

INVITATION FOR BID
July 22, 2024

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| INVITATION FOR BID NUMBER | IFB 24-024 |
| NAME OF BID | Purchase of Nine (9) Backwash Valves and Actuators for Myers WTP |
| BIDS WILL BE RECEIVED AT | MAWSS Bid Box Donaghey Business Entrance 4725 Moffett Road or PO Box 180249 Mobile, AL 36618 |
| BID OPENING DATE | August 9, 2024 |
| BID CLOSING TIME | 10:30 am Central Time |
| AWARD WILL BE MADE BY | Total Cost & Lead Time |
| MATERIAL DELIVERED TO | H.E. Myers WTP. 1475 Hubert Pierce Road Mobile, AL 36608 |
| ADDITIONAL INFORMATION CONTACT | Randy Sullivan (251) 378-3483 or Email: rsullivan@mawss.com John Jordan (251) 378-3492 or Email: jjordan@mawss.com |
| APPLICABLE SDP POLICY | None |

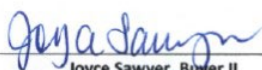
Sealed bids must be in the Purchasing Department no later than the time specified in order to be considered. Submissions received after the deadline will not be considered. Envelopes must bear the name of the supplier, company address and the words “IFB 24-024 Myers Backwash Valves & Actuators” or “IFB 24-024 NO QUOTE.” Facsimile or email bids will not be accepted.

All bids must be submitted on the attached forms or your bid will be disqualified. Bidder shall furnish all the information required by the solicitation. The bidder’s name must be typed or printed on the bid sheet, and signed by the bidder or appropriate authorized executive officer of the bidder’s company. Bidders must initial any changes or erasures. Bidders should retain a copy of bids for their records.

Bidders shall acknowledge receipt of all addenda to this solicitation by signing and returning each addendum or by identifying the addendum number and the date on the bid form. Failure to acknowledge receipt of any addendum by a bidder will result in rejection of the bid if MAWSS determines that the addendum contains information that materially changes the requirements.

All bids shall be quoted FOB Destination, freight prepaid with no additional charges. Unless otherwise specified in the bid, all prices will be on a firm-fixed price basis and are not subject to adjustments based on costs incurred. MAWSS reserves the right to reject any or all bids submitted, to waive any informality in any bid or in the bid process, or to terminate the bid process at any time, if deemed by MAWSS to be in MAWSS’s best interest.

A Purchase Order and this “Invitation for Bid” with “Specifications,” “Conditions,” “Bid Form,” signed by the successful bidder’s authorized representative, and all attached drawings and other documents furnished by MAWSS to the bidders with the Invitation for Bid in order to illustrate the contract requirements, will constitute a contract for the goods and/or services to be purchased.


Joyce Sawyer, Buyer II
Board of Water and Sewer Commissioners

IFB 24-024 BACKWASH VALVES & ACTUATORS CONDITIONS

The Board of Water and Sewer Commissioners of the City of Mobile will accept bids for the **Backwash Valves & Actuators** in our Purchasing Department Bid Box located in the Business Entrance at 4725 Moffett Road, Mobile, AL. 36618 **no later than 10:30 a.m.** local time on **August 9, 2024**. Bids will be opened immediately after bid closing time in the MAWSS Business Entrance Conference Room. Award will be by **Total Cost & Lead Time**. The bidder offers and agrees, if this bid is accepted, to furnish the items as defined in the specifications for the unit price set opposite each item. Pricing shall be FOB Mobile, Alabama. All items shall be delivered to **H.E. Myers WTP, 1475 Hubert Pierce Road Mobile, AL 36608** or to the job site as needed. The bidder shall state the expected length of delivery time on the Bid Form.

A **mandatory site visit** is required prior to bidding. Please contact Randy Sullivan at (251) 378-3483 or John Jordan at (251) 378-3492.

Bidder understands and agrees that manufacturer and part numbers are provided for descriptive purposes only. Items of equal or better quality will be considered but must be approved by MAWSS in writing. Upon delivery, if the quality, durability or performance of any product represented as equal or better is determined by MAWSS to be unsatisfactory, MAWSS will require a suitable substitute or will require that the originally specified item be delivered, at the unit price originally offered by bidder. No substitution for items to be provided pursuant to this contract shall be permitted during the contract period without the express written consent of MAWSS. All items provided shall be for commercial use and for the purposes reflected in the contract documents.

No bid on closed out or discontinued item(s) will be accepted. Item(s) that have a determinable shelf life must be disclosed at the time of bid submittal. Bidder understands that his/her bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

Bidder understands and agrees that quantities will be purchased by MAWSS on an "as needed" basis to replenish inventory. MAWSS shall not be committed to the purchase of a pre-established minimum quantity for any one item.

A bidder may not modify its bid after bid opening. Errors in the extension of unit prices stated in a bid or in multiplication, division, addition or subtraction in a bid may be corrected by the MAWSS Purchasing Buyer prior to award. In such cases, unit prices shall not be changed.

It is the responsibility of the bidder to determine prior to the bid opening whether any amendment, additions, deletions or changes of any type have been made to this Invitation for Bid, Conditions, Specifications, Bid Form or any of the other bid documents. Bid documents and any amendments made to this bid will be posted on our website at www.mawss.com.

Invoicing Requirements: MAWSS is requiring additional information for all work performed and services provided. On the vendor's invoice for payment should be a detailed listing of work performed, services provided, dates completed, locations involved and any other pertinent information needed to verify the work and/or services were completed in accordance to the bid specs. This additional information can be supplied in the form of detailed invoices, work orders, checklists or any other documents used to track the work performed or services provided but details must be included on the actual invoice. A copy of the invoice and these additional details must be sent to the "ADDITIONAL INFORMATION CONTACT" found on Page 1 of the bid documents and a copy must also be emailed to Accounts Payable at AcctsPayable@mawss.com.

END OF CONDITIONS

IFB 24-024 BACKWASH VALVES & ACTUATORS SPECIFICATIONS

This is for the purchase of (9) 30" Flanged DeZurik BAW Butterfly Valves mounted to new K-Tork Pneumatic Quarter Turn Rotary Actuators with Manual HW Operator Specification.

PART 1 REQUIREMENTS

1.00 Shop drawing submittal is required.

1.01 DELIVERY, STORAGE AND HANDLING

Delivery, storage and handling shall be in full accordance with manufacturer's instructions.

1.02 WARRANTY

All Valve and actuator assemblies shall be warranted for a period of two (2) years from date of shipment. A certificate listing actuator serial numbers shall be provided prior to shipment in order to validate the warranty.

PART 2 PRODUCTS

2.01 BUTTERFLY VALVES FLANGED

- 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 125lb. 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. 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 bearing 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.

IFB 24-024 BACKWASH VALVES & ACTUATORS SPECIFICATIONS (Cont'd)

- 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. AWWA C504 Butterfly valves shall be DeZurik Water Controls BAW. Handwheel, chainwheel, and buried service nut actuators shall conform in all respects to AWWA C504.

2.02 PNEUMATIC ROTARY VANE C540-08 VALVE ACTUATOR DESIGN

- A. The actuator is essentially an integral part of the valve assembly.
- B. Actuator Design: Pneumatic actuators are to be of the vane type design with only one (1) moving part. Actuator shall have a vane position indicator milled into the output shaft. One side of the actuator shall be manufactured to ISO/NAMUR mounting standards for attachment of accessories (limit switches, indicators, positioners). Seals shall be double opposed lip seals with stainless steel expanders. Seal backing plates shall be steel. O-ring seals on vane will not be acceptable.
- C. Actuator Materials of Construction:
 - 1. Housing: Pressure die cast ADC1 or A356 aluminum casting with all surfaces coated with thermosetting polyester powder coat with Ultraviolet Inhibitor. Zinc housing will not be permitted. Actuator housing to include industry-standard NAMUR accessory mount interfaces as an integral part of the housing. The NAMUR VDI/VDE 3845 to be included on top of the actuators and on the solenoid manifold to allow for the easy installation of standard actuator control accessories.
 - (i) Provide actuator manufacturer standard epoxy coating.
 - (ii) All threaded fittings shall have a locking and sealing compound designed for metal tapered threads and fittings. All actuators shall be tested after assembly. Actuators shall not require more than three (4) psig to be cycled a complete stroke in each direction before they are connected to the valve. Test report documenting zero (0) cross vane leakage shall be submitted prior to shipment.
 - 2. Vane / Output Shaft: Steel ASTM A148 per AWWA C540-2, Grade 115-95, heat treated with electro less nickel-plated finish. Ductile Iron vane / output shafts will not be acceptable.
 - 3. Vane Seals: HBNR highly-saturated Buna Nitrile, rated -5 to +300 degrees F., no exception.
 - 4. Shaft Seals: Buna N.
 - 5. Vane Seal Expanders: Stainless spring steel.
 - 6. Side Plates: Steel with all surfaces coated with manufacturer standard epoxy powder coat.
- D. Actuator Position-Control Capability:
 - 1. Open/Close Valves: Actuators shall be solenoid operated. Solenoids for smaller size actuators shall be standard ISO/NAMUR VDI/VDE 3845 direct mounted with the option to be remote mounted for increased accessibility. Solenoid coils shall be 120 VAC / 60 Hz, NEMA 4 rated. Speed control devices shall allow independent adjustment of OPEN and CLOSE cycling speed. Each solenoid valve to include manual override to lock-and-hold valve in either the OPEN or CLOSE position in the event of a power outage. Exhaust air mufflers shall be standard. Provide 80 to 150 PSI clean, dry air to solenoid valve. 1/2" conduit CSA black connector. Form B, 22mm coil, Class F, cURus, Nema 4X.

Solenoid valves shall be K-TORK 'SIDEWINDER' Series.

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Each Open/Close actuator shall include valve position feedback limit switches for remote OPEN and CLOSE indication. Two SPDT switches shall be housed in a NEMA 4/4X nickel plated aluminum enclosure with transparent polycarbonate lid, ensuring a device totally unaffected by corrosion, in salty and humid atmosphere. 3D Dome-style visual valve position indicator that can be seen from above and from the side. The switch box output shaft and fasteners to be stainless steel and shall mount to the actuator per NAMUR VDI/VDE 3845 with a stainless-steel bracket. The two electromechanical switch contacts shall be rated 5A@250 VAC, 0.5A@24 VDC, resistive/inductive. Limit switches shall be adjustable by press, turn and release motion requiring the use of no tools. The limit switch assembly to be UL and CUL Listed and approved and shall be manufactured by Rotork / K-TORK 'SOLDO' Series.

The solenoid coil must be pre-wired to spare terminals labeled 'Solenoid Valve' inside the limit switch enclosure and all field connections for both the limit switches and solenoid valves shall be terminated inside the limit switch box.

2. **Modulating Valves:** The actuator shall be designed to control the valve in all positions from fully open to fully closed, and from fully closed to fully open with control in any intermediate position corresponding to the variable controls system input. Positioner shall consume a MAXIMUM of .070 SCFM while in the resting state. Positioners consuming greater than .070 SCFM will not be acceptable. Modulating actuators shall be supplied with intelligent SMART diagnostics. Positioners shall have ISO/NAMUR VDI/VDE 3845 standard output shaft to allow direct mounting to actuator without need for adaptors. The positioner will receive a 4-20 mA positioning signal from the control system for precision positioning control of the valve in all positions from closed to open. As standard, the positioner shall include an Auto / Manual switch to allow for local actuator control without removing the positioner cover. Additionally, the positioner will have four pushbuttons for local control located inside the enclosure. The positioner shall have auto-stroke / auto-calibration capability as standard for easy commissioning. LCD 0-100% visual indication of valve position will be located in the positioner cover. Where specified in the Valve Actuator Schedule, provide optically-isolated analog 4-20 mA position transmitter, (2) mechanical limit switches or both, mounted inside the positioner housing. Positioner construction shall be of Aluminum or Stainless Steel (optional), with NEMA 4/4X, IP66 rating and be suitable for -22° F. to +185°. Fasteners to be stainless steel. Provide 60-100 psi clean dry supply air to the positioner. Positioner shall be manufactured and supplied by the actuator manufacturer and shall be intended for use with the actuator provided for modulating application. Positioner shall be as manufactured by Rotork / YTC #3300R.
3. **Mechanical Manual Override:** Where specified in the Valve Actuator Schedule, actuator shall include a mechanical worm gear manual override de-clutch gearbox and hand wheel to be mounted between the valve and the actuator. The manual override shall be able move and hold the valve in any position between full OPEN and full CLOSE. When the actuator is in 'AUTO' operation, the gear shall be de-clutched and will 'free wheel'. To use the override, isolate the incoming air supply and bleed all pressure from the actuator, then engage the worm to the segment. The engagement lever shall include a stainless-steel legend plate clearly identifying the lever position with "AUTO" and "MANUAL". The manual override shall be capable of remaining on the valve and fully operational with the actuator removed and include two mechanical valve position stops. The manual override shall have a cast iron housing and stainless-steel input shaft and fasteners, rated for IP68 / NEMA 4/4X environments. The manual override shall have an EPOXY NZ PRIMER and Polyurethane finish paint, both 40 – 60 microns. Hand wheel diameter to be selected to limit rim pull to a maximum of 80#. Include 3-way actuator vent valve(s) as required to bleed the actuator and isolate the supply air during manual operation. The 3-way vent valve(s) shall include "Auto" and "Manual" legend plate and the hand wheel shall include OPEN and CLOSE designations and directional arrows. The de-clutch manual override shall be manufactured by Rotork / K-TORK, the actuator supplier without exception.

IFB 24-024 BACKWASH VALVES & ACTUATORS SPECIFICATIONS (Cont'd)

- E. Accessories such as limit switches, positioners, solenoid valves, speed controls, piping and tubing, as required by the specification, shall be mounted and tested by the actuator manufacturer to the actuators prior to shipment to the jobsite.
- F. Torque Capability: The rated torque capability of each actuator shall be sufficient to seat, unseat, and rigidly hold, in any intermediate position, the valve disc it controls under the operating conditions specified herein. Torque safety factors shall conform to AWWA Standards and in no case be less than 1.5 times the valve manufactures specified torques based on operating conditions. Size actuator using 80 PSI instrument air.
- G. Safety Factor: Actuator housings, supports, and connections to the valve shall be designed with a minimum safety factor of 5, based on the ultimate strength, or a minimum safety factor of 3, based on the yield strength of materials used.
- H. Stop-Limiting Devices: Valve actuators shall be equipped with adjustable mechanical stop-limiting devices to prevent over-travel of the valve disc in the open and closed positions. Position stops shall provide, at minimum, 80 to 100 degrees of adjustable travel.
- I. The pneumatic actuators shall have a working pressure of 150 psig per AWWA C540-2 standards with an overload pressure of 220 psig. Actuators with a published 100 psig maximum operating pressure rated will not be acceptable.
- J. Actuators shall be equipped with adjustable flow-control devices controlling the operating air exhausting from the actuator. The devices shall be located at or near the actuator or on the solenoid valve. The opening and closing speeds shall be nominally set for a range of 30 to 90 seconds, variable with valve sizes. Final adjustments shall be made by the purchaser to minimize line surges during normal operation.
- K. Actuators shall not require more than three (4) psig to be cycled a complete stroke in each direction before they are connected to the valve.
- L. Actuator Testing:
 - 1. Performance Tests: Each actuator and valve assembly shall be cycled a minimum of three (3) times prior to assembly to the valve and in the field using the start and stop controls from the fully closed to the fully open position to demonstrate that the complete assembly, including controls, operates properly.
 - 2. Test Certification: Certification of tests and copies of test or certificate of conformity reports shall be provided on request if the request is made prior to the time of testing.
- M. Bracket and Couplings:
 - 1. Custom fabricated bracket to adapt the actuator to the new or existing (retrofit) valves shall be heavy wall rectangular carbon steel tube and shall retain the valve stem packing or provide for use of the original draw-down packing gland as required.
 - 2. All brackets and couplings shall have electro statically applied fusion bonded polyester powder coated finish.
 - 3. Couplings shall be made of bar stock carbon steel with keyway and stainless-steel setscrew.
- N. Acceptable Manufacturers:
 - 1. K-TORK Actuators & Controls, a Rotork company Supplied through Eco-Tech, Inc.

2.03 OPERATOR AIR TUBING

- 1. Air tubing on valve operators shall be rubber or stainless steel. Air tubing shall be sized according to actuator size.

**IFB 24-024 BACKWASH VALVES & ACTUATORS
SPECIFICATIONS (Cont'd)**

2.04 FIELD QUALITY CONTROL

1. Verify that structures, equipment, pipes, valves, fittings, and other appurtenances are compatible.
2. Coordinate field devices, voltages, signal types, power needed, and programming with valve operator to provide proper functioning system.

2.05 MANUFACTURER'S REPRESENTATIVE

- A. The services of the manufacturer's technical representative shall be provided for pre-startup installation checks, startup assistance, training of Owner's personnel, troubleshooting, acceptance testing, and other services as required within these Contract Documents.
- B. Manufacturer's representative shall:
 1. Approve installation in writing to the owner (MAWSS) before operation.
 2. Verify conformance to all specified requirements.
 3. Fully instruct all designated personnel for the plant on proper care, maintenance, and operation of all equipment and appurtenances.
 4. Perform specified acceptance tests and operate system to verify satisfactory operation of all equipment in presence of Owner's personnel and Engineer.
 5. Check all equipment for excessive noise or vibration, proper alignment, general operation, etc.
 6. Operate the equipment through the design performance range consistent with available flows. Adjust, balance, and calibrate and verify that the equipment, safety devices, controls, and process system operate within the design conditions. Each safety device shall be tested for proper setting and signal. Response shall be checked for each equipment item and alarm. Simulation signals may be used to check equipment and alarm responses.
 7. Place each piece of equipment in the system in operation until the entire system is functioning. All components shall continue to operate without alarms or shutdowns, except as intended, for 8 consecutive hours to be considered started up.
 8. Submit certified written field reports as required by Section 01301.
 9. Provide a certificate by the valve actuator supplier indicating proper installation (**by others**) and start-up procedures have been followed. This certificate shall be required and included as part of the final operation and maintenance manuals in order to validate the specified two (2) year warranty.
 10. Revisit job sites as often as necessary beyond minimum services specified to correct deficiencies to satisfaction of the owner (MAWSS).

2.06 ACCEPTANCE TEST

- A. Upon completion of the installation (**by others**), of each valve actuator, an acceptance test will be conducted to verify the satisfactory operation and performance of each actuator. Each valve shall be opened and closed using the plant control system as applicable (AUTO) and manually. The control valves shall also be tested under power loss to verify proper closure.
- B. The test shall be conducted in a manner approved by and in the presence of the OWNER.
- C. Each valve actuator must perform in a manner acceptable to the Owner before the OWNER will make final acceptance.

END OF SPECIFICATIONS

**IFB 24-024 BACKWASH VALVES & ACTUATORS
BID SHEET**

| | <u>Unit Cost</u> | <u>Ext Cost</u> |
|----------------------|--------------------------|-----------------|
| 9 ea Backwash Valves | \$ _____ | \$ _____ |
| Mfr/Model _____ | | |
| 9 ea Actuators | \$ _____ | \$ _____ |
| Mfr/Model _____ | | |
| | <u>Total Cost</u> | \$ _____ |

Delivery (ARO): _____
(After receipt of order)

Company Name _____ Payment Terms _____

Address _____

City, State, Zip _____

Submitted By _____ Title _____
Please Print

Phone _____ Email Address _____
Please Print

The signer declares under penalty of perjury that she/he is authorized to sign this document and bind the company or organization to the all of the terms and conditions of this agreement.

Signature _____ Date _____