



ADDENDUM No. 2

To the

PROJECT MANUAL FOR

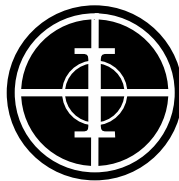
BERRY MOUNTAIN BOOSTER PUMP STATION REHABILITATION

**INSITE PROJECT NO. 22057.00
DWSRF NO. FS010055-02**

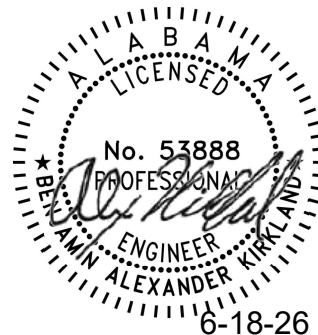
ONEONTA, ALABAMA

JUNE 2026

PREPARED BY:



**INSITE
ENGINEERING**



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ADDENDUM NO. 2

OWNER: Utilities Board of the City of Oneonta
PROJECT: Berry Mountain Booster Pump Station Rehabilitation
INSITE PROJECT No.: 22057.00
DWSRF PROJECT No.: FS010055-02

The Contractor shall incorporate the following changes into the Contract Documents and include the cost of all changes listed herein in his proposed contract prices. The Contractor must acknowledge receipt of this Addendum on Page 1 of the Bid Form. The above referenced Contract Documents are hereby amended as described below:

Changes to Specifications:

- A2.1 Section 000001 – Table of Contents – Updated table of contents to address changes.
- A2.2 Section 001116.00 SSF – Invitation to Bid – Bid opening date has been adjusted to July 9th, 2026 at 10am with no change to location.
- A2.3 Section 002113 SSF – Instruction to Bidders - Bid opening date has been adjusted to July 9th, 2026 at 10am with no change to location.
- A2.4 Section 331413.00 SSF – Public Water Utility Distribution Piping – Replace this section in its entirety. (Added Piping Clarifications)
- A2.4 Section 331510 – Water Booster Pump Station – Replace this Section in its Entirety. Rehabilitation language included and updated pump needs.

Changes to Drawings

- A2.1 Drawing Sheet SI-1 – Existing Booster Pump Station Site Plan, Grading, Drainage, and Erosion Control– updated Suggested Construction to Clarify Scope of Work.
- A2.2 Drawing Sheet PS-2 – Existing Booster Pump Station Mechanical Plan and Sections- Added Callouts for clarification on work for pump replacement.

Other Clarifications:

- A2.1 Q: Are the pumps to be reused or replaced?
A: Pumps are to be replaced In-Like-Kind adhering to a 20HP limit. Pumps are to be Vertical Can Turbine pumps by Clay Greene/Morrow Water.

The above changes shall be incorporated into the Contract Documents for the above referenced project. The bidder must acknowledge receipt of this Addendum on Page 1 of the Bid Form.

Attachments: Section 000001 – Table of Contents
Section 001116.00 SSF – Invitation to Bid
Section 002113 SSF – Instructions to Bidders
Section 331413.00 SSF – Public Water Utility Distribution Piping
Section 331510.00 – Water Booster Pump Station
Drawing Sheet SI-1 - Existing Booster Pump Station Site Plan, Grading,
Drainage, and Erosion Control



ADDENDUM NO. 2

UTILITIES BOARD OF THE CITY OF ONEONTA

22057.00 – BERRY MOUNTAIN BOOSTER PUMP STATION REHABILITATION

June 18, 2026

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SECTION 001116 - INVITATION TO BID -**ADDENDUM NO. 2**

1.1 BID INFORMATION

- A. Project: 22057.00 Berry Mountain Booster Pump Station Rehabilitation
- B. DWSRF Project No.: FS010055-02
- C. Owner: The Utilities Board of the City of Oneonta, Alabama
- D. Engineer: InSite Engineering, LLC.
- E. Names of Bidders:
 - 1. All Bidders.

1.2 ANNOUNCEMENT

- A. All qualified bidders are invited to submit a Bid under sealed envelope to The Utilities Board of the City of Oneonta, Alabama for construction of a proposed existing booster pump station rehabilitation, including demolition and replacement of existing booster pump station pumps, valves, piping, electrical, fencing, and all other necessary appurtenances at Blount County Highway 57, Oneonta, Alabama, 35121. Owner will receive Bids at the Board Office, located at 1607 2nd Avenue E, Oneonta, Alabama, 35121, until 10:00 A.M. local standard time on the ~~18th day of June, 2nd~~ **9th day of July, 2026** at which time and place the Bids will be publicly opened and read aloud. Bids not received by the indicated time will not be opened.
- B. Owner requires the Project to be substantially completed within **120** days after the date when the Contract Times commence to run as dated in the Notice to Proceed and completed and ready for final payment within **150** days after the date when the Contract Times commence to run as dated in the Notice to Proceed.
- C. Bid Documents can be obtained only by General Contractors and Bidders at www.insiteengineering.org. Others may view the Bid Documents at the office of the Engineer or online at www.insiteengineering.org.
- D. Bidders will be required to provide Bid security according to the requirements in Bid Document Instruction to Bidders.
- E. Other Bidding requirements are described in Bid Document Instructions to Bidders.
- F. Submit your Bid on the Bid Form provided. Bidders are required to complete all sections and requirements as stated with the Contract Documents.
- G. Bids will be required to be submitted under a condition of irrevocability for a period of no less than 90 days after submission.
- H. A mandatory Pre-Bid Meeting will **NOT** be held.
- I. Owner reserves the right to waive irregularities and to accept or reject any or all Bids.
- J. Project is subject to any and all AIS and BABA Requirements.**
- K. Davis Bacon Wage Rates Apply.**

END OF DOCUMENT 001116

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SECTION 002113 - INSTRUCTIONS TO BIDDERS – ADDENDUM NO. 2

1.1 BID SUBMISSION

- A. Bids signed and sealed, executed, and dated will be received by The Utilities Board of the City of Oneonta, Alabama, located at 1607 2nd Avenue E, Oneonta, Alabama, 35121, until 10:00 A.M. local standard time on the ~~18th day of June, 2nd~~ **9th day of July, 2026** at which time and place the Bids will be publicly opened and read aloud. Bids not received by the indicated time will not be opened.
- B. Bids submitted after the above time will be returned to Bidder unopened.
- C. Amendments to submitted Bids will be permitted when received in writing prior to Bid closing and when endorsed by the same party or parties who signed and sealed the Bid.
- D. Bidders may withdraw their Bid by written request before the above time, otherwise bids shall be good for 90 days.

1.2 INTENT

- A. Intent of this Bid request is to obtain an offer to perform Work to complete the rehabilitation of an existing water booster pump station, including demolition and replacement of existing booster pump station pumps, valves, piping, electrical, fencing, and all other necessary appurtenances at Blount County Highway 57, Oneonta, Alabama, 35121, for a Stipulated Price contract, according to Contract Documents.

1.3 WORK IDENTIFIED IN CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises general construction of the rehabilitation of an existing water booster pump station, including demolition and replacement of existing booster pump station pumps, valves, piping, electrical, fencing, and all other necessary appurtenances.
- B. Location: Blount County Highway 57, Oneonta, Alabama, 35121
- C. Land and Access:
 - 1. Contract Documents identify land, rights-of-way, and easements for the Work to be accessed and performed.

1.4 CONTRACT TIME

- A. Description:
 - 1. Owner requires the Project to be substantially completed within **120** calendar days after the date when the Contract Times commence to run as dated in the Notice to Proceed and completed and ready for final payment within **150** calendar days after the date when the Contract Times commence to run as dated in the Notice to Proceed.

B. Time is of Essence:

1. Owner requires Work of this Contract to be completed as soon as possible.

1.5 DEFINITIONS

- A. Bidding Documents: Contract Documents supplemented with Advertisement for Bids, Instructions to Bidders, Bid Form, Bid securities, and Technical Specifications.
- B. Contract Documents: As defined in EJCDC C-700 - Standard General Conditions of the Construction Contract, Article 1, including issued Addenda.
- C. Bid: Executed Bid Form and required attachments submitted according to Instructions to Bidders.
- D. Bid Price / Sum: Monetary sum identified by Bidder in Bid Form.

1.6 CONTRACT DOCUMENTS IDENTIFICATION

- A. Contract Documents are identified as Project No. 22057.00, as prepared by InSite Engineering, LLC located at 5800 Feldspar Way, Hoover, Alabama 35244, and as identified in Project Manual.

1.7 AVAILABILITY OF DOCUMENTS

- A. Bidding Documents may be obtained as indicated in Advertisement for Bids.
- B. Purpose:
 1. Bidding Documents are made available only for the purpose of obtaining offers for the Project.
 2. Their use does not grant a license for other purposes.

1.8 EXAMINATION OF DOCUMENTS

- A. Bidding Documents may be viewed at the office of InSite Engineering, LLC or Online within the plan library at www.insiteengineering.org.
- B. Completeness:
 1. Upon receipt of Bidding Documents, verify that documents are complete.
 2. Notify Engineer if documents are incomplete.
- C. Immediately notify Engineer upon finding discrepancies or omissions in Bidding Documents.

1.9 INQUIRIES AND ADDENDA

- A. Direct questions in writing to Alex Kirkland, P.E., at the office of the Engineer, at akirkland@insiteengineering.org. It is the bidder's responsibility to ensure the email is received.
- B. Verbal answers are not binding on any party.
- C. Submit questions not less than five days before date set for receipt of Bids.
- D. Addenda:
 - 1. Replies will be made by Addenda, which may be issued during Bidding period.
 - 2. Addenda will be sent to known Bidders and placed on the online plan library.
 - 3. Addenda become part of Contract Documents.
- E. Include resultant costs in Bid Price/Sum.

1.10 PRODUCT SUBSTITUTIONS

- A. Where Bidding Documents stipulate particular products, substitution requests will be considered by Engineer up to 10 days before receipt of Bids.
- B. With each substitution request, provide sufficient information for Engineer to determine acceptability of proposed products.
- C. Comply with substitution request submittal requirements in Section 016000 - Product Requirements including use of Substitution Request Form.
- D. Approvals:
 - 1. When a request to substitute a product is made, Engineer may approve the substitution with Owner's direction.
 - 2. Approved substitutions will be identified by Addenda.
- E. Changes in the Work:
 - 1. In submitting substitutions to specified products, Bidders shall include changes required in the Work and changes to Contract Time, Contract Sum, and Contract Price to accommodate such approved substitutions in their Bid.
 - 2. Later claims by the Bidder for an addition to the Contract Time or Contract Price because of changes in Work necessitated by use of substitutions will not be considered.
- F. With each substitution request, provide sufficient information for Engineer to determine acceptability of proposed products.
- G. Comply with substitution request submittal requirements in Section 016000 - Product Requirements including use of Substitution Request Form.

- H. Provide complete information on required revisions to other Work to accommodate each substitution, the value of additions to or reductions from the Bid Price, including revisions to other Work.
- I. Provide products as specified unless substitutions are submitted in this manner and subsequently accepted.
- J. Approval to submit substitution requests prior to submission of Bids is not required.

1.11 SITE EXAMINATION

- A. Examine Project Site before submitting a Bid.
- B. Contact Engineer at following address and phone number to arrange date and time to visit Project Site:
 - 1. Address: 5800 Feldspar Way, Hoover, Alabama 35244.
 - 2. Telephone: 205-733-9696.

1.12 PREBID MEETING

- A. A mandatory Pre-Bid Meeting will NOT be held.

1.13 BIDDER QUALIFICATIONS

- A. To demonstrate qualification for performing the Work of this Contract, Bidders may be requested to submit written evidence of previous experience and proper license to perform work in State of Alabama.

1.14 BIDDER PREQUALIFICATION

- A. Bidder prequalification for this project is not required.

1.15 SUBCONTRACTORS

- A. Owner reserves right to reject a proposed Subcontractor for reasonable cause.

1.16 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for delivery of Bids in manner and time prescribed.
- B. Submit one copy of executed offer on provided Bid Forms, signed and sealed with required Bid Bond in a closed opaque envelope, and clearly identified with Bidder's name and address, Project name, General Contractors License Number, and Owner's name on outside.

- C. Improperly completed information, including irregularities in Bid bond, will be cause not to open Bid Form envelope and to declare Bid invalid or informal.
- D. An abstract summary of submitted Bids will be made available to all Bidders following Bid opening.

1.17 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, and obscure, or Bids that contain arithmetical errors, erasures, alterations, or irregularities, may be declared unacceptable at Owner's discretion.
- B. Bid Forms, Appendices, and enclosures that are improperly prepared may be declared unacceptable at Owner's discretion.
- C. Failure to provide security deposit, bonds, or insurance requirements will invalidate Bid at Owner's discretion.

1.18 BID SECURITY

- A. Bids shall be accompanied by Bid security as follows:
 - 1. Bid bond in the amount of a maximum of \$10,000 or of a sum no less than 5 percent of Bid Sum.
- B. Endorse Bid bond in name of The Utilities Board of the City of Oneonta, Alabama. Signed and sealed by principal (Contractor) and surety.
- C. Bid securities will be returned after delivery to Owner of required performance and payment bonds by accepted Bidder.
- D. If accepted Bidder fails to execute the Agreement and indicated bonds within 15 days after Notice of Award, Notice of Award may be annulled and Bidder's Bid security will be forfeited.
- E. Include cost of Bid security in Bid Sum/Price
- F. After Bid has been accepted, Bid security will be returned to respective Bidders.
- G. If no contract is awarded, Bid security will be returned.

1.19 PERFORMANCE ASSURANCE

- A. Accepted Bidder: Provide performance and payment bond as described in Document 007314 - Supplementary Conditions - EJCDC
- B. Include cost of performance assurance bonds in Bid Sum/Price. Separate payment will not be made.

1.20 INSURANCE

- A. Provide an executed "Undertaking of Insurance" on Standard form provided by the insurance company, stating insurance company's intention to provide insurance to Bidder according to insurance requirements of Contract Documents.

1.21 BID FORM REQUIREMENTS

- A. Complete requested information in Bid Form and Bid Form Supplements.
- B. Refer to Document 007314 - Supplementary Conditions - EJCDC for inclusion of taxes, and tax-exempt products.

1.22 FEES FOR CHANGES IN THE WORK

- A. Include in Bid Form the overhead and profit fees on Bidder's own Work and Work by Subcontractors, applicable for changes in the Work, whether additions to or deductions from the Work on which Bid Sum/Price is based.
- B. Subcontract Work:
 - 1. Include in Bid Form the fees proposed for subcontract Work for changes, both additions and deductions, in the Work.

1.23 BID FORM SIGNATURE

- A. Sign Bid Form as follows:
 - 1. Sole Proprietorship:
 - a. Signature of sole proprietor in presence of a witness who will also sign.
 - b. Include words "Sole Proprietor" under signature.
 - c. **[Affix seal.]**
 - 2. Partnership:
 - a. Signature of each partner in presence of a witness who will also sign.
 - b. Include word "Partner" under each signature.
 - c. **[Affix seal to each signature.]**
 - 3. Corporation:
 - a. Signature of at least one duly authorized signing officer.
 - b. Include officer's capacity under each signature.
 - c. Affix corporate seal.
 - d. If Bid is signed by officials other than president, secretary, or treasurer of company, submit a copy of bylaws or a resolution of board of directors authorizing them to do so, included with Bid Form in Bid envelope.

4. Joint Venture:

- a. Signature of each party of joint venture under their respective seals in a manner appropriate to such party as described above, similar to requirements for partnerships.

1.24 ADDITIONAL BID INFORMATION

A. Complete and submit with Bid, Document 004300 - Procurement Form Supplements.

1. Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.
2. Appendix B - List of Unit Prices: Include list of Unit Prices specifically requested by Contract Documents.
3. Appendix C - List of Alternates: Include cost variation to Bid Sum/Price applicable to Work described in Section 012000 - Price and Payment Procedures.
4. Appendix D - List of Separate Prices: Include list of separate prices as specifically requested in Contract Documents.
5. Appendix E - Cost Breakdown: Includes Bid sum/price segmented into portions as requested.
6. Appendix F - List of Supplementary Mechanical Information.
7. Appendix G - List of Supplementary Electrical Information.
8. Appendix H - List of Equipment.
9. Appendix I - List of Tax Rebate Items.

1.25 SELECTION AND AWARD OF ALTERNATES

A. Evaluation:

1. Bids will be evaluated on base Bid Price or Base Plus any Alternates.

1.26 BID OPENING

A. Description:

1. Bids will be opened publicly immediately after time for receipt of Bids.
2. Bidders may be present.

1.27 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of **60** days after Bid closing date.

1.28 ACCEPTANCE OF OFFER

- A. Owner reserves right to waive irregularities and to accept or reject any or all offers with first choice of award being the Lowest, Responsive, and Responsible Bidder.
- B. After acceptance by Owner and Approval received from ADEM SRF division, Engineer, on behalf of Owner, will issue to the accepted Bidder a written Notice of Award.
- C. Notwithstanding delay in the preparation and execution of the Agreement, accepted Bidder shall be prepared, upon written Notice to Proceed, to commence Work within 30 days following receipt of official written order of Owner to proceed, or on date stipulated in such order.
- D. Accepted Bidder shall assist and cooperate with Owner to prepare Agreement, and shall execute Agreement and return it to Owner within 15 days following its presentation.

END OF DOCUMENT 002113

SECTION 331413 - PUBLIC WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes water-distribution piping and related components.
- B. Utility-furnished products include water meters that will be furnished to the site, ready for installation.
- C. This Section has been modified to meet the requirements of the Standard Water System Specifications of The Utilities Board of the City of Oneonta, revised September 30, 2011. Where a conflict exists between this Section and the Standard Specifications, the Standard Specifications shall prevail.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Detail precast concrete vault assemblies and indicate dimensions, method of field assembly, and components.
 - 1. Wiring Diagrams: Power, signal, and control wiring for alarms.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.
- C. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- D. Preconstruction Photographs: Digital files of photographs of Work areas and material storage areas.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and **invert** elevations.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

- C. Operation and Maintenance Data: For water valves and specialties to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
- B. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- C. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.
- D. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.
- E. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.
- F. Valves: Mark valve body with manufacturer's name and pressure rating.
- G. Materials in Contact with Potable Water: Certified according to NSF 61 and NSF 372.
- H. Perform Work according to AWWA C600 standards.
- I. Manufacturer: Company specializing in manufacturing products specified in this Section with **three** years' experience.
- J. Installer: Company specializing in performing Work of this Section with **three** years' experience in installation of liner materials.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
 - 1. Ensure that valves are dry and internally protected against rust and corrosion.
 - 2. Protect valves against damage to threaded ends and flange faces.
 - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. Storage: Use precautions for valves, including fire hydrants, according to the following:
 - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
 - 2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
 - 3. Store materials according to manufacturer instructions.
 - 4. Block individual and stockpiled pipe lengths to prevent moving.

5. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
6. Store PE and PVC materials out of sunlight.

C. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:
1. Notify Engineer no fewer than two days in advance of proposed interruption of service.
 2. Do not proceed with interruption of water-distribution service without Engineer's written permission.

1.8 EXISTING CONDITIONS

- A. Field Measurements:
1. Verify field measurements prior to fabrication.
 2. Indicate field measurements on Shop Drawings.

1.9 COORDINATION

- A. Coordinate connection to water main with utility company.
- B. **DO NOT OPERATE ANY EXISTING VALVES.** Notify owner of the need to have a valve operated and Owner's personnel will operate the necessary valves.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. Soft Copper Tube: ASTM B 88, Type K, water tube, annealed temper.
1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
- B. Hard Copper Tube: ASTM B 88, Type K, water tube, drawn temper.

1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
- C. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end. Furnish Class 300 flanges if required to match piping.
- D. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.

2.2 DUCTILE-IRON PIPE AND FITTINGS

- A. Manufacturers:
 1. American Cast Iron Pipe Company
 2. United States Pipe and Foundry
 3. Or Pre-Approved Equivalent
- B. Mechanical-Joint, Ductile-Iron Pipe: AWWA C151, CL250 minimum, with mechanical-joint bell and plain spigot end unless grooved or flanged ends are indicated.
 1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 2. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
- C. Push-on-Joint, Ductile-Iron Pipe: AWWA C151, CL250 minimum, with push-on-joint bell and plain spigot end unless grooved or flanged ends are indicated.
 1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 2. Gaskets: AWWA C111, rubber.
- D. Restrained Joint, Ductile-Iron Pipe: AWWA C151, CL250 minimum, with restrained joint bell and spigot ends.
 1. Restrained Joints:
 - a. Flex-Ring
 - b. Lok-Ring
 - c. TR Flex
 - d. Thrust Lock
 2. Field Adaptable Joint Restraints:
 - a. Fast Grip
 - b. Field Flex-Ring
 - c. Field Lok
 - d. Sure Stop
 3. Factory Welding: When restrained joints require factory welding, the MANUFACTURER shall qualify all welding procedures and welders used to produce the product per the requirements of a documented quality assurance system based on ANSI/AWS D11.2.
 4. Gaskets: Standard styrene butadiene copolymer (SBR), unless noted otherwise.

5. Torque-activated restrained joint devices that rely on threaded bolts or set-screws for joint restraint are not allowed.

- E. Flanges: ASME 16.1, Class 125, cast iron.
- F. Interior Lining: Cement-mortar lining in accordance with ANSI/AWWA C104/A21.4, unless specifically noted otherwise.

2.3 STAINLESS STEEL PIPE AND FITTINGS

- A. Stainless steel piping and flanges indicated on the documents shall conform to the following requirements.
 1. Stainless steel pipe shall conform to the requirements of ANSI/ASTM A312, latest revision, Grade TP 316.
 2. Stainless steel pipe shall be furnished in accordance with nominal pipe sizes and nominal wall thicknesses given in Table 1 of the American National Standard for Stainless Steel Pipe (ANSI B36.19, latest revision).
 3. Pipe sizes and schedules (nominal wall thicknesses) shall be as indicated, but in no case shall be less than Sch. 10.
 4. All flanges, nuts and bolts shall be made of stainless steel.
 5. All fittings shall be forged fittings.
 6. Flanged pipe ends shall be made of Type 304L stainless steel slip-on type rolled angle face rings and hot dipped galvanized ductile iron back-up flanges drilled to ANSI 16.1 class 125 standard. The angle face ring thickness shall be equal to or greater than the wall of the pipe or fittings to which it is welded and it shall be continuously welded on both sides to the pipe of fitting. The angle leg shall not interfere with the flange bolt holes.
 7. Contractor may modify the number and/or location of flanged connections shown on the drawings to assist with shipping, handling, or installation of the stainless steel pipe and headers. Modifications will be reviewed by Engineer during the submittal process.

2.4 PIPING SPECIALTIES

- A. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.
- B. Tubular-Sleeve Pipe Couplings:
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cascade Waterworks Manufacturing.
 - b. Dresser, Inc.; Dresser Piping Specialties.
 - c. Ford Meter Box Company, Inc. (The); Pipe Products Div.
 - d. Hays Fluid Controls; a division of ROMAC Industries Inc.
 - e. JCM Industries.
 - f. Smith-Blair, Inc.

- g. Viking Johnson.
- 2. Description: Metal, bolted, sleeve-type, reducing or transition coupling, with center sleeve, gaskets, end rings, and bolt fasteners and with ends of same sizes as piping to be joined.
 - a. Standard: AWWA C219.
 - b. Center-Sleeve Material: Ductile iron.
 - c. Gasket Material: Natural or synthetic rubber.
 - d. Pressure Rating: 200 psig minimum.
 - e. Metal Component Finish: Corrosion-resistant coating or material.

2.5 CORROSION-PROTECTION PIPING ENCASEMENT

A. Encasement for Underground Metal Piping:

- 1. Standards: ANSI/AWWA C105/A21.5.
- 2. Form: Tube.
- 3. Material: LLDPE film of 0.008-inch minimum thickness.
- 4. Color: Black.

2.6 GATE VALVES

A. Stainless Steel Gate Valves:

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. KITZ
 - b. NIBCO
 - c. Or Pre-approved equivalent
- 2. Nonrising-Stem, Resilient-Seated Gate Valves:
 - a. Description: 316 Stainless Steel body and bonnet; with Stainless steel gate, resilient seats, Stainless steel stem, and stem nut.
 - 1) Standard: ASTM A351 Grade CF8M (316 SS)
 - 2) Standard: NSF/ANSI 61 and NSF/ANSI 372 Certification required.
 - 3) System Pressure: 205 psig working water pressure, with zero leakage.
 - 4) Pressure rating of valve shall be 300 psi or greater.
 - 5) Design: Full-Port
 - 6) End Connections: Flanged

2.7 GATE VALVE ACCESSORIES AND SPECIALTIES

A. Tapping-Sleeve Assemblies:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Cast Iron Pipe Co.; Waterous Co. Subsidiary.
 - b. East Jordan Iron Works, Inc.
 - c. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
 - d. McWane, Inc.; Kennedy Valve Div.
 - e. McWane, Inc.; M & H Valve Company Div.
 - f. Mueller Co.; Water Products Div.
 - g. U.S. Pipe and Foundry Company.
 2. Description: Sleeve and valve compatible with drilling machine.
 - a. Full Body.
 - b. Tapping Sleeve: Cast- or ductile-iron or stainless-steel, two-piece bolted sleeve with flanged outlet for new branch connection. Include sleeve matching size and type of pipe material being tapped and with recessed flange for branch valve.
 - c. Valve: AWWA, cast-iron, nonrising-stem, resilient-seated gate valve with one raised face flange mating tapping-sleeve flange.
- B. Valve Boxes: Comply with AWWA M44 for cast-iron valve boxes. Include top section, adjustable extension of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over valve and with a barrel approximately 5 inches in diameter.
1. Extensions: Cast or ductile iron. The use of PVC extensions is prohibited.
 2. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.

2.8 BUTTERFLY VALVES

A. AWWA Butterfly Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Mueller
 - b. DeZURIK.
 - c. Or Pre-Approved Equal
2. Description: AWWA Class 150BG (3" – 20")
 - A. Butterfly valves 3 - 20" (80 - 500mm) shall meet or exceed the latest revision of AWWA Standard C504 for Class 150B butterfly valves and shall meet or exceed the requirements of this specification.

- B. Valve bodies shall be of cast iron per ASTM A126 Class B. Flange end valves shall be of the short body design with 125 lb. flanged ends faced and drilled per ANSI B16.1 standard for cast iron flanges Mechanical Joint end valves shall meet the requirements of AWWA C111/ANSI 21.11.
 - C. Discs shall be cast iron per ASTM A48 Class 40C. The disc seating edge shall be solid 316 stainless steel. The disc shall be securely attached to the valve shaft utilizing a field removable/replaceable 316 stainless steel torque screw or a tangential pin locked in place with a set screw.
 - D. Valve shaft shall be type 304 stainless steel. Valve shaft seals shall be self-compensating V-type packing with a minimum of four sealing rings. One-piece molded shaft seals and o-ring shaft seals are not acceptable.
 - E. The seat shall be of Buna-N for water, or as required for other services, and shall be molded in and vulcanized to the valve body. The seat shall contain an integral shaft seal protecting the valve bearings and packing from any line debris. Seats vulcanized to cartridge inserts in the valve body and seats on the disc are not acceptable.
 - F. Valve shaft bearings shall be non-metallic and permanently lubricated.
 - G. Unless otherwise specified, exterior and interior metallic surfaces of each valve shall be shop painted per the latest revision of AWWA C504.
 - H. If the actual valve operating conditions are provided within this specification, actuator shall be sized to the specified conditions. If actual operating conditions are not provided within this specification, per AWWA C504, the valve actuator shall be sized to operate the valve at the rated working conditions of the valve. Each valve and valve actuator shall be assembled, adjusted, and tested as a unit per the latest revision of AWWA C504, by the valve manufacturer.
 - I. Ten position locking levers shall be available for 3 - 8" (80 - 200mm) valves. Provision must be made for locking in any of the ten positions using a standard padlock.
 - J. Valves 3-20" (80 - 500mm) shall have traveling nut manual actuators designed and tested per the requirements of AWWA C504. Housings shall be cast iron and shall be available in both weatherproof and buriable constructions with handwheel, chainwheel, or 2" (50mm) square AWWA nut inputs. All units shall have adjustable open and closed position stops.
3. Description: AWWA Class 150BG (24" and Larger)
- A. Butterfly valves 24 - 72" (600mm and larger) shall meet or exceed the latest revision of AWWA Standard C504 and shall meet or exceed the requirements of this specification. All valves shall comply with the requirements of the AWWA class specified or if the AWWA class is not specified, the valve shall meet the requirements of AWWA C504 class 150B.
 - B. Valve bodies shall be of cast iron per ASTM A126 Class B. Flanged end valves shall be of the short body design with 125 lb. flanged ends faced and drilled per ANSI B16.1

standard for cast iron flanges. Mechanical joint ends shall meet the requirements of AWWA C111/ANSI A21.11.

- C. Discs shall be offset to provide an uninterrupted 360 degree seating edge and shall be cast iron per ASTM A48, Class 40C or ductile iron per ASTM A536 (65-45-12). The disc seating edge shall be solid 316 stainless steel. The disc shall be securely attached to the valve shaft using 304 stainless steel taper pins. Discs structures containing hollow cavities are not acceptable.
- D. Valve shaft shall be of type 304 stainless steel. Valve shaft seals shall be self-compensating V-type packing with a minimum of four sealing rings. One-piece molded shaft seals and o-ring shaft seals are not acceptable.
- E. The seat shall be of Buna-N for water, or as required for other services, and shall be retained within a dovetail groove in the valve body and locked in place by an epoxy compound edge. Compression between the seat and disc edge shall be adjustable from both the upstream and downstream side of the valve disc and the seat shall be field replaceable without disassembly of the disc and shaft. Seats with unidirectional adjustment, seats retained in the valve body by the use of fasteners and/or retaining rings, and seats retained on the valve disc are not acceptable.
- F. Valve shaft bearings shall be Teflon lined with a non-metallic fiberglass composite backing and shall be permanently lubricated.
- G. Unless otherwise specified, exterior and interior metallic surfaces of each valve shall be shop painted per the latest revision of AWWA C504.
- H. If the actual valve operating conditions are provided within this specification, the valve actuator shall be sized to the specified conditions. If actual operating conditions are not provided within this specification, per AWWA C504, the valve actuator shall be sized to operate the valve at the rated working conditions of the valve. Each valve and valve actuator shall be assembled, adjusted, and tested as a unit per the latest revision of AWWA C504, by the valve manufacturer.
- I. Handwheel, chainwheel, and buried service nut actuators shall conform in all respects to AWWA C504.

4. Description: AWWA Class 250BG (24" and Larger)

- A. Butterfly valves 24" (600mm) and larger shall meet or exceed the design intention of the latest revision of AWWA Standard C504 and shall meet or exceed the requirements of this specification. Valves shall have a working pressure of 250 psi (1720 kPa).
- B. Valve bodies shall be of ductile iron per ASTM A536 (65-45-12). Flange end valves shall be of the short body design with 250 lb. flanged ends faced and drilled per ANSI B16.1 standard for cast iron flanges. Mechanical Joint end valves shall be of ductile iron per ASTM A536 (65-45-12) and the ends shall meet the requirements of AWWA C111/ANSI 21.11.

- C. Discs shall be offset to provide an uninterrupted 360 degree seating edge and shall be ductile iron per ASTM A536 (65-45-12). The disc seating edge shall be solid 316 stainless steel. The disc shall be securely attached to the valve shaft using 17-4 PH stainless steel taper pins. Disc structures containing hollow cavities are not acceptable.
- D. Valve shafts shall be of ASTM A564 Type 630 stainless steel. Valve shaft seals shall be self-compensating V-type packing with a minimum of four sealing rings. One-piece molded shaft seals and o-ring shaft seals are not acceptable.
- E. The seat shall be of Buna-N for water, or as required for other services, and shall be retained within a dovetail groove in the valve body and locked in place by an epoxy compound wedge. Compression between the seat and disc edge shall be adjustable from both the upstream and downstream side of the valve disc and the seat shall be field replaceable without disassembly of the disc and shaft. Seats with unidirectional adjustment, seats retained in the valve body by the use of fasteners and/or retaining rings, and seats retained on the valve disc are not acceptable.
- F. Valve shaft bearings shall be PTFE lined with a non-metallic fiberglass composite backing and shall be permanently lubricated.
- G. Unless otherwise specified, exterior and interior metallic surfaces of each valve shall be shop painted per the latest revision of AWWA C504.
- H. If the actual valve operating conditions are provided within this specification, the valve actuator shall be sized to the specified conditions. If actual operating conditions are not provided within this specification, per AWWA C504, the valve actuator shall be sized to operate the valve at the rated working conditions of the valve. Each valve and valve actuator shall be assembled, adjusted, and tested as a unit per the latest revision of AWWA C504, by the valve manufacturer.
- I. Handwheel, chainwheel, and buried service nut actuators shall conform in all respects to AWWA C504.

2.9 CHECK VALVES – SWING TYPE

- A. Check valves for liquid water service shall meet AWWA C-508 and have 316 Stainless Steel bodies, stainless steel seats (ASTM A276), buna-n seat rings (80 durameter), and extended stainless hinge pins (pivot shafts) type 304, 309, or 316.
- B. Valve shall be cushioned gravity swing type, and shall be equipped with levers, weights, and air cushion chamber adjustable for controlling closure.
- C. Requirements:
 - 1. Standards: ASTM A351 Grade CF8M (316 Stainless Steel)
 - 2. Standards: NSF/ANSI 61 and 372 Certified
 - 3. Pressure Rating: 300psi minimum.
 - 4. End connections: Flanged

- D. Available Manufacturers
 - a. NIBCO
 - b. Flomatic
 - c. Keckley
 - d. Or Pre-Approved Equivalent

2.10 CORPORATION VALVES AND CURB VALVES

- A. Manufacturers:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following:
 - a. Mueller Co.; Water Products Div. H14350 Curb Valve.
 - b. Mueller Co.; Water Products Div. H15008 Corporation Valve
- B. Service-Saddle Assemblies: Comply with AWWA C800. Include saddle and valve compatible with tapping machine.
 - 1. Service Saddle: Copper alloy with seal and AWWA C800, threaded outlet for corporation valve.
 - 2. Corporation Valve: Bronze body and ground-key plug, with AWWA C800, threaded inlet and outlet matching service piping material.
- C. Curb Valves: Comply with AWWA C800. Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.
- D. Service Boxes for Curb Valves: Similar to AWWA M44 requirements for cast-iron valve boxes. Include cast-iron telescoping top section of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over curb valve and with a barrel approximately 3 inches in diameter.
 - 1. Shutoff Rods: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and slotted end matching curb valve.

2.11 WATER METERS

- A. Water meters will be furnished by the Owner.

2.12 PRESSURE REDUCING AND PRESSURE SUSTAINING VALVES

- A. Pressure Reducing and Pressure Sustaining Valves:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Singer Valve

- b. OR PRE-APPROVED EQUAL
- 2. Description: The valve shall maintain accurate control of the downstream pressure.
 - a. Valve Model: Singer Valve, 106-PR-R / 206-PR-R
 - b. Pressure Rating: Minimum must exceed maximum inlet pressure.
 - c. Valve shall be capable of operating within the required pressures of the project and as required by the specifications of reduced pressure for Pall Membrane Filters.
 - d. The valve shall maintain relatively accurate control of the downstream pressure regardless of fluctuation in flow or upstream pressure until the upstream pressure drops to a pre-determined value.
 - e. The sustaining pilot shall override the pressure reducing function at such time as the upstream pressure drops to the pre-determined value maintaining relatively steady upstream pressure.

2.13 RELIEF VALVES

A. Air-Release Valves:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. APCO
 - b. Crispin-Multiplex Manufacturing Co.
 - c. DeZurik.
 - d. GA Industries, Inc.
 - e. SingerValve
 - f. Val-Matic Valve & Manufacturing Corp.
- 2. Description: Hydromechanical device to automatically release accumulated air.
 - a. Standard: AWWA C512.
 - b. Pressure Rating: 300 psig.
 - c. Body Material: Cast iron or ductile iron.
 - d. Trim Material: Stainless steel.

B. Air/Vacuum Valves:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. APCO
 - b. Crispin-Multiplex Manufacturing Co.
 - c. DeZurik.
 - d. GA Industries, Inc.
 - e. Singer Valve
 - f. Val-Matic Valve & Manufacturing Corp.

2. Description: Direct-acting, float-operated, hydromechanical device with large orifice to automatically release accumulated air or to admit air during filling of piping.
 - a. Standard: AWWA C512.
 - b. Pressure Rating: 300 psig.
 - c. Body Material: Cast iron or ductile iron.
 - d. Trim Material: Stainless steel.

C. Combination Air Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. APCO
 - b. Crispin-Multiplex Manufacturing Co.
 - c. DeZurik.
 - d. GA Industries, Inc.
 - e. Singer Valve
 - f. Val-Matic Valve & Manufacturing Corp.
2. Description: Float-operated, hydromechanical device to automatically release accumulated air or to admit air.
 - a. Standard: AWWA C512.
 - b. Pressure Rating: 300 psig.
 - c. Body Material: Cast iron or ductile iron.
 - d. Trim Material: Stainless steel.

2.14 WATER METER BOXES

- A. Description: Water Meter Boxes will be furnished by utility company.

2.15 CONCRETE VAULTS

- A. Description: Precast, reinforced-concrete vault, designed for A-16 load designation according to ASTM C 857 and made according to ASTM C 858.
1. Ladder: Aluminum.
 2. Manhole: ASTM A 536, Grade 60-40-18, ductile-iron traffic frame and cover.
 - a. Dimension: 24-inch- minimum diameter, unless otherwise indicated.
 3. Drain: ASME A112.6.3, cast-iron floor drain with outlet of size indicated. Include body anchor flange, light-duty cast-iron grate, bottom outlet, and integral or field-installed bronze ball or clapper-type backwater valve.

2.16 FIRE HYDRANTS

A. Dry-Barrel Fire Hydrants:

1. Manufacturers: Subject to compliance with requirements, provide the following:
 - a. Mueller Centurion.
2. Description: Freestanding, with one NPS 4-1/2 and two NPS 2-1/2 outlets, 5-1/4-inch main valve, drain valve, and NPS 6 mechanical-joint inlet. Include interior coating according to AWWA C550. Hydrant shall have cast-iron body, compression-type valve opening against pressure and closing with pressure.
 - a. Standard: AWWA C502.
 - b. Pressure Rating: 250 psig.
 - c. Outlet Threads: NFPA 1963, with external hose thread used by local fire department. Include cast-iron caps with steel chains.
 - d. Operating and Cap Nuts: Pentagon, 1-1/2 inches point to flat.
 - e. Direction of Opening: Open hydrant valve by turning operating nut to left or counterclockwise.
 - f. Exterior Finish: Red alkyd-gloss enamel paint, unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that existing utility water main size, location, and invert are as indicated.

3.2 PREPARATION

A. Preconstruction Site Photos:

1. As specified in Section 017000 - Execution and Closeout Requirements.
2. Take photographs along centerline of proposed pipe trench; minimum one photograph for each 100 feet of pipe trench.
3. Show mailboxes, curbing, lawns, driveways, signs, culverts, and other existing Site features.
4. Include Project description, date taken, and sequential number on back of each photograph.

B. Pipe Cutting:

1. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.
2. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted.
3. Grind edges smooth with beveled end for push-on connections.

- C. Remove scale and dirt on inside and outside before assembly.

- D. Prepare pipe connections to equipment with flanges or unions.

3.3 PIPING APPLICATIONS

- A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.
- B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.
- C. Do not use flanges or unions for underground piping.
- D. Flanges, unions, grooved-end-pipe couplings, and special fittings may be used, instead of joints indicated, on aboveground piping and piping in vaults.
- E. Underground water-service piping NPS 3/4 to NPS 3 shall be the following:
 - 1. Soft copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
 - 2. PE, ASTM pipe; molded PE fittings; and heat-fusion joints.
 - 3. PVC, Schedule 40 pipe; PVC, Schedule 40 socket fittings; and solvent-cemented joints.
- F. Underground water-service piping NPS 4 to NPS 8 shall be the following:
 - 1. Soft copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
 - 2. Ductile-iron, push-on-joint pipe; ductile-iron, push-on-joint fittings; and gasketed mechanical-joint pipe; ductile-iron, mechanical-joint fittings; and mechanical joints.
 - 3. PE, AWWA pipe; PE, AWWA fittings; and heat-fusion joints.
 - 4. NPS 4 and NPS 6: NPS 6 PVC, AWWA Class 150 pipe; PVC, AWWA Class 150 fabricated fittings; and gasketed joints.
 - 5. NPS 8: PVC, AWWA Class 200 pipe; PVC, AWWA Class 200 fabricated mechanical-joint, ductile-iron fittings; and gasketed joints.
- G. Water Meter Box Water-Service Piping NPS 3/4 to NPS 2 shall be same as underground water-service piping.
- H. Aboveground and Vault Water-Service Piping NPS 3/4 to NPS 3 shall be the following:
 - 1. Hard copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
- I. Aboveground and vault water-service piping NPS 4 to NPS 8 shall be the following:
 - 1. Hard copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
 - 2. Ductile-iron, grooved-end pipe; ductile-iron, grooved-end appurtenances; and grooved joints.
 - 3. PVC, Schedule 80 pipe; PVC, Schedule 80 socket fittings; and solvent-cemented joints.

3.4 VALVE APPLICATIONS

- A. General Application: Use ends as indicated on drawings. Where specific ends are not indicated, use mechanical-joint-end valves for NPS 3 and larger underground installation; use threaded- or flanged-end valves for installation in vaults; use UL/FMG, nonrising-stem gate valves for installation with indicator posts; use corporation valves and curb valves with ends compatible with piping, for NPS 2 and smaller installation.
- B. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:
 - 1. Underground Valves, NPS 3 and Larger: AWWA, cast-iron, nonrising-stem, resilient-seated gate valves with valve box.
 - 2. Use the following for valves in vaults and aboveground:
 - a. Gate Valves, NPS 2 and Smaller: Bronze, nonrising stem.
 - b. Gate Valves, NPS 3 and Larger: AWWA, cast iron, non-rising stem, resilient seated.
 - c. Check Valves: AWWA C508, swing type.
 - 3. Pressure-Reducing Valves: Use for water-service piping in vaults and aboveground to control water pressure.
 - 4. Relief Valves: Use for water-service piping in vaults and aboveground.
 - a. Air-Release Valves: To release accumulated air.
 - b. Air/Vacuum Valves: To release or admit large volume of air during filling of piping.
 - c. Combination Air Valves: To release or admit air.
 - 5. Detector Check Valves: Use for water-service piping in vaults and aboveground to detect unauthorized use of water.

3.5 PIPING INSTALLATION

- A. Water-Main Connection: Tap water main according to requirements of water utility company and of size and in location indicated.
- B. Make connections larger than NPS 2 with tapping machine according to the following:
 - 1. Install tapping sleeve and tapping valve according to MSS SP-60.
 - 2. Install tapping sleeve on pipe to be tapped. Position flanged outlet for gate valve.
 - 3. Use tapping machine compatible with valve and tapping sleeve; cut hole in main. Remove tapping machine and connect water-service piping.
 - 4. Install gate valve onto tapping sleeve. Comply with MSS SP-60. Install valve with stem pointing up and with valve box.
- C. Make connections NPS 2 and smaller with drilling machine according to the following:
 - 1. Install service-saddle assemblies and corporation valves in size, quantity, and arrangement required by utility company standards.

2. Install service-saddle assemblies on water-service pipe to be tapped. Position outlets for corporation valves.
 3. Use drilling machine compatible with service-saddle assemblies and corporation valves. Drill hole in main. Remove drilling machine and connect water-service piping.
 4. Install corporation valves into service-saddle assemblies.
 5. Install manifold for multiple taps in water main.
 6. Install curb valve in water-service piping with head pointing up and with service box.
- D. Install ductile-iron, water-service piping according to AWWA C600 and AWWA M41.
1. Install PE corrosion-protection encasement according to ASTM A 674 or AWWA C105.
- E. Install PE pipe according to ASTM D 2774 and ASTM F 645.
- F. Install PVC, AWWA pipe according to ASTM F 645 and AWWA M23.
- G. Bury piping with depth of cover over top at least 36 inches, with top at least 12 inches below level of maximum frost penetration.
- H. Install piping by tunneling or jacking, or combination of both, under streets and other obstructions that cannot be disturbed.
- I. Extend water-service piping and connect to water-supply source and building-water-piping systems at outside face of building wall in locations and pipe sizes indicated.
1. Terminate water-service piping at building wall until building-water-piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building-water-piping systems when those systems are installed.
- J. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.

3.6 JOINT CONSTRUCTION

- A. See Section 02080 "Piped Utilities - Basic Materials and Methods" for basic piping joint construction.
- B. Make pipe joints according to the following:
1. Ductile-Iron Piping, Gasketed Joints for Water-Service Piping: AWWA C600 and AWWA M41.
 2. Ductile-Iron Piping, Grooved Joints: Cut-groove pipe. Assemble joints with grooved-end, ductile-iron-piping couplings, gaskets, lubricant, and bolts according to coupling manufacturer's written instructions.
 3. PE Piping Insert-Fitting Joints: Use plastic insert fittings and fasteners according to fitting manufacturer's written instructions.
 4. PVC Piping Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer's written instructions.
 5. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.

3.7 ANCHORAGE INSTALLATION

- A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:
 - 1. Concrete thrust blocks.
 - 2. Locking mechanical joints.
 - 3. Set-screw mechanical retainer glands.
 - 4. Bolted flanged joints.
 - 5. Heat-fused joints.
 - 6. Pipe clamps and tie rods.
- B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:
 - 1. Gasketed-Joint, Ductile-Iron, Water-Service Piping: According to AWWA C600.
 - 2. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.
- C. Apply full coat of asphalt or other acceptable corrosion-resistant material to surfaces of installed ferrous anchorage devices.

3.8 VALVE INSTALLATION

- A. AWWA Gate Valves: Comply with AWWA C600 and AWWA M44. Install each underground valve with stem pointing up and with valve box.
- B. AWWA Valves Other Than Gate Valves: Comply with AWWA C600 and AWWA M44.
- C. MSS Valves: Install as component of connected piping system.
- D. Corporation Valves and Curb Valves: Install each underground curb valve with head pointed up and with service box.
- E. Pressure-Reducing Valves: Install in vault or aboveground between shutoff valves. Install full-size valved bypass.
- F. Relief Valves: Comply with AWWA C512. Install aboveground with shutoff valve on inlet.

3.9 WATER METER INSTALLATION

- A. Install water meters, piping, and specialties according to utility company's written instructions.

3.10 WATER METER BOX INSTALLATION

- A. Install water meter boxes in paved areas flush with surface.
- B. Install water meter boxes in grass or earth areas with top 2 inches above surface.

3.11 CONCRETE VAULT INSTALLATION

- A. Install precast concrete vaults according to ASTM C 891.

3.12 FIRE HYDRANT INSTALLATION

- A. General: Install each fire hydrant with separate gate valve in supply pipe, anchor with restrained joints or thrust blocks, and support in upright position.
- B. AWWA Fire Hydrants: Comply with AWWA M17.

3.13 CONNECTIONS

- A. See Section 02080 "Piped Utilities - Basic Materials and Methods" for piping connections to valves and equipment.
- B. Connect water-distribution piping to existing water main. Use tapping sleeve and tapping valve.
- C. Connect waste piping from concrete vault drains to storm-drainage system. See Section 02630 "Storm Drainage" for connection to storm-sewer piping.
- D. Ground equipment according to Section 16060 "Grounding and Bonding."
- E. Connect wiring according to Section 16120 "Conductors and Cables."

3.14 FIELD QUALITY CONTROL

- A. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.
- B. Hydrostatic Tests: Test at not less than one-and-one-half times working pressure or 150 psig, whichever is more, for 6 hours. Provide pressure charts to Engineer.
- C. Leakage Tests: Conduct leakage test in accordance with AWWA C600 for ductile iron or AWWA C605 for PVC.
 - 1. Pressure test piping system according to the following:
 - a. Test Pressure: Not less than 150 psig or 1.5 times working pressure, whichever is greater.
 - b. Slowly fill section to be tested with water; expel air from piping at high points.
 - c. Install corporation cocks at high points.
 - d. Close air vents and corporation cocks after air is expelled.
 - e. Raise pressure to specified test pressure.
 - f. Observe joints, fittings, and valves under test.
 - g. Remove and renew cracked pipes, joints, fittings, and valves showing visible leakage, and retest.

- h. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate.
- i. Maintain pressure within plus or minus 5 psi of test pressure.
- j. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of test.
- k. Compute maximum allowable leakage using following formula:
 - 1) $L = SD \times \sqrt{P}/C$.
 - 2) L = testing allowance, gph .
 - 3) S = length of pipe tested, feet.
 - 4) D = nominal diameter of pipe, inches.
 - 5) P = average test pressure during hydrostatic test, psig.
 - 6) C = 148,000.
- l. If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.
- m. Leakage:
 - 1) If test of pipe indicates leakage greater than allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
 - 2) Correct visible leaks regardless of quantity of leakage.

D. Prepare reports of testing activities.

3.15 IDENTIFICATION

- A. Install continuous underground detectable warning tape during backfilling of trench for underground water-distribution piping. Locate below finished grade, directly over piping. Underground warning tapes are specified in Section 02300 "Earthwork."

3.16 CLEANING

- A. Clean and disinfect water-distribution piping as follows:
 - 1. Purge new water-distribution piping systems and parts of existing systems that have been altered, extended, or repaired before use.
 - 2. Preliminary flushing: Before chlorination, fill lines to remove all air pockets and flush to remove particulates. Flushing velocity shall not be less than 2.5 feet per second.
 - 3. Use purging and disinfecting procedure prescribed by authorities having jurisdiction or, if method is not prescribed by authorities having jurisdiction, use procedure described in AWWA C651.
 - 4. Bacteriological testing: After final flushing and before new mains are connected to the distribution system, bacteriological testing shall be performed in accordance with AWWA C651.
- B. Prepare reports of purging and disinfecting activities.

END OF SECTION 331413

SECTION 331510.00 - WATER BOOSTER PUMP STATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work under this section includes, but is not limited to, furnishing and installing new vertical turbine pumps as indicated on the project drawings, herein specified, as necessary for proper and complete performance.
- B. The general provisions of the contract, including the General and Supplementary Conditions and General Requirements (if any) apply to the work specified in this section.

1.02 REFERENCES

- A. Publications listed below form part of this specification to extent referenced in the text by basic designation only. Consult latest edition of publication unless otherwise noted.
 - 1. American National Standards Institute (ANSI) and American Water Works Association (AWWA)
 - 2. ANSI B16.1 Cast iron pipe flanges and flanged fittings
 - 3. ANSI/AWWA C115/A21.51 Cast/ductile iron pipe with threaded flanges
 - 4. ANSI 253.1 Safety Color Code for Marking Physical Hazards
 - 5. ANSI B40.1 Gauges, Pressure and Vacuum
 - 6. AWWA C508 Check Valves
 - 7. AWWA C504 Plug Valves
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM A48 Gray Iron Castings
 - 2. ASTM A126 Valves, Flanges, and Pipe Fittings
 - 3. ASTM A307 Carbon Steel Bolts and Studs
 - 4. ASTM A36 Structural Steel
- C. Institute of Electrical and Electronics Engineers (IEEE)
 - 1. ANSI/IEEE Std 100 Standard Dictionary of Electrical Terms
 - 2. ANSI/IEEE Std 112 Test Procedure for Polyphase Induction Motors
 - 3. IEEE Std 242 Protection of Industrial and Control Power Systems.
- D. National Electric Code (NEC) / National Electrical Manufacturers Assoc. (NEMA)
 - 1. NEC National Electric Code
 - 2. NEC 701 National Electric Code article 701

3. NEMA Std MG1 Motors and Generators

E. Miscellaneous References

1. Hydraulic Institute Std for Centrifugal, Rotary and Reciprocating Pumps
3. NMTBA and JIC Std National Machine Tool Builders Association and Joint Industrial Council Standards
4. ISO 9006 Annex A, International Organization for Standardization

1.03 DESCRIPTION OF WORK REQUIRED

A. The required work at the booster station shall include, but is not limited to, the following:

1. Bypass pumping setup, must be capable to maintain operation of the system and fill Berry Mountain Tank.
2. Removal and demolition of all piping, valves, pumps, and supports to the slab of the Booster station.
3. Installation of new pumps as shown on the Plans, or as described elsewhere herein. Booster station pump support pad(s) shall be provided as shown on the Plans, or as required to properly support the specified pumps.
4. Piping required for the pump installation, to include suction and/or discharge header piping, valves, fittings, all contractor-furnished piping and valves, sensing lines for control purposes, and water main piping as specified herein, or as shown on the Plans. All piping and valves shall be located as shown on the Plans.
5. Electrical work required for the booster pump station is outlined within the plans and electrical specifications.
6. Pumping station metal fencing shall be placed as indicated on the Plans.
7. Site grading, weed control, gravel, construction of access roadway, sodding and/or grassing, shrubbery, or any other landscaping indicated on the Plans, potable water service to the site as shown on the Plans, and finish/dress-up work as required to complete the Booster Pump Station Rehabilitation.

B. The Contractor shall furnish and install as shown on the Plans and specified herein, two (2) vertical turbine booster pumps and appurtenances. The equipment provided for this project shall comply with all AIS and BABA requirements in providing a Like In Kind replacement to the existing pumps and is limited to 20HP.

- C. The requirements of Section 1.08 (Manufacturer's Experience requirements) shall be strictly enforced in its entirety on this project. The bidders shall be responsible for ensuring that the equipment suppliers and/or proposed manufacturers are able to meet ALL requirements of this Section. Rejection of any equipment due to non-compliance with this section shall not entitle the bidder to a project change order or any additional compensation for providing the specified equipment.

1.04 PERFORMANCE CRITERIA

- A. Each pump shall be designed to handle potable water and shall be provided with minimum 2-1/2" flanged suction and discharge connections for piping connections as shown on the Plans. Each pump shall be selected so as to deliver the capacity and total dynamic discharge head noted in these Specifications. Bidders are cautioned that all of the specified service conditions are based on actual anticipated duty requirements, and all will be enforced in their entirety.
- B. Site power furnished to pump station shall be as indicated by electrical plans and specifications.

1.05 SUBMITTALS

- A. Product Data: Include rated capacities; shipping, installed, and operating weights; furnished specialties; and accessories. Generic or non-specific submittals will not be considered acceptable and will be rejected.
- B. Shop Drawings: Show fabrication and installation details for each pumping station. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 1. Wiring Diagrams: Power, signal, and control wiring.
 - 2. Control Panel: Complete schematic diagrams and drawings that show the equipment to be provided and dimensions for the same.
- C. Product Certificates: As required for booster pumps, to be signed by the product manufacturer.
- D. Field quality-control test reports.
- E. Maintenance Data: For pump stations, to include in maintenance manuals.
 - 1. The manufacturer shall supply comprehensive written instructions to enable the operator to properly operate/maintain the equipment that is supplied. Content

of the instruction manuals may assume that the operator is familiar with pumps, motors, and electrical controls, but has not previously operated or maintained the exact equipment that is supplied for this project.

2. Instruction manuals shall be applicable to the pump model that is provided, including any/all related devices supplied by the manufacturer, as specified herein. Instructions for equipment which the manufacturer has not supplied, but has made mounting or other provisions for shall be provided by others. Detailed as-built drawings shall be provided for the modified control panels after installation of the new components required herein.
3. Information to be provided with the instruction manuals furnished for each individual pump station shall include, but not be limited to, the following:
 - a. Instructions for operation of pumps in all intended modes.
 - b. Instructions for all/all adjustments which must be performed during initial startup of the pumping equipment, and any/all adjustments required during the course of preventative maintenance as is specified by the manufacturer.
 - c. Schematic diagrams of the pump control system, to reflect the specified equipment/components. Schematics provided shall illustrate specifically the interconnection between the panel components. The control panel manufacturer shall be responsible for providing CAD drawings of all panels, designating the motor branch, control, and alarm circuits that are provided, and the interconnections between these circuits. Schematics for individual components that are not normally repairable by the station operators need not be included. Details for such components shall not be provided in lieu of overall system schematics. Partial schematics of components, block diagrams, and simplified schematics shall not be provided in lieu of overall system diagrams.
 - d. Layout drawings indicating the locations of the pump anchor bolts in the existing booster pumping station shall be provided by the pump supplier. The supplier shall prepare and include CAD drawings showing precise anchor bolt locations, as well as suggested piping layout. CAD drawings provided by the supplier are not intended to serve as Plans for this project, but are required only to be sure the pumps are placed in the proper locations by the contractor.
4. All Operation & Maintenance manuals shall be specific to the actual equipment supplied in accordance with this specification. Instruction manuals applicable to many different pump configurations, and which require the operator to selectively read various portions of the manual shall not be acceptable.

- F. Warranties: Special warranties as specified in this Section.

1.06 QUALITY ASSURANCE

- A. Upon request from the Engineer (or Owner), the pump manufacturer shall prove financial stability and ability to produce the required equipment within the specified delivery schedules. Evidence of facilities, equipment and manufacturing expertise shall be provided to demonstrate the manufacturer's commitment to long term customer service and product support.
- B. The manufacturer's technical representative shall inspect the completed installation, correct or supervise the correction of any defect or malfunction, and instruct operating personnel in the proper operation and maintenance of the equipment as described in Part 3 of this section.

1.07 MANUFACTURER'S EXPERIENCE REQUIREMENTS

- A. It is the intent of these Specifications that the booster pumps that are furnished for this project be provided by a manufacturer with substantial documented experience in the production, successful installation, and long-term support of the specified equipment.
1. The pump manufacturer shall have a minimum of Fifteen (15) calendar years of experience in the production and after-market support of the specified booster pumps.
- B. The pump manufacturer shall, upon request, provide proper documentation of the production and shipment of not less than ten (10) installations of the specified multi-stage pumps. All reference stations shall be conceptually identical to the application specified herein, with only the pump size, motor horsepower, or control scheme varying between the installations.

1.08 MANUFACTURER'S ABILITY TO PERFORM

- A. Upon request from the Owner or Engineer, the pump manufacturer shall provide adequate proof of financial security relative to performance and his ability to meet delivery schedules. Also, if requested by the Owner or the Engineer, the Pump manufacturer shall provide evidence of facilities, equipment, and expertise as may be required to produce the equipment specified herein.
- B. The pump manufacturer shall maintain a regular working inventory of the specific model pumps that are specified for this project. The specified pumps shall be a regular production item of the manufacturer, and it is the specific intent of these Specifications that standard non-modified pumps be provided, to promote ease of future repair and/or replacement by the Owner.

1.10 MANUFACTURER'S WARRANTY

- A. The pump manufacturer shall warrant all equipment to be of the highest quality construction, free of defects in material and workmanship. A written warranty shall include specific details of the warranty. Minimum warranty period shall be as noted in Section 2.05 of these Specifications.

1.11 PROJECT CONDITIONS:

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify the Engineer not less than two days in advance of any proposed utility interruptions. Do not proceed with any utility interruptions without written permission from the Engineer.
 2. It will be the contractor's responsibility to provide a bypass pump skid meeting or exceeding the performance of the existing pumps for the duration of the project. Said bypass pump shall be connected via Fire Hydrants on either side of the Booster Station.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

- A. Available Manufacturers: Subject to compliance with requirements, equipment manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.
1. Clay Greene/ Morrow Water

2.02 WATER BOOSTER PUMPS:

- A. All booster pumps provided for this project shall be the size and type as outlined herein. Each pump shall be designed to efficiently handle potable water, shall meet the unit performance characteristics outlined below, and shall be properly selected to conform in the intended application. Pump performance criteria for each pump shall be as follows:

Design Rating:	100 GPM @ 540' TDH (estimated)
Motor HP:	20HP
Pump Design:	Vertical Turbine Style
Pump Discharge Size:	2-1/2" diameter ANSI flanged
Quantity Required:	Two (2) units

- B. Bidders are cautioned that the performance criteria noted above are estimates based on actual system hydraulic models. If field measurements differ from those listed above design of proposed pumps shall adjust to meet what is existing.
- C. All major metallic wetted components of the booster pumps that are in direct contact with the pumped fluid, including impellers, intermediate casings, bottom/suction casing, casing cover, and discharge casing shall be AISI 304 stainless steel. No wetted cast iron components will be allowed.
- D. The support base and motor bracket shall be ASTM A48 cast iron or better, and shall be fastened with AISI 304 stainless steel bolting.

2.03 PUMP MOTORS:

- A. Each booster pump motor will be driven by a motor of the size and speed as noted under Section 2.02 above, and shall be suitable for operation and use with incoming electrical service as indicated with electrical plans and specifications. Each motor and pump assembly shall be suitably connected by means of a keyed shaft coupling to comprise an integral pumping unit.
 - 1. Pump motors shall be sized as non-overloading above the rated nameplate horsepower under any condition of operation from shut-off head to runout capacity. All motor thrust bearings shall be adequate to carry continuous thrust loads under all conditions of operation from zero head to shut-off.
 - 2. Each motor and pump assembly shall be connected so as to comprise an integral pumping unit.

2.04 MANUFACTURER'S WARRANTY:

- A. The pump manufacturer shall warrant the equipment supplied for this project to be of the highest quality construction, free of defects in material and workmanship, for a minimum period of one (1) year from the date of project acceptance by the Owner.
- B. The equipment warranty shall become effective upon the acceptance by the Owner or Engineer.

PART 3 - EXECUTION

3.1 FACTORY CERTIFIED SYSTEM TESTING

- A. The pumping system, including its control shall be tested on water with the suction and discharge manifold piping in place at the pump manufacturer's facility prior to shipment.

- B. Data shall be generated showing duty point at full capacity for each pump.
- C. An X/Y plot of system performance shall be generated.
- D. Test curves for each pump shall be generated and shall include head, flow, efficiency and brake horsepower.
- E. Test report shall be furnished to Owner upon shipment. Factory is to use current NIST traceable Flow Instruments.
- F. Copy of test to be kept on file by the manufacturer for troubleshooting references.

3.2 HYDRO-STATIC TESTING

- A. When the station plumbing is completed, the pressure piping within the station (including valves, pumps, control valves, and fittings) connections make up, the entire system shall be hydro-statically tested at a pressure not less than 150% of max system design pressure. Review Hydrostatic testing specification for further details.
- B. Any deficiencies found shall be repaired and the system shall be re-tested at no expense to the contractor or owner.

3.3 ELECTRICAL SEQUENCE TESTING

- A. Prior to shipment, the electrical system and controls shall be tested at the manufacturer's facility to insure the specified sequence of operation is met.
- B. Test report shall be furnished to Owner upon shipment.

3.4 INSTALLATION

- A. Pumps and motors shall be installed within the existing Booster Pump Station in place of the old pumps with their proper flanged connection.
- B. Pumps shall be leveled prior to testing and startup.
- C. All piping to be installed prior to pump installation.
- D. All electrical should be connected as detailed and specified by electrical design drawings and specifications.

3.5 START-UP SERVICES

- A. Without exception, the start-up of the equipment specified herein shall be the responsibility of the pump manufacturer, contractor, and all subcontractors having assisted in work related to pumps, electrical, and piping. The start-up service technician shall be a certified booster pump

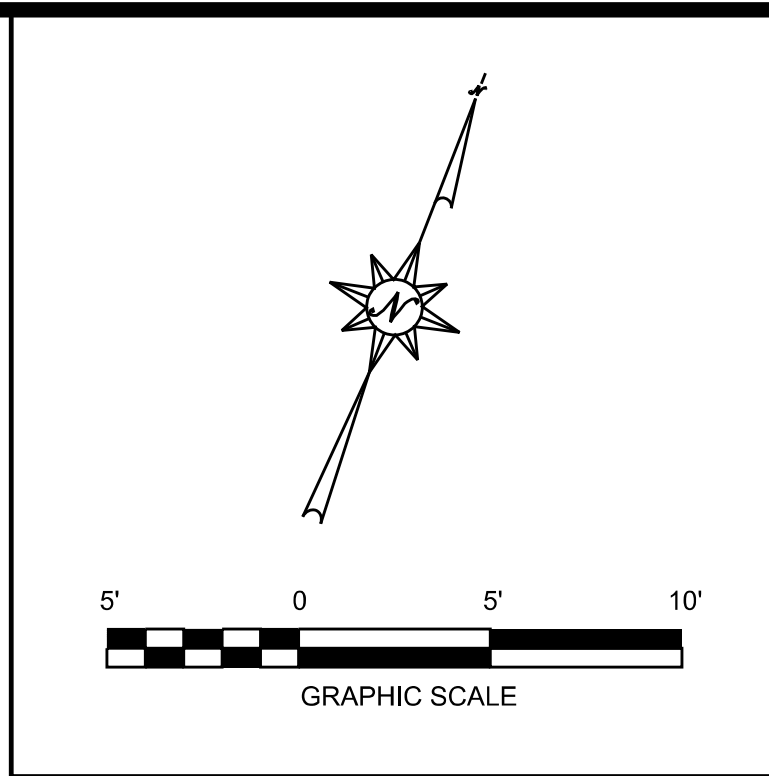
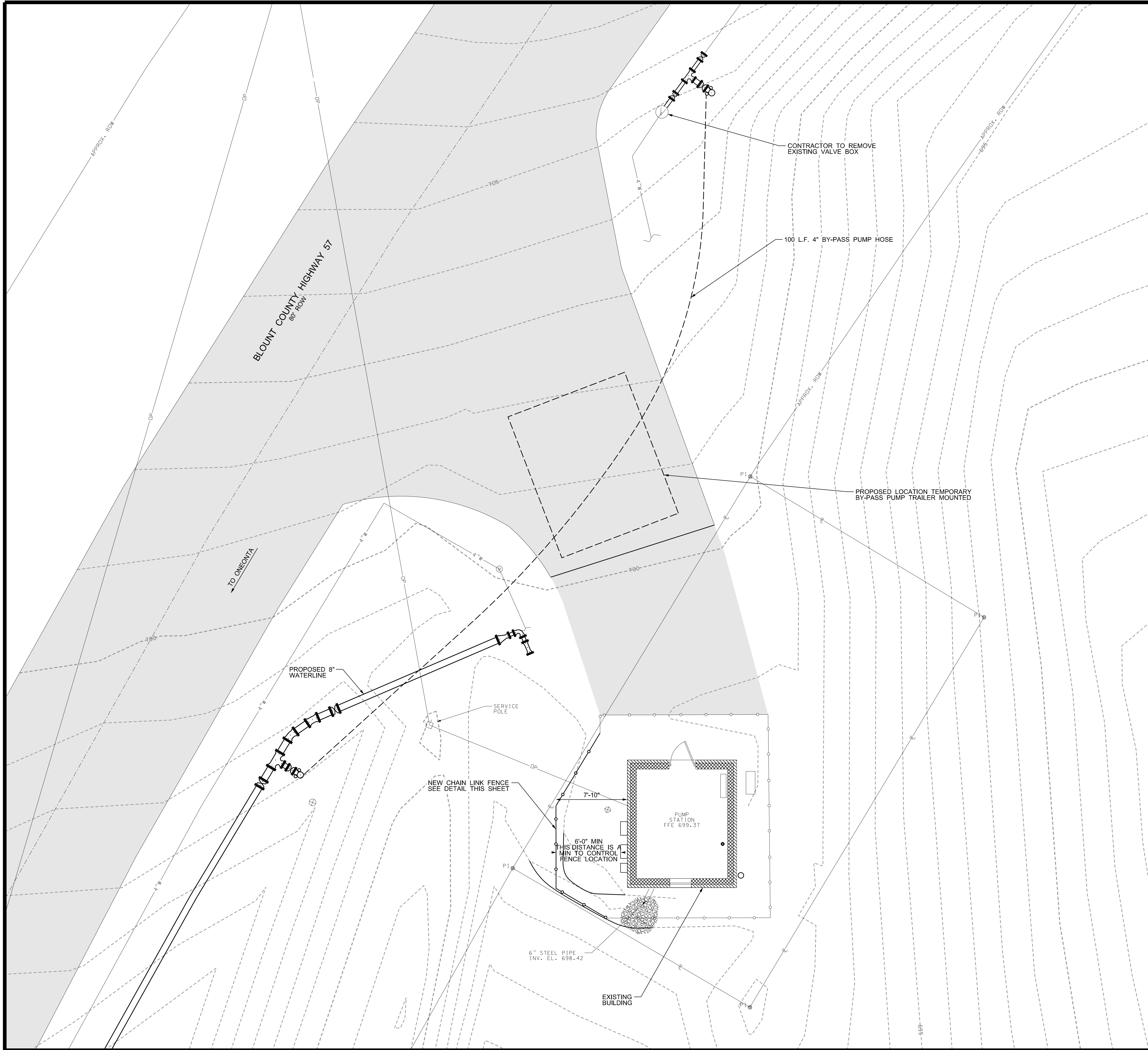
technician employed by the Pump manufacturer. Third party contractors, agents or representatives shall not be utilized for these services.

- B. The pump station manufacturer shall provide for a start-up service technician to be on-site for one day, up to 8-hours, in one trip for the purpose of start-up supervision and one day, up to 8-hours, in one trip for operator training.
- C. The pump station manufacturer shall submit a startup service report following startup

END OF SECTION 331510

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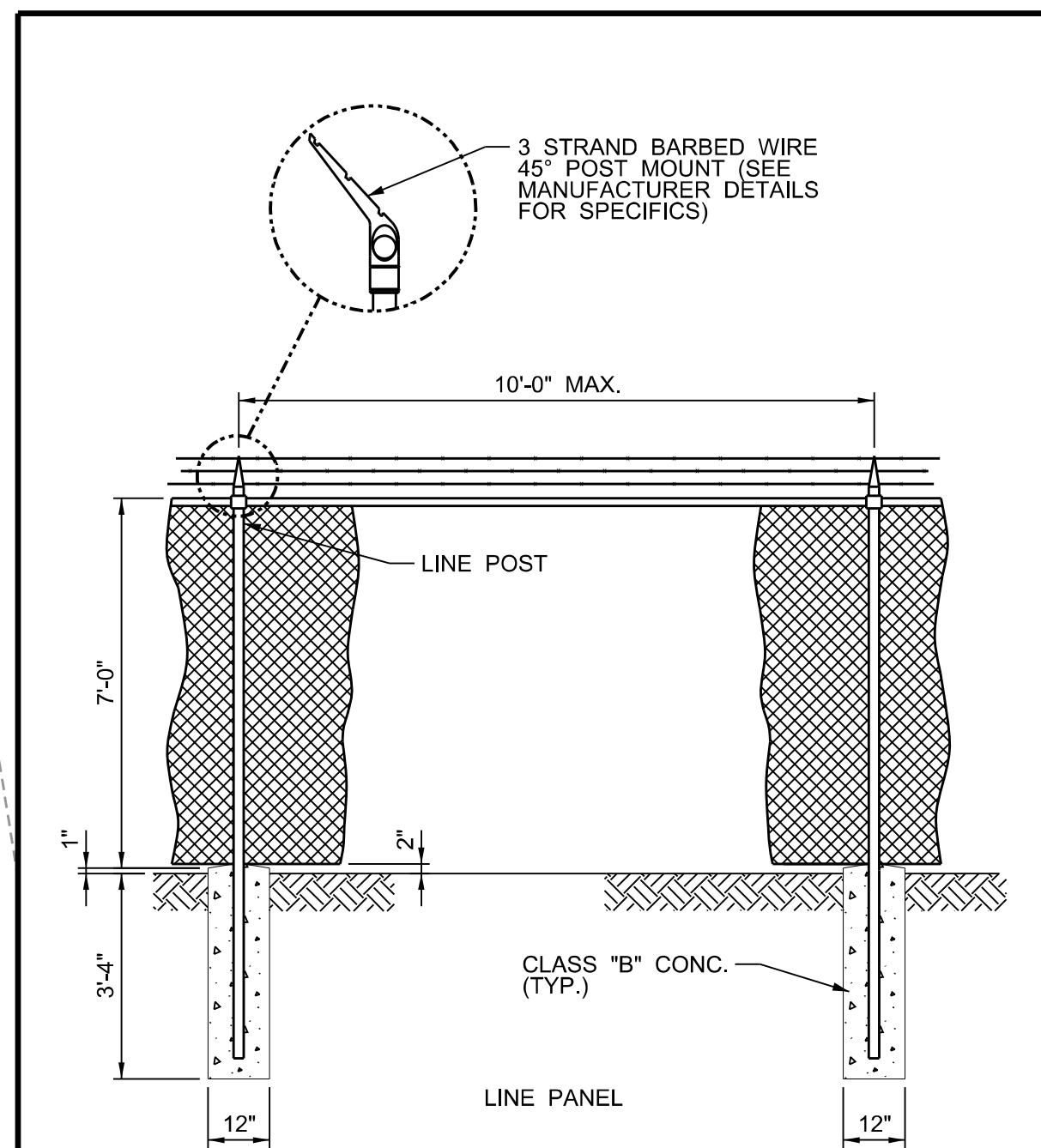
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- SUGGESTED CONSTRUCTION SEQUENCE**
1. SETUP TEMPORARY BY-PASS PUMPING (CLOSE ALL REQUIRED VALVES).
 2. DEMOLISH EXISTING PIPING INSIDE OF STATION.
 3. REMOVE EXISTING PUMPS.
 4. INSTALL ALL PROPOSED PIPING AND ELECTRICAL.
 5. INSTALL NEW VERTICAL TURBINE PUMPS IN LIKE KIND (20 HP MAXIMUM).
 6. RUN SOFT STARTUP OF TESTING.

2

2 ADDENDUM No. 2



DETAIL - CHAIN LINK FENCE
SCALE: NONE

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CONSTRUCTION PLANS FOR:
**BERRY MOUNTAIN
BOOSTER PUMP STATION
REHABILITATION**
ONEONTA, ALABAMA



PROJECT INFO:

INSITE JOB No. 22057.00
PLOTTED: 6/1/26
ISSUED FOR BIDDING
ADDENDUM No. 2

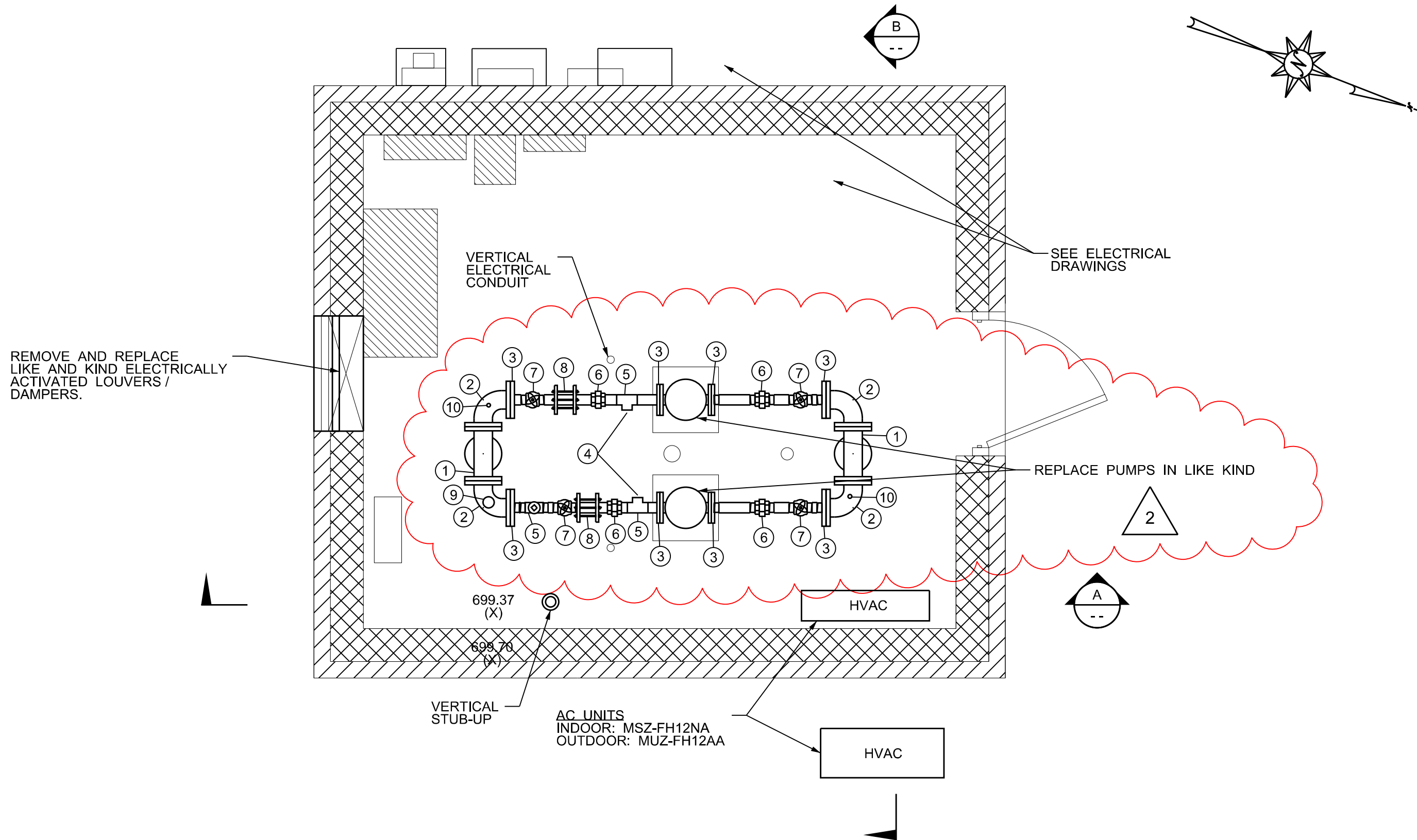
ALABAMA REGISTERED PROFESSIONAL ENGINEER
JAN ALXANDER KUMAR
6/1/26

THIS SHEET CONTAINS:
EXISTING BOOSTER PUMP STATION
SITE PLAN, GRADING,
DRAINAGE, AND
EROSION CONTROL

SCALE: 1" = 5'-0"
SHEET 5 OF 14

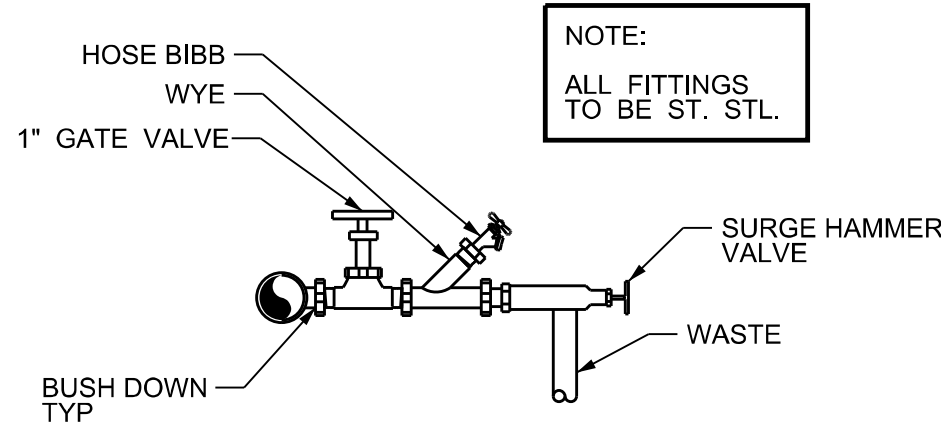
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PLAN - BOOSTER PUMP STATION
SCALE: 1/2" = 1'-0"

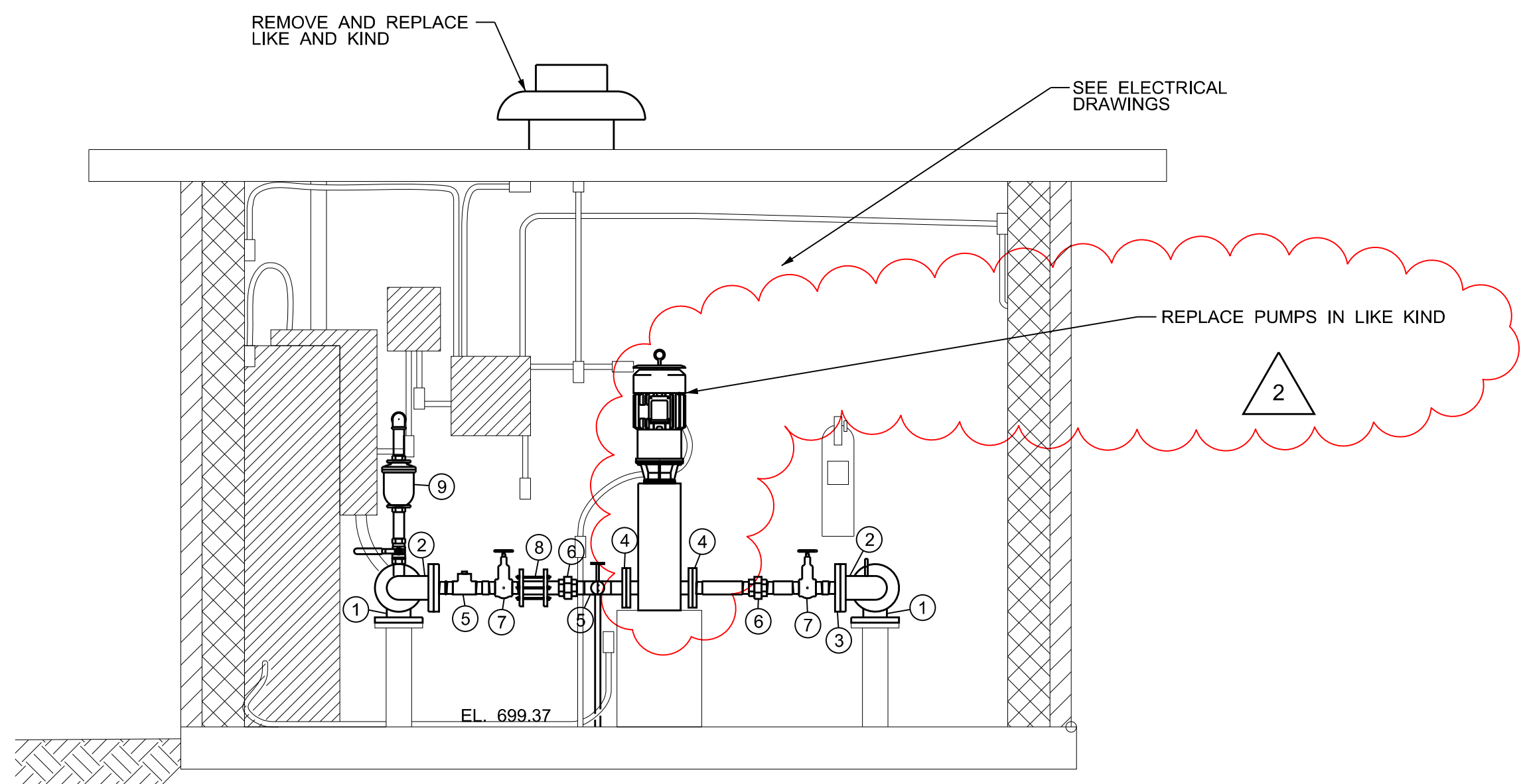
- NOTE:
1. SEE ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PANELS, SWITCHES, METER, TRANSFORMER, ETC.
 2. REPLACE ALL PUMPS, VALVES, PIPING (FROM THE SLAB UP) WITH NEW LIKE IN KIND.



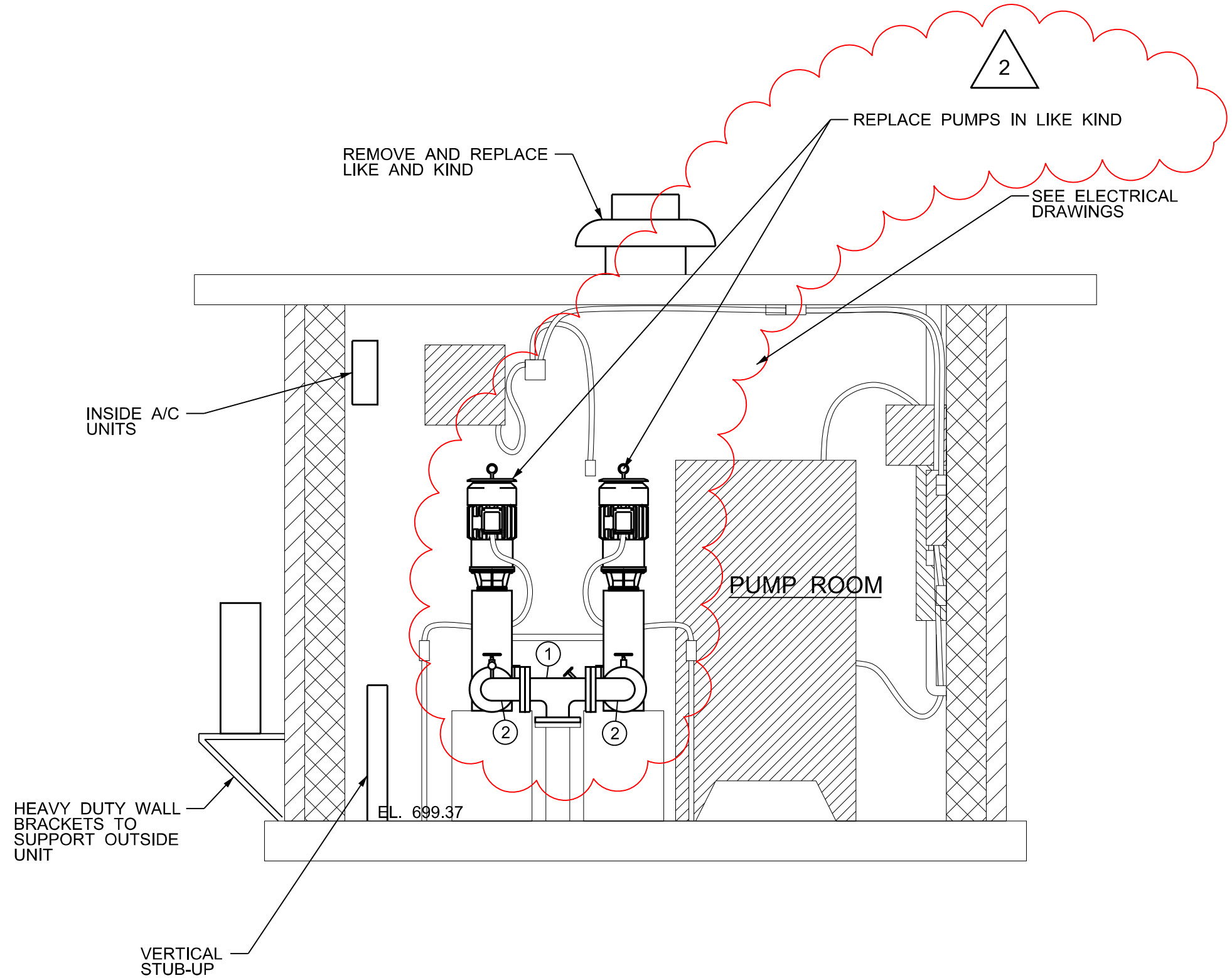
DETAIL - SURGE HAMMER ASSEMBLY
SCALE: NONE

MATERIALS LIST

- | | |
|---|--|
| ① | 4" SCH. S10 ST. STL. TEE, ALL FLG |
| ② | 4" SCH. S10 ST. STL. 90° BEND, ALL FLG |
| ③ | 4" SCH. S10 ST. STL. BLIND FLANGE, TAPPED NPT, SIZE AS REQ'D |
| ④ | SURGE HAMMER ASSEMBLY, SEE DETAIL |
| ⑤ | 2 1/2" SCH. S10 ST. STL. TEE |
| ⑥ | 2 1/2" SCH. S10 ST. STL. UNION |
| ⑦ | 2 1/2" SCH. 316 ST. STL. GATE VALVE |
| ⑧ | 2 1/2" SCH. 316 ST. STL. CHECK VALVE |
| ⑨ | 1" ST. STL. ARV |
| ⑩ | PRESSURE GAUGE |

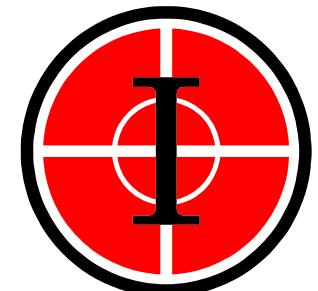


SECTION "A" - BOOSTER PUMP STATION
SCALE: 1/2" = 1'-0"



SECTION "B" - BOOSTER PUMP STATION
SCALE: 1/2" = 1'-0"

2 ADDENDUM No. 2



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CONSTRUCTION PLANS FOR:

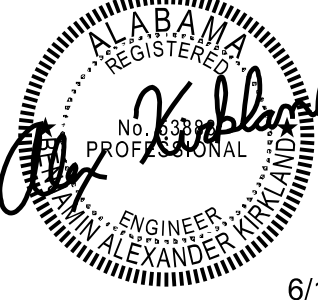
**BERRY MOUNTAIN
BOOSTER PUMP STATION
REHABILITATION**

ONEONTA, ALABAMA



PROJECT INFO:

INSITE JOB No. 22057.00
PLOTTED: 6/1/26
ISSUED FOR BIDDING
ADDENDUM No. 2



THIS SHEET CONTAINS:

EXISTING BOOSTER
PUMP STATION
MECHANICAL PLAN
AND SECTIONS

SCALE: 1/2" = 1'-0"
SHEET 7 OF 14

PS-1