



## Dos Rios Chlorine Contact Basin Scum Well Rehabilitation Project

Solicitation Number: CO-00031

Job No.: 15-6504

### ADDENDUM I

November 20, 2015

To Respondent of Record:

This addendum, applicable to work referenced above, is an amendment to the proposal and plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the proposal.

#### Modifications To The Specifications

1. Bid Proposal, Page 2: Replace in its entirety.
2. Section 15103, Plug Valves: Replace in its entirety.
3. Section 15105, Sewage Combination Valves: Replace in its entirety.

#### Response To Questions

1. Can you clarify the type of "air release valve" required? Sheet M4 calls out an air release valve, valve tag number listed in spec 15102 1.02 calls out an Air release and vacuum breaker valve and you have specs for air release valves, air and vacuum valves and combination air valves. These are all different function valves. Which one do we use?

Response: Specification Section 15105, 1.2 (Equipment Tags) was revised to reflect use of air release valve. Provide an air release valve as shown on the Plans (M-4) and noted in the specifications.

2. Will SAWS consider adding Golden Anderson as an approved manufacturer of plug valves in section 15103 on the SAWS Dos Rio Chlorine Contact Basin Project? GA Industries meets and exceeds the written spec.

Response: Specification Section 15103 was revised to include Golden Anderson as an acceptable manufacturer for the plug valves.

3. We respectfully request that Golden Harvest be named for the slide gates (spec section 11282) for the Dos Rios CCB Scum Well Rehabilitation project bidding 11/24 @ 10am. Please see the attached Golden Harvest brochure and let us know if you will need anything else for consideration purposes.

Response: The request is denied.

  
S&GE, L.L.C.  
TEXAS FIRM No. 8038



**ACKNOWLEDGEMENT BY RESPONDENT**

Each Respondent shall acknowledge receipt of this Addendum No. 1 by noting such and signing the Price Proposal.

This undersigned acknowledges receipt of this Addendum No. 1 and the proposal submitted herewith is in accordance with the information and stipulations set forth.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Respondent

**END OF ADDENDUM**

## DOS RIOS CHLORINE CONTACT BASIN SCUM WELL REHABILITATION PROJECT

| Item No.                                      | General Bid Items<br>Specification No. & Description  | Unit | Qty. | Unit Price      | Total Price |
|---|---|------|------|-----------------|-------------|
| 1   | 1<br>Removal of Existing Equipment and Piping – the total amount for the removal of all equipment and piping and for dewatering and cleaning two existing scum pump stations. The scope includes; plugging wall pipes to dewater, clean, and dispose of the basin contents (water, sludge, grit, debris, etc.), removing all pumps, pump guiderails, discharge elbows, discharge pipes (from the pumps to the ball check valve), ball check valves, plug valves, sluice gates, operating stems, stem supports, and operators of the drain plug valves and sluice gates, water level sensors, electrical wiring and control panels; and any other demolition work per the Contract Documents. This bid item shall also include videotaping each basin and surrounding areas before starting work, after basin has been emptied and cleaned, and prior to installing new equipment and piping. The existing access hatches shall remain and not replaced. | LS   | 1    | \$ _____        | \$ _____    |
| 2   | 2<br>Scum Pump Station Equipment and Piping: Materials Cost - the total amount for furnishing all equipment, piping, and valves for both scum pump stations, and all other necessary appurtenances required in conjunction with and properly incidental to the Contract Documents. This item shall include all work associated with the submittal process and spare parts.  | LS   | 1    | \$ _____        | \$ _____    |
| 3   | 3<br>Scum Pump Station Equipment and Piping: Installation Cost. - the total amount for furnishing all labor, materials, and services required for the installation of equipment, piping, and valves in both scum pump stations in conjunction with and properly incidental to the Contract Documents. This item shall include startup, testing, and training.   | LS   | 1    | \$ _____        | \$ _____    |
| 4   | 4<br>Repair Wet Well Walls Allowance – For furnishing all materials, labor, and equipment to repair damaged wet well walls if found after pressure washing and approved by SAWS.  | LS   | 1    | \$ 8,000.00     | \$ 8,000.00 |
| 5   | 5<br>Repair or Replace Existing Scum Pipe Supports - For furnishing all materials, labor, and equipment to repair or replace scum pipe supports as approved by SAWS.  | LS   | 1    | \$ 5,000.00     | \$ 5,000.00 |
| <b>SUBTOTAL BASE BID AMOUNT (Items 1 – 5)</b> |   |      |      | \$ _____        | \$ _____    |
| 6   | 6<br>Mobilization and Demobilization – this item shall include project move-in and move-out of personnel and equipment, for all work including furnishing all labor, materials, tools, equipment and incidentals required to mobilize, demobilize, clean site upon project completion, and bond and insure the Work in accordance with the Contract Documents, complete in place. (Maximum of 10% of Subtotal Base Bid (Items 1–5) amount)  | LS   | 1    | \$ _____        | \$ _____    |
| <b>TOTAL BID AMOUNT (Items 1 – 6)</b>         |   |      |      | <b>\$ _____</b> |             |

**SECTION 15103**  
**PLUG VALVES**

**PART 1 - GENERAL**

**1.1 SCOPE SUMMARY**

- A. Section Includes:
  - 1. The CONTRACTOR shall furnish and install eccentric, resilient seated plug valves, operators and appurtenances, complete as shown on the Plans and specified herein.

**1.2 EQUIPMENT TAGS**

- A. DR-CCBSC-V01, PLUG VALVE (8")
- B. DR-CCBSC-V02, PLUG VALVE (8")
- C. DR-CCBSC-V03, PLUG VALVE (8")
- D. DR-CCBSC-V04, PLUG VALVE (8")
- E. DR-CCBSC-V05, PLUG VALVE (12")
- F. DR-CCBSC-V06, PLUG VALVE (12")
- G. DR-CCBSC-V11, PLUG VALVE (6")
- H. DR-CCBSC-V12, PLUG VALVE (6")
- I. DR-CCBSC-V13, PLUG VALVE (6")
- J. DR-CCBSC-V14, PLUG VALVE (6")

**1.3 RELATED WORK**

- A. Section 01330 – Submittal Procedure.
- B. Section 01755 – Equipment Testing and Facility Start-Up.
- C. Section 09900 – Painting and Protective Coating

**1.4 SUBMITTALS**

- A. Product Data:
  - 1. Comply with the general requirements of Section 01330 and the supplemental requirements below.
  - 2. Submit one drawing or illustration showing unit construction for each type and size valve used.
  - 3. Submit the following information for each valve:
    - a. Specific application in plant expressed in terms of service and contract drawing number where shown.
    - b. Description including type of valve, type of operator and accessories included.
    - c. Size and end connections.
    - d. Maximum non-shock working pressure for which valve is designed.
    - e. Materials of construction and coatings for valves, operators and accessories.
    - f. K or Cv value.
    - g. Manufacturers' make and model.
  - 4. Submit the following information for geared operators:
    - a. Type of gearing.
    - b. Type of lubrication.
    - c. Size of handwheel, lever or crank.
    - d. Input torque required to develop required output torque.
    - e. Orientation and dimensions of operator.

- f. Manufacturers' make and model.
- 5. If catalog bulletins are used to communicate above information, mark out inapplicable information.
- 6. Operation and Maintenance Data:
  - a. Comply with the requirements of Section 01782 and 01330.
- B. Quality Assurance/Control Submittals
  - 1. Affidavits:
    - a. Submit affidavits of compliance with the reference standards.

## **1.5 QUALITY ASSURANCE**

- A. The valve manufacturer shall furnish test results for hydrostatic and cycle tests conducted per AWWA C504 with all adjustments noted for the valve sizes furnished.
- B. Each valve shall have manufacturer's nameplate in stainless steel showing the pressure ratings, serial and model numbers, year manufactured and other pertinent data.
- C. Valve supplier shall maintain a complete stock of spare parts in the State of Texas or shall indicate that parts will be delivered upon 48 hours of receipt of request.
- D. All surfaces and materials in contact with water, or in contact with a chemical being added to water that is being treated for potable use, shall conform to ANSI/NSF 61 and be certified by an organization accredited by ANSI, or shall meet the TCEQ requirements for contact with potable water.

## **1.6 DELIVERY, STORAGE AND HANDLING**

- A. Comply with the requirements of the General Conditions and manufacturers recommendations.

## **1.7 EXPERIENCE REQUIREMENTS**

- A. Manufacturers of plug valves shall demonstrate a minimum of 5 years of experience in similar applications for sizes of valves being furnished. References shall be furnished upon request.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Plug Valve:
  - 1. Eccentric Plug Valve as manufactured by CLOW, Henry Pratt Company, GA Industries, or Engineer Equal.
- B. Obtain all plug valves, extensions, and associated manual operators from a single manufacturer.

### **2.2 GENERAL**

- A. Valve operators to turn to left, counterclockwise, to open and to right, clockwise, to close. All valves shall have position indicators.
- B. End connections to be compatible with those specified for pipe.
- C. All flanges shall conform to the standard specification of the American National Standards Institute (ANSI), Class 125 unless otherwise shown. Bell ends for valves shall be mechanical joint, or rubber gasketed push-on joints.
- D. Furnish geared operators for all valves in pressure piping systems and valves 8 inches and larger, unless otherwise specified.
- E. Geared operators for quarter turn valves may be geared or traveling nut type.
- F. Furnish chain-wheel operators for valves six feet or more above floor unless otherwise specified.
- G. Furnish geared operators with the following features unless otherwise specified.
- H. Weatherproof enclosure.

1. Grease lubricated design.
  2. Position indicator.
- I. Buried valves shall utilize galvanized steel shaft extensions with 2-inch square nuts, 304 stainless steel for all buried hardware fasteners, and valve boxes with covers.
  - J. Exposed valves shall utilize hand-wheel or chain-wheel operators unless otherwise shown.
  - K. Valves in submerged service shall utilize 316 stainless steel hardware and bolts.
  - L. Fasteners in valves that are buried or in vaults or manholes shall be 316 stainless steel for MJ joints, flanges, and restraints. Buried MJ fittings may be Corten.

### **2.3 PLUG VALVE DETAILS**

- A. Valve type: Eccentric Plug non-lubricated, resilient seated with port area not less than 90 percent of pipe area. Valves 12" and smaller shall have round port design. 14" and larger valves shall have rectangular port design
- B. Non-shock working pressure at 100°F:
  1. 175 psig 4-inch to 12-inch.
  2. 150 psig, 14-inch to 36-inch.
- C. Valve construction:
  1. Body: Cast iron. ASTM A126 Class B with ANSI 16.1 Class 125 flanges (in accordance with AWWA C-504 or C509). Or ASTM A536 Grade 65-45-12 ductile iron.
  2. Valve Plug: The valve plug shall be ductile iron ASTM A-536, Grade 65-45-12, in valve sizes up to 20", and ASTM A126 Class B cast iron in sizes 24" and larger, with Buna N resilient seating surface to mate with the body seat.
  3. Bearings: Plug valve shall be furnished with permanently lubricated sleeve type bearings conforming to AWWA C517. Bearings shall be of sintered, oil impregnated type 316 stainless steel ASTM A-743 Grade CF-8M or bronze ASTM B-127.
  4. Valve Shaft seal: Valves shaft seals shall be of the "U" cup type, in accordance with AWWA C517. Seals shall be self adjusting and repackable without moving the bonnet from the valve.
  5. Body seat: Valve seat shall be nickel steel or Series 300 stainless steel.
  6. Furnish grit seats in upper and lower journals.
  7. Interior coating: 4 - 6 mil of 2-part hibuild epoxy.

### **2.4 ACCESSORIES**

- A. Floor boxes shall have cast iron bodies and bronze bushings.
- B. Valve boxes for buried service:
  1. Three piece screw type 5-1/2-inch diameter, cast iron construction.
  2. Concrete pad 2'-0" diameter x 6-inch thick around valve box at ground surface.
  3. Other features as shown on drawings.
- C. Stem guides to be made of cast iron with bronze bushings and to have adjustable offset.
- D. Floor stands for use on non-rising stem valves. Floor stands shall be high strength cast iron.
- E. All components of shaft extensions shall be galvanized steel including nut shaft, shaft housing and guides. Minimum shaft diameter shall be 1-inch or diameter of valve shaft, whichever is larger. All components shall have continuous welded joints. Provide stem guides or rock shields at 5-foot intervals.

### **2.5 FINISHES**

- A. Paint valves and operators as shown on the plans and specified in Section 09900, Painting and Protective Coating, colors to be selected by OWNER.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Install all valves, floor stands, and appurtenances in complete accordance with the plans, approved shop drawings and manufacturers' instructions and recommendations.
- B. Install valves and valve operators to provide for ease of access and operation.
- C. Install buried valve by carefully lowering into position in such a manner to prevent damage to any part of the valves. The valve shall be placed in proper position and shall be securely held until all connections have been made. All buried pipe and appurtenances shall be wrapped in polyethylene encasement in accordance with AWWA C105.
- D. All buried valves 8 inches and larger shall rest on a concrete pad. Pad shall extend for the full width of the trench and from back-to-back of hub (or flange). Care shall be taken to not interfere with the jointing. Concrete shall be Class C.

### **3.2 FIELD QUALITY CONTROL**

- A. Retain a qualified representative of the manufacturer to perform the following services:
  - 1. Inspect the completed installation and note deficiencies.
  - 2. Assist the CONTRACTOR during start-up, adjusting, and site testing of completed installation as required.
  - 3. Instruct OWNER personnel in the operations and maintenance of the equipment.
- B. Field Testing: Plant testing and startup will be in accordance with Section 01755.

**END OF SECTION**

**SECTION 15105**  
**SEWAGE COMBINATION VALVES**

**PART 1 - GENERAL**

**1.1 SCOPE SUMMARY**

- A. This specification covers automatic valves installed on sewer force mains to vent accumulated air under system pressure, to provide air exhaust during initial fill, or to prevent a vacuum during draining or water column separation of the system.

**1.2 EQUIPMENT TAGS**

- A. DR-CCBSC-V07- Air Release Valve (2-inch)

**1.3 RELATED WORK**

- A. Bidding and Contract Requirements
- B. Division I – General Requirements
- C. Section 01330 – Submittal Procedures
- D. Section 01340 – Shop Drawing, Product Data, and Samples
- E. Section 01610 – Basic Product Requirements
- F. Section 09900 – Painting and Protective Coating

**1.4 REFERENCES**

- A. ANSI/NSF Standard 60 for direct additives
- B. ANSI/NSF Standard 61 for indirect additives
- C. ASTM A48-35, Standard Specification for Gray Iron Castings
- D. ASTM 126, Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
- E. ASTM A240, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- F. ASTM A276, Standard Specification for Stainless Steel

**1.5 QUALIFICATIONS**

- A. The manufacturers shall provide certification that products furnished under this specification are manufactured in an ISO 9001 certified facility or documentation from an accredited facility that ISO 9001 certification is in process.
- B. Each valve shall have manufacturer's name plate in stainless steel or cast into body or bonnet showing the pressure ratings, serial and model numbers, year manufactured and other pertinent data.
- C. Manufacturers of air release and vacuum breaker valves shall demonstrate a minimum of 10 years of experience in similar applications for sizes of valves being furnished. References shall be furnished upon request.
- D. Valve supplier shall maintain a complete stock of spare parts in the State of Texas and shall be capable of delivering parts within 48 hours of receipt of request.



## 1.6 SUBMITTAL

- A. Product Data:
  - A. Comply with the general requirements of Section 01330 and the supplemental requirements below.
  - B. Submit one drawing or illustration showing unit construction for each type and size valve used.
  - C. Submit the following information for each valve:
    - a. Description including type of valve, type of operator and accessories included.
    - b. Size and end connections.
    - c. Maximum non-shock working pressure for which valve is designed.
    - d. Materials of construction and coatings for valves, operators and accessories.
    - e. K or Cv value.
    - f. Manufacturers' make and model.
  - D. Submit the following information for geared operators:
    - a. Type of gearing.
    - b. Type of lubrication.
    - c. Size of handwheel, lever or crank.
    - d. Input torque required to develop required output torque.
    - e. Orientation and dimensions of operator.
    - f. Manufacturers' make and model.
  - E. If catalog bulletins are used to communicate above information, mark out inapplicable information.
  - F. Location of nearest stocking distributor
- B. Shop Drawings
  - A. Special Equipment Warranty as in the Special Conditions
  - B. Operation and Maintenance Data:
  - C. Comply with the requirements of Section 01782 and 01330.

## 1.7 WARRANTY

- A. Equipment warranty requirements shall comply with Section 01740, WARRANTIES. Manufacturer's warranty shall not relieve the Contractor from furnishing a complete system warranty as specified in the General Conditions.
- B. Submit warranty from the equipment manufacturer clearly stipulating that manufacturer's warranty period shall be for two (2) years commencing at final acceptance.

## 1.8 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Product, delivery, storage, and handling should comply with Section 01610, BASIC PRODUCT REQUIREMENTS.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Valves shall be manufactured and tested in accordance with American Water Works Association (AWWA) Standard C512.
- B. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.
- C. The manufacturer shall demonstrate a minimum of ten (10) years' experience in the manufacture of wastewater air valves. When requested, the manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.

## 2.2 ACCEPTABLE MANUFACTURES.

- A. Wastewater Air Release Valves shall be:
  - A. Series 48A and 49A as manufactured by Val-Matic Valve and Manufacturing Corporation, Elmhurst, IL, USA,
  - B. Series 400 SARV as manufactured by DeZurik APCO/Willamette, Sartell, MN, USA.
  - C. Figure 925 as manufactured by G.A. Industries, LLC, Cranberry Township, PA, USA
- B. Wastewater Combination Air Valves shall be:
  - A. Series 800 or 48A/300 as manufactured by Val-Matic Valve and Manufacturing Corporation, Elmhurst, IL, USA or approved equal.
  - B. Series 440 SCAV (single body) and Series 400C (dual body) as manufactured by DeZurik APCO/Willamette, Sartell, MN USA
  - C. Figure 942 (single body) and Figure 955 (dual body) as manufactured by G.A. Industries, LLC, Cranberry Township, PA, USA

## 2.3 MATERIALS

- A. The valve body and cover shall be constructed of ASTM A126 Class B cast iron.
- B. Optional body materials include ASTM A536 Grade 65-45-12 ductile iron, ASTM A351 Grade CF8M stainless steel, and ASTM B584 Alloy C83600 cast bronze.
- C. The float, orifice, plug, guide shafts, and bushings shall be constructed of Type 316 stainless steel. Non-metallic guides and bushings are not acceptable.
- D. The seat shall be replaceable and made from Buna-N rubber or other suitable elastomer compounds.
- E. The exterior of the valve shall be shop coated with a universal alkyd primer.
- F. Valve interiors and exteriors shall be coated with an NSF/ANSI 61 certified fusion bonded epoxy in accordance with AWWA C550 when specified.

## 2.4 OPERATIONAL REQUIREMENTS

- A. Air Release Valve.
  - A. The air release valve shall automatically release accumulated air and gas from the pipeline or system while in operation and under pressure. It shall have an elongated body not less than 20 inches tall suitable for use with sewage, wastewater or other “dirty” fluids and be of the float operated, compound lever type with an adjustable seat.
  - B. The outlet orifice shall be properly sized to facilitate valve operation at pressures up to 150 psi. The air release valve shall be simple-lever, compound-lever, ball and orifice or rolling seal depending upon volume requirements and the design of the valve.
  - C. The valves shall have full size NPT inlets and outlets equal to the nominal valve size. The body inlet connection shall be hexagonal for a wrench connection. The body shall have 2” NPT cleanout and 1” NPT drain connections on the sides of the casting. The cover shall be bolted to the valve body and sealed with a flat gasket. A threaded adjustable orifice button shall provide drop tight shut off to the full valve pressure rating.
  - D. Floats shall be unconditionally guaranteed against failure including pressure surges. Extended mechanical linkage shall provide suitable mechanical advantage so that the valve will open under full operating pressure.
- B. Air and Vacuum Valve.

- A. The air and vacuum valve shall be designed with the inlet and outlet of equal cross-sectional area where applicable. The valve shall be capable or automatically allowing large quantities of air to be exhausted during the filling cycle an also capable of automatically allowing air to re-enter the system to prevent a negative pressure at water column separation or during the draining cycle. The float shall be guided to minimize premature closure by air and to provide proper alignment for normal closure by floating on the water surface.
- C. Combination Air Valve.
  - A. Combination air and vacuum relief valves shall provide for both automatic air release under system pressure and to allow air movement during filling or draining operations or water column separation.
  - B. Combination valves 4 inches and smaller may be housed in a single casting. The housing shall be designed to incorporate conventional or kinetic flow principles to properly vent the air without premature closure.
  - C. Flanged sized (4 inch and larger) may be furnished in a dual housing. When dual casings are used a bronze manual isolation valve shall be installed if indicated by the manufacturer. This will allow the air release valve to be serviced when the system is under pressure. Field service of the valve may also be performed by closing the isolation valve between the air valve and the pipe connection.
  - D. Both single and dual body valves shall provide an extended body with a through flow area equal to the nominal size. Floats shall be unconditionally guaranteed against failure including pressure surges. A resilient bumper shall be provided on 4 in. (100 mm) and larger sizes to cushion the float during sudden opening conditions. The seat shall provide drop tight shut off to the full valve pressure rating.
  - E. Dual body valves shall consist of a Wastewater Air Release Valve piped to a Wastewater Air/Vacuum Valve with a full-ported brass ball valve.
  - F. The Wastewater Air Release Valve shall have an extended leverage mechanism with sufficient mechanical advantage so that the valve will open under full operating pressure. An adjustable threaded resilient orifice button shall be used to seal the precision discharge orifice in the cover.
  - G. The Wastewater Air/Vacuum Valve sizes 4 in. (100 mm) and larger shall have a cover fitted to the valve body by means of a machined register to maintain concentricity between the top and bottom guide bushings at all times. The tandem float assembly shall have a hexagonal guide shaft supported in the body by circular bushings to prevent binding from debris. The upper float shall be protected against direct water impact by an internal baffle. The seat shall be a minimum of .5 in. (12 mm) thick on 2 in. (50 mm) and larger valves and secured in such a manner as to prevent distortion.
  - H. Single body valves shall have a full port orifice, a double guided plug, and an adjustable threaded orifice button. The 1 in. (25 mm) body shall be globe style to increase float clearance and reduce clogging. The plug shall be protected against direct water impact by an internal baffle and an extended float stem. The plug shall have a precision orifice drilled through the center stem. The float shall include a sensitivity skirt to minimize spillage.

## 2.5 CONNECTIONS

- A. Single body valves sizes 4 in. (100 mm) and smaller shall have full size NPT inlets and outlets equal to the nominal valve size with a 2 in. (50 mm) inlet on 1 in. (25 mm) valves. The body inlet connections shall be hexagonal for a wrench connection. The body shall have 2" NPT cleanout and 1" NPT drain connection on the side of the casting.
- B. Dual body valves sizes 3 in. (75 mm) and smaller shall have full size NPT inlets and outlets equal to the nominal valve size with a 2 in. (50 mm) inlet on 1 in. (25 mm) valves. The body inlet connection shall be hexagonal for a wrench connection. Valve sizes 4 in. (100 mm) through 6 in. (150mm) shall have bolted flanged inlets and NPT outlets. 8 in. (200 mm) valves shall have flanged inlets and outlets. Flanges shall be in accordance with ANSI B16.1 for Class 125 iron flanges.

- C. Backwash accessories shall be furnished and shall consist of an inlet shut-off valve, a blow-off valve, a clean water inlet valve, rubber supply hose, and quick disconnect couplings. Accessory valves shall be quarter-turn, full ported bronze ball valves. The valve shall have three additional NPT connections for the addition of backwash accessories.

## **2.6 OPTIONS**

- A. An optional Regulated Exhaust Device shall be provided when specified to reduce pressure surges due to column separation or rapid changes in velocity and pressure in the pipeline.
- B. The Regulated Exhaust Device shall be mounted on the outlet of the Wastewater Combination Air Valve, allow free air flow in and out of the valve, close upon rapid air exhaust, and control the air exhaust rate to reduce pressure surges. The device shall have a threaded or flanged globe-style body with a center guided disc and seat assembly. The disc shall have threaded holes to provide adjustment of the air exhaust rate through the valve. The holes shall provide for a flow area of 5% of the nominal valve size. The material of the body shall be consistent with the Wastewater Combination Air Valve. The seat and disc shall be ASTM A351 Grade CF8M stainless steel.

## **2.7 TESTS**

- A. The OWNER may, at no cost to the manufacturer, subject random valves to testing by an independent laboratory for compliance with these standards. Any visible defect or failures to meet the quality standards herein will be grounds for rejecting the entire order.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Installation shall be in accordance with the plans, approved shop drawings and the manufacturer's instructions. Orient valves in position for proper operation.

### **3.2 FIELD QUALITY CONTROL**

- A. Retain a qualified representative of the manufacturer to perform the following services:
  - A. Inspect the completed installation and note deficiencies.
  - B. Assist the CONTRACTOR during start-up, adjusting, and site testing of completed installation as required.
  - C. Instruct OWNER personnel in the operations and maintenance of the equipment.
- B. Field Testing: Plant testing and startup will be in accordance with Section 01755. Piping system will be tested per Section 15001.

**END OF SECTION**

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