

AMENDED
INVITATION TO BID
Ordnance Project – Tank & Air Compressor
ITB-010

Sealed bids for the purchase of 30,000 gallon air over water hydropneumatic tank and Instruments and air compressor for the Ordnance Project will be received by the Board of Commissioners of Umatilla County at the Umatilla County Courthouse, Pendleton, Oregon, on April 17, 2023, until 10:00 A.M. Bids will be publicly opened and read in Room 121, Umatilla County Courthouse, Pendleton, Oregon.

The pipe types and quantities are listed in the bid sheet form. Delivery will be to the Hermiston, Oregon area.

Dated: March 27, 2023

Package Contents

Instruction to Bidders	3 Pages
Bid Sheet	1 Pages

INSTRUCTIONS TO BIDDERS

1.0 SUBMITTAL OF PROPOSAL

All bids must be presented in a sealed envelope to the Umatilla County Board of Commissioners before 10:00 A.M., April 17, 2023. Bids submitted electronically or by fax will be not acceptable.

- 1.1 **COMPLETE PROPOSAL MUST BE RETURNED.** Bidders shall use the attached bid form. Bidder shall complete unit price, extended price and lead time for each component, along with the bid subtotal, freight total and total bid amount, and the amount of days the bid will be valid. The firm name and signature of an authorized person shall be in space provided.

All bids shall be valid for 60 calendar days.

Bids may not be changed or withdrawn after the opening of Bids.

Along with the bid sheet form, please provide manufacturer's cutsheets for all items listed in the bid sheet.

Each Bid shall be identified on the exterior of the sealed envelope as follows:

Bid For: ITB-010 (Tank)

1.2 RIGHT TO REJECT BIDS

The Board of Commissioners reserves the right to reject any or all bids, accept the bid deemed most satisfactory to the County, or terminate this invitation to bid at any time.

- 1.3 Bids to be submitted by mail shall be addressed to:

Umatilla County
Attn: Board of Commissioners
216 S. E. 4th Street
Pendleton, Oregon 97801

2.0 TANK AND AIR COMPRESSOR SPECIFICATIONS

The specifications for the 30,000 gallon air over water hydropneumatic tank and Instruments and air compressor are set out in Attachment 1, attached to this document and incorporated by this reference. Drawings are attached as Attachment 2.

3.0 CONTRACT AWARD

Award of the contract will be made to one bidder. Notice of Intent to Award by the Board of Commissioners will normally be made within 20 calendar days of opening. If a longer period of time is required, all bidders will be notified. Following the 7 day protest period, a contract will be provided to the selected bidder.

4.0 DELIVERY

All items listed in the bid sheet need to be delivered by March 1, 2024. Bidders shall set forth the date of delivery in the space provided on the bid sheet. Deliveries should be consolidated as much as possible to minimize the number of deliveries received on site. Delivery date shall be taken into consideration before awarding the contract.

The equipment herein specified shall be delivered to the area of Hermiston, Oregon. A more specific delivery location will be determined at a later date. Any necessary parts for operating the equipment that are not mentioned in the specifications are, by this inference, included and shall not become a cause for extra compensation to the successful bidder.

5.0 REQUESTS FOR INFORMATION

All requests for information (RFI) need to be provided in writing to the following email address (ordnanceproject@umatillacounty.gov) seven (7) calendar days before the bid due date. Response to RFIs will be completed and published on Umatilla County's website (<https://umatillacounty.gov/departments/bcc/notices>) six (6) calendar days before the bid due date.

6.0 CUTSHEETS AND MANUALS

Bidders are to supply manufacturer's standard bid package and additional data as requested by specification 43 42 21, section 1.4A as part of the supplier's bid package.

Within 6 weeks of award, the successful bidder will need to submit all submittal data required in specification 43 42 21, sections 1.4A and 1.4B electronically for technical approval to ordnanceproject@umatillacounty.gov.

Two (2) weeks prior to shipment, the successful bidder will need to submit all submittal data required in specification 43 42 21, section 1.4C electronically for technical approval to ordnanceproject@umatillacounty.gov.

Ship two (2) hard copies of the operation and maintenance manuals with the equipment.

7.0 PAYMENT

Payment for the equipment herein specified will be made immediately after the 10th day of the month following full and satisfactory delivery.

8.0 WARRANTY SPECIFICATIONS

Bidder shall state all items under warranty and for how long in time and/or machine hours the warranty is good.

Bidder shall completely and adequately specify items, terms and conditions of warranty. If certain items are warranted by agencies other than bidder (or principal manufacturer), these items and warranties shall be expressly identified on a separate sheet indicating terms and conditions. If no such listing is included in this bid, it shall be understood that all items are warranted by the bidder (or principal manufacturer) under the warranty to the

attached as part of this bid. Failure to include warranty information in the bid documents may result in your bid being considered non responsive.

GENERAL CONDITIONS

1. Units offered under this bid shall be new, standard production models of the latest design in current production, unless otherwise specified.
2. Materials shall be of good commercial quality for the intended service and shall be produced by use of current manufacturing processes.
3. The bidder shall list on a separate sheet of paper any variations from, or exceptions to, the conditions and specifications of this bid. This sheet shall be labeled "Exception (s) to Bid Conditions and Specifications", and shall be attached to the bid.

BID SHEET
ITB-010 Ordnance Project Phase 1
Tank & Air Compressor

Line Item	Description	Quantity	Unit of Measurement	Unit Price (USD)	Extended Price (USD)	Lead Time
1	30,000 gallon Air Over Water Hydropneumatic Tank and Instruments	1	EA			
2	Air Compressor	1	EA			
					Bid Subtotal	
					Freight Total	
					Total Bid Amount	

Bidder certifies this bid is valid for _____ calendar days.

Bidder _____

Address _____

By (Print) _____

By (Signed) _____

SECTION 43 42 21 – Hydropneumatic Tank

PART 1 – GENERAL

1.1 SCOPE

- A. This specification describes the requirements for a Hydropneumatic Surge Control System. The purpose of the system is to minimize transient pressures from shock waves due to pump shutdown and startup. The System shall be designed for raw river water service.

1.3 CODES AND STANDARDS

- A. Pressure vessels shall be in accordance with the latest revision of the American Society of Mechanical Engineers (ASME) Code for Unfired Pressure Vessels, Section VIII, Division 1.
- B. All local Plumbing Codes shall be met.
- C. The system and anchorage of the surge tank shall conform to the International Building Code (IBC).
- D. The National Electric Code (NEC) shall be used for all wiring.

1.4 SUBMITTALS

A. Approval Data

- 1. Manufacturer's Standard Submittal Package
- 2. Approximate Weight and Overall Dimensions of the Surge Tank
- 3. Air Compressor Manufacturer's Standard Cutsheets

B. Drawings

- 1. Complete design calculations for all surge tanks. Calculations shall be signed by a mechanical or structural engineer registered in the State of Oregon verifying that the tanks have been designed to meet all design criteria given in these specifications.
 - i. Including loads, and connection details to be used for concrete foundation design.
 - ii. The design shall allow for the most severe combination of load conditions.
- 2. Detailed fabrication drawings, system assembly and installation drawings, catalog data and dimensional drawings showing accessories, supports, and connections.
- 3. Specifications for system components, accessories, and protective coatings.
- 4. Manufacturer recommended set points, alarm set points and alarm time delays for all control devices.
 - i. PLC control system and programming will be provided by Others.

C. Service Manual and Warranty

- 1. Operation and Maintenance Manuals
- 2. Connection Diagrams
- 3. Results of all Factory Tests.
- 4. Copy of ASME Pressure Vessel Code Form U-1A.
- 5. Manufacturer Warranty Documentation

D. Qualifications:

1. SUPPLIER (Hydropneumatic Tank Manufacturer)
 - a. Provide written documentation that meets or exceeds the requirements in 1.5A of this section.
2. CONTRACTOR (Hydropneumatic Tank Installer)
 - a. Provide written documentation that meets or exceeds the requirements in 1.5B of this section.

1.5 QUALIFICATIONS

A. SUPPLIER

1. The supplier must have a minimum of 5 years' experience, designing, supplying, and commissioning Hydropneumatic Surge Control Systems.

B. CONTRACTOR

1. At least 5 years of successful experience installing equipment as being furnished.

PART 2 – MATERIALS

2.1 DESIGN REQUIREMENTS

Fluid	Raw Columbia River Water (Screened to 3/32")
Minimum Total Volume (gal)	30,000
Approximate Tank Diameter (ft)	10-12
Overall Tank Length Maximum	70
Outlet Flange Size (inch)	24
Outlet Flange Class	300
Normal Operating Pressure (psi)	200
Operating Pressure Range (psi)	185-225
Maximum Allowable Working Pressure (psi)	275
Target Air Volume (gal)	16,450
Maximum Fluid Temperature (F)	72
Minimum Fluid Temperature (F)	37
Environment	Surge Tank - Outdoors, Fully Exposed Compressor - Outdoors, Shaded
Maximum Ambient Air Temperature (F)	113
Minimum Ambient Temperature, During Operation (F)	32
Minimum Ambient Temperature, While Drained (F)	7

A. Surge Tank

1. The surge tank shall be air-over-water type, welded steel, horizontally mounted, and cylindrical.
2. The size of the surge tank shall be a minimum of 30,000 gallons. The surge tank must have no moving parts, vanes or elastomers.
3. The Surge Tank shall be constructed of carbon steel for a Maximum Allowable Working Pressure (MAWP) of 275 psig in accordance with the ASME Pressure Vessel Code, Section VIII, Division 1. The minimum wall thickness shall be 3/8- inch. The Surge Tank shall be provided with a flanged, 24” class 300, line connection with minimum 3/8-inch wall, adequate supports, lifting lugs and couplings for drain, safety relief valve and level control instrumentation. The Surge Tank shall be provided with a 24” minimum manway.
4. Hydrostatic test the surge tank in accordance with ASME Code for Unfired Pressure Vessels. Form U-1A "Manufacturers' Data Report for Unfired Pressure Vessels" shall be provided by the surge tank manufacturer to certify that the surge tank was built in accordance with ASME Code Rules for the Construction of Unfired Pressure Vessels and inspected by a certified inspector.
5. The internal surface of the surge tank shall be sandblasted to SSPC-SP-10 and apply NSF Standard 61 approved epoxy coating. Coating shall be applied in accordance with coating manufacturer's instructions.
6. The external surface of the surge tank shall be sandblasted to SSPC-SP-6 and coated with a polyurethane coating system with a zinc-rich primer. Final topcoat color shall be white. Coating shall be applied in accordance with coating manufacturer's instructions.
7. Tank shall be supported by support legs welded to the tank for anchoring to a concrete foundation.

B. Level Control Instrumentation

1. The purpose of the level control system is to control the air volume in the surge tank. This is accomplished by maintaining the water level within a designed operating range. The air volume shall be maintained at approximately 16,450 gallons.
2. The pump station discharge pressure where this Surge Tank is to be installed is expected to range from 185 to 225 psi.
3. When water level is above the normal operating range, air shall be added to the surge tank from the air compressor, through the add air solenoid valve. When water is below the normal operating range, air shall be vented from the surge tank through the vent air solenoid valve. High and Low alarm signals shall be generated when the water level is out of range. Time delays shall be used to prevent false alarms and avoid adding or venting air during start up and shutdown or during minor fluctuations.
4. The Automatic Level Control Components shall include a Level Transmitter, Solenoid Valves, Liquid Level Switches and Air Compressor.
 - a. Level Transmitter.
 - i. Level transmitter shall be guided wave radar and provide a 4-20 mA signal. Endress Hauser FMP51, or equal.
 - b. Solenoid Valves.
 - i. ASCO Redhat model, or equal. One solenoid valve for adding air (lowering water level) and one solenoid valve for venting air (raising water level).

- c. Liquid Level Switches.
 - i. Level switches shall be 24Vdc. Endress Houser FTL31 or equal. One switch for indicating high water level and one switch for indicating low level.
- C. PLC Control System
 - 1. The PLC control system and programming will be provided by Others.
- D. Air Compressor
 - 1. The air compressor package shall be manufactured by Ingersoll Rand or Quincy (Duplex (two air-cooled, two-stage, oil lubricated reciprocating type air compressors mounted on one air receiver). Air Compressor(s) shall include all necessary piping (tubing) for connection to the air receiver. The air compressor package shall be the standard product of a manufacturer who is regularly engaged in the design and construction of fully automatic air compressor systems. The air compressor system shall include the following items.
 - a. A Totally Enclosed Fan Cooled (TEFC) motor shall drive the compressor and shall be adequate to drive the compressor continuously at full-rated output. Power supply shall be 460 volts, 3 phase and 60 hertz.
 - b. The hydropneumatic tank Supplier shall select the compressor volumetric capacity (minimum of 72 cfm at 175 psi) and discharge pressure (minimum of 250 psi). The capacity and discharge pressure selected shall be sufficient for the application to adjust the pressure from the add air setpoint to the add air reset in no more than 20 minutes.
 - c. Compressor unit shall include a totally enclosed crankcase of cast iron, separate detachable deep finned cylinders, matched balanced pistons, separately removable valve housing, low oil switch and a direct reading pressure gauge. The low oil switch shall shut down the compressor if the oil level is too low. The switch shall not reset without adding oil.
 - d. The air compressor control panel shall be NEMA 4 and provided with a power on light, On-Off switch, run light, motor overload alarm light and low oil level alarm light. The panel shall contain combination magnetic motor starter and circuit breaker.
 - e. The air compressor shall start and stop based on pressure in the air receiver. Dry contacts shall be provided in the panel for remote indication of running conditions for the compressor. The compressor shall be shut down by motor overload, or low oil level. An alarm condition shall energize a local alarm light.
 - f. The compressor shall start automatically, provided its switch is in the AUTO position. The compressor shall shut down if its HOA switch is in the OFF position.
 - g. There should be either a Hand or Test switch on the compressor that will run the compressor continuously while pressed.
 - h. The air receiver shall be a minimum of 120-gallon capacity.
 - i. The air compressor package shall be coated with the standard factory coating.
 - 2. The compressor will be located approximately 150 feet from the surge tank. A 1-1/4-inch diameter service air pipe, provided by the contractor, will supply air from the compressor to the surge tank.

E. Ancillary Components

1. Safety Relief Valve.
 - a. The surge tank shall have a safety valve sized in accordance with the ASME code to prevent over pressurizing the surge tank above its design pressure. Safety Relief Valve setpoint shall be set to the maximum allowable working pressure of the surge tank.
2. A check valve shall be installed on the top of the tank to prevent fluid from ever being able to enter the air piping.
3. Ball valves for isolation and bypass of solenoid valves, isolation and drain of the probe well and drain and isolation of the air piping.
4. Instrument and Level Indicator Well(s).
 - a. Stainless steel chamber(s) with couplings for connection to surge tank and installation of level transmitter, level indicator, level switches and drain valve to allow for easy troubleshooting of the system.
5. Level Gauge Assembly.
 - a. A level indicator shall be mounted on the Instrument and Level Indicator Well(s) for visually checking surge tank water level. Indicator shall be a magnetic level sensor and extend the full range of the stilling well.
6. Air muffler for reducing the noise generated from the venting of air from the Surge Tank.
7. Pressure gauge for indicating pressure in surge tank, 4 ½” diameter dial, ¼” bottom connection.
8. All ancillary piping 2” or smaller must have the ability to be drained without requiring the tank to be drained.
9. The hydropneumatic tank shall have the ability to be fully drained.

PART 3 – EXECUTION

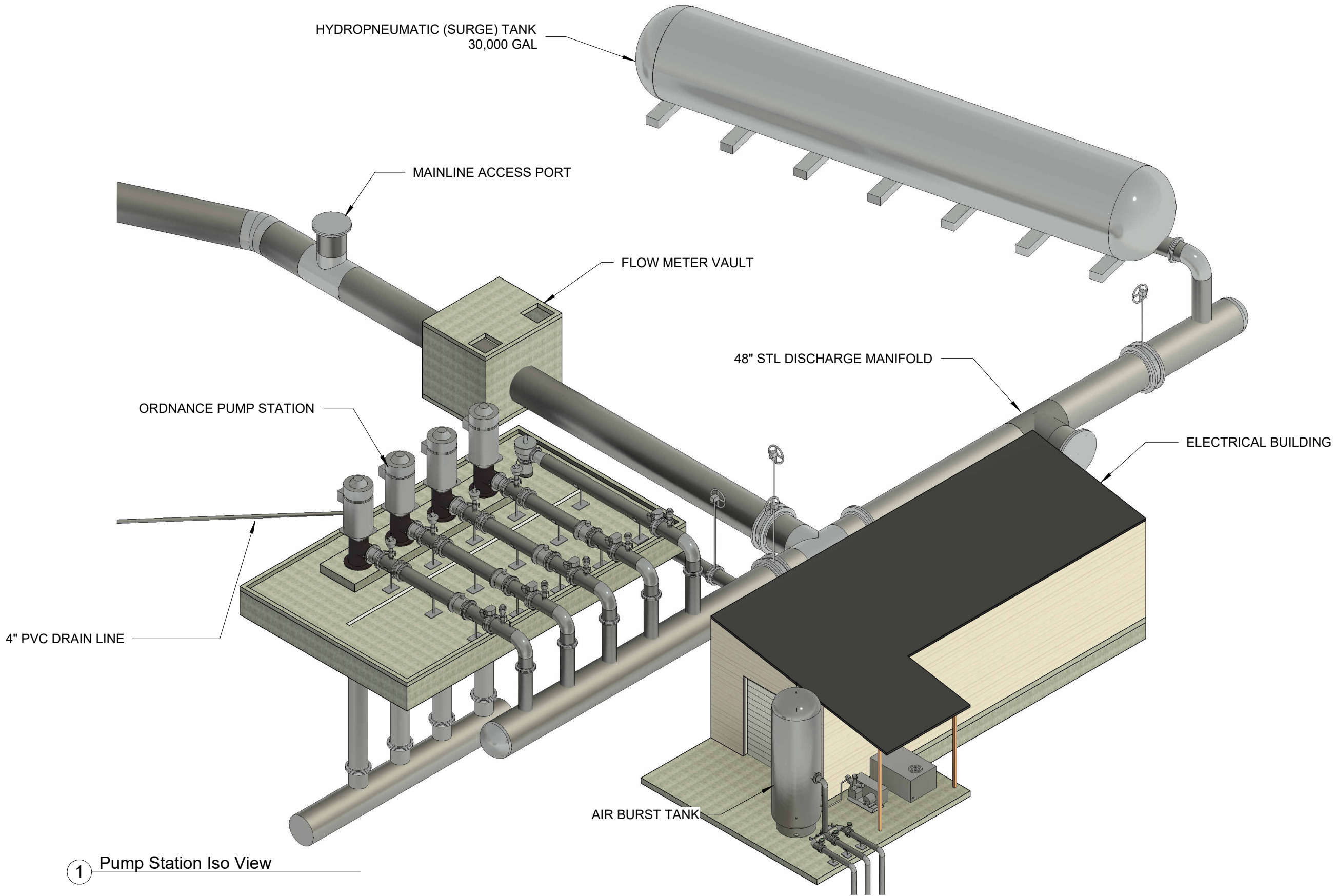
3.1 GENERAL

1. The system supplier shall provide all components and assembly instructions to the Contractor for installation.
2. All piping, fittings, and interconnecting of components to be supplied and installed by the Contractor.

3.2 TESTING


1. Supplier shall provide start up support (one trip, two days) to provide support during testing and instruct project personnel on the supplied components.
2. Testing shall be performed by Other’s in the presence of the Owner’s Representative and a representative of the Supplier. Supplier shall review surge control system set points for verification that the programming provided by Other’s meets or exceeds Manufacturer’s recommendations. Manufacturer shall provide technical support during testing which shall consist of a functional test of the level control system.

END OF SECTION



1 Pump Station Iso View

DRAWN	DESIGNED	APPROVED	DATE	SCALE	PROJECT	UMATILLA COUNTY	PHASE 1 ORDNANCE PROJECT
DH, TL	TY LORD		MARCH 2023		675-20-001		

**IRZ ENGINEERING™ & CONSULTING**

500 N. 1st, ST. HERMISTON, OREGON 97838
OFFICE (541) 567-0252 FAX (541) 567-4239

NO.	DESCRIPTION	DATE
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Engineer of Record:

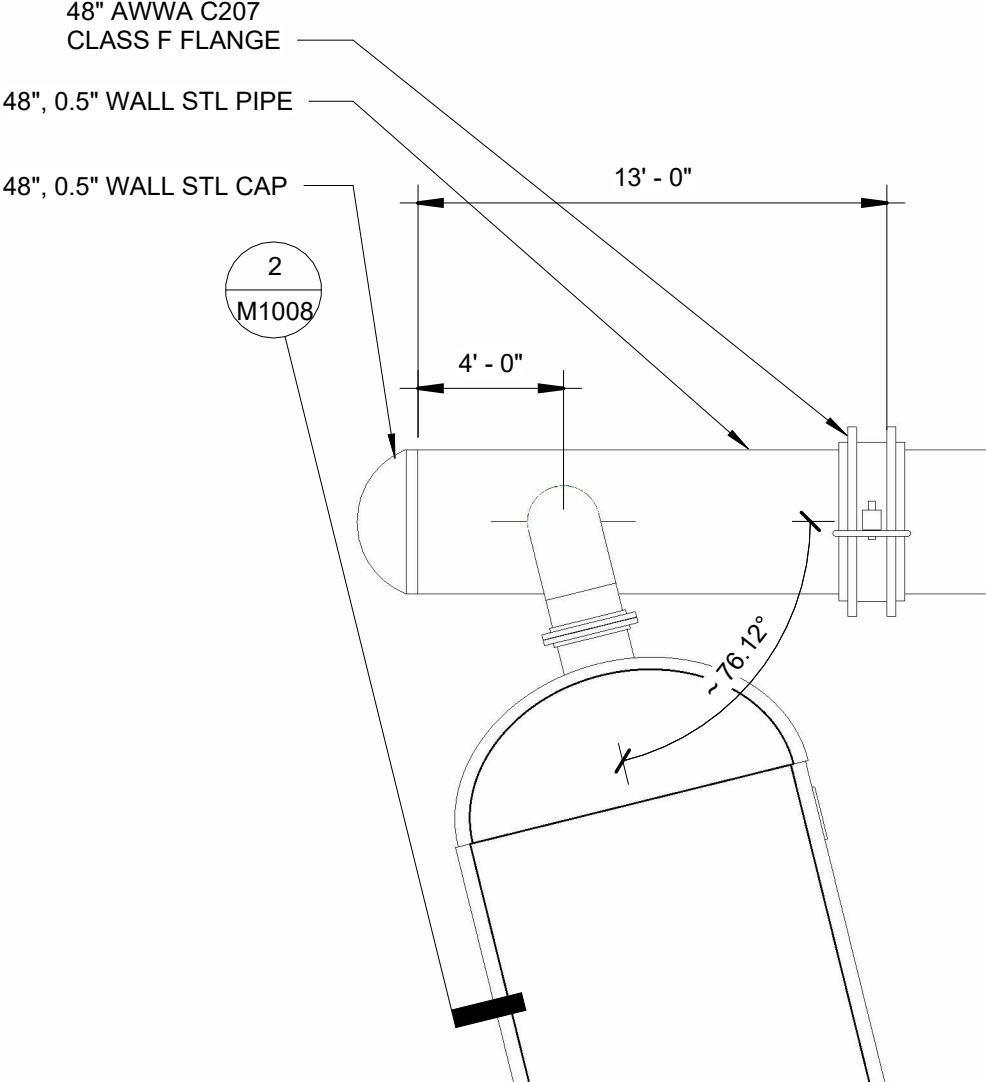
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Sheet Name	Pump Facility Iso View
Drawing Number	S1000

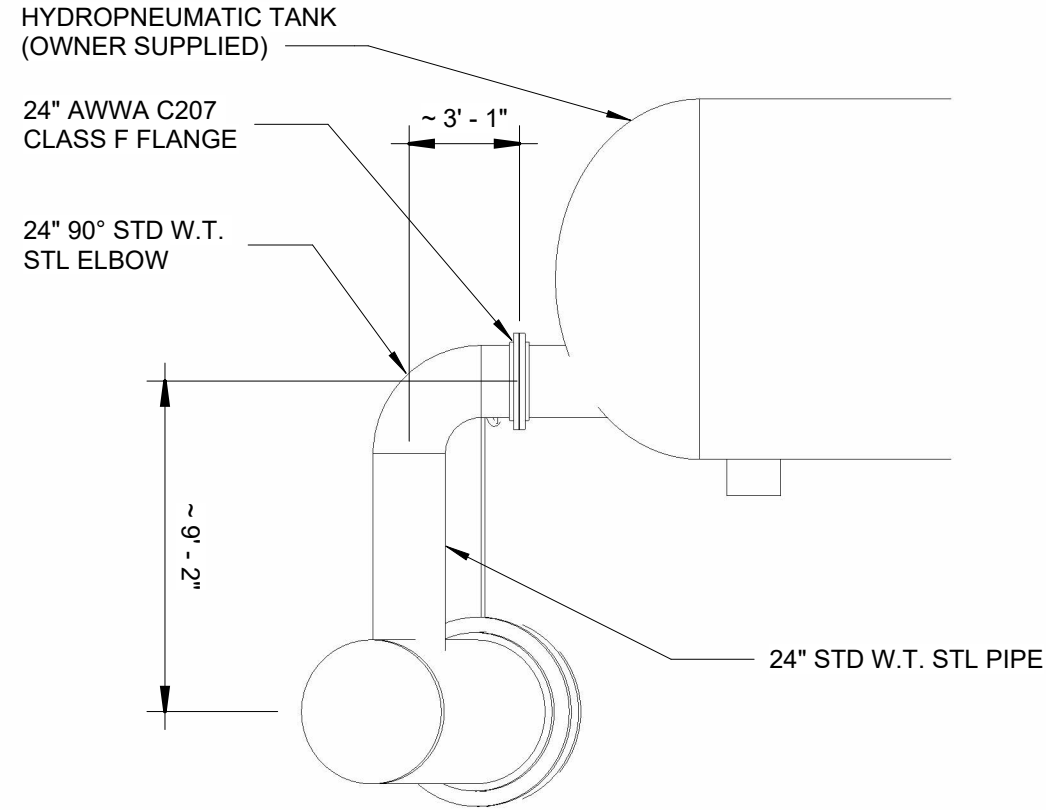
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① Hydropneumatic Tank Plan View
3/16" = 1'-0"



NOTE: DIMENSIONS SHOWN AS APPROXIMATE. ALL DIMISIONS WILL BE FINALIZED BASED ON HYDROPNEUMATIC TANK MANUFACTURER'S DIMENSIONS.

② Hydropneumatic Tank Section View
3/16" = 1'-0"

 IRZ ENGINEERING™ & CONSULTING 500 N. 1st, ST. HERMISTON, OREGON 97838 OFFICE (541) 567- 0252 FAX (541) 567- 4239	DRAWN	DH, TL
	DESIGNED	TY LORD
	APPROVED	-
	DATE	MARCH 2023
	SCALE	3/16" = 1'-0"
	PROJECT	675-20-001
UMATILLA COUNTY		PHASE 1 ORDNANCE PROJECT

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SCALE CHECK

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Engineer of Record:

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Sheet Name

HYDROPNEUMATIC TANK CONNECTION

Drawing Number

M1008

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