalling Exposed Rebar Other
 Anchor Bolts: #: 0 Chairs Jam Nuts Welded Other
 Anchor Bolt Condition: --- Loose Deformity Corrosion Other

TOWER SUPPORT STRUCTURES

Riser Pipe: Circumference: N/A Misaligned Leaking Corrosion Other
 Tower Legs / Columns: #: 1 Misaligned Settling Corrosion Other
 Leg Shoes / Brackets: Loose Deformity Corrosion Other
 Rods & Turnbuckles: Loose Deformity Corrosion Other

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ATTACHMENT 2

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August 19, 2022

Mike Cerutti
Coating Solutions LLC
530 Orchard Lane
Eureka, MO 63025
TEL: (314) 703-8042
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: PWSD #2 High Ridge MO 1MG Fluted Column
Tank

WorkOrder: 22080825

Dear Mike Cerutti:

TEKLAB, INC received 1 sample on 8/11/2022 10:00:00 for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Aaron Renner
Project Manager
(630)324-6855
arenner@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Coating Solutions LLC

Work Order: 22080825

Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank

Report Date: 19-Aug-22

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	8
Chain of Custody	Appended

Client: Coating Solutions LLC

Work Order: 22080825

Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank

Report Date: 19-Aug-22

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Coating Solutions LLC

Work Order: 22080825

Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank

Report Date: 19-Aug-22

Qualifiers

- # - Unknown hydrocarbon
- C - RL shown is a Client Requested Quantitation Limit
- H - Holding times exceeded
- J - Analyte detected below quantitation limits
- ND - Not Detected at the Reporting Limit
- S - Spike Recovery outside recovery limits
- X - Value exceeds Maximum Contaminant Level
- B - Analyte detected in associated Method Blank
- E - Value above quantitation range
- I - Associated internal standard was outside method criteria
- M - Manual Integration used to determine area response
- R - RPD outside accepted recovery limits
- T - TIC(Tentatively identified compound)



Case Narrative

<http://www.teklabinc.com/>

Client: Coating Solutions LLC

Work Order: 22080825

Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank

Report Date: 19-Aug-22

Cooler Receipt Temp: N/A °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425

Phone (618) 344-1004

Fax (618) 344-1005

Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425

Phone (618) 344-1004

Fax (618) 344-1005

Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415

Phone (217) 698-1004

Fax (217) 698-1005

Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515

Phone (630) 324-6855

Fax

Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214

Phone (913) 541-1998

Fax (913) 541-1998

Email jhriley@teklabinc.com



Accreditations

<http://www.teklabinc.com/>

Client: Coating Solutions LLC

Work Order: 22080825

Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank

Report Date: 19-Aug-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Coating Solutions LLC
Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank
Lab ID: 22080825-001
Matrix: SOLID

Work Order: 22080825
Report Date: 19-Aug-22

Client Sample ID: CHIP

Collection Date: 08/05/2022 00:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3050B, 6010B, METALS BY ICP								
Chromium	NELAP	4.00		6.80	mg/Kg	2	08/17/2022 14:11	137267
Lead	NELAP	40.0		119	mg/Kg	5	08/17/2022 14:09	137267



Receiving Check List

<http://www.teklabinc.com/>

Client: Coating Solutions LLC

Work Order: 22080825

Client Project: PWSD #2 High Ridge MO 1MG Fluted Column Tank

Report Date: 19-Aug-22

Carrier: Std US Mail

Received By: PM

Completed by:

Reviewed by:

On:

11-Aug-22

Payton Yoch

On:

11-Aug-22

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- | | | | | |
|---|--|--|--|----------------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C N/A |
| Type of thermal preservation? | None <input checked="" type="checkbox"/> | Ice <input type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody signed when relinquished and received? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Reported field parameters measured: | Field <input type="checkbox"/> | Lab <input type="checkbox"/> | NA <input checked="" type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- | | | | |
|---|------------------------------|-----------------------------|---|
| Water – at least one vial per sample has zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials <input checked="" type="checkbox"/> |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Any No responses must be detailed below or on the COC.

ATTACHMENT 3

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Photo 1 - Interior Dry Bottom of Bowl and Overflow Pipe

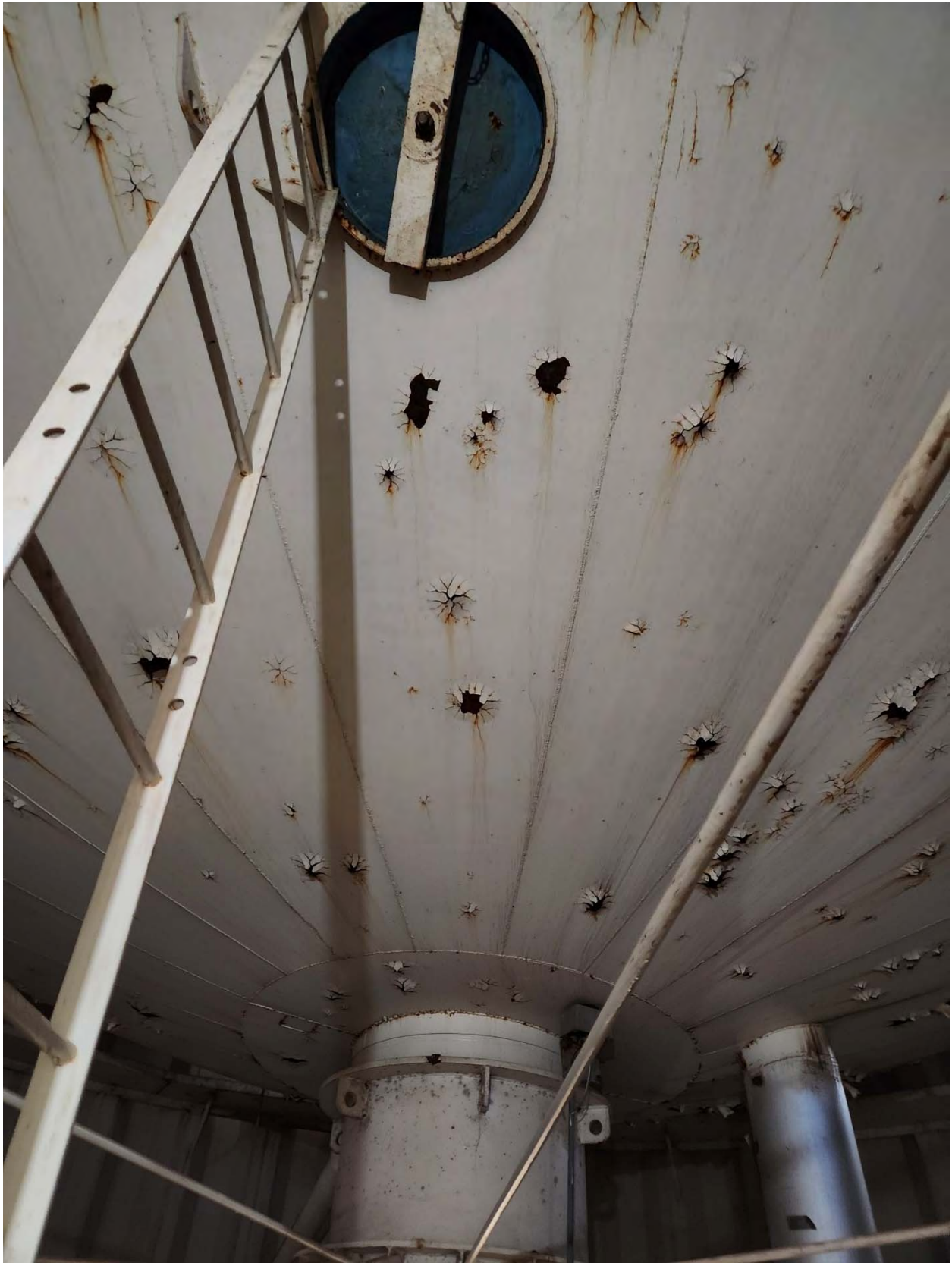


Photo 2 - Interior Dry Bottom of Bowl, Wet Riser / Inlet/Outlet Pipe, and Overflow Pipe



Photo 3 - Interior Dry Bottom of Bowl



Photo 4 - Interior Dry Bottom of Bowl and Overflow Pipe



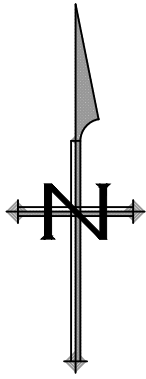
Photo 5 - Existing Interior Condensation Collection System and Interior Dry Wet Riser / Inlet/Outlet Pipe



Photo 6 - Existing Interior Condensation Collection System and Interior Dry Wet Riser / Inlet/Outlet Pipe

ATTACHMENT 4

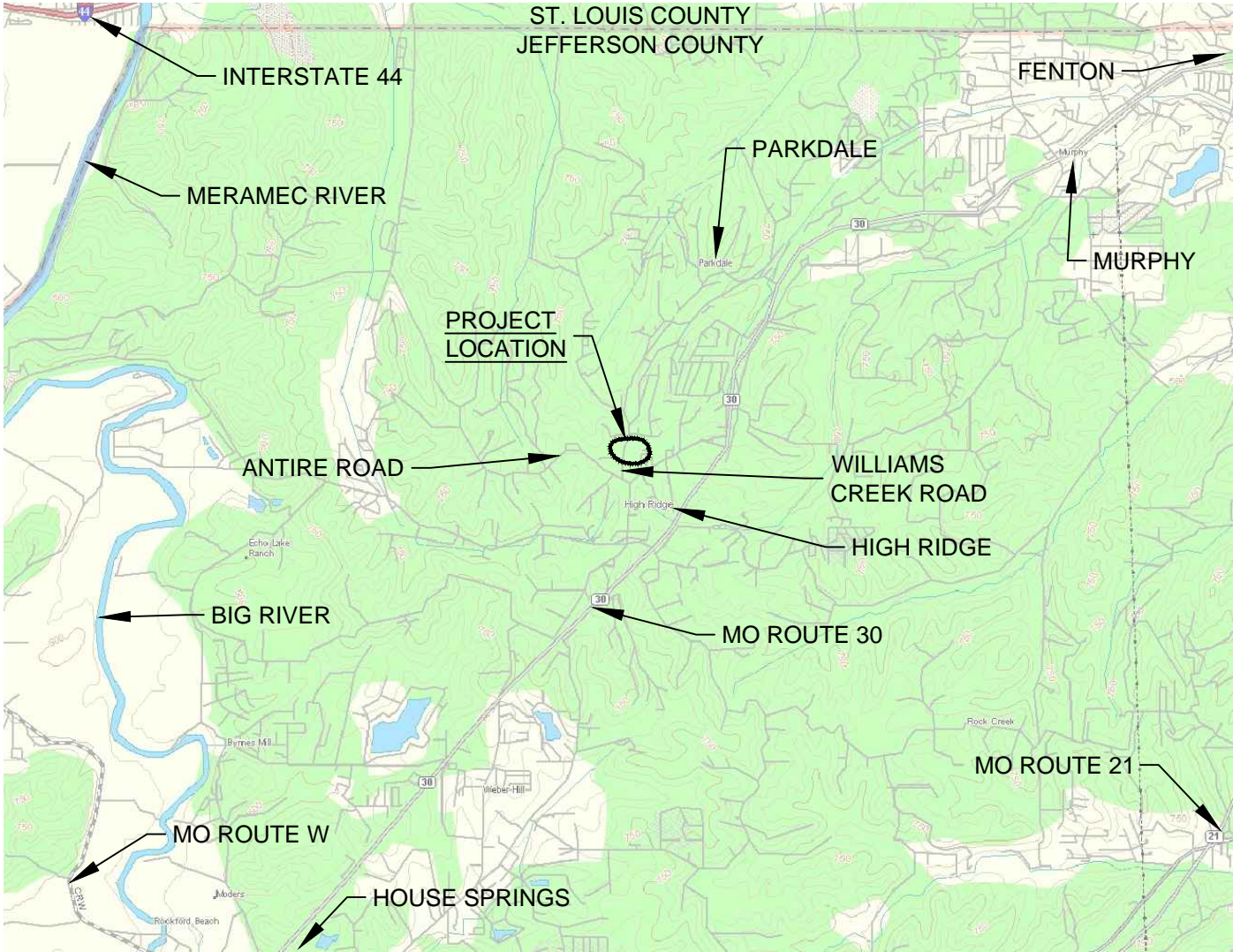
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SECTION 14,
TOWNSHIP 43 NORTH,
RANGE 04 EAST,
JEFFERSON COUNTY

LATITUDE -
NORTH 38°27'50.3"
LONGITUDE -
WEST 090°32'08.5"

NOT TO SCALE



LOCATION MAP

(HIGH RIDGE LOCALE)

HOUSE SPRINGS QUAD – JEFFERSON COUNTY, MISSOURI

PREPARED FOR: PUBLIC WATER SUPPLY DISTRICT NO. 2
PROJECT: WILLIAMS CREEK ROAD ELEVATED STORAGE TANK REHAB
SHEET: ATTACHMENT 4 – LOCATION MAP
BY: HURST-ROSCHE, INC., (636) 333-3351

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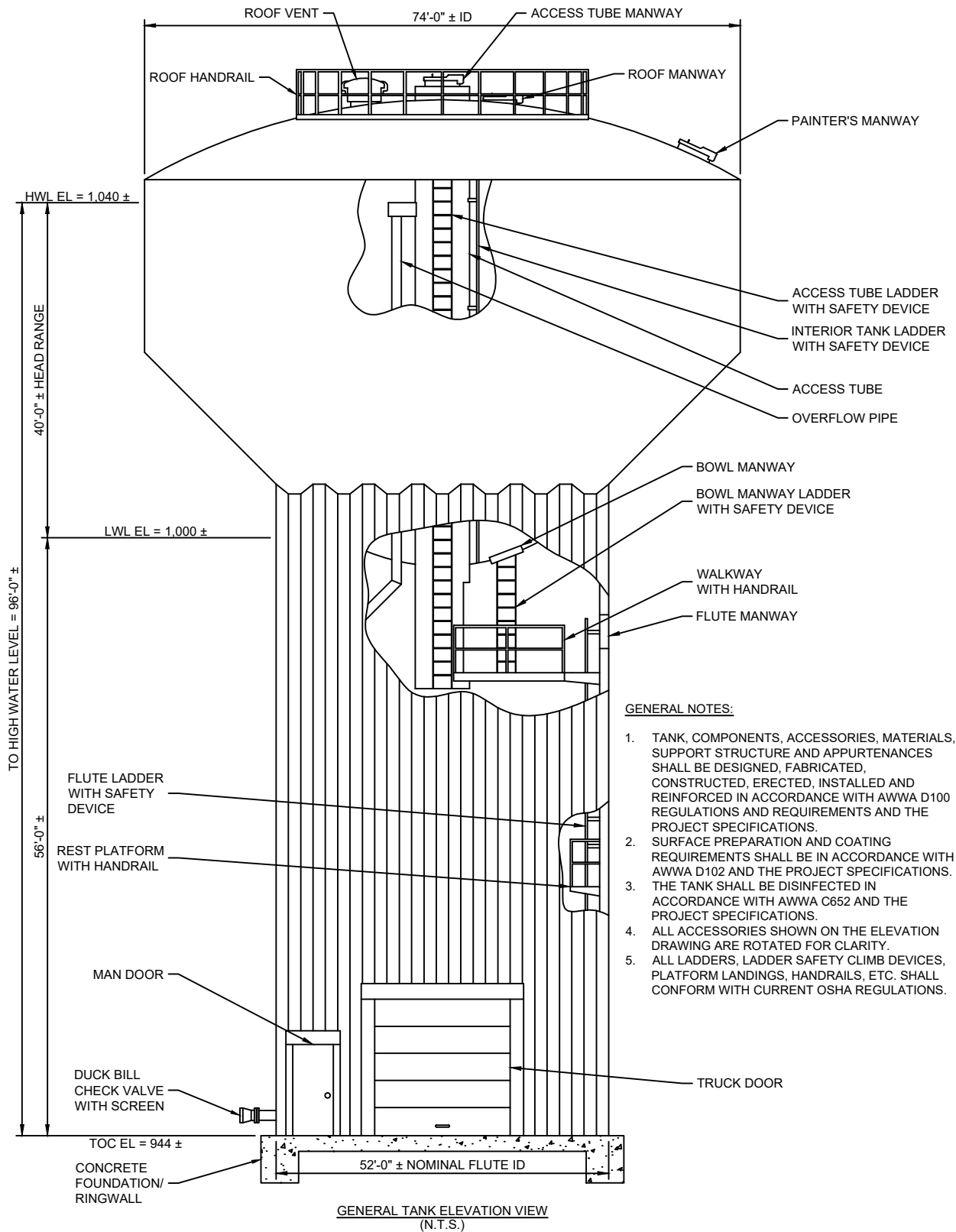
ATTACHMENT 5

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ATTACHMENT 6

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HIGH RIDGE LOCALE, JEFFERSON COUNTY, MISSOURI

PREPARED FOR:
PROJECT:
SHEET:
BY:

PUBLIC WATER SUPPLY DISTRICT NO. 2
 WILLIAMS CREEK ROAD ELEVATED STORAGE TANK REHAB
 ATTACHMENT 6 – GENERAL TANK ELEVATION VIEW
 HURST-ROSCHE, INC., (636) 333-3351

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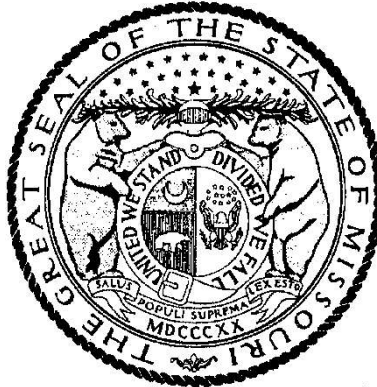
ATTACHMENT 7

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Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 31

Section 050
JEFFERSON COUNTY

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by _____

Todd Smith, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 8, 2024**

Last Date Objections May Be Filed: **April 8, 2024**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$69.00
Boilermaker	\$27.78*
Bricklayer-Stone Mason	\$63.68
Carpenter	\$62.94
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$57.23
Plasterer	
Communication Technician	\$27.78*
Electrician (Inside Wireman)	\$77.93
Electrician Outside Lineman	\$27.78*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	\$27.78*
Glazier	\$27.78*
Ironworker	\$70.79
Laborer	\$53.19
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$57.18
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$68.93
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$54.90
Plumber	\$78.02
Pipe Fitter	
Roofer	\$57.42
Sheet Metal Worker	\$74.53
Sprinkler Fitter	\$76.64
Truck Driver	\$27.78*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMo Section 290.210.

Heavy Construction Rates for
JEFFERSON County

Section 050

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$63.92
Millwright	
Pile Driver	
Electrician (Outside Lineman)	\$76.16
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$52.34
General Laborer	
Skilled Laborer	
Operating Engineer	\$67.95
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$27.78*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

OVERTIME and HOLIDAYS

OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, "**overtime work**" shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

HOLIDAYS

January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.