



**THOMPSON
& LITTON** EST.
1956

ENGINEERS ARCHITECTS SURVEYORS

ADDENDUM NO. 001

TO: All Plan Holders

RE: Pump Station and Tank Rehabilitations
For Town of Wise
T&L Project No. 16575

DATE: June 13, 2023

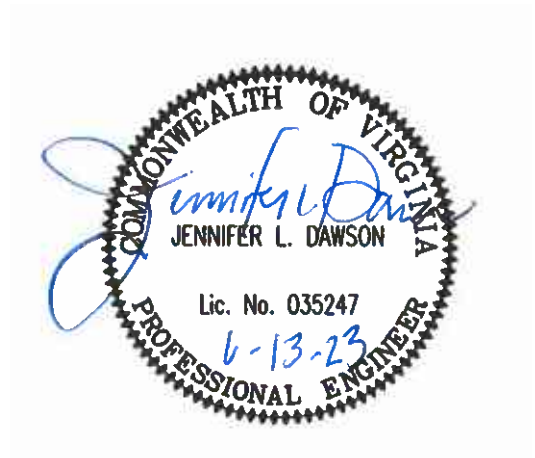
BIDS RECEIVED DATE: June 20, 2023

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated May 19, 2023, as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

This Addendum consists of 30 pages and 1 drawing sheet.

CHANGES TO PROJECT MANUAL:

1. Division 00 – Procurement and Contracting Requirements: 00 2113 Instructions to Bidders Article 22.05 has been deleted. The revised page is enclosed.
2. Division 00 – Procurement and Contracting Requirements: 00 4100 Bid Form for Construction Contracts Article 2, Section 2.01, Subsection E has been edited to remove the MBE/WBE Compliance Checklist with Documentation and the American Iron and Steel (AIS) Certification Statement. The revised bid form is enclosed.
3. Division 00 – Procurement and Contracting Requirements: 00 4100 Bid Form for Construction Contracts Article 3 – Basis of Bid – Bid Item No. 1 has been edited to include motors and change ‘control switches’ to ‘control panel’. The revised bid form is enclosed.
4. Division 00 – Procurement and Contracting Requirements: 00 7310 Supplementary General Conditions SC-5.03 has been deleted in its entirety. The revised page is enclosed.
5. Division 00 – Procurement and Contracting Requirements: 00 7310 Supplementary General Conditions SC-18.07, Section F. has been deleted in its entirety. The revised page is enclosed.





6. Specification Section 09 9714 – Steel Water Storage Tank Painting, Paragraph 3.6B.1.d. has been revised. The revised section is enclosed.
7. Specification Section 26 2923 – Variable Frequency Motor Controllers has been added to advise instruction regarding the VFD. The additional section is enclosed.
8. Specification Section 33 1223.10 – Public Water Utility Pumps has been added to the project manual. The additional section is enclosed.
9. Specification Section 33 1223.13 – Public Water Utility Pump Station Pumps has been deleted from the project manual.
10. Specification Section 33 1613.14 – Rehabilitation of Aboveground Steel Water Storage Tanks, Paragraph 1.4B, requiring AIS documentation, has been deleted. The revised section is not included.

CHANGES TO DRAWINGS:

1. Drawing C101 has been revised to clarification the items for rehabilitation of the Birchfield Pump Station. The revised drawing is enclosed.

Enclosures: 00 2113 Instructions to Bidders, Page 15, 1 page
00 4100 Bid Form for Construction Contract in its entirety, 8 pages
00 7310 Supplementary General Conditions, Page 6, 1 page
00 7310 Supplementary General Conditions, Page 22, 1 page
Specification Section 09 9714, 10 pages
Specification Section 26 2923, 5 pages
Specification Section 33 1223.10, 2 pages
Drawing C101

and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 21—SALES AND USE TAXES

- 21.01 [State Sales and Use Taxes on materials and equipment to be incorporated in the work shall be included in the contract price.](#)
- 21.02 [If this project, or portion thereof, is declared tax exempt as outlined in the Code of Virginia 58.1-3660, the Contractor shall request from the Virginia Department of Taxation the applicable sales and use exemption certificate and shall give the Owner a credit for the applicable sales tax.](#)

ARTICLE 22 – SPECIAL LEGAL REQUIREMENTS

- 22.01 [In accordance with § 2.2-4334 of the Code of Virginia, in any contract of \\$200,000 or more, the Bidder may offer the option to use an escrow account procedure for utilization of the Owner's retainage funds by so indicating in the space provided in the Bid Form.](#)
- 22.02 [Bidders must certify that they do not or will not maintain or provide for their employees any facilities that are segregated on the basis of race, color, creed, or national origin.](#)
- 22.04 [Bidders and Contractors performing Work under this Advertisement are bound by the requirements of the Occupational Safety and Health Administration \(OSHA\) regulations \(29 CFR Part 1910\). Bidders must certify that they do not or will not maintain or provide for their employees any facilities that are segregated on the basis of race, color, creed, or national origin.](#)

BID FORM FOR CONSTRUCTION CONTRACT

PROJECT IDENTIFICATION: Town of Wise – Pump Station and Tank Rehabilitations
for
Town of Wise

CONTRACT IDENTIFICATION AND NUMBER: T&L Project No. 16575

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: **Town of Wise, 501 W Main Street, Wise, Virginia 24293.**
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - B. Evidence of authority to do business in the state of the Project;
 - C. Certification of Bidder Regarding Debarment by Agency of the Commonwealth of Virginia;
 - D. Commonwealth of Virginia Workers Compensation Certificate of Coverage;
 - E. Bidder Compliance Statement/Certification Regarding EEO.

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

BID SCHEDULE – BASE BID

The undersigned hereby proposes and agrees to furnish all the necessary labor, materials, equipment, tools, and services for the construction required for this Project in accordance with the Plans, Specifications, and other Contract Documents prepared by Thompson & Litton, at the prices stated below. These prices are to cover all expenses to complete the Work and make it fully operational in accordance with the Contract Documents. Total Bid Amounts shall be stated in both words and figures. In case of a discrepancy, words shall govern. The undersigned agrees that the prices below are the balanced figures used in preparing the Bid and further agrees, if awarded the Contract, to furnish an itemized breakdown of costs for any Bid Item. All line items must be completed, and prices must be totaled on each Bid Schedule and on the Bid Summary, if applicable.

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1	Birchfield Pump Station Rehabilitation, including pumps, motors, valves, control panel and other miscellaneous improvements, complete, in place.	L.S.			
2	Gateway Subdivision Tank Rehabilitation of a 100,000-gallon potable water welded steel ground storage tank, including interior and exterior surface preparation and painting, secondary hatch installation, exterior overflow, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			
3	Health Department Tank Rehabilitation of a 250,000-gallon potable water welded steel standpipe, including exterior surface preparation and painting, secondary hatch installation, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			
4	Hospital Tank Rehabilitation of a 500,000-gallon potable water welded steel standpipe, including exterior surface preparation and painting, secondary hatch installation, exterior overflow, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			
5	Modoc Tank No. 2 Rehabilitation of a 300,000-gallon potable water welded steel ground storage tank, including secondary hatch installation, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			
6	Dotson Park Tank No. 1 Rehabilitation of a 250,000-gallon potable water welded steel ground storage tank, including exterior surface preparation and painting, secondary hatch installation, exterior overflow, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
7	Dotson Park Tank No. 2 Rehabilitation of a 250,000-gallon potable water welded steel ground storage tank, including exterior surface preparation and painting, secondary hatch installation, exterior overflow, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			
8	Airport Tank Rehabilitation of a 400,000-gallon potable water welded steel elevated tank, including submersible mixer system, interior and exterior surface preparation and painting, ladder and safety device upgrades and other miscellaneous improvements, complete, in place.	L.S.			
Total of All Unit Price Bid Items					\$

- * Contractor's Choice
- ** Contingency Item

TOTAL BASE BID \$ _____ (_____ DOLLARS)

ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- B. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within the timeframe presented in the Instructions to Bidders.

5.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda: **[Add rows as needed. Bidder is to complete table.]**

Addendum Number	Addendum Date

ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder’s Representations*

- A. In submitting this Bid, Bidder represents the following:
 - 1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
 - 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - 3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - 4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the

Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

- b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
- c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
- d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____ *(typed or printed name of organization)*

By: _____ *(individual's signature)*

Name: _____ *(typed or printed)*

Title: _____ *(typed or printed)*

Date: _____ *(typed or printed)*

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____ *(individual's signature)*

Name: _____ *(typed or printed)*

Title: _____ *(typed or printed)*

Date: _____ *(typed or printed)*

Address for giving notices:

Bidder's Contact:

Name: _____ *(typed or printed)*

Title: _____ *(typed or printed)*

Phone: _____

Email: _____

Address:

Bidder's Contractor License No.: (if applicable)

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.03 *Subsurface and Physical Conditions*

SC-5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

5.06 *Hazardous Environmental Conditions*

SC-5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition).
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.B:

1. The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be **[number—either 2, 3, or other]** years after Substantial Completion.
2. After Substantial Completion, Contractor shall furnish a warranty bond issued in the form of EJCDC® C-612, Warranty Bond (2018). The warranty bond must be in a bond amount of **[number—either 10, 15, or other]** percent of the final Contract Price. The warranty bond period will extend to a date **[number—either 2, 3, or other]** years after Substantial Completion of the Work. Contractor shall deliver the fully executed warranty bond to Owner prior to or with the final application for payment, and in any event no later than 11 months after Substantial Completion.
3. The warranty bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.

6.02 *Insurance—General Provisions*

18.11 *Conflict of Interest*

SC-18.11 Add the following new paragraph after Article 18.10:

- A. Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the plans and specifications has a corporate or financial affiliation with the supplier or manufacturer. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in Contractor. Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.

18.12 *Gratuities*

SC-18.12 Add the following new paragraphs after Article 18.11:

- A. If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

SECTION 09 9714 - STEEL WATER STORAGE TANK PAINTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Surface preparation.
 - 2. Painting tank interior and exterior.

1.2 RELATED REQUIREMENTS:

- A. Section 33 1313 - Water Storage Tank Disinfection.

1.3 REFERENCE STANDARDS

- 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.
 - 3. ASTM D4417 - Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.
 - 4. ASTM D7091 - Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals.
- B. American Water Works Association:
 - 1. AWWA D102 - Standard for Coating Steel Water Storage Tanks.
- C. NSF International:
 - 1. NSF 61 - Drinking Water System Components - Health Effects.
- D. SSPC: The Society for Protective Coatings:
 - 1. SSPC PA 1 - Shop, Field, and Maintenance Painting of Steel.
 - 2. SSPC PA 2- Procedure for Determining Conformance to Dry Coating Thickness Requirements.
 - 3. SSPC PA 17 - Procedure for Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements
 - 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 TU 3 - Overcoating Existing Coating Systems Applied to Steel Substrates

1.4 PERFORMANCE REQUIREMENTS

A. Exterior Paint Performance Test Requirements:

1. Exterior Exposure:
 - a. Method: Paint system applied to sandblasted steel panels, cured for a minimum of 7 days at 77 degrees F and exposed at 45 degrees facing South.
 - b. Location: South Florida Marine Exposure.
 - c. Performance Requirements: No blistering, cracking or delamination of film; not less than 85 percent gloss after 18 months exposure.
2. Hardness:
 - a. Method: ASTM D3363.
 - b. Requirements: Minimum 6H.
3. Humidity:
 - a. Method: ASTM D2247.
 - b. Requirements: No blistering, cracking, softening or delamination of film after 5,000 hours exposure.

1.5 SUBMITTALS

- A. Section 01 3000 - Administrative Requirements: Requirements for submittals.
- B. Product Data: Submit coating manufacturer's product data for each coating, including generic description, complete technical data, and warranty.
- C. Manufacturer's Installation Instructions: Manufacturer information including contact for this project, submit surface preparation procedures, substrate conditions requiring special attention, coating application method.
- D. Daily Painting Inspection Report: Refer to Field Quality Control section in PART 3

1.6 CLOSEOUT SUBMITTALS

- A. Section 01 7000 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted surfaces.

1.7 QUALITY ASSURANCE

- A. Surface preparation:
 - 1. Perform in accordance with coatings manufacturer's requirements and in accordance with AWWA D102, including spot repair and cleaning.
 - 2. Perform coating test for overcoat systems per AWWA D102 and SSPC-TU 3. Coordinate with paint manufacturer for acceptability of proposed system and provide written acceptance by paint manufacturer for coating system to Engineer.
- B. Paint:
 - 1. Comply with AWWA D102.
 - 2. Certified by NSF International in accordance with NSF/ANSI/CAN Std. 61 and NSF/ANSI/CAN 600, as acceptable for surfaces in contact with potable water.
- C. Obtain paint products from single source for Work specified in this section.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing work of this section with minimum 5 years documented experience.

1.9 PRE-INSTALLATION MEETINGS

- A. Section 01 3000 - Administrative Requirements: Pre-construction meeting.
- B. Items to be discussed in addition to Agenda outlined in Section 01 3000 - Administrative Requirements include:
 - 1. Environmental requirements.
 - 2. Hazardous materials.
 - 3. Protection of surfaces not scheduled to be coated.
 - 4. Surface preparation.
 - 5. Application.
 - 6. Disinfection.
 - 7. Repair.
 - 8. Field quality control.
 - 9. Cleaning.
 - 10. Protection of coating systems.

11. First anniversary inspection.
 12. Coordination with other work.
- C. Convene minimum one week prior to commencing Work of this Section.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - 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 at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 6000 - Product Requirements: Environmental conditions affecting products on site.
- B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.
- C. Cure coatings within air and surface temperature range specified by coating manufacturer's instructions.
- D. Maintain surface temperatures at least 5 degrees F above dew point at the time of final surface preparation, material mixing, and application.
- E. Prepare surfaces and cure coatings within relative humidity range specified by coating manufacturer's instructions.
- F. Do not prepare surfaces or apply coatings in rain, snow, fog or mist.
- G. Do not spray coatings if wind speed is above coating manufacturer's specified limit.
- H. Protection:
 1. Cover miscellaneous tank openings, except as required for ventilation, to avoid accumulation of cleaning residue and paint material in overflows, inlet and outlet piping.
 2. Exterior Tank: Cover tank vents without sealing tight to prevent contamination of tank interior. Maintain ventilation of tank interior to avoid structural damage.
 3. Provide protection required to meet local, state, OSHA, and other federal requirements regarding lead or other hazardous materials.
 4. Protect equipment from abrasion and paint damage.

5. Cleaning and painting tank exterior after tank is filled is not permitted.
- I. Tank Interior Work:
 1. Ventilate tank interior to remove dust, fumes, and volatile gases as required by authorities having jurisdiction and in accordance with AWWA D102, Section A.7.6. Forced air ventilation shall be maintained a minimum of four (4) days following interior coating to assist with curing process.
 2. Provide minimum lighting level of 80 ft candles measured at substrate surface.
 3. Keep manholes and other vent openings open during cleaning, surface preparation, painting and curing operations.
 4. Provide Architect/Engineer and laboratory personnel required to enter tank during cleaning or painting operations with safety equipment required by authority having jurisdiction.
 5. Schedule coating work to avoid and protect work areas from excessive dust and airborne contaminants during coating application and curing.
 - J. Protect surfaces from rapid curing caused by wind or sun exposure.
 - K. Prevent rapid changes in temperature during curing and thermal shock cracks in finish material.

1.12 WARRANTY

- A. Section 01 7000 - Execution and Closeout Requirements: Requirements for warranties.
- B. Furnish five year manufacturer warranty for paints.

PART 2 PRODUCTS

2.1 PAINT

- A. Manufacturers: Paint.
 1. TNEMEC: www.tnemec.com.
 2. Sherwin Williams: www.sherwin-williams.com
 3. Carboline: www.carboline.com
 4. Substitutions: Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 7000 - Execution and Closeout Requirements: Verification of existing conditions before starting Work.

- B. Verify surfaces are ready to receive Work as instructed by product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.

3.2 PREPARATION

- A. For overcoat systems, prepare tank exterior metal surfaces in accordance with AWWA D102 and paint manufacturer's requirements.
- B. For exterior systems which require full removal of existing based on testing specified in Part 1, existing coatings shall be removed in accordance with SSPC-SP 6 and the paint manufacturer's requirements.
- C. Remove residue from surface preparation before paint application is begun.
- D. Prepare tank interior surfaces by removing existing coatings in accordance with SSPC-SP 10.
- E. Remove residue from surface preparation before pain application is begun.

3.3 APPLICATION

- A. Apply paint in accordance with manufacturer's instructions and SSPC PA 1.
- B. Apply paint only when temperature of steel or paint is greater than 45 degrees F or in accordance with coating manufacturer's minimum temperature, whichever is greater.
 - 1. Comply with manufacturer's special temperature requirements.
 - 2. Do not apply paint in rain, snow, fog or mist, or when steel surface temperature is below dew point, resulting in condensation.
- C. Fill pits with an appropriate epoxy prior applying subsequent coats.
- D. Contractor shall use dehumidifiers, heaters, or other climate control equipment to maintain proper surface characteristics during coating.
- E. Paint prepared surfaces by brush with 1 coat of primer during same day surface is prepared.
- F. Stripe coat all seams and welds before applying liner system.
- G. Do not thin paint except when approved by Architect/Engineer. Thin paint in accordance with manufacturer's instructions.
- H. Apply paint at manufacturer's recommended application rate. Build up paint film for each coat to specified thickness. Apply additional coats when necessary to achieve specified thickness.
- I. Ensure each coat of paint is cured in accordance with manufacturer's instructions before application of succeeding coat.
 - 1. Allow minimum of 24 hours between coats.

J. Modify tint or color between coats to aid in obtaining complete coverage.

3.4 FIELD QUALITY CONTROL

- A. Section 01 7000 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Notify Architect/Engineer, minimum three days in advance, to permit observation of cleaned surfaces prior to application of each coat of paint prior to subsequent paint applications.
- C. All testing shall be performed by an NACE coatings inspector with Level 2 or 3 certification.
- D. Perform a wet mill thickness test.
- E. Required Applicator Inspections and Documentation:
 - 1. Verify coatings and other materials are as specified. Document batch numbers.
 - 2. Verify environmental conditions are as specified.
 - 3. Verify surface preparation and application are as specified. Measure blast profile in accordance with SSPC PA 17 and ASTM D4417.
 - 4. Verify DFT of each coat and total DFT of each coating system are as specified using wet film and dry film gauges. DFTs shall be measured in accordance with SSPC PA 2 and ASTM D7091.
- F. Describe all measures and equipment used to maintain required environmental conditions.
- G. Coating Defects:
 - 1. Check coatings for film characteristics or defects that would adversely affect performance of coating systems.
 - 2. Check exterior finish for film characteristics or defects that adversely affect appearance.
 - 3. Check for holidays on steel immersion surfaces using a holiday detector in accordance with NACE SP0188-06 or with safe blue light inspection lamps if B58VX605 hardener with Opti-Check OAP pigment technology is used.
- H. Report:
 - 1. Prepare inspection reports daily.
 - 2. Submit written reports describing inspections made and actions taken to correct nonconforming work.
 - 3. Report nonconforming work not corrected.
 - 4. Submit copies of report to Engineer and Contractor.
- I. Coating Manufacturer's Field Services:

1. Coating Manufacturer's representative shall provide technical assistance and guidance for surface preparation, application, and repair of coating systems.

3.5 CLEANING

- A. Section 01 7000 - Execution and Closeout Requirements: Requirements for cleaning.
- B. Collect waste material capable of constituting fire hazard, place in closed metal containers, and remove daily from site.
- C. Remove scaffolding, ladders, or other facilities at completion of Work.
- D. Remove temporary heating and ventilating facilities.

3.6 SCHEDULE - SURFACES OF TANKS

A. Airport Tank (Elevated)

1. Steel Tank Exterior Overcoat

- a. Surface Preparation: Power wash the entire exterior surface using 3,500 PSI with a rotating turbo nozzle to remove all loose paint, rust, dirt, scale, and other foreign matter. After water blast cleaning, if there is loose paint or loose paint edges, sand to feather smooth. The surface shall be clean and dry prior to painting. Spot prime all bare steel or rusted areas with a modified polyamidoamine epoxy coating equal to TNEMEC Series 135 Chembuild applied at 4.0 – 6.0 dry mils.
- b. Prime: Apply a modified polyamidoamine epoxy coating equal to TNEMEC Series 135 Chembuild at 4.0-6.0 dry mils.
- c. Intermediate: Apply an aliphatic acrylic polyurethane coating equal to TNEMEC Series 1095 Endurashield at 2.0-4.0 dry mils.
- d. Finish: Apply an advanced thermoset solution fluoropolymer coating equal to TNEMEC Series 700 Hydroflon at 2.5-3.0 dry mils, aviation orange color.

2. Steel Tank Interior

- a. Surface Preparation: SSPC SP-10/NACE No. 2 Near White Metal Blast Cleaning.
- b. Prime: Apply an aromatic urethane, zinc-rich primer equal to TNEMEC Series 91/94 H2O Hydro-Zinc at 2.5-3.5 dry mils.
- c. Stripe: Apply a polyamidoamine epoxy coating equal to TNEMEC Series L140 at 2.0-6.0 dry mils.
- d. Finish: Apply a phenalkamine epoxy coating equal to TNEMEC Series 21 at 8.0-16.0 dry mils.

B. Ground Storage / Standpipe Tanks

1. Steel Tank Exterior Overcoat

- a. Surface Preparation: Power wash the entire exterior surface using 3,500 PSI with a rotating turbo nozzle to remove all loose paint, rust, dirt, scale, and other foreign matter. After water blast cleaning, if there is loose paint or loose paint edges, sand to feather smooth. The surface shall be clean and dry prior to painting. Spot prime all bare steel or rusted areas with a modified polyamidoamine epoxy coating such as Tnemec Series 135 Chembuild applied at 4.0 – 6.0 dry mils or a mastic waterborne acrylic coating equal to TNEMEC Series 118 Uni-Bond Mastic at 6.0-8.0 dry mils.
 - b. Prime: Apply a mastic waterborne acrylic coating equal to TNEMEC Series 118 Uni-Bond Mastic at 6.0-8.0 dry mils.
 - c. Finish: Apply an aliphatic acrylic polyurethane coating equal to TNEMEC Series 1095 Endurashield at 2.0-4.0 dry mils.
 - d. Hospital Tank Exterior: WISE lettering on the tank exterior to be reproduced with identical dimensions. Apply an advanced thermoset solution fluoropolymer coating equal to TNEMEC Series 700 Hydroflon at 2.5-3.0 dry mils.
2. Steel Tank Interior
- a. Surface Preparation: SSPC SP-10/NACE No. 2 Near White Metal Blast Cleaning.
 - b. Prime: Apply an aromatic urethane, zinc-rich primer equal to TNEMEC Series 91/94 H2O Hydro-Zinc at 2.5-3.5 dry mils.
 - c. Stripe: Apply a polyamidoamine epoxy coating equal to TNEMEC Series L140 Pota-Pox Plus at 2.0-6.0 dry mils.
 - d. Finish: Apply a phenalkamine epoxy coating equal to TNEMEC Series 21 Epoxoline at 8.0-16.0 dry mils.
- C. Exterior Concrete
- 1. Two coats of Series 156 Enviro-Crete at 6.0 to 8.0 mils DFT/coat (115-140 square feet per gallon per coat).
- D. All Other Miscellaneous Metal
- 1. Prime Coat: Factory prime standard with field touch-up or Poxypriime at 4 mils.
 - 2. Intermediate Coat: Series 66 Hi-Build Epoxiline or approved equal at 3 mils.
 - 3. Finish Coat: (Exterior) Series 73 EnduraShield or approved equal at 3 mils.

3.7 FIRST ANNIVERSARY INSPECTION

- A. Owner will set date for one year inspection of coating systems.
- B. Owner will be responsible for draining the tank prior to the inspection. Owner will be responsible for system operation and pressure maintenance during the inspection and repair, if any.

- C. Inspection shall be attended by the Owner, Engineer, Applicator, and Coating Manufacturer's representative.
- D. Repair deficiencies in coating systems as determined by Engineer in accordance with Coating Manufacturer's instructions.

END OF SECTION

SECTION 26 2923 - VARIABLE-FREQUENCY MOTOR CONTROLLERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Variable frequency controllers.

1.2 REFERENCE STANDARDS

- A. NEMA ICS 7.1 - Safety Standards for Construction and Guide for Selection, Installation, and Operation of Adjustable-Speed Drive Systems 2014.
- B. NEMA ICS 7 - Industrial Control and Systems: Adjustable-Speed Drives 2014.
- C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2014.
- D. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems 2017.
- E. NFPA 70 - National Electric Code; National Fire Protection Association; 2017.

1.3 SUBMITTALS

- A. Product Data: Provide catalog sheets showing voltage, controller size, ratings and size of switching and overcurrent protective devices, short circuit ratings, dimensions, and enclosure details.
- B. Shop Drawings: Indicate front and side views of enclosures with overall dimensions and weights shown; conduit entrance locations and requirements; and nameplate legends.
- C. Operation Data: NEMA ICS 7.1. Include instructions for starting and operating controllers, and describe operating limits that may result in hazardous or unsafe conditions.
- D. Maintenance Data: NEMA ICS 7.1. Include routine preventive maintenance schedule.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Air Filters: Two of each type.

1.4 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.
- C. Products: Listed, classified, and labeled as suitable for the purpose intended.
- D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having

jurisdiction.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- B. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to components, enclosure, and finish.

PART 2 PRODUCTS

2.1 DESCRIPTION

- A. Variable Frequency Controllers: Enclosed controllers suitable for operating the indicated loads, in conformance with requirements of NEMA ICS 7. Select unspecified features and options in accordance with NEMA ICS 3.1.
 - 1. Employ pulse-width-modulated inverter system.
 - 2. Furnish as a self contained controller, Combination circuit breaker disconnect, controllers with input line reactors , DV/DT output filters, Manual Control Stations, Indicator pilot lights , and alpha numeric displays for status and alarm indication. manual speed controls, fused primary and secondary control circuit transformers. 4-20 MA DC speed input and serial ports for direct interconnections with PLC PID and Speed Control Functions. Furnish with heat sinks and thermostatically controlled ventilation fans.
 - 3. Design for ability to operate controller with motor disconnected from output.
 - 4. Design to attempt five automatic restarts following fault condition before locking out and requiring manual restart.
 - 5. Furnish Variable Torque type drives for centrifugal pump motors. Furnish manufacturers recommended drive types for particular packaged equipment, unless furnished in the manufacturer's packaged control panels.
 - 6. Drives shall be Six(6) pulse type drives, PMW unless other wise specified on the drawings or required and furnished by the manufacture as part of a packaged system.
- B. Enclosures:
 - 1. Indoor dry location: NEMA 1.
 - 2. Indoor wet location: NEMA 3R.
 - 3. Outdoor/Indoor corrosive enviroment or where subject to hose down: NEMA 4X.
- C. For larger VFD Controller, the DV/DT harmonic output filters can be furnished in separate enclosures to match construction and environmental considerations.
- D. Wiring for input and output connections: Separate both input wiring from output wiring by a minimum of 12" separation for voltages controllers indicated on plans. Input and out put

wiring shall be in rigid steel conduits unless provided with shielded drive three conductor cables with grounding conductor and grounded shields to mitigate harmonic noise.

- E. Finish: Manufacturer's standard enamel.

2.2 OPERATING REQUIREMENTS

- A. Rated Input Voltage: as shown on drawings.
- B. Motor Nameplate Voltage: as shown on drawings.
- C. Displacement Power Factor: Between 1.0 and 0.95, lagging, over entire range of operating speed and load.
- D. Operating Ambient: 0 degrees C to 50 degrees C.
- E. Volts Per Hertz Adjustment: Plus or minus 10 percent.
- F. Current Limit Adjustment: 60 to 110 percent of rated.
- G. Acceleration Rate Adjustment: 0.5 to 30 seconds.
- H. Deceleration Rate Adjustment: 1 to 30 seconds.
- I. Input Signal: 4 to 20 mA DC, and Manufacturers standard input signal protocol.

2.3 COMPONENTS

- A. Display: Provide integral / remote door mounted digital display to indicate output voltage, output frequency, and output current.
- B. Status Indicators: Separate indicators for overcurrent, overvoltage, ground fault, overtemperature, and input power ON.
- C. Furnish HAND-OFF-AUTOMATIC selector switch and manual speed control.
- D. Include undervoltage release.
- E. Control Power Source: Integral control transformer.
- F. Door Interlocks: Furnish mechanical means to prevent opening of equipment with power connected, or to disconnect power if door is opened; include means for defeating interlock by qualified persons.
- G. Safety Interlocks: Furnish terminals for remote contact to inhibit starting under both manual and automatic mode.
- H. Control Interlocks: Furnish terminals for remote contact to allow starting in automatic mode.
- I. Disconnecting Means: Include integral circuit breaker on the line side of each controller.
- J. Wiring Terminations: Match conductor materials and sizes indicated.

2.4 SOURCE QUALITY CONTROL

- A. Shop inspect and perform standard production tests for each controller.
- B. Make completed controller available for inspection at manufacturer's factory prior to packaging for shipment. Notify Owner at least 7 days before inspection is allowed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surface is suitable for controller installation.
- B. Do not install controller until building environment can be maintained within the service conditions required by the manufacturer.

3.2 INSTALLATION

- A. Install in accordance with NEMA ICS 7.1 and manufacturer's instructions.
- B. Tighten accessible connections and mechanical fasteners after placing controller.
- C. Select and install overload heater elements in motor controllers to match installed motor characteristics.
- D. Identify variable frequency controllers. Include equipment tag, voltage, phase, and source of power

3.3 FIELD QUALITY CONTROL

- A. Provide the service of the manufacturer's field representative to prepare and start controllers.
- B. Perform field inspection and testing.
- C. Inspect and test in accordance with NETA ATS, except Section 4.
- D. Perform inspections and tests listed in NETA ATS, Section 7.17.

3.4 ADJUSTING

- A. Make final adjustments to installed controller to assure proper operation of load system. Obtain performance requirements from installer of driven loads.

3.5 CLOSEOUT ACTIVITIES

- A. Demonstrate operation of controllers in automatic and manual modes.

3.6 MAINTENANCE

- A. See Section 01 7000 - Execution Requirements, for additional requirements relating to maintenance service.

- B. Provide service and maintenance of controllers for one year from Date of Substantial Completion.

END OF SECTION

SECTION 33 1223.10 - PUBLIC WATER UTILITY PUMPS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pumps and related equipment.

1.2 RELATED REQUIREMENTS

- A. Division 26 - Electrical.

1.3 SUBMITTALS

- A. Submit the following:
 - 1. Shop drawings including bill of materials, total weight of unit, total thrust, outline drawing.
 - 2. Pump performance data including pump characteristic curve, pump efficiency at design conditions, motor efficiency at design conditions. Required brake horsepower at design conditions, maximum shut-off head.
 - 3. Loop diagrams showing controls and proposed mode of operation.
 - 4. Operation and Maintenance Manuals.

PART 2 PRODUCTS

2.1 REQUIREMENTS

- A. Pump manufacturers shall supply pumps as complete units including drivers. Assembly by the contractor of pumps, motors and the like, supplied by various independent manufacturers, will not be allowed.
- B. Pump motors shall be sized such that the motor does not overload at any point on the operating curve. Pumps and motors shall be designed to operate continuously or intermittently at the conditions scheduled on the Drawings.
- C. Pump motors shall be 1750 rpm maximum unless otherwise scheduled on drawings.
- D. Pumps shall be equipped with pressure gages graduated in psi and feet of water for the operating range of the pump. Standard gage is necessary on the discharge line and the suction line, where applicable.
- E. A tap suitable for insertion of pitot tube shall be provided on the discharge of each pumping unit for testing purposes.
- F. Pump shall be supplied with standard recommended spare parts as suggested by manufacturers including packing, stuffing box gaskets, shaft couplings, and column couplings.

- G. All pumps to be provided with permanently affixed nameplates which include impeller diameter, rated capacity in gpm, rated head in feet, rpm, and motor horsepower.
- H. Pump motors shall be rated for use with variable speed drives and shall have pump impellers balanced for variable speed operation.

2.2 SPLIT CASE PUMPS

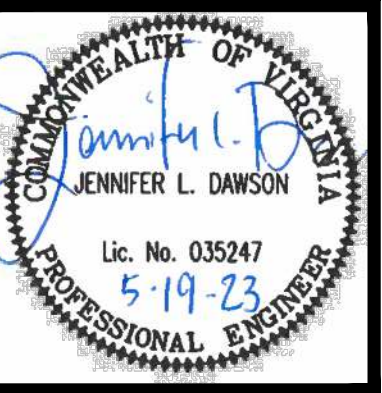
- A. Pump and motor requirement shall be as indicated on the drawings.

PART 3 EXECUTION

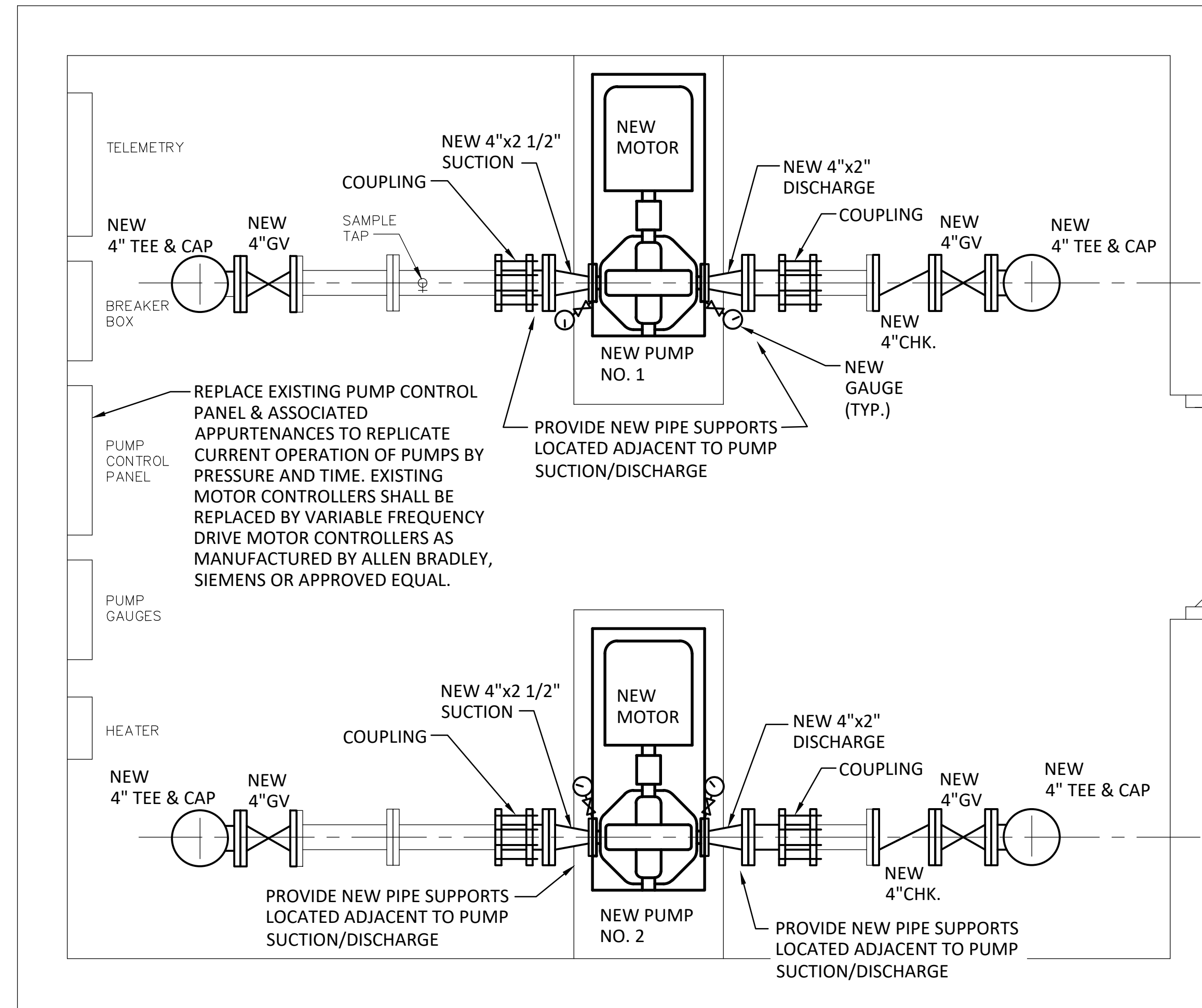
3.1 INSTALLATION AND INSPECTION

- A. Install all pumps in accordance with manufacturer's recommendations.
- B. Inspect each pump for proper alignment and ensure that no seepage occurs on pumps using a mechanical seal.

END OF SECTION



TOWN OF WISE - PUMP STATION AND TANK REHABILITATIONS
PLAN - BIRCHFIELD PUMP STATION

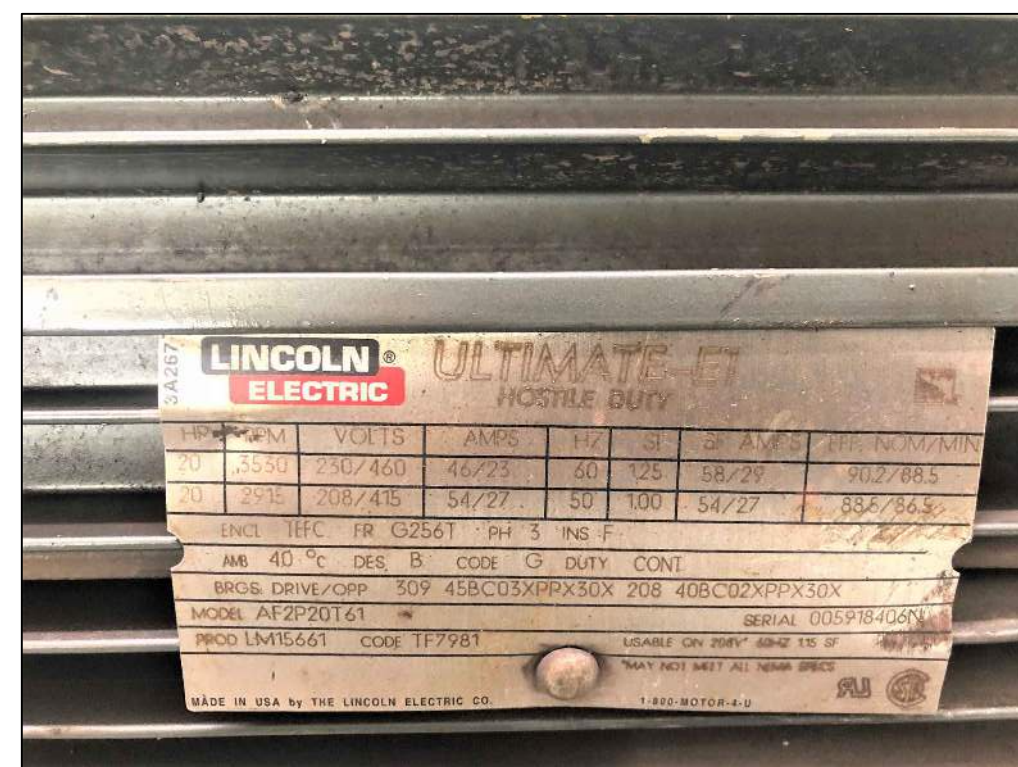


- NOTES:
1. ALL PUMPS & MOTORS TO BE REPLACED IN KIND.
 2. EXISTING PUMP CONTROL PANEL AND RELATED APPURTENANCES TO BE REPLACED BY FUNCTIONALLY IDENTICAL PUMP CONTROL PANEL.
 3. ALL VALVES AND PRESSURE GAUGES TO BE REPLACED.
 4. HEAVY LINE WORK INDICATES ITEMS TO BE REPLACED.
 5. REPLACED PUMPS WILL MAINTAIN THE EXISTING DISCHARGE PRESSURE SET POINTS.
 6. SURFACE PREP AND EPOXY OVERCOAT PIPING TO REMAIN.

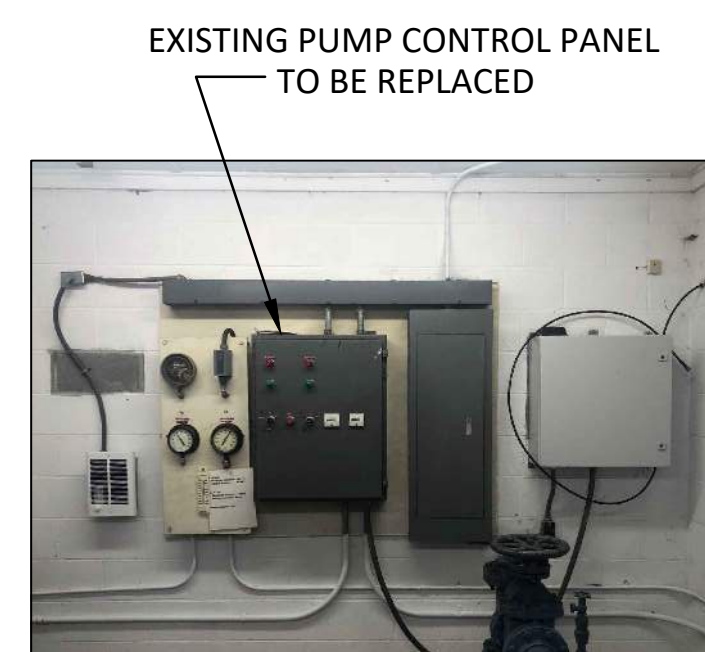
PLAN
 SCALE: 3/4" = 1'-0"



EXISTING PUMP



EXISTING MOTOR



EXISTING PUMP STATION APPURTENANCES



PUMP CONTROL PANEL



INTERIOR OF PUMP CONTROL PANEL

EXISTING MOTOR CONTROLLERS TO BE REPLACED BY VARIABLE FREQUENCY DRIVE MOTOR CONTROLLERS AS MANUFACTURED BY ALLEN BRADLEY, SIEMENS OR APPROVED EQUAL.



EXISTING MOTOR CONTROLLERS TO BE REPLACED BY VFDS

Purpose of Document Issue	ISSUED FOR BIDS
No.	ADDENDUM NO. 001
Date	05-19-23
	06-13-23

Designed	JLD
Drawn	DJL
Checked	JLD
Date	JANUARY 2023

Project No.
 16575



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