

**ADDENDUM NO 2  
TO  
CONTRACT DOCUMENTS  
FOR  
JA/AA Blowoff Drains**

**[DISTRICT PROJECT NO.: 4232}**

**05/20/2022**

This addendum is hereby attached to and made part of the Contract Documents. The addendum consists of eight (8) pages of written text (including this cover sheet) and zero (0) pages of drawings. Each Bidder shall acknowledge receipt of this addendum on the bid (page C-1) and by signing and attaching this addendum to the bid. The bid date remains May 24<sup>th</sup> at 2:00.

1. Changes to Technical Specifications:

Section 09900 – Painting and Finishes, was updated to include information on coatings for the piping interior.

Section 15061 – Steel Piping, Fabricated Specials, was updated to reference the new changes to Section 09900.

JORDAN VALLEY WATER CONSERVANCY DISTRICT



Conor Tyson  
Staff Engineer

**BIDDER'S CERTIFICATE**

I acknowledge receipt of the foregoing Addendum No. 2 and accept all conditions contained therein.

Bidder: \_\_\_\_\_

By: \_\_\_\_\_  
Signature

Date: \_\_\_\_\_

## SECTION 09900 - PAINTING AND FINISHES

### PART 1 - GENERAL

#### 101.01 DESCRIPTION

- A. The WORK included in this section includes surface preparation, furnishing and applying paints and coatings to the interior and exterior surfaces of piping, valves, and fittings located in vaults, buried, or as indicated on the drawings.

#### 101.02 REFERENCES AND STANDARDS

- A. Work covered by this specification shall meet or exceed the provisions of the latest editions of the following codes and standards in effect at the time of award of the contract:
1. OSHA Occupation Safety and Health Act: State of Utah and Federal
  2. AWWA C 210 Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines

#### 101.03 SUBMITTALS

- A. CONTRACTOR shall supply shop drawings for approval on all paint materials prior to installation.
- B. Where ANSI/NSF 61 approval is required, submit ANSI/NSF 61 certification letter for each coating in the system indicating the product application limits on size of tank or piping, dry film thickness, number of coats, specific product tests, colors certified, and approved additives.

### PART 2 - PRODUCTS

#### 201.01 PAINT, SEALERS AND SURFACE FINISH MATERIALS

- A. Paint for Piping Interior: Piping interiors shall be coated with epoxy conforming to AWWA C210 and D102. The epoxy shall have a maximum VOC content of 250 g/L, minimum solids volume of 67% and demonstrated suitability for immersion in water. The epoxy must be resistant to corrosion and certified NSF-61 compliant.
- B. Paint for Exposed Exterior Piping: Exposed metal piping, fittings and valves shall be coated with a high solids two component epoxy coating system. The epoxy coating shall be Ameron, Amerlock 400, Wasser, or approved equal and match existing colors.

## **SECTION 09900 - PAINTING AND FINISHES**

### **PART 3 - EXECUTION**

#### **301.01 SURFACE PREPARATION**

- A. All surfaces which receive paint or other coatings shall be prepared in accordance with the recommendations of the manufacturer of the material being used. Any loose coating, or corrosion scale on existing piping shall be completely removed with wire brushing, sand blasting, water blasting or other approved methods.

#### **301.02 APPLICATION**

- A. Exposed metal piping, fittings and valves shall be painted in accordance with the manufacturer's recommendation.

##### **1. Priming**

- a) Minimum drying time: 16 hours at 70°F or 30 hours at 50°F.
- b) Thickness: 7.0 mils wet and 5.0 mils after drying.

##### **2. Topcoat**

- a) Minimum drying time: 20 hours at 70°F or 40 hours at 50°F.
- b) Thickness: 7.0 mils wet and 5.0 mils after drying.
- c) Final Thickness: 10 mils minimum.

- B. Each coat shall be free of runs, skips or "holidays". All excess paint and/or drips on floors, walls, and other surfaces which are not designated for paint shall be removed.

**- END OF SECTION -**

## SECTION 15061 - STEEL PIPING, FABRICATED SPECIALS

### PART 1 - GENERAL

#### 101.01 THE REQUIREMENT

- A. When required, the Contractor shall fabricate, install, and test all bends, reducers, wyes, tees, crosses, outlets, manifolds, and other steel plate specials, complete in place all in accordance with the requirements of the Contract Documents.

#### 101.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of these specifications, all work specified herein shall conform to or exceed the applicable requirements of the referenced portions of the following documents to the extent that the requirements therein are not in conflict with the provisions of this Section.

1. Commercial Standards:

ANSI/AWWA C200-80	Steel Water Pipe 6 inches and larger
ANSI/AWWA C208-83	Fabricated Steel Water Pipe Fittings, Dimensions for.
ASTM A234/A234M-84a	Specification for Piping Fittings of Wrought Carbon Steel and Allow Steel for Moderate and Elevated Temperatures
AWWA M-11	Steel Water Pipe-A Guide for Design and Installation.

#### 101.03 CONTRACTOR SUBMITTALS

- A. Shop Drawings
1. The Contractor shall submit shop drawings and laying diagrams of all pipe, joints, bends, reducers, wyes, tees crosses, outlets, manifolds, and other steel plate specials in accordance with the requirements in Section entitled Contractor Submittals, 01300.
- B. Design calculations shall be submitted to the Engineer for review prior to manufacture of pipe specials.
- C. Certifications
1. A certified affidavit of compliance shall be furnished for all steel plate specials and other products or materials furnished under this section of the specifications.

## SECTION 15061 - STEEL PIPING, FABRICATED SPECIALS

### 101.04 QUALITY ASSURANCE

- A. Shop Testing of Steel Plate Specials
1. Upon completion of the welding, but prior to lining and coating, each steel plate special shall be bulkheaded and tested under a hydrostatic pressure of 1 2 times the design pressure; provided, that if straight pipe used in fabricating the specials has been previously tested and meets the requirements of the applicable piping Section, no further hydrostatic testing will be required; or provided, that all other welded seams are tested by the liquid penetrant inspection procedure conforming to ASTM 3 165, under Method B and Leak Testing or where applicable by the soap and compressed air method at an air pressure of 25 psi. Any pin holes or porous welds which may be revealed by the test shall be chipped out and rewelded and the pipe or fitting retested.
- B. Not outside mortar shall be applied over a seam prior to testing; however, mortar lining may be applied over a seam prior to hydrostatic testing, but under such conditions said pressure test shall be held on the pipe or fitting for a period of not less than 30 minutes.

## **PART 2 - PRODUCTS**

### **201.01 GENERAL**

- A. Specials are defined as fittings, closure pieces, bends, reducers, wyes, tees, crosses, outlets, manifolds, and other steel plate specials located above ground or in structures.

### **201.02 DESIGN**

- A. Except as otherwise provided herein, materials, fabrication and shop testing of straight pipe shall conform to the requirements of ANSI/AWWA C200 and shall conform to the dimensions of ANSI/AWWA C208. The minimum thickness of plate for pipe from which specials are to be fabricated shall be the greater of that determined by the following 2 formulas:

$$(1) \quad T = \frac{P_w D / 2}{Y / S_w} \qquad (2) \quad T = \frac{P_t D / 2}{Y / S_t}$$

where T = Plate thickness in inches

D = Outside diameter of steel cylinder in inches

P<sub>w</sub> = Design working pressure = 115 psi

## SECTION 15061 - STEEL PIPING, FABRICATED SPECIALS

$P_t$  = Design transient pressure for piping = (275 psi)

$Y$  = Yield point of steel in psi

$S_w$  = Safety factor of 2.5 at design working pressure

$S_t$  = Safety factor of 1.875 at design transient pressure

- B. In no case shall the design stress at design work pressure ( $Y/S_w$ ) for steel pipe exceed 16,500 psi or 22,000 psi at design transient pressure ( $Y/S_t$ ), nor shall plate thickness be less than the thickness of adjacent mainline pipe or the following:

Nominal Pipe Diameter (inches)	Piping above Ground Piping in Structures
16	0.206 inch

- C. Pipe installed on saddle support shall be designed to limit the longitudinal bending stress to a maximum of 10,000 psi. Design shall be in accordance with the provisions of Chapter 7 of AWWA M-11.

### 201.04 FABRICATION AND MATERIALS

A. General

1. Reinforcement for wyes, tees, outlets, and nozzles shall be designed in accordance with AWWA Manual M-11. Reinforcement shall be designed for the design pressure specified or shown and shall be in accordance with the details shown on the Drawings. Specials and fittings shall be equal in pressure design strength and shall have the same coating as the adjoining pipe. Unless otherwise shown on the Drawings, the minimum radius of elbows shall be 2.5 times the pipe diameter and the maximum miter angle on each section of the elbow shall not exceed 11 1/4 degrees.

- B. Specials and fittings that cannot be mechanically lined and coated shall be lined and coated by hand-application, using the same materials as are used for the pipe and in accordance with the applicable AWWA or ASTM Standards. Coating and lining applied in this manner shall provide protection equal to that specified for the pipe. Fittings may be fabricated from pipe that has been mechanically lined and/or coated. Areas of lining and coating that have been damaged by such fabrication shall be repaired by hand-applications in accordance with applicable AWWA or ASTM Standards.

## SECTION 15061 - STEEL PIPING, FABRICATED SPECIALS

- C. Access manholes with covers shall be as detailed on the Drawings. All threaded outlets shall be forged steel suitable for 3000 psi service, Vogt or equal.
- D. Moderate deflections and long radius curves may be made by means of beveled joint rings, by pulling standard joints, by using short lengths of pipe, or a combinations of these methods; provided that pulled joints shall not be used in combination with bevels. The maximum total allowable angle for beveled joints shall be 5 degrees per pipe joint. The maximum allowable angle for recommendations or the angle which results from a 3/4-inch pull out from normal joint closure, whichever is less. All horizontal deflections or fabricated angles shall fall on the alignment. All vertical deflections shall fall on the alignment and at locations adjacent to underground obstructions, points of minimum earth cover, and pipeline outlets and structures, the pipe angle points shall meet the angle points shown on the Drawings.
- E. Outlets, Tees, Wyes, and Crosses
  - 1. Outlets 12-inch and smaller may be fabricated from Schedule 30 or heavier steel pipe in the standard outside diameters, i.e., 12-3/4 inch, 10-3/4 inch, 8-5/8 inch, 6-5/8 inch, and 4-1/2 inch.
- F. The design of outlet reinforcement shall be in accordance with the procedures given in Chapter 13 of AWWA Manual M-11, except that the design pressure P, used in the M-11 procedure shall equal the greater of  $1.25 P_w$  or  $0.9375 P_t$ . Unless otherwise shown on the Drawings, outlets 2 inches in diameter and smaller need not be reinforced.
- G. In lieu of saddle or wrapper reinforcement as proved by the design procedure in Manual M-11, pipe or specials with outlets may be fabricated in their entirety of steel plate having a thickness equal to the sum of the pipe wall plus the required reinforcement.
- H. Where required by the M-11 design procedure, crotch plate reinforcement shall be furnished.
- I. Steel Welding Fittings
  - 1. Steel welding fittings shall conform to ASTM A 234.
- J. Flanges
  - 1. Flanges shall conform to AWWA C207 Class D flange.
- K. Lining
  - 1. Fusion Bonded Epoxy Lining

## SECTION 15061 - STEEL PIPING, FABRICATED SPECIALS

- a. All interior fittings/specials shall be lined with a Polyamide Epoxy system or fusion bonded epoxy system in accordance with Section 09900, or cement mortar in accordance with AWWA C205.
- L. Coating
  - 1. All requirements pertaining to thickness, application and curing of coating specified for straight pipe shall apply to specials. Coating system shall be in accordance with Section 09900.
- M. A mark indicating the true vertical axis of the special shall be placed in the top and bottom of the special.

### **PART 3 - EXECUTION**

#### **301.01 GENERAL**

- A. Unless otherwise provided, the Contractor shall furnish and install all fittings, closure pieces, bends, reducers, wyes, tees, crosses, outlets, manifolds, and other steel plate specials, bolts, nuts, gaskets, jointing materials, and all other appurtenances as shown and as required to provide a complete and workable installation. Where pipe support details are shown, the supports shall conform thereto and shall be placed as indicated; provided, that the support for all exposed piping shall be complete and adequate regardless of whether or not supporting devices are specifically shown. Where shown, concrete thrust blocks and welded joints shall be provided. At all times when the Work of installing pipe is not in progress, all openings into the pipe and at the ends of the pipe in trenches or structures shall be kept tightly closed to prevent entrance of animals and foreign materials. The Contractor shall maintain the inside of the pipe free from foreign materials and in a clean and sanitary condition until its acceptance by the Owner.

**- END OF SECTION -**