ATTENDANCE AT PRE-BID CONFERENCE IS MANDATORY

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Note: The Drawings attached hereto as part of these Specifications are for information purposes only. The Authority makes no representation or guarantee with respect to the accuracy of any information contained in the Drawings. It is the Contractor's responsibility to verify information on the drawings to ensure the equipment installed or controlled by work performed under this Contract performs as specified herein.

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Index of Drawings
Project Location

North Digester 3 & 4 Building

Main Lift Station

Digester 3

Cherry Creek Lift Station

Pipe Bridge over Cherry Creek

Project Locations
PLAN @ SCREEN CHANNEL

SCALE 1/4" = 1'-0"

DETAIL @ CONCRETE SLAB REPAIR

SCALE 1 1/2" = 1'-0"

DETAIL NOTE:
1. FOR SLAB PANELS LESS THAN 24" IN SIZE ONLY.

LOYD STEPHEN TOLAR

CITY OF TULSA, OKLAHOMA

203,250.E

PROPOSED

SWWTP HEADWORKS WET WELL INFLUENT GATE REPLACEMENT TULSA PROJECT WPC 21-4

TULSA METROPOLITAN UTILITY AUTHORITY

DRAWING GOVERNING: C. 11, 2021
This drawing only shows half of the bridge because is it symmetrical about the centerline.

The broken pipe hanger is the one immediately south of the centerline and would be about here.

Looking East

Bridge over Cherry Creek (Existing)
WPC 21-4, Bid Item 2, Drawing 2-1

See Section 4.2.3 of Technical Specifications

Modified from: SA 83-19, Sheet 70
Pipe Hanger Details, 1 of 3
WPC 21-4, Bid Item 2, Drawing 2-2

See Section 4.2.3 of Technical Specifications
See Section 4.2.3 of Technical Specifications
See Section 4.2.3 of Technical Specifications

Pipe Hanger Details, 3 of 3
WPC 21-4, Bid Item 2, Drawing 2-4
Zoomed-in view of this area is shown on Drawing 2-6.

See Section 4.2.3 of Technical Specifications

Pipe Elevation over Cherry Creek, 1 of 2
WPC 21-4, Bid Item 2, Drawing 2-5
Approximate elevation of broken pipe hanger: 623 to 624 feet

Approximate elevation of creek bed: 604 feet

See Section 4.2.3 of Technical Specifications

Pipe Elevation over Cherry Creek, 2 of 2
WPC 21-4, Bid Item 2, Drawing 2-6
Advanced warning signs to be positioned 300 feet prior to the location where vehicles will come into contact with bikes and pedestrians.

See Section 4.2.5 of Technical Specifications

Signage and Barricades for Detour of Bridge (Proposed)
WPC 21-4, Bid Item 2, Drawing 2-7
36-inch top-access hatch to be opened by Contractor (typical 11 places)

One top-access hatch (with radar) to remain shut.

30-inch top-access hatch. Mounting location for future hardware. See Bid Item 10.

36-inch side-access hatch, near ground level

30-inch top-access hatch with hinged emergency pressure relief cover

36-inch side-access hatch, near ground level

See Section 4.5.3 of Technical Specifications

Digester 3 Access Hatches, Plan View (Existing)
WPC 21-4, Bid Item 5, Drawing 5-2
Digester Dimensions
(Existing)
WPC 21-4, Bid Item 5, Drawing 5-3

See Section 4.5.3 of Technical Specifications
Digester 3 Sludge Control Box, Looking North

Remove float balls and associated hardware in accordance with Section 4.10.3 of the Technical Specifications.

After hardware and float balls are removed, clean three (3) upper pipes in accordance with Section 4.5.9 of the Technical Specifications.

See Section 4.10.3 and 4.5.9 of Technical Specifications.
3. After removing the pipe, grind surface of the manway cylinder smooth and weld in place a gas-tight patch. (Typical, 12 locations)

1. Cut off pipe and insulation about 6 inches after the nearest pipe support. (Typical, 12 locations)

2. Remove and dispose the pipe between the pipe support and the manway cylinder. (Typical, 12 locations)

See Section 4.10.4 of Technical Specifications
Groundwater pressure relief valve (typical 6 places)

See Section 4.10.5 of Technical Specifications

Groundwater Pressure Relief Valves
(Existing)
WPC 21-4, Bid Item 10, Drawing 10-3
See Section 4.11.4 of Technical Specifications

Additional Sludge Valves, Plan View, 2 of 2 (Existing)
WPC 21-4, Bid Item 11, Drawing 11-2
See Section 4.11.4 of Technical Specifications

Additional Sludge Valves, Elevation View, 2 of 2
(Existing)
WPC 21-4, Bid Item 11, Drawing 11-4
See Section 4.12.4 of Technical Specifications

Contractor to modify this middle section as shown on Drawing 12-3.

Contractor to replace this south section with one (1) solid piece of pipe as originally constructed and as shown here.

Valve #32 is to be supplied as part of Bid Item 11.

View looking West

Modified from: SA 83-21 Sheet 59

Digested Sludge Suction Manifold
(Existing)
WPC 21-4, Bid Item 12, Drawing 12-1
Existing Valve #32

Existing digested Sludge Suction Manifold, flanged ductile iron pipe, AWWA 150, 6-inch diameter.

View looking West

Not to Scale

See Section 4.12.4 of Technical Specifications

Middle Section of Digested Sludge Suction Manifold (Existing)
WPC 21-4, Bid Item 12, Drawing 12-2
Digested Sludge Suction Manifold (Proposed)

WPC 21-4, Bid Item 12, Drawing 12-3

Not to Scale

See Section 4.12 of Technical Specifications

Digested Sludge Suction Manifold
Flanged ductile iron pipe, AWWA 150, 6-inch diameter. Same on other side.

Proposed Valve #57, from Bid Item 12
6-inch plug valve
Install valve so that the plug shaft is horizontal, and the plug rotates to the top of the valve when the valve is opened. Install valve with the SEAT end to the north.

Proposed Valve #32, from Bid Item 11
6-inch plug valve
Install valve so that the plug shaft is horizontal, and the plug rotates to the top of the valve when the valve is opened. Install valve with the SEAT end to the south.

Ductile Iron Cross, AWWA C153
6-inch run, 3-inch branch

Flushing ring as specified in Section 4.12.1.
On one side, provide ½-inch stainless steel plug.
On other side, provide ½-inch stainless steel pipe nipple and ½-inch stainless steel ball valve as specified in Section 4.12.1.

3-inch plug valve
Install valve with the SEAT end to the top of the valve. Orient flag indicator on the east side of the valve.
Do not paint.
Same on other side.

2-inch stainless steel ball cone check valve as specified in Section 4.12.1.
Do not paint.

2-inch stainless steel ball valve with lock plate as specified in Section 4.12.1.
Do not paint.

3-inch flange tapped for 2-inch threaded pipe

2-inch diameter pipe nipples, carbon steel, schedule 40, length as needed.

Pressure Sensor as specified in Section 4.12.1.
Do not paint.
Same on other side.

3-inch stainless steel ball valve with lock plate as specified in Section 4.12.1.
Do not paint.

Ductile Iron Cross, AWWA C153
6-inch run, 3-inch branch

Flushing ring as specified in Section 4.12.1.
Do not paint.
Same on other side.

2-inch diameter CPVC pipe, schedule 80.
See Drawing 12-4 for continuation.

Provide bracing to secure pipe to wall

2-inch diameter stainless steel ball valve as specified in Section 4.12.1.
Do not paint.

2-inch diameter stainless steel ball valve as specified in Section 4.12.1.
Do not paint.

3-inch flange tapped for 2-inch threaded pipe

2-inch diameter stainless steel ball valve as specified in Section 4.12.1.
Do not paint.

3-inch flange tapped for 2-inch threaded pipe

View looking West
Contractor to plumb 2-inch PEW into Digested Sludge Suction Manifold as shown on Drawing 12-3.

Contractor to provide 2-inch PEW plumbing overhead.

Provide 2-inch ball-valve in the overhead pipe near the tee connection.

Brace the pipe to this column and to this wall.


WPC 21-4, Bid Item 12, Drawing 12-4
Location of proposed pressure sensors

DIGESTER 1

DIGESTER 2

SLUDGE TRANSFER WEII WELL

SLUDGE HEATERS 4, 5 & 6

SLUDGE RECIRCULATION PUMPS 4, 5, 6

ODOR CONTROL SLUDGE PUMP 4

DIGESTED SLUDGE PUMPS 3 & 4

COMPUTER AUTO

COMPUTER AUTO

DATE: 2/6/2020
TIME: 1:57:54 PM

AREA D

FAIL

1009 HRS

667 GPM

0 GPM

See Section 4.12.6 of Technical Specifications

SCADA View of Proposed Pressure Sensors
WPC 21-4, Bid Item 12, Drawing 12-5
Mounting location for Scum Detecting Radar

Location of Scum Detecting Radar, Plan View
WPC 21-4, Bid Item 13, Drawing 13-1

See Section 4.13.4 of Technical Specifications
Location of Scum Detecting Radar, Elevation View
WPC 21-4, Bid Item 13, Drawing 13-2

Modified from: SA 83-21 O&M

See Section 4.13.4 of Technical Specifications
ENTRANCE HATCH MUST BE PLUMB

1. Contractor to remove existing carbon steel cover for entrance hatch and store it on-site.

2. Contractor to provide a new fabricated stainless steel plate that will act as both a removable cover for entrance hatch and a mounting location for the radar.

SEE DRAWING FOR PROPER ORIENTATION

Radar Mounting Location Atop Entrance Hatch
WPC 21-4, Bid Item 13, Drawing 13-3

See Section 4.13.4 of Technical Specifications
- Contractor to fabricate custom plate made from 304 stainless steel, ¼-inch thick.
- Plate is to serve as both a removeable cover for the entrance hatch and a mounting location for the radar.

This sketch shows mounting plate only. Valve and radar are not shown.

- Cut 3.25 inch diameter hole so that it does not project into the line of sight of the radar.
- Match bolt holes to be the same as the existing cover.
- Typical 24 locations
- Weld four (4) stainless steel bolts or studs to plate
- Provide two (2) lifting handles fully welded to the plate. The handles should be made from 5/8-inch diameter stainless steel bar and be about 5 inches wide (inside) and about 3 inches tall (inside). Space the handles equally about 6 inches from the edge of the plate.

See Section 4.13.4 of Technical Specifications

Mounting Plate for Radar, Plan View (Proposed)
WPC 21-4, Bid Item 13, Drawing 13-4
- Contractor to fabricate custom plate made from 304 stainless steel, ¼-inch thick.
- Plate is to serve as both a removable cover for the entrance hatch and a mounting location for the radar.
- Match bolt holes to be the same as the existing cover.

Provide two (2) lifting handles fully welded to the plate. The handles should be made from 5/8-inch diameter stainless steel bar and be about 5 inches wide (inside) and about 3 inches tall (inside). Space the handles equally about 6 inches from the edge of the plate.

Weld four (4) stainless steel bolts or studs to plate.

Attach valve to mounting studs with stainless steel nuts.

Provide new gasket between the plate and the mounting location on the digester lid. Use gasket made from Nitrile rubber, also known as Buna-N or NBR (Nitrile Butadiene Rubber).

Weld bolts or studs gas-tight. If bolts are used, mount bolts with the head of the bolt under the plate. There should not be any parts that hang down that might reflect the radar signal.

Provide gasket between valve and plate. Cut the gasket to an inside diameter of 3.25 inches so that it does not project into the line of sight of the radar. Use gasket made from Nitrile rubber, also known as Buna-N or NBR (Nitrile Butadiene Rubber).

Scum Detecting Radar as specified in Section 4.13.1. Provide flexible conduit long enough so that radar and mounting plate can be removed to allow access to entrance hatch.

Seam Detecting Radar as specified in Section 4.13.1. Provide flexible conduit long enough so that radar and mounting plate can be removed to allow access to entrance hatch.

Mount radar directly to valve (without additional gasket). The PTFE flange cladding provided with the radar acts as a seal. Use stainless steel nuts and bolts. Torque to between 50 and 70 foot-pounds. See page 25 of Radar Operating Instructions.

Mounting Plate for Radar, Sectional View (Proposed)
WPC 21-4, Bid Item 13, Drawing 13-5