



Purchasing Department
140 Stonewall Avenue West, Ste 204
Fayetteville, GA 30214
Phone: 770-305-5420
www.fayettecountyga.gov

December 18, 2023

Subject: Request for Quotes 2354-A: Crosstown High Service Pump 1 Pump and Motor Repair

Gentlemen/Ladies:

Fayette County, Georgia invites you to submit a quote for the above listed solicitation in accordance with the information and specifications contained herein.

A mandatory pre-quote conference will be held at 9:00 a.m., Thursday, January 4, 2024, at Crosstown Water Treatment Plant at 3500 TDK Blvd, Peachtree City, GA 30269 to provide an opportunity for you to become familiar with the site and work conditions, and to ask questions. Companies that attend will be invited to submit quotes for this project.

Address any questions you may have about this request for quotes to Natasha Duggan via email to nduggan@fayettecountyga.gov or fax to (770) 719-5534. **Questions will be accepted until 2:00 p.m., Wednesday, January 10, 2024.**

Quotes will be accepted until 2:00 p.m., Thursday, January 18, 2024. Please provide your quote and other information via email to Natasha Duggan, Contract Administrator at nduggan@fayettecountyga.gov or fax to (770) 719-5534.

Purchasing Department office hours are Monday through Friday 8:00 a.m. to 5:00 p.m. The office telephone number is (770) 305-5420.

Sincerely,

Ted L. Burgess
Chief Procurement Officer

GENERAL TERMS AND CONDITIONS

Request for Quotes 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

1. **Definitions:**
 - a. **Responder:** A company or individual who submits a quote in response to this RFQ.
 - b. **Successful Responder:** The Responder that is awarded a contract.
 - c. **Contractor:** The Successful Responder, upon execution of the contract.
 - d. **County:** Fayette County, Georgia.
2. **Quote is Offer to Contract:** Each quote constitutes an offer to become legally bound to a contract with the County, incorporating the Request for Quotes and the Responder's quote. The binding offer includes compliance with all terms, conditions, special conditions, specifications, and requirements stated in the Request for Quotes, except to the extent that a Responder takes written exception to such provisions, and the County agrees to the exceptions. All such terms, conditions, special conditions, specifications, and requirements will form the basis of the contract. The Responder should take care to answer all questions and provide all requested information, and to note any exceptions in the quote submission. Failure to observe any of the instructions or conditions in this Request for Quotes may result in rejection of the quote.
3. **Binding Offer:** To allow sufficient time for a contract to be awarded, each quote shall constitute a firm offer that is binding for ninety (90) days from the received by date to the date of award.
4. **References:** Include with your quote a list of three (3) jobs that your company has done that are of the same or similar nature to the work described in this Request for Quotes, on the form provided. Include all information as requested on the form.
5. **Preparation Costs:** The Responder shall bear all costs associated with preparing the quote.
6. **More Than One Quote:** Do not submit alternate quotes or options, unless requested or authorized by the County in the Request for Quotes. If a Responder submits more than one quote without being requested or authorized to do so, the County may disqualify the quotes from that Responder, at the County's option.
7. **Defects or Irregularities:** The County reserves the right to waive any defect or irregularity in any quote received. In case of a discrepancy between unit prices and extended prices, the unit price will govern unless the facts or other considerations indicate another basis for correction of the discrepancy.
8. **Brand Name:** If items in this Request for Quotes have been identified, described, or referenced by a brand name or trade name description, such identification is intended to be descriptive, but not restrictive and is to indicate the quality and characteristics of products that may be offered. Alternative products may be considered for award if clearly identified in the quote. Items offered must meet required specifications and must be of a quality which will adequately serve the use and purpose for which intended.

9. **Prices Held Firm:** Prices quoted shall be firm for the period of the contract, unless otherwise specified in the quote. All prices for commodities, supplies, equipment, or other products shall be quoted FOB Destination, Fayette County or job site.
10. **Responder Substitutions:** Responders offering substitutions or deviations from specifications stated in the Request for Quotes, shall list such substitutions or deviations on the "Exceptions to Specifications" sheet provided, or on a separate sheet to be submitted with the quote. The absence of such list shall indicate that the Responder has taken no exception to the specifications. The evaluation of quotes and the determination as to equality and acceptability of products or services offered shall be the responsibility of the County.
11. **Non-Collusion:** By responding to this Request for Quotes, the Responder represents that the quote is not made in connection with any competing Responder, supplier, or service provider submitting a separate response to this Request for Quotes and is in all respects fair and without collusion or fraud.
12. **Ethics – Disclosure of Relationships:** Before a proposed contract in excess of \$10,000.00 is recommended for award to the Board of Commissioners or the County Administrator, or before the County renews, extends, or otherwise modifies a contract after it has been awarded, the Contractor must disclose certain relationships with any County Commissioner or County Official, or their spouse, mother, father, grandparent, brother, sister, son or daughter related by blood, adoption, or marriage (including in-laws). A relationship that must be reported exists if any of these individuals is a director, officer, partner, or employee, or has a substantial financial interest in the business, as described in Fayette County Ordinance Chapter 2, Article IV, Division 3 (Code of Ethics).

If such relationship exists between your company and any individual mentioned above, relevant information must be presented in the form of a written letter to the Director of Purchasing. You must include the letter with any bid, proposal, or price quote you submit to the Purchasing Department.

In the event that a Contractor fails to comply with this requirement, the County will take action as appropriate to the situation, which may include actions up to and including rejection of the bid or offer, cancellation of the contract in question, or debarment or suspension from award of a County contract for a period of up to three years.

13. **Evaluation:** Award will be made to the lowest responsive, responsible Responder, taking into consideration payment terms, vendor qualifications and experience, quality, references, any exceptions listed, and/or other factors deemed relevant in making the award. The County may make such investigation as it deems necessary to determine the ability of the Responder to perform, and the Contractor shall furnish to the County all information and data for this purpose as the County may request. The County reserves the right to reject any item, any quote, or all quotes, and to re-solicit for pricing.

14. **Payment Terms and Discounts:** The County's standard payment terms are Net 30. Any deviation from standard payment terms must be specified in the resulting contract, and both parties must agree on such deviation. Cash discounts offered will be a consideration in awarding the quote, but only if they give the County at least 15 days from receipt of invoice to pay. For taking discounts, time will be computed from the date of invoice acceptance by the County, or the date a correct invoice is received, whichever is the later date. Payment is deemed made, for the purpose of earning the discount, on the date of the check.
15. **Trade Secrets – Confidentiality:** If any person or entity submits a bid, proposal, or quote that contains trade secrets, an affidavit shall be included with the bid, proposal, or quote. The affidavit shall declare the specific included information which constitutes trade secrets. Any trade secrets must be either (1) placed in a separate envelope, clearly identified, and marked as such, or (2) at a minimum, marked in the affidavit or an attached document explaining exactly where such information is, and otherwise marked, highlighted, or made plainly visible. See O.C.G.A. § 50-18-72 (A)(34).
16. **Trade Secrets – Internal Use:** In submitting a quote, the Responder agrees that the County may reveal any trade secret materials contained in the quote to all County staff and officials involved in the selection process, and to any outside consultant or other third parties who may assist in the selection process. The Responder agrees to hold harmless the County and each of its officers, employees, and agents from all costs, damages, and expenses incurred in connection with refusing to disclose any material which the Responder has designated as a trade secret.
17. **Contract Execution & Notice to Proceed:** After an award is made, and all required documents are received by the County, and the contract is fully executed with signature of both parties, the County will issue a written Notice to Proceed. The County shall not be liable for payment of any work done or any costs incurred by any Responder prior to the County issuing the Notice to Proceed.
18. **Unavailability of Funds:** This contract will terminate immediately and absolutely at such time as appropriated and otherwise unobligated funds are no longer available to satisfy the obligations of the County under the contract.
19. **Insurance:** The Successful Responder shall procure and maintain the following insurance, to be in effect throughout the term of the contract, in at least the amounts and limits as follows:
- a. **General Liability Insurance:** \$1,000,000 combined single limit per occurrence, including bodily and personal injury, destruction of property, and contractual liability.
 - b. **Automobile Liability Insurance:** \$1,000,000 combined single limit each occurrence, including bodily injury and property damage liability.
 - c. **Worker's Compensation & Employer's Liability Insurance:** Workers Compensation as required by Georgia statute.

Before a contract is executed, the Certificates of Insurance for all required coverage shall be submitted to the County. The certificate shall list an additional insured as follows:

Fayette County, Georgia
140 Stonewall Avenue West
Fayetteville, GA 30214

20. **Unauthorized Performance:** The County will not compensate the Contractor for work performed unless the work is authorized under the contract, as initially executed, or as amended.
21. **Assignment of Contract:** Assignment of any contract resulting from this Request for Quotes will not be authorized, except with express written authorization from the County.
22. **Indemnification:** The Contractor shall indemnify and save the County and all its officers, agents and employees harmless from all suits, actions, or other claims of any character, name and description brought for or on account of any damages, losses, or expenses to the extent caused by or resulting from the negligence, recklessness, or intentionally wrongful conduct of the Contractor or other persons employed or utilized by the Contractor in the performance of the contract. The Contractor shall pay any judgment with cost which may be obtained against the County growing out of such damages, losses, or expenses.
23. **Severability:** The invalidity of one or more of the phrases, sentences, clauses, or sections contained in the contract shall not affect the validity of the remaining portion of the contract. If any provision of the contract is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision to the extent that the provision is unenforceable. In such case, the contract shall be deemed amended to the extent necessary to make it enforceable while preserving its intent.
24. **Delivery Failures:** If the Contractor fails to deliver contracted goods or services within the time specified in the contract or fails to replace rejected items in a timely manner, the County shall have authority to make open-market purchases of comparable goods or services. The County shall have the right to invoice the Contractor for any excess expenses incurred or deduct such amount from monies owed the Contractor. Such purchases shall be deducted from contracted quantities.
25. **Substitution of Contracted Items:** The Contractor shall be obligated to deliver products awarded in this contract in accordance with terms and conditions specified herein. If a Contractor is unable to deliver the products under the contract, it shall be the Contractor's responsibility to obtain prior approval of the ordering agency to deliver an acceptable substitute at the same price quoted in the Contractor's original bid. In the event any Contractor consistently needs to substitute or refuses to substitute products, the County reserves the right to terminate the contract or invoke the "Delivery Failures" clause stated herein.

26. **Inspection and Acceptance of Deliveries:** The County reserves the right to inspect all goods and products delivered. The County will decide whether to accept or reject items delivered. The inspection shall be conclusive except with respect to latent defects, fraud, or such gross mistakes as shall amount to fraud. Final inspection resulting in acceptance or rejection of the products will be made as soon as practicable, but failure to inspect shall not be construed as a waiver by the County to claim reimbursement or damages for such products which are later found to be in non-conformance with specifications. Should public necessity demand it, the County reserves the right to use or consume articles delivered which are substandard in quality, subject to an adjustment in price to be determined by the Purchasing Director.
27. **Termination for Cause:** The County may terminate the contract for cause by sending written notice to the Contractor of the Contractor's default in the performance of any term of this agreement. Termination shall be without prejudice to any of the County's rights or remedies by law.
28. **Termination for Convenience:** The County may terminate the contract for its convenience at any time with 10 days' written notice to the Contractor. In the event of termination for convenience, the County will pay the Contractor for services performed. The County will compensate partially completed performance based upon a signed statement of completion.
29. **Force Majeure:** Neither party shall be deemed to be in breach of the contract to the extent that performance of its obligations is delayed, restricted, or prevented by reason of any act of God, natural disaster, act of government, or any other act or condition beyond the reasonable control of the party in question.
30. **Governing Law:** This agreement shall be governed in accordance with the laws of the State of Georgia. The parties agree to submit to the jurisdiction in Georgia, and further agree that any cause of action arising under this agreement shall be required to be brought in proper venue in Fayette County, Georgia.

Checklist of Required Documents

*(Be Sure to Return This Checklist and
the Required Documents in the order listed below)*

RFQ 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

Company information – on the form provided _____

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1) _____

Pricing sheet _____

List of exceptions, if any – on the form provided _____

References – on form provided _____

Copy of Electrical Contractors License _____

Addenda, signed, if any are issued _____

COMPANY NAME: _____

COMPANY INFORMATION
RFQ 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

A. COMPANY

Company Name: _____

Physical Address: _____

Mailing Address (if different): _____

Website (if applicable): _____

B. AUTHORIZED REPRESENTATIVE

Signature: _____

Printed or Typed Name: _____

Title: _____

E-mail Address: _____

Phone Number: _____ Fax Number: _____

C. PROJECT CONTACT PERSON

Name: _____

Title: _____

Phone Number: _____

E-mail Address: _____

REFERENCES

RFQ 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

Please list three (3) references for current or recent customers who can verify the quality of service your company provides. Projects of similar size and scope are preferable.

1. Government/Company Name _____

City & State _____

Work or Service Provided _____

Approximate Completion Date _____

Contact Person and Title _____

Phone _____ Email _____

2. Government/Company Name _____

City & State _____

Work or Service Provided _____

Approximate Completion Date _____

Contact Person and Title _____

Phone _____ Email _____

3. Government/Company Name _____

City & State _____

Work or Service Provided _____

Approximate Completion Date _____

Contact Person and Title _____

Phone _____ Email _____

COMPANY NAME: _____

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

The undersigned contractor ("Contractor") executes this Affidavit to comply with O.C.G.A § 13-10-91 related any contract to which Contractor is a party that is subject to O.C.G.A. § 13-10-91 and hereby verifies compliance with O.C.G.A. § 13-10-91, attesting as follows:

- a) The Contractor has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program;
- b) The Contractor will continue to use the federal work authorization program throughout the contract period, including any renewal or extension thereof;
- c) The Contractor will notify the public employer in the event the Contractor ceases to utilize the federal work authorization program during the contract period, including renewals or extensions thereof;
- d) The Contractor understands that ceasing to utilize the federal work authorization program constitutes a material breach of Contract;
- e) The Contractor will contract for the performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the Contractor with the information required by O.C.G.A. § 13-10-91(a), (b), and (c);
- f) The Contractor acknowledges and agrees that this Affidavit shall be incorporated into any contract(s) subject to the provisions of O.C.G.A. § 13-10- 91 for the project listed below to which Contractor is a party after the date hereof without further action or consent by Contractor; and
- g) Contractor acknowledges its responsibility to submit copies of any affidavits, drivers' licenses, and identification cards required pursuant to O.C.G.A. § 13-10-91 to the public employer within five business days of receipt.

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

2354-A Crosstown HSP 1 Pump & Motor Repair
Name of Project

Fayette County, Georgia
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 2024 in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 2024.

NOTARY PUBLIC

My Commission Expires: _____

SCOPE AND SPECIFICATION

RFQ 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

Fayette County Water System is seeking quotes from qualified vendors for the replacement of an existing 12-inch control valve with new 12-inch Cla-Val for High Service Pump #1 (HSP #1) at the Crosstown Water Plant. The valve is in the 2 million pump building at Crosstown Water Plant, 3500 TDK Blvd., Peachtree City, GA, 30269.

BACKGROUND

HSP #1 has an existing 12-inch Pratt control valve (ball valve) that needs replacement. The ball valve is damaged and cannot be opened/closed slowly to prevent water hammer throughout the distribution system during operation. The control valve will be replaced with a 12-inch Cla-Val and pump controller (see included specification 63-02).

SCOPE OF WORK

Crosstown WTP Replacement 12-inch control valve for High Service Pump #1

1. Travel to Crosstown Water Plant.
2. Provide 12-inch Cla-Val model 131-01 globe control valve with 300# flanges.
 - a. 12" 100-01 Hytrol Body
 - b. CS2 Solenoid control (120V VAC)
 - c. CK2 Isolation valves on pilot assemblies
 - d. Check Valves on pilot tubing with Isolation Valve
 - e. Atmospheric Drain
 - f. X117D Position Transmitter
 - g. X141 Pressure Gauges
 - h. X43 "Y" strainer
 - i. Epoxy coating
3. Provide PC-22D Pump Control Panel
 - a. FRP NEMA 4X control panel
4. Remove old valve and piping.
5. Reuse existing butterfly valve and air relief valve.
6. Fabricate custom discharge spool (12" x 4" x 12" Tee) to accommodate new control valve.
7. Blast and clean parts to be reused.
8. Prime and coat piping components with Tnemec N69 Epoxy or equal (butterfly valve, air relief valve and discharge spool) per Coating Schedule specified.
9. Installation of new Cla-Val, discharge spool, air relief retrofit, Cla-Val controller and related electrical equipment.
10. Integration of controller with motor control center (MCC).
11. Inspect and record critical dimensions.
12. Perform Cleanup.

13. Perform Start-up.
14. Verify operation (manual and remote SCADA).

Coatings

Painting Materials:

- A. Products manufactured by Carboline, Tnemec, or Sherwin Williams are acceptable for use on this project.
- B. Provide products for all specified coatings from single manufacturer. Pump repair vendor shall be responsible for compatibility of prime coats with finish coats.
- C. Equivalent products by other manufacturers may be used if approved by the Water System.

Application:

- A. Apply precoats, primers, binder coats, sealer coats or other coats not specifically mentioned, as recommended by the coating manufacturer for the specific application.
- B. Apply coatings from shop to final field coating in accordance with time restrictions on recoatings as recommended by the coating manufacturer.

Schedule:

- A. Submerged ferrous metal - discharge head interior, wetted surface of the packing box, column pipe ID and OD, and bowl assembly exterior shall be cleaned and blasted per SSPC-SP-10. Tnemec N69 Epoxy or equal shall be applied in three (3) coats of 4 - 5 mils dry film thickness (DFT) not to exceed 17 mils DFT total thickness.
 - a. **Color shall be Safety White.**
- B. Non-submerged ferrous metal (paint removed to bare metal) - discharge head exterior shall be cleaned and blasted per SSPC-SP-6. Tnemec N69 Epoxy or equal shall be applied in two (2) coats of 4 - 5 mils DFT.
 - a. **Color shall be Dark Blue (Tnemec True Blue or equal).**
- C. Non-submerged ferrous metal (previously painted surfaces) - pump base plate. Rusty areas shall be cleaned to SSPC-SP-2 (Hand Tool Cleaning) or SSPC-SP-3 (Power Tool Cleaning) to remove loose corrosion to solid surface. Painted areas shall be cleaned and lightly sanded or abraded to roughen surface and degloss the surface. Apply one of the following - Tnemec N69 Epoxy or equal applied in one coat of 4 - 5 mils DFT.
 - a. **Color shall be Dark Blue (Tnemec True Blue or equal)**

Additional Work

- Vendor will coordinate with the Sales representative of Cla-Val and ensure manufacturer warranty is provided to FCWS.
 - Cla-Val Georgia Representative Contact:
Templeton & Associates <https://www.templeton-associates.com/>
Jordan Longoria – 770-614-8550
- Vendor will report to owner any additional work needed not covered above. Vendor agrees that the Contingency Allowance is for the sole use of Owner to cover

unanticipated costs. The Contingency Allowance shall only be used with prior written authorization by the County Administrator.

- Vendor will provide the following submittals for FCWS approval, including:
Manufacturer's standard schematic drawings and diagrams modified to delete information that is not applicable to the work and supplement standard information to provide information specifically applicable to the work.
- Vendor agrees to provide minimum 1-year warranty to all work provided.
- State of Georgia electrical license required for wiring.

SPECIFICATION 63.02 - ELECTRONIC PUMP CONTROL VALVES

INTRODUCTION

This specification covers the design, manufacture, and testing of 1 in. (25 mm) through 36 in. (900 mm) Electronic Pump Control Valves.

PART 1 - GENERAL

1. Standard products - use the same manufacturer for multiple units of same type.
2. "Tying" of equipment into packages for the purpose of thwarting competition shall be considered to be in non-compliance with these specifications.
3. Manufacturers shall price items under different subsections or sections separately.

PART 2 - PRODUCTS

2.01 ELECTRONIC PUMP CONTROL VALVES

A. FUNCTION

The Electronic Pump Control Valve shall be capable of controlling pump starting and stopping, downstream pressure, rate of flow, upstream pressure sustaining, valve position, discharge pressure, or select combinations of any of these applications.

The valve shall be capable of three staged opening cycle and closure cycle with adjustable electronic timer contained within the pump control panel.

Solenoid pilot controls equipped onto the electronic control valve are actuated by electrical signals received from SCADA and/or a local PC-22D electronic valve controller. The solenoid pilots either add or relieve line pressure from the cover chamber of the control valve, causing it to open or close, ensuring the process variable signal follows the set-point command signal. This enables remote control over the electronic control valve operations. The process variable signal would come from a flow meter, pressure sensor or valve position transmitter.

Upon receiving the remote start command from SCADA or a local command from the HOA switch located on the PC-22D, the electronic pump control valve shall modulate and maintain the desired setpoint value. When the feedback signal deviates from the setpoint, the appropriate opening or closing solenoid on the valve will pulse. As the feedback signal approaches the setpoint, this on/off pulse time will gradually decrease to smoothly modulate the valve to the setpoint. When the feedback signal is within a programmable dead band, the opening and closing solenoids will lock the cover and the electronic valve will maintain position.

MULTISTAGE OPENING AND CLOSING

The Opening and Closing control curves shall provide progressively slower valve movement within the portion of the valve travel which influences the system flow rate, thereby ensuring surge waves are not generated. The control curves must be adjustable to mitigate the possibility of surge waves during pump starting and stopping.

The valve controller must monitor a valve position feedback 0-100 percent while maintaining the required position relative to the position setpoint defined by the control curve.

Opening and closing time shall be independent allowing each to operate at a selected time frame best suited for the system requirements.

B. MATERIALS

1. Material Specification for the Electronic Pump Control Valves Main Valve as follows:

<u>Component</u>	<u>Material</u>
Body & Cover	Ductile Iron-ASTM A536 <i>Cast Steel or Bronze (optional)</i>
Main Valve Trim	Stainless Steel <i>Other Materials Available (optional)</i>
Seat	Stainless Steel <i>Other Materials Available (optional)</i>
Stem, Nut and Spring	Stainless Steel
Seal Disc	Buna-N® Rubber
Diaphragm	Nylon Reinforced Buna-N® Rubber <i>Other Materials Available (optional)</i>
Internal Trim Parts	Stainless Steel; Bronze; Brass
End Detail	Flanged (1-1/2" – 36") Threaded (1" – 3") Grooved (1-1/2" – 8")
Pressure Rating	Class 150 lb. (250psi Max.) Class 300 lb. (400psi Max.)
Temperature Range	Water to 180°F
Any other wetted metallic parts	Stainless Steel; Bronze; Brass
Coating	Fusion Bonded Epoxy Coating (Interior and Exterior); ANSI / NSF 61 Approved / AWWA coating specifications C116-03.
Optional Accessories	<i>Position Indicator, Position Transmitter, Limit Switch, Opening & Closing Speed Controls, Check Feature, Isolation Valves, Gauges, Anti Cavitation Trim, Etc.</i>

C. MANUFACTURE

1. Main Valve:

- a. The main valve shall be hydraulically operated, single diaphragm actuated, globe or angle pattern. The valve shall consist of three major components; the body with seat installed, the cover with bearing installed and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating the operating pressure from line pressure. Packing glands, stuffing boxes and/or rolling diaphragm technology will not be permitted and there shall be no pistons operating the main valve or pilot controls. No fabrication or welding shall be used in the manufacturing process. Y-pattern valves shall not be permitted. Main valve shall be certified by NSF/ANSI Standard 61 as a safe drinking water system component.

2. End Connections:

- a. End Connections for control valve shall be flanged per ASME/ANSI B16.42, Class 150 or Class 300 (1-1/2" thru 36") or Threaded End Connections (1" thru 3") or Grooved End Connections (1-1/2" thru 8").

3. Main Valve Body:

- a. No separate chamber(s) below the diaphragm shall be allowed between the main valve cover and body. No fabrication or welding shall be used in the manufacturing process.
- b. The valve shall contain a resilient, synthetic rubber disc with a rectangular cross-section contained on three- and one-half sides by a disc retainer and forming a tight seal against a single removable seat insert. No O-ring type discs (circular, square, or quad type) shall be permitted as the seating surface. The disc guide shall be of the contoured type to permit smooth transition of flow and shall hold the discs firmly in place. The disc retainer shall be of a sturdy one-piece design capable of withstanding opening and closing shocks. It must have straight edge sides and a radius at the top edge to prevent excessive diaphragm wear as the diaphragm flexes across this surface. No hours-glass shaped disc retainers shall be permitted, and no V-type or slotted-type disc guides shall be used.
- c. The diaphragm assembly containing a non-magnetic stainless-steel stem; of sufficient diameter to withstand high hydraulic pressures and shall be fully guided at both ends by a bearing in the main valve cover and an integral bearing in the valve seat. The valve seat shall be a solid, one-piece design and shall have a minimum five-degree taper on the seating surface for a positive, drip-tight shut off. No center guides shall be permitted. The stem shall be drilled and tapped in the cover end to receive and affix such accessories as may be deemed necessary. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating the operating pressure from the line pressure. No bolts or cap screws shall be permitted for use in the construction of the diaphragm assembly.
- d. The flexible, non-wicking, FDA approved diaphragm shall consist of nylon fabric bonded with synthetic rubber compatible with the operating fluid. The diaphragm's center hole for the main valve stem must be sealed by the vulcanized process or a rubber grommet sealing the center stem hole from the operating pressure. The diaphragm must withstand a Mullins Burst Test of a minimum of 600 X per layer of nylon fabric and shall be cycled tested 100,000 times to insure longevity. The diaphragm shall not be used as the seating surface. The diaphragm shall be fully supported in the valve body and cover by machined surfaces which support no less than one-half of the total surface area of the diaphragm in either the fully opened or fully closed position. Bellofram type rolling diaphragms shall not be permitted.
- e. The main valve seat and stem bearing in the valve cover shall be removable. The cover bearing and seat in the 6" and smaller size valve shall be threaded into the cover and body. The valve seat in the 8" and larger size valves shall be retained by flat head machine screws for ease of maintenance. The lower bearing of the valve stem shall be contained concentrically within the seat and shall be exposed to the flow on all sides to avoid deposits. To insure proper alignment of the valve stem, the valve body and cover shall be machined with a locating lip. No "pinned" covers to the valve body shall be permitted. Cover bearing, disc retainer and seat shall be made of the same material. All

necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline. The valve shall be designed such that both the cover assembly and internal diaphragm assembly can be disassembled and lifted vertically straight up from the top of a narrow opening/vault. Y-pattern valves shall not be permitted. The seat shall be of the solid one-piece design. Two-piece seats or seat inserts shall not be permitted. Packing glands and/or stuffing boxes shall not be permitted.

4. Pilot Control System:

- a. The pilot control shall be through two direct acting two-way solenoid pilot valves controlled by an external power source. The pilot control system shall include strainers and solenoid manual by-pass valves. The pilot control system shall utilize copper control tubing and brass fittings. The solenoid pilot valves either add or relieve line pressure from the cover chamber of the main valve, causing it to open or close as directed by the electronic controller. Solenoids shall have NEMA 4X enclosures. The pilot system shall contain a secondary power failure solenoid to be incorporated with the PC-22D.

5. Material Specification for Solenoid Pilot Controls:

<u>Component</u>	<u>Material</u>
Body	Brass B283 (standard) <i>303 Stainless Steel (optional)</i>
Pilot Trim	Brass & 303 Stainless Steel
Seals and Disc	NBR
Core and Plugnut	430F Stainless Steel
Core Springs	302 Stainless Steel
Shading Coil	Copper
Disc-Holder	CA
Core Guide	CA
Connections	FNPT
Pressure rating	400 psi Max.
Temperature Range	AC: Water to 125°F Max. DC: Water to 104°F Max.
Power Supply	120VAC / 60 Hz (standard) <i>Other AC Voltages (optional)</i> <i>Other DC Voltages (optional)</i>
Enclosure	NEMA Type 4X, General Purpose, Watertight (standard) <i>Other NEMA Types, including Explosion proof (optional)</i>
Control Tubing	Copper <i>Stainless Steel (optional)</i> <i>Flexible Braided Stainless Steel (optional)</i> <i>Polyethylene (optional)</i>
Control Fittings	Brass <i>Stainless Steel (optional)</i>

6. Factory Assembly:

- a. Each control valve shall be factory assembled.
- b. The Quality Management System of the factory shall be certified in accordance with ISO 9001: 2008.

- c. For all control valves, the factory assembly shall include the complete main valve, pilot valve(s), and all associated accessories and control equipment.
- d. During factory assembly the control valve manufacture shall make all necessary adjustments and correct any defects.

7. Nameplates:

- a. Each Control Valve and associated pilot(s) shall be provided with an identifying nameplate.
- b. Nameplates, depending on type and size of control valve, shall be mounted in the most practical position possible, typically on the inlet side of the valve body.
- c. Nameplates shall be brass and a minimum of 3/32" thick, 3/4" high and 2-3/4" long.
- d. Pertinent control valve data shall be etched or stamped into the nameplate. Data shall include control valve Catalog number, function, size, material, pressure rating, end-connection details, type of pilot controls used and control adjustment range.

8. Factory Testing:

- a. Each control valve shall be factory tested.
- b. The Quality Management System of the factory shall be certified in accordance with ISO 9001: 2008
- c. Tests shall conform to approved test procedures.
- d. The standard factory tests shall include a valve body and cover leakage test, seat leakage test and a stroke test. Control valves and pilot valves, in the partially open position, with both ends closed off with blind flanges (valves) and pipe plugs (pilots), shall be subject to an air test. The applied air pressure shall be 90 psi minimum. All air pressure tests shall be applied for a minimum of 15 minutes. No visible leakage is permitted through the valve seat, the pressure boundary walls of the valve body, valve cover, pilot body, pilot cover or the body-cover joint.
- e. Control valve manufacturer shall, upon request, offer additional testing, such as high-pressure hydrostatic testing, positive material inspection testing, ferrite testing, liquid penetration inspection testing, magnetic particle examination testing and radiographic examination testing.

D. PRODUCT DATA

- 1. The following information shall be provided:
 - a. Control Valve manufacturer's technical product data.
 - b. Control Valve manufacturer's Installation, Operation and Maintenance manual (IOM).
- 2. Provide specific information on all optional features specified above and confirm that these items are provided.

3. The valve manufacturer shall be able to supply a complete line of equipment from 1" through 36" sizes and a complete selection of complementary accessories and equipment.
4. The control valve manufacture shall provide a computerized cavitation analysis report which shows flow rate, differential pressure, and percentage of valve opening. Cv factor, system velocity, and if there will be cavitation damage.
5. The manufacturer must also provide valve noise levels according to International Standards over the flow range of the valve. Noise calculation program will be specific to the control valve manufacturer, and based upon tests conducted by a third party, independent laboratory and will be able to provide dBA values for octave band frequencies between 31.5 and 8000 Hz. (Valves with KO trim calculations are per another industry accepted standard without the octave band frequency noise levels). Generic, third-party noise calculation for non-specific control valves will not be accepted.

2.02 ELECTRONIC PUMP CONTROL PANEL

A. GENERAL FUNCTION

The Electronic Pump Control Panel shall provide control between the pump control valve and the pump, to prevent surges in the system when the pump starts or stops. The control panel shall properly sequence and control the pump start-up and pump shut-down procedure, providing both visual and electronic status outputs for operating personnel. Panel shall protect the pumping system from damage due to mechanical, hydraulic, or power failure. Panel shall be pre-wired and include an integral programmable valve controller to sequence the pump and pump control valve during all modes of operation. Controller shall be pre-programmed for most common pump control applications. Controller shall be easy to wire and adjust. Controller to include the following features:

- Sequence timers
- Local visual indication of pump and control valve status.
- Displays time for system to build pressure and for valve to open
- Contacts for remote or automatic start signal
- Local pump start & pump stop buttons
- Local emergency stop button
- Automatic shutdown of pump in emergency situations
- Terminal block connections for solenoid controls, valve limit switch, pump starter relay, remote automatic contact, pressure switch
- HOA switch for remote or local operation

Custom application programming is available upon request. The control panel shall include automatic recognition of common fault conditions and shall provide proper fault response sequencing to the pump control valve and pump starter as well as visual and electronic fault notification to operating personnel.

The integral programmable valve controller shall be housed in a NEMA 4X fiberglass enclosure with polycarbonate window, gasketed door, continuous stainless-steel hinge, stainless steel twist/latch door fasteners, and padlockable door hasp.

The valve controller shall be capable of controlling both single chamber pump control valves (two solenoids) and dual chambered pump control valves (single solenoid).

The pump control panel shall include alarms, adjustable timers, system indicators, providing local visual indicators for both normal operation and alarm conditions.

Panel shall include an externally mounted three position "Hand-Off-Auto" switch to provide local or remote pump start/stop operation. Externally mounted pump start and pump stop buttons shall be provided for local operation. The pump control panel shall be supplied with contacts for remote start, a pressure switch and a valve limit switch.

The pump control panel shall require a minimum amount of field wiring.

B. SINGLE CHAMBERED STYLE PUMP CONTROL VALVE (TWO SOLENOIDS)

On pump startup, pressure builds against a closed pump control valve. Once system pressure has been made, the single chambered control valve shall begin to slowly open. A dual solenoid pilot system simultaneously energizes/de-energizes solenoids at a rate controlled by the integral valve controller. The opening rate of speed shall be field programmable as a linear or non-linear function, satisfying various pressure conditions across the stroke of the valve. As the valve position signal approaches the opening speed setting, solenoid pilots either add or relieve line pressure from the cover chamber of the valve, causing the valve to smoothly open. The solenoid on/off pulse time shall gradually decrease to smoothly lock the valve in a full open position. Once the pump stop command is given, the control valve begins to close gradually, reducing flow while the pump continues to run. The closing rate of speed shall be field programmable and independent of the opening speed setting. When the pump control valve is nearing the fully closed position, a limit switch assembly affixed to the cover of the pump control indicates the valve is fully closed and the pump shuts off. Should a power failure occur while the pump is running, a built-in lift-type check valve or hydraulic check valve feature shall close valve the moment flow stops. Preventing reverse flow regardless of solenoid or diaphragm assembly position. Each valve solenoid is controlled by a solid-state relay with zero switching voltage. The total cycle time between each pulse shall be programmable. When the feedback signal is within a programmable dead band, the opening and closing solenoids shall lock the cover and the valve will maintain position.

C. DOUBLE CHAMBERED STYLE PUMP CONTROL VALVE (ONE SOLENOID)

On pump startup, pressure builds against a closed pump control valve. Once system pressure has been made, the double chambered, single solenoid control is energized by the integral valve controller and the valve begins to slowly open. The opening rate of speed shall be controlled by the hydraulic opening speed control. Line pressure is gradually increased to full pumping head. When the pump is signaled to shut-off, the single solenoid control shall first de-energize and the pump control valve begins to close slowly, at a rate controlled by the closing speed control. Flow is gradually reduced while the pump continues to run. When the pump control valve is nearing the fully closed position, a limit switch assembly affixed to the cover of the pump control indicates the valve is fully closed and the pump shuts off. Should a power failure occur while the pump is running, a built-in lift-type check valve or hydraulic check valve feature shall close valve the moment flow stops preventing reverse flow regardless of solenoid or diaphragm assembly position.

D. PANEL TECHNICAL INFORMATION AND CONSTRUCTION:

Visual Indications:

1. Pump Status - Red = Pump Off, Green = Pump On
2. Pressure Switch Status - Red = Below Minimum, Green = Pressure OK
3. Valve Status - Red = Valve Closed, Green = Valve Open
4. Emergency Stop Status - Emergency stop enabled when displayed
5. System Failure Status - Indicates a system failure when displayed
6. Time for System to build Pressure - Displays time in seconds

7. Time for Valve to Open - Displays time in seconds
8. Valve Solenoid Status - Indicates whether the valve solenoid is energized or de-energized

Timers and Settings:

The pump control panel shall include the following timers and settings, programmable from a set-up screen on the integral controller:

1. Pressure Timer - Allowable time for pump to build pressure.
2. Valve Open Timer - Allowable time for control valve to open.
3. Power Failure Pump Restart Timer - Delay time for automatic pump re-start following power failure.

The pressure timer is configurable from 0 to 60 seconds. After the pump has been started, the system has the configurable amount of time to build pressure. If the timer has expired and the pressure switch contacts have not closed, the pump will shut off and display a system failure.

The Valve open timer is configurable from 0 to 60 seconds. After the valve solenoid/solenoids have been energized, the valve has the configurable amount of time for the valve to begin opening. If the timer has expired and the limit switch contact does not change state, the pump will shut off and display a system failure.

Normal Pump Start (Hand or Auto):

A pump start command shall be initiated by turning the HOA switch to the "Local" position and pressing start or by a remote contact closure with the HOA switch in the "Auto" position; either of these operations will immediately turn on the pump & can be seen by the indicator on the controller screen. The valve will not start to open until a pressure switch contact has been made, notifying the controller minimum system pressure has been established.

If using a dual solenoid, single chamber control valve, an opening curve shall be configured to open the control valve in a configurable amount of time.

If using a single solenoid, double chambered control valve, the speed of valve opening will be controlled by a hydraulic needle valve (opening speed). Once the opening sequence is complete, all system indicators can be seen in green.

Normal Pump Shutdown:

A normal pump shutdown sequence shall be initiated by either depressing the stop button if in "local" mode or by remotely breaking contacts of the remote start circuit with the HOA switch in the "Auto" position. Initiating this command, the pump control valve relay will open and cause the control valve to close.

Utilizing a dual solenoid, single chamber pump control valve, a custom control curve can be programmed to slowly close the valve in a configurable amount of time. Once the valve is fully closed, the pump contact will open and shut down the pump.

Utilizing a single solenoid pilot, double chamber pump control valve, the solenoid shall be de-energized to initiate a normal valve closure. At a pre-set position, the pump control valve shall actuate the limit switch which opens the motor starter contacts and turns the pump off. With the pump control valve closed and the pump off, all system indicators can be seen in red.

Pump Malfunction:

Anytime during the pump operation when the pump discharge pressure is not capable of satisfying the pressure switch setting, a visual indicator shall turn red, indicating a loss of pressure, causing the control valve to close, pump motor contacts shall open to turn off the pump. A screen indicator shall display "System Failure", and a manual reset of the emergency stop switch will be required to clear the fault and reset the system.

Valve Malfunction:

If the solenoids of the pump control valve fail, or if any other event should cause the valve to close without a normal pump shutdown command, the pump contact shall open turning the pump off. A screen indicator will display "System Failure", and a manual reset of the emergency stop switch shall be required to clear the fault and reset the system.

Power Failure:

In the event of a power failure, even momentary, a pre-set time delay period is initiated as soon as power is restored which shall be indicated on the valve controller screen. The adjustable time delay period shall range from instantaneous to ten (10) hours. During the power failure delay period, it shall not be possible to have an automatic pump restart. After the delay period has expired, a normal pump start sequence shall be initiated if a local or remote pump start command exists.

E. CONSTRUCTION:

The Electronic Pump Control Panel shall have remote communication capabilities. The controller shall include six (6) configurable 4-20mA analog inputs; six (6) dry contact digital inputs; four (4) 4-20mA analog outputs; two (2) solid-state relays and two (2) mechanical relays. All inputs and outputs shall have a configuration menu which programs signal name, scaling, engineering units, precision, & filtering.

The electronic pump control panel shall have a maximum of four (4) PID loops for use with the 63 series pump control valve. Each loop shall have the ability to be broken into four (4) different control zones with customizable PID parameters in each. Each PID loop shall have an independent output limiting feature which limits the duration a solenoid can remain energized, providing ultimate valve protection.

A gasketed emergency shut-down pushbutton shall be provided (locking type, with manual reset). Labeled, screw-type terminal blocks shall be provided for all input and output connections and supply voltage connection. A minimum of eight (8) spare terminal blocks shall be provided.

The electronic pump control panel shall have relay outputs capable of Alarm indication to SCADA and shall be capable of generating and sending signal loss warnings and other configurable control actions. Actions (alarm) can include system failures.

The electronic valve controller shall include a built-in flow rate calculator. Using a valve position transmitter & DP transmitter (or inlet/outlet pressure transducers), the electronic controller shall calculate and display flow rate. A graphical menu allows the operator to easily select valve size and seat type. A built-in totalizer keeps track of total volume as a function of time. Customizable units and reset functionality allow for simplified setup and configuration.

The electronic valve controller shall come equipped with Control Curves valuable in making relationships against other signals, internal variables, or time. Using a graphical function, coordinates can be added, removed, or moved making relationship adjustments convenient.

The electronic valve controller shall have the ability to retransmit any input signal, variable, or calculation to a SCADA system.

The electronic valve controller shall have a high-speed logging feature which captures all I/O at a maximum sample rate of 1Hz. Captured data shall be downloadable in .csv file format to a portable memory device such as a USB drive or FTP server.

The integral controller in the pump control panel shall have a color TFT screen to graphically display the valve application with real-time system information. The controller display shall have the ability to show all I/O signal readings, PID settings, I/O configuration settings, along with pump status, pressure switch status, valve status, solenoid status, emergency stop status, system failures, & timers/timer settings. Each signal displayed on the "home" screen is color coded representing normal or lost signal. "Home" screen graphics shall have the ability to be customized.

An easy to use five press-button operator interface keypad provides simple navigation through software menus. Security key codes shall be provided to protect against unauthorized changes. An IP-68 rated enclosure shall be provided to house the controller for environmental protection.

Sufficient clearance around electronic pump control panel shall be made for adequate access/wiring. Considerations should be made to comply with all the various local codes, standards, and best practices.

INPUTS:

The Pump Control Panel shall be capable of monitoring the following inputs:

- Remote Start Command
- Valve Limit Switch Signal
- Discharge Pressure Switch Signal
- Local Start Pump Command
- Local Stop Pump Command
- Emergency Stop Command

Local inputs shall be entered by means of the integral controller and shall include set-up screen for setting of timers and user-selectable options. If a pressure switch is not used, a jumper can be inserted across its contacts.

OUTPUTS:

The Pump Control Panel shall provide the following powered outputs:

- (1) Pump Start Command
- Up to (2) Valve Solenoid/s
- Up to (2) Alarms

The pump start command is a non-powered dry contact normally open signal with a maximum amperage of 10 amps across the relay contact. The valve solenoid outputs are powered by the incoming VAC supply voltage and protected by a 5-amp circuit breaker. The alarm outputs are non-powered dry contact with a maximum amperage of 1 amp across the relay contact.

F. MODBUS COMMUNICATIONS

The electronic pump control panel shall come standard with Modbus protocol. This protocol defines a message structure that PLC's will recognize and use, regardless of the type of networks over which they communicate. The valve controller can be configured to communicate on standard Modbus networks using either of two transmission modes: TCP/IP or RTU. Users shall have the ability to select the desired mode, along with communication parameters (IP address, subnet mask, baud rate, etc). The electronic valve controller shall have a built in VNC server. A viewer/client uses TCP port 5900 to connect to a server (or 5800 for browser access) but can also be set to use any other port.

G. MATERIALS

1. Material Specification for the Electronic Pump Control Panel as follows:

Panel Enclosure

Material	Flame retardant UL rated PC/ABS plastic
Enclosure Panel Dimensions	20.0" (508 mm) H x 18.0" (457 mm) W x 9.0" (228 mm) D
	The enclosure panel shall be provided with all necessary mounting brackets.

Panel Integral Controller

Display Type	4.3" Color TFT-LCD, 480 x 272 pixels
Display Update Rate	100ms
Programming Method	Mechanical Push Button VNC
Password	5 digit

Enclosure Environmental

NEMA 4X

Controller Mass Data Storage

Type	4GB SD Card
Language	English
Temperature Range	14°F to 158°F (-10°C to 70° C)
Humidity	90% RH, non-condensing
Memory Protection	10-year life lithium battery

Power Requirement

Power	120VAC @ 60Hz protected with 5 Amp Fuse & Circuit Breaker
Motor Starter Contacts:	10 amp maximum
Valve Solenoid Contacts:	10 amp maximum
Remote Alarm:	1 amp maximum

Controller Inputs

Analog	4-20mA; (6) Inputs Available (0-5 V / 0-10 V)
Resolution	10 bit
Digital	(6) digital inputs (Dry contact)
Units	Configurable
Decimal Point	0 / 0.0 / 0.00 / 0.000
Signal Filter	Configurable 1 to 60 seconds
Totalizer	Configurable Input and Units
Totalizer Reset	Yes
I/O Connection	Screw Terminals

Controller Outputs

Pump Relay	10 Amp Max
Control Valve Relays	120VAC @ 60Hz Output (double chamber valves) 24VDC Solid State Relay Output (single chamber valves)
Alarm Relay	(2) Available and Configurable
Analog	4-20mA; (4) Outputs available
Resolution	10 bit
Solenoid	(2) Solid State Relay, Zero Switching Voltage
Relay	(2) Mechanical Relay, Rated Voltage 250VAC, Rated Current 6A
<u>Controller Input Logging</u>	
Configurable	Yes
Logging Speed	1 minute
Event Memory	128 Mbytes rolling memory up to 80,000,000 values capacity
Output	CSV format suitable for exporting to MS Excel
<u>Controller Parameters</u>	
Control Input	4-20mA full scale / 0-5 V / 0-10V / digital (dry contact)
Proportional Band	0-100% (50% default) adjustable in 1% increments Independently for opening and closing
Dead band	Adjustable 0 to full scale of set-point signal
Cycle Time	0 to 60 seconds in 1 sec. increments
Integral Band	Adjustable 0 to 60 seconds
Derivative Band	Adjustable 0 to 60 seconds
Loop Zoning	Adjustable up to (4) zones
PID Loops	4 Configurable
Control Curves	4
Retransmission	4 Analog (4-20mA signal)
Actions (Alarms)	triggering conditions
<u>Controller Communication</u>	
Local	Mechanical Push Button
Remote	VNC Server
Interfaces	GPRS Modem Quad Band / Ethernet / RJ-45 / RS-232 / RS-485
Protocols	Modbus TCP / ModbusRTU / VNC
<u>Controller Approvals</u>	
Conformity Marking	CE marking
Controller Optional Features /Accessories	Fan / Heater with integral thermostat

H. MANUFACTURE

1. Each Electronic Pump Control Panel shall be factory assembled.
2. Each Electronic Pump Control Panel shall be provided with an identifying nameplate
3. Each Electronic Pump Control Panel shall undergo full factory functional and operational testing.

I. PRODUCT DATA

1. Electronic Pump Control Panel manufacturer's technical product data shall be provided.

PART 3 - EXECUTION

A. DELIVERY, STORAGE AND HANDLING

1. Delivery

- a. The Manufacture shall deliver the control valves to:

*3500 TDK Blvd. Peachtree City, GA 30269
Attention: Benjamin Martin
Phone number: 770-320-6085
Call 48 hours prior to delivery.*

- b. Upon delivery, control valves to be unloaded and stored by the:

Fayette County Water System

2. Packing and Shipping

- a. Control valves specified herein shall be factory assembled. Any control valve appurtenances, accessories, parts and assemblies that are shipped unassembled shall be packaged and tagged in a manner that will protect the equipment from damage and facilitate the final assembly in the field.
 - b. Care shall be taken in loading, transporting, and unloading to protect control valves, appurtenances, or coatings from damage. Equipment shall not be dropped. All control valves and appurtenances shall be examined before installation and no piece shall be installed which is found to be defective. Any damage(s) shall be repaired.
 - c. Prior to shipping, the control valves and all associated accessories shall be acceptably packaged and covered to prevent entry of foreign material.
 - d. All packaged control valves shall be shipped, remain covered and stored on site until they are installed and put into use.

B. FIELD TESTING

1. A direct factory representative shall be made available by the equipment supplier for start-up service, inspection, and necessary adjustments.

The Control Valve manufacturer shall warrant the valve to be free of defects in material and workmanship for a period of three years from date of shipment provided the valve is installed and used in accordance with all applicable instructions. Electrical components shall have a one-year warranty.

The Electronic Pump Control Panel manufacturer shall warrant the controller to be free of defects in material and workmanship for a period of one year from date of shipment provided the control panel is installed and used in accordance with all applicable instructions.

The control valve shall be **CLA-VAL Company Model No. 131-01**, Electronic Pump Control Valve, as manufactured by Cla-Val Co., Costa Mesa, CA 92627-4416.

The Electronic Pump Control Panel shall be the **CLA-VAL Company Model No. PC-22D**, as manufactured by Cla-Val Co., Costa Mesa, CA 92627-4416.

END OF SECTION

PRICING SHEET

RFQ 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

Responder agrees to perform all the work described in the Contract documents for the following prices:

Description	Price
High Service Pump #1 Control Valve Replacement, per specification	\$
Contingency Allowance, shall only be used with prior written approval of the County Administrator	\$ 4,000.00
Total Quote	\$

NOTES:

1. All applicable charges shall be included in your total quoted amount, including but not limited to materials, equipment, installation, labor, and any other amounts. No additional charges will be allowed after the quote received by date.
2. All warranties shall be included in your total quoted amount.

State time needed to commence work after notice to proceed is issued _____ Days.

State length of time needed to complete project _____ Days.

State, List or Attach the terms of your warranty, if applicable: _____

COMPANY'S NAME _____

RFQ 2354-A: Crosstown High Service Pump 1 Pump & Motor Repair

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

COMPANY NAME: _____