INVITATION TO BID
Ordnance Project – Steel Pipe
ITB-008

Sealed bids for the purchase of steel pipe for the Ordnance Project will be received by the Board of Commissioners of Umatilla County at the Umatilla County Courthouse, Pendleton, Oregon, on March 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 10, 2023

Package Contents

Instruction to Bidders	3 Pages
Bid Sheet	2 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., March 17, 2023. Bids submitted electronically or by fax will are 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Bids may not be changed or withdrawn after the opening of Bids.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-008 (Steel)

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 STEEL PIPE SPECIFICATIONS

The specifications for the steel pipe are set out in Attachment 1, attached to this document and incorporated by this reference. Plan/Profile detail sheets 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 shall be delivered by October 1, 2023. 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) by 10:00 a.m., March 15, 2023. Response to RFIs will be completed and published on Umatilla County's website (https://umatillacounty.gov/departments/bcc/notices) by 5:00 p.m., March 15, 2023.

6.0 CUTSHEETS AND MANUALS

Bidders are to supply the manufacturers standard bid package and additional data as required by specification 33 05 24, section 1.4A as part of the supplier's bid package.

Within 2 weeks of award, the successful bidder will need to submit all submittal data required in specification 33 05 24, section 1.4 for technical approval to ordnanceproject@umatillacounty.gov.

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-008 Steel Pipe

Line Item	Description	Stations	Design Pressure (PSI)	Reference Sheet	Lined and Coated	Quantity	Unit of Measurement	Unit Price (USD)	Extended Price (USD)	Lead Time
1	48" AWWA C207 Class F Flange	0-10	225	F1004/C2001	Yes	1	EA			
2	48"x36", Tee, STD wall, with 36" AWWA C207 Class F Flange and Blind Flange	0+53	225	F1004	Yes	1	EA			
3	48", 24 Degree Horizontal Miter, STD Wall	0+63	225	F1004/C2001	Yes	1	EA			
4	48", 2.4 Degree Vertical Miter, STD Wall	1+19	225	F1004/C2001	Yes	1	EA			
5	48", 31 Degree Horizontal Miter, STD Wall	1+87	225	F1004/C2001	Yes	1	EA			
6	48"x30", Tee, STD wall, with 36" AWWA C207 Class F Flange and Blind Flange	2+00	225	F1004/C2001	Yes	1	EA			
7	48", 2.4 Degree Vertical Miter, STD Wall	5+00	225	C2001	Yes	1	EA			
8	48", 43 Degree Horizontal Miter, STD Wall	5+83	225	C2001	Yes	1	EA			
9	48", 44 Degree Horizontal Miter, STD Wall	6+22	225	C2001	Yes	1	EA			
10	48", 3.3 Degree Vertical Miter, STD Wall	6+46	225	C2001	Yes	1	EA			
11	48", 7 Degree Horizontal Miter, STD Wall	9+23	225	C2001	Yes	1	EA			
12	48", 2.2 Degree Vertical Miter, STD Wall	11+20	225	C2002	Yes	1	EA			
13	48", 2.8 Degree Vertical Miter, STD Wall	12+00	225	C2002	Yes	1	EA			
14	48", 1.6 Degree Vertical Miter, STD Wall	18+33	225	C2002	Yes	1	EA			
15	48", 2.7 Degree Vertical Miter, STD Wall	19+77	225	C2002	Yes	1	EA			
16	48", 18.5 Degree Vertical Miter, STD Wall	20+82	150	F4030/C2002	Yes	1	EA			
17	48", 24.4 Degree Vertical Miter, STD Wall	21+45	150	F4030/C2002	Yes	1	EA			
18	48", 10 Degree Horizontal Miter, STD Wall	22+19	150	C2003	Yes	1	EA			
19	48", 14.1 Degree Vertical Miter, STD Wall	22+43	150	F4030/C2002	Yes	1	EA			
20	48", 8.5 Degree Vertical Miter, STD Wall	23+18	150	C2003	Yes	1	EA			
21	48", 14.1 Degree Vertical Miter, STD Wall	25+00	150	C2003	Yes	1	EA			
22	48" STL Mainline, STD Wall	0-10 - 26+40	150	C2002-C2003	Yes	2650	LF			
23	48" STL Mainline, STD Wall, Spare Pipe, 40ft Lengths	NA	NA	NA	Yes	160	LF			
24	Lining and Coating Kits for all Field Welds	NA	NA	NA	NA	1	LS			

Bid Subtotal	
Freight Total	
Total Bid Amount	

Bidder certifies this bid is valid for _____ calendar days.

Bidder_____

Address_____

By (Print)_____

By (Signed)_____

SECTION 33 05 24 – STEEL PIPE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Pipe materials referenced by other sections for use in the pipeline.

B. Use the latest version of all references, standards, laws, or regulations.

1.2 RELATED SECTIONS

A. 03 30 00 – Cast In-Place Concrete

B. 33 05 07 – Road Crossings

C. 33 05 31 – PVC Pipe

D. 33 05 36 – Fiberglass Pipe

E. 33 14 11 - Pipeline General Requirements

1.3 REFERENCES

A. ASTM International (ASTM)

1. ASTM A139/A139M – Electric Fusion (Arc) – Welded Steel Pipe
2. ASTM A283/A283M - Low and Intermediate Tensile Strength Carbon Steel Plates
3. ASTM E165/E165M - Liquid Penetrant Examination for General Industry
4. ASTM A36/A36M – Carbon Structural Steel
5. ASTM A53/A53M - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

B. American Water Works Association (AWWA)

1. AWWA C200- Steel Water Pipe - 6 In and Larger
2. AWWA C206 - Field Welding of Steel Water Pipe
3. AWWA C207 - Steel Pipe Flanges for Waterworks Service, Sizes 4 In Through 144 In.
4. AWWA C208 – Dimensions for Fabricated Steel Water Pipe Fittings
5. AWWA C210 – Standard for Liquid Epoxy Coating System for the Interior and Exterior of Steel Water Pipe.
6. AWWA C213 – Standard for Fusion Bonded Epoxy Coating System for the Interior and Exterior of Steel Water Pipe.
7. AWWA C216 – Heat-Shrink Cross-Linked Polyolefin Coatings for Exterior of Special Sections, Connections and Fittings
8. AWWA C222 – Standard for Polyurethane Coating System for the Interior and Exterior

of Steel Water Pipe.
9. AWWA M11 – Steel Water Pipe: A Guide for Design and Installation

C. Other Standards

1. ANSI/AWS B2.1 – Specification for Welding Procedure and Performance Qualification
2. NSF/ANSI 61 – Standards for materials in contact with drinking water

1.4 SUBMITTALS

A. Supplier's Bid Package
1. Supplier's standard bid package.
2. Material delivery schedule and estimated number of truck loads to be delivered and offloaded by the Contractor.
3. References for at least 3 completed projects supplying similar size and materials, as specified.

B. Qualifications

1. Supplier:
a. Provide written documentation that meets or exceeds the requirements in 1.5A and C of this section.

2. Contractor:
a. Provide written documentation that meets or exceeds the requirements in 1.5B of this section.

C. Manufacturer Shop Drawings:
1. Show pipeline layout, including stations, elevations, and fitting fabrication details.
2. Show fitting fabrication details.

D. Lining and Coating Material Data Sheets.
E. Alternate pipe and fitting layout, if applicable.

1.5 QUALIFICATIONS

A. Supplier:

1. Pipe Manufacturer:
a. At least 10 years of successful experience producing products as specified.
b. Provide references for at least 3 completed projects supplying similar size and materials, as specified.

2. Welder (Shop Fabricated Pipe, Fittings, or Specials):
a. Skilled welders, welding operators, and tackers who have adequate experience in methods and materials to be used shall do all of the welding.
b. Welders shall maintain current qualifications, for the welds they are performing, under the provision of AWS B2.1 or ASME Section IX in accordance with AWS D1.1.
c. Machines and electrodes similar to those in the work shall be used in

qualification tests.
d. The Supplier shall furnish all materials and bear the expense of qualifying welders.

B. Contractor:

1. Installation:
   a. At least 10 years of successful experience laying pipe with type of joint being furnished.
   b. Provide references for at least 3 completed projects installing similar size and materials, as specified.

2. Welder (Field Welds of Joints or Repair):
   a. Skilled workers, welding operators, and tackers who have adequate experience in methods and materials to be used shall do all of the welding.
   b. Welders shall maintain current qualifications under the provision of AWS B2.1 or ASME Section IX in accordance with AWS D1.1.
   c. Machines and electrodes similar to those in the work shall be used in qualification tests.
   d. The Contractor shall furnish all materials and bear the expense of qualifying welders.

1.6 VERIFICATIONS

A. Welding Requirements

1. All welding procedures used to fabricate pipe shall be qualified under the provision of AWS B2.1, AWS D1.1, or ASME Section IX.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Supplier Delivery Requirements
1. Meet delivery schedule according to the bid documents.
2. Supplier to coordinate all deliveries directly with the Contractor.
3. Receiving will only occur Monday through Friday, 7am to 3pm PST.
4. Deliveries outside of the receiving time may be held over to the next scheduled delivery date at the Contractor's discretion. Any costs incurred due to not meeting the delivery schedule requirements will be covered by the Manufacturer at no additional expense to the Owner.

B. Prevent damage during loading, transporting, unloading, laying, and at final storage location.

1. Supplier to provide:
   a. Padded bolsters curved to fit under outside of pipe.
   b. Heavy padding under ties during transportation and storage.

C. Support and store pipe above ground surface.

D. Owner will inspect pipe once it is delivered.

E. Replace or repair, as approved by the Engineer, pipe, linings, or coatings that are damaged:

1. During initial shipment at the Supplier's expense.

2. During storage, shipment from staging area to the final placement, or installation at the Contractor's expense.

PART 2 - PRODUCTS

2.1 STEEL PIPE

A. Steel Pipe with OD 30" or greater:

1. Electric fusion (arc) welded helical-seam steel pipe: ASTM A139, grade E.
2. Steel shall be minimum of 52,000 psi yield strength.
3. Fabricated in accordance with AWWA C200 Except:
   a. Steel Sheet: ASTM A139 grade E

B. Steel Pipe with OD less than 30":

1. ASTM A53, grade B.
2. Steel shall be minimum of 35,000 psi yield strength.
3. Fabricated in accordance with AWWA C200.

C. Pipe Diameter:

1. Unless otherwise labeled on the Bid Schedule or plans, all pipe bid items are to be furnished as finished outside diameter (OD) for pipes above 12-inches.

D. Minimum Steel Wall Thickness of Pipe:

1. As shown in Bid Schedule or as otherwise shown on the drawings.

E. Prepare pipe ends for field welding. Lay back all coatings and linings 4" or per lining and coating manufacturers recommendation whichever is greater.

2.2 FITTINGS

A. Unless otherwise shown on the plans:

1. All fittings and special fittings shall be in accordance to AWWA C208 and AWWA M11.
2. Pipe material shall be the same material and pressure class and wall thickness as the adjoining pipe.
3. Provide reinforcement for AWWA C200 fittings in the form of collars, wrappers, or crotch plates, in accordance with AWWA M11.

B. The maximum deflection angle for each mitered section shall not exceed 22.5 degrees.

C. Pipe Diameter:

1. All pipe bid items are to be furnished as finished outside diameter (OD) for pipes above 12-inches.

D. Tees:

1. Tees for blowoffs, air valves, manways, and branch lines as shown on drawings and specified in AWWA C 208.
2. Tee length, minimum: As shown on drawings or as required for blocking.

E. Welding:

1. AWS D1.1.
2. Lifting eyes and other handling devices: Made part of fitting before lining and coating are applied.
3. Temporary or permanent welding for convenience of the Contractor: Not permitted on areas where welding will damage lining and coating.

F. Coating and lining in accordance with 2.4 of this section.

G. Fasteners:

1. See section 2.5.

H. Closure Section Joints: Sleeve coupling.

2.3 JOINTS

A. All joints shall meet or exceed the pressure class of the adjoining pipe.

B. The standard joint shall be an external butt weld joint with root, fill, and cover passes unless otherwise noted on the plans.

C. Butt Weld

1. Conform to AWWA C206 and as shown in AWWA M11 Chapter 6.
2. Holdbacks for coatings and linings shall be provided and indicated on the shop drawings.

D. Mechanical Couplings

1. Conform to AWWA C219 and AWWA C227
2. Equal to Smith Blair Style 411, Baker Style 200, Victaulic Depend-O-Loc, or approved equal
3. Pipe ends for mechanical couplings shall be:
   a. Lined to the end of the pipe

E. Flanged

1. Conform to flange schedule as listed in the construction plans, in accordance with AWWA C207.
2. Pipe ends for flanged joints shall be:
   a. Lined and coated to the end of the pipe or back of the flange.

3. Faces shall be shop coated with a soluble rust preventive compound.
4. Gaskets (applicable for pressures up to appurtenance pressures as listed in the plans)
   a. Over 150 psi: Shall be a ring gasket, minimum of 1/16-inch thick, synthetic fiber with nitrile (NBR) binder
      1) Equal to Garlock Style 3000 or approved equal.
   b. 150 psi and under: Shall be a ring gasket, minimum of 1/16-inch thick, red rubber binder
      1) Equal to Garlock No. 22 or approved equal.

5. Fasteners for Flanges
   a. See 2.5 of this section.

6. All unwelded pipe joints shall be bonded for electrical continuity in accordance with the Pipe Manufacturer's recommendations unless otherwise specified in the plans.

2.4 LININGS AND COATINGS

A. Unless otherwise noted in the Bid Schedule or plans, all steel pipe and fittings shall be polyurethane lined and coated or lined and coated with fusion bonded epoxy.

B. Polyurethane Lining

1. Meet or exceed AWWA C222
2. Minimum thickness of 20 mils, in accordance with SSPC-PA-2
3. Lining shall be continuous to the end of the pipe except where field welding is indicated
4. Lining repair shall be per AWWA C222 and manufacturer's recommendations.
5. Lining shall meet NSF/ANSI 61 for use with potable water.

C. Polyurethane Coating

1. Meet or exceed AWWA C222
2. Minimum thickness of 25 mils, in accordance with SSPC-PA-2
3. Coating shall be continuous to the end of the pipe except where field welding is indicated.
4. Coating repair shall be per AWWA C222 and manufacturer's recommendations.

D. Fusion Bonded Epoxy Lining

1. Meet or exceed AWWA C213
2. Minimum thickness of 16 mils, in accordance with SSPC-PA-2
3. Lining shall be continuous to the end of the pipe except where field welding is indicated
4. Lining repair shall be per AWWA C213 and manufacturer's recommendations.
5. Lining shall meet NSF/ANSI 61 for use with potable water.

E. Fusion Bonded Epoxy Coating

1. Meet or exceed AWWA C213
2. Minimum thickness of 16 mils, in accordance with SSPC-PA-2
3. Coating shall be continuous to the end of the pipe except where field welding is indicated
4. Coating repair shall be per AWWA C213 and manufacturer's recommendations.

2.5 FASTENERS

A. Bolts, Nuts, and Washers – unless otherwise indicated, all bolts, nuts, and washers shall be:

7. Bolts and studs shall be ASTM A193/A193M Grade B7. Bolting shall have product marking in accordance with ASTM A193/A193M and ASTM A962/A962M.
8. Nuts shall be ASTM A194/A194M Grade 2H heavy hex nuts or ASTM A563 heavy hex nuts for 1-inch and smaller.
9. Washers shall meet the requirements of ASTM F436.
10. Minimum bolt lengths shall be in accordance with AWWA C207.

B. Protection: All fasteners shall be protected with wax tape in accordance with AWWA C217.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Flanged Joints

1. Preparation for installation:
   a. Bolt holes of flanges shall straddle the horizontal and vertical centerlines of the pipe.
   b. Clean flanges by wire brush before installing flanged fittings, taking care to protect any linings or coatings applied to the pipe.
   c. Clean flange bolts and nuts by wire brush, lubricate with anti-seize.

2. Installation:
   a. Place gasket
   b. Insert nuts, washers, and bolts (or studs)
   c. Finger tighten.
   d. Progressively tighten opposite bolts uniformly around the flange to the proper tension as described in AWWA C604.
   e. Do not encase flanged joints in concrete.
   f. If leak occurs under pressure testing, relieve pressure, loosen or remove nuts, reset or replace gasket, reinstall or re-tighten bolts and nuts.

3.2 JOINT LINING AND COATING

A. Field joints for pipe with shop applied polyurethane lining and coatings.

1. Line field joints with polyurethane coating in accordance with AWWA C222.
2. Coat field joints with polyurethane coating in accordance with AWWA C222.

B. Field joints for pipe with shop applied fusion bonded epoxy.

1. Line field joints with liquid epoxy coating compatible with fusion bond epoxy in accordance with AWWA C210.
2. Coat field joints with liquid epoxy coating compatible with fusion bond epoxy in accordance with AWWA C210.

3.3 TESTING

A. Shop Testing

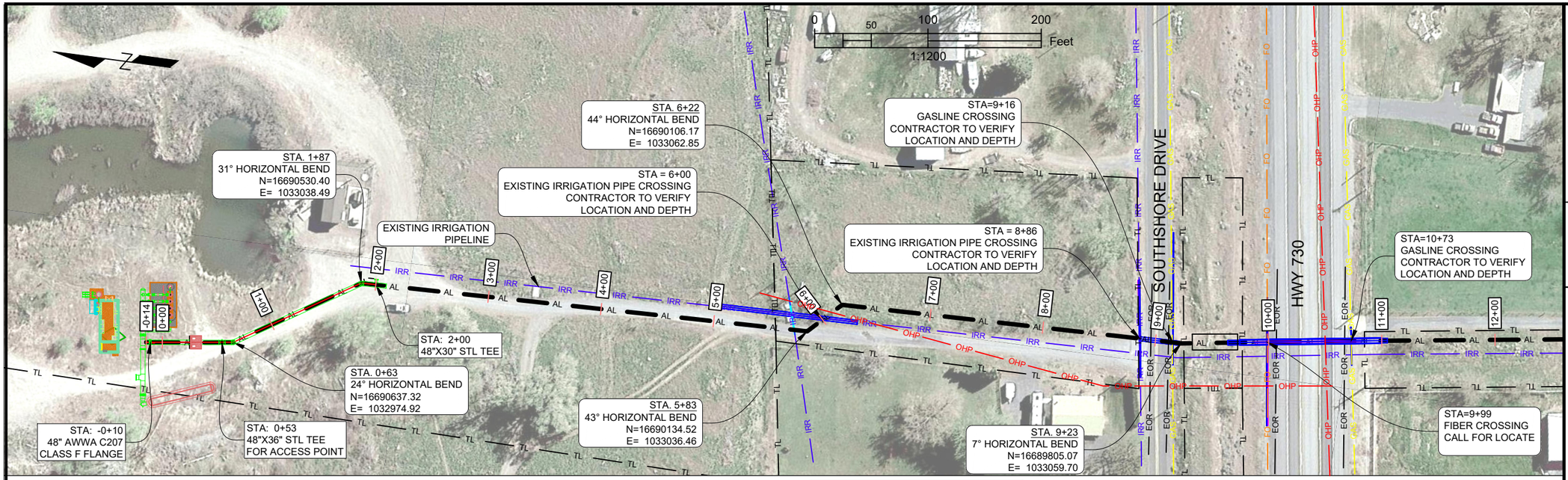
1. Unless otherwise indicated, all required shop tests shall be performed at the expense of the Supplier.
2. No additional payment will be made, all testing costs shall be included within the Bid Schedule items.

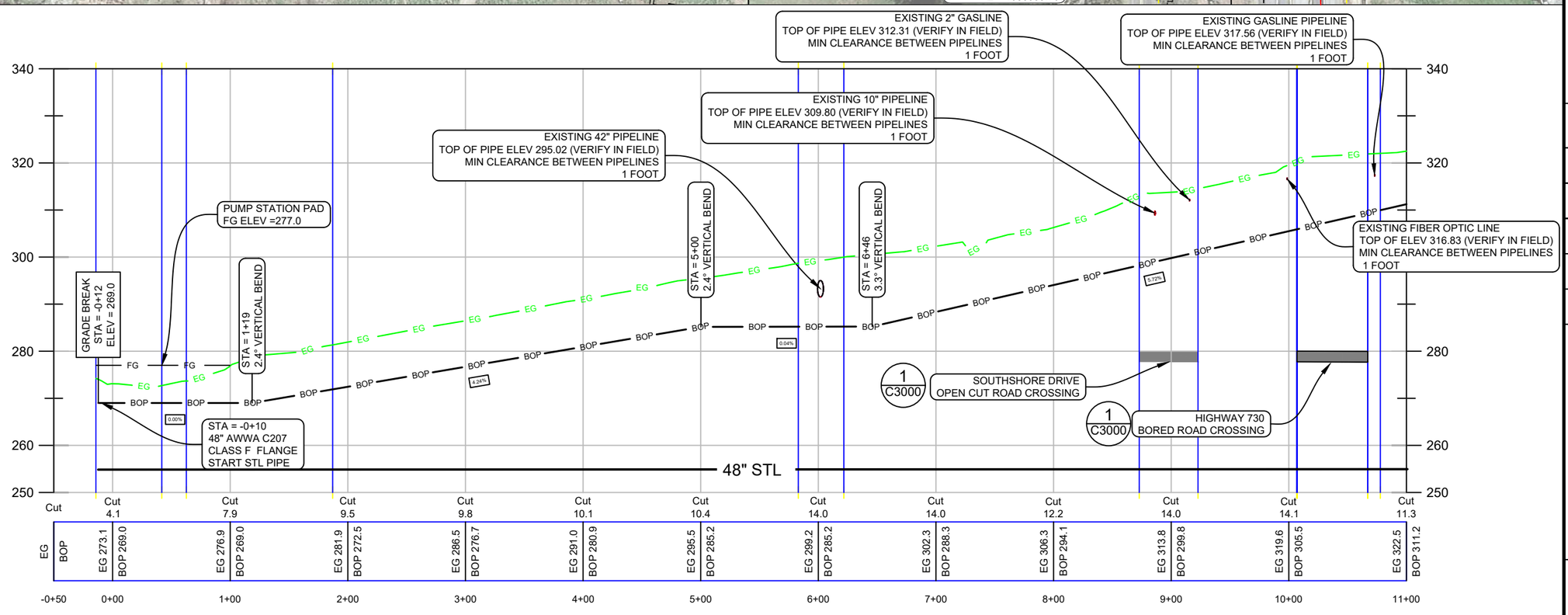
B. Field Testing

1. Unless otherwise indicated, all required field tests shall be performed at the expense of the Contractor.
2. No additional payment will be made, all testing costs shall be included within the Bid Schedule items.

END OF SECTION

ATTACHMENT 2





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STA -0+50 TO STA 11+00
VERTICAL EXAGGERATION:4X

Cut=(EG-BOP)
EG
BOP
STA NUM

NOTES:
CUT - EXISTING GROUND SURFACE (EG) - BOTTOM OF PIPE (BOP).
AT GRADE BREAKS DEFLECT PIPE JOINTS PER MFG. SPEC
MAINTAIN 4-FT COVER
PIPE CROSSINGS MAINTAIN 1-FT CLEARANCE.
PROJECTION: UTM83-11IF

DRAWN	MIKE CARSON
DESIGNED	TY LORD
APPROVED	-
DATE	JAN 2023
SCALE	1" = 100'
PROJECT	675-20-001

UMATILLA COUNTY
ORDNANCE PROJECT

IRZ ENGINEERING & CONSULTING™
500 N 1ST, HERMISTON, OREGON 97838
OFFICE (541) 567-0252 FAX (541) 567-4239

Revisions

N0.	Description	Date
1		
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3		
4		

0 SCALE CHECK 1"

ENGINEER OF RECORD

DRAWING FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

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PLAN / PROFILE

Drawing Number:
C2001

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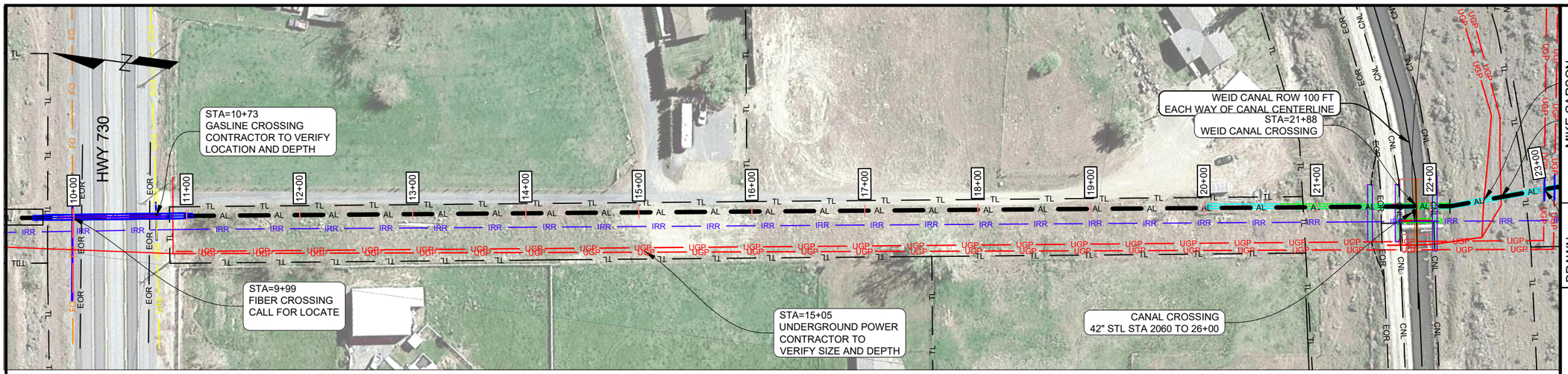

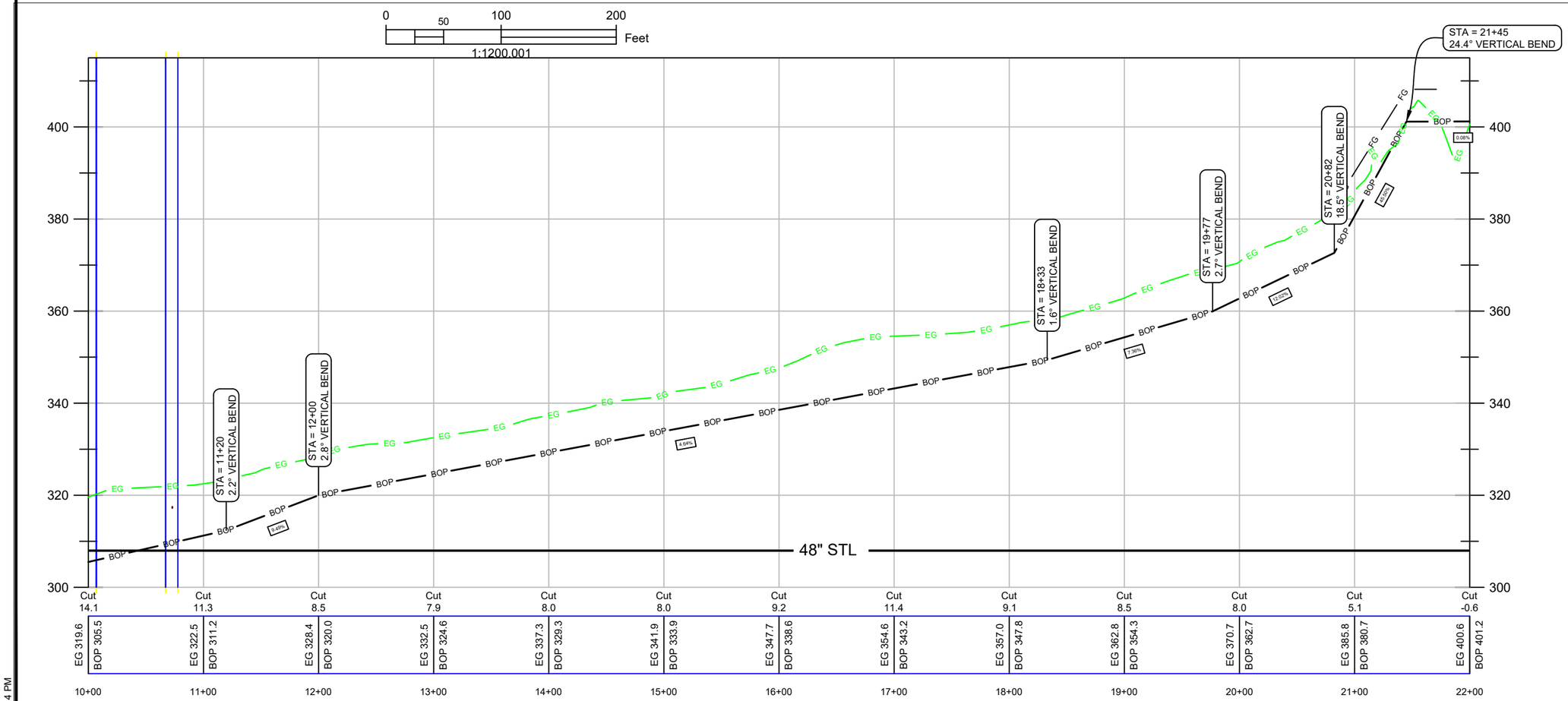

PROFILE VIEW: ORDNANCE MAIN 1 (3) (3)
STA 10+00 TO STA 22+00
VERTICAL EXAGGERATION:4X

Cut=(EG-BOP)
EG | BOP
STA NUM

NOTES:
CUT - EXISTING GROUND SURFACE (EG) - BOTTOM OF PIPE (BOP).
AT GRADE BREAKS DEFLECT PIPE JOINTS PER MFG. SPEC
MAINTAIN 4-FT COVER
PIPE CROSSINGS MAINTAIN 1-FT CLEARANCE.
PROJECT: UTM83-11IF

DRAWN	MIKE CARSON
DESIGNED	TY LORD
APPROVED	-
DATE	JAN 2023
SCALE	1" = 100'
PROJECT	675-20-001

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N0.	Description	Date
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0 SCALE CHECK 1"

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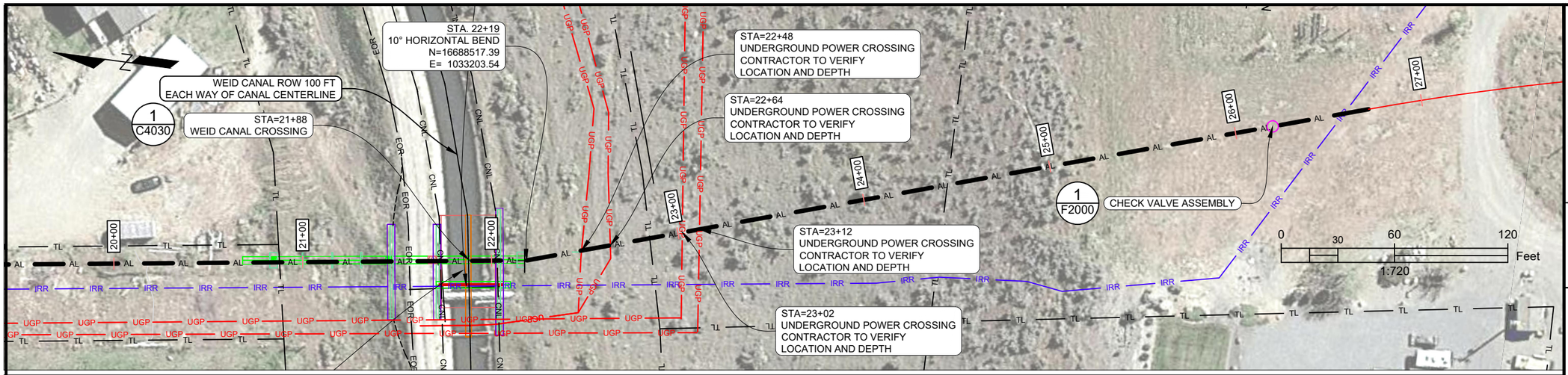

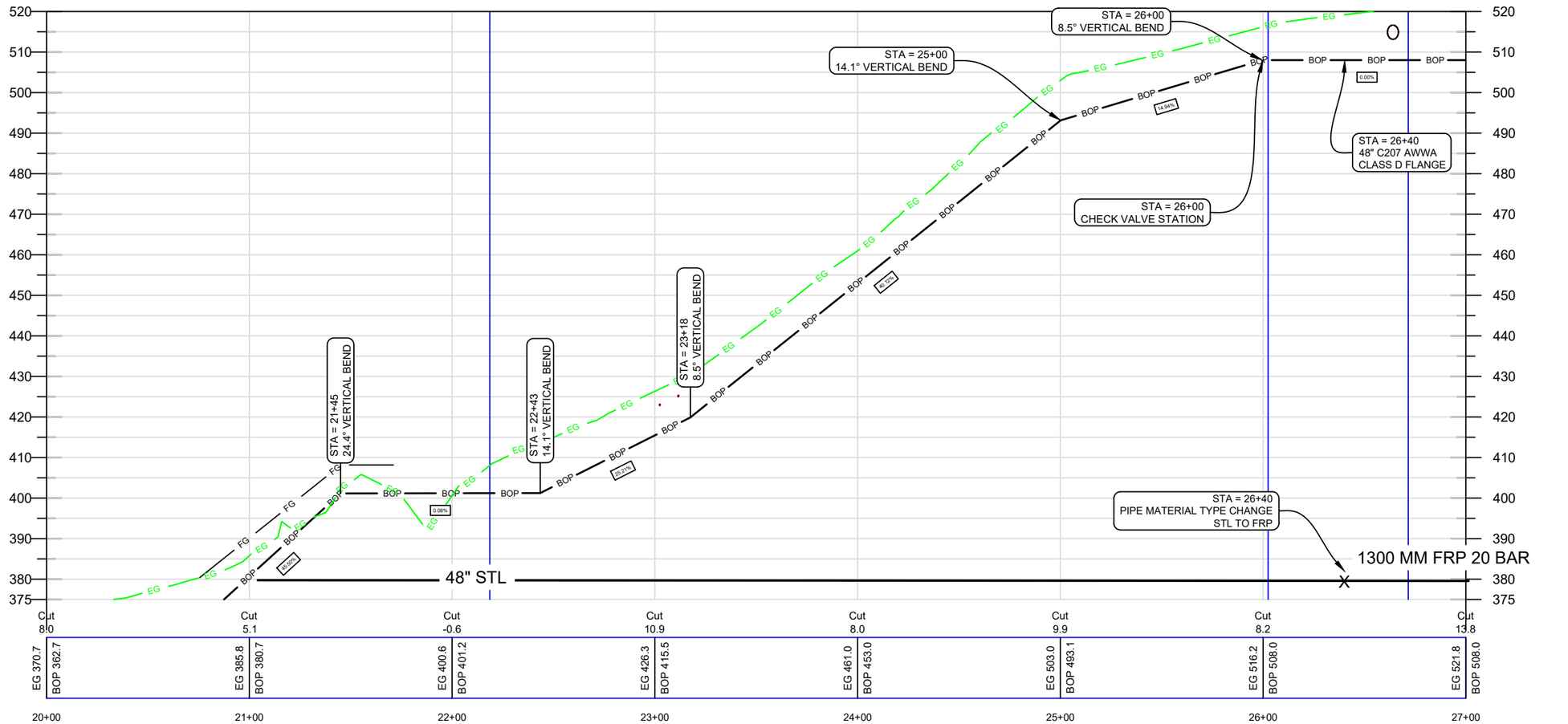

PROFILE VIEW: ORDNANCE MAIN 1 (3) (3) (1)
VERTICAL EXAGGERATION: 2X

Cut=(EG-BOP)
EG
BOP
STA NUM

NOTES:
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AT GRADE BREAKS DEFLECT PIPE JOINTS PER MFG. SPEC
MAINTAIN 4-FT COVER
PIPE CROSSINGS MAINTAIN 1-FT CLEARANCE.
PROJECT: UTM83-11IF

DRAWN	MIKE CARSON
DESIGNED	TY LORD
APPROVED	-
DATE	JAN 2023
SCALE	1" = 100'
PROJECT	675-20-001

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ORDNANCE PROJECT

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Revisions

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0 SCALE CHECK 1"

ENGINEER OF RECORD

DRAWING FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

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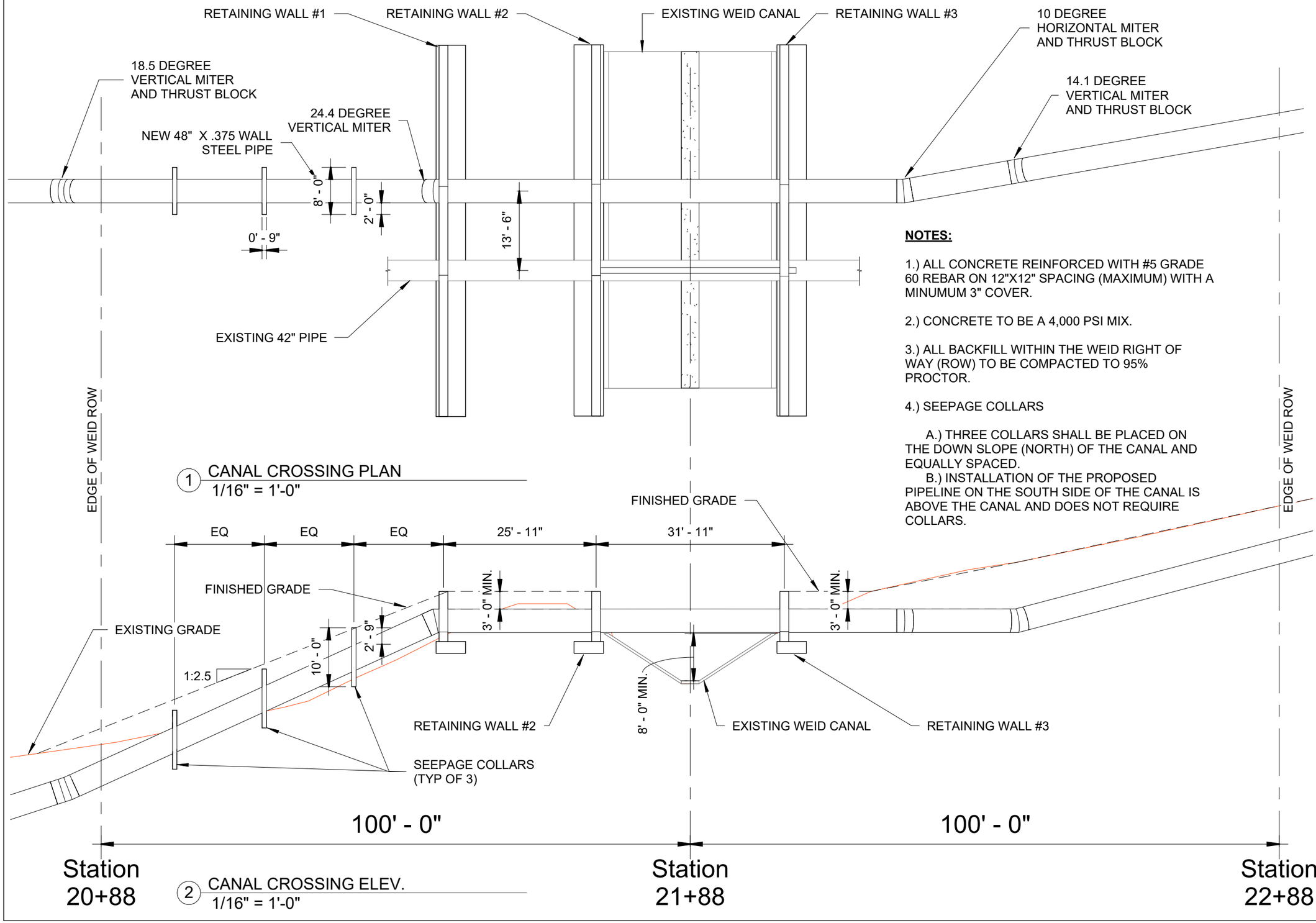


1 CANAL CROSSING PLAN
1/16" = 1'-0"

2 CANAL CROSSING ELEV.
1/16" = 1'-0"

NOTES:

1.) ALL CONCRETE REINFORCED WITH #5 GRADE 60 REBAR ON 12"X12" SPACING (MAXIMUM) WITH A MINUMUM 3" COVER.

2.) CONCRETE TO BE A 4,000 PSI MIX.

3.) ALL BACKFILL WITHIN THE WEID RIGHT OF WAY (ROW) TO BE COMPACTED TO 95% PROCTOR.

4.) SEEPAGE COLLARS

A.) THREE COLLARS SHALL BE PLACED ON THE DOWN SLOPE (NORTH) OF THE CANAL AND EQUALLY SPACED.

B.) INSTALLATION OF THE PROPOSED PIPELINE ON THE SOUTH SIDE OF THE CANAL IS ABOVE THE CANAL AND DOES NOT REQUIRE COLLARS.

DRAWN	Mike Carson
DESIGNED	Ty Lord
APPROVED	-
DATE	08/10/2022
SCALE	1/16" = 1'-0"
PROJECT	675-20-001

UMATILLA COUNTY

PHASE 1 ORDNANCE PROJECT

IRZ ENGINEERING & CONSULTING™
500 N. 1st. ST. HERMISTON, OREGON 97838
OFFICE (541) 567- 0252 FAX (541) 567- 4239

NO.	DESCRIPTION	DATE
1		
2		
3		
4		

0 SCALE CHECK 1"

Engineer of Record:

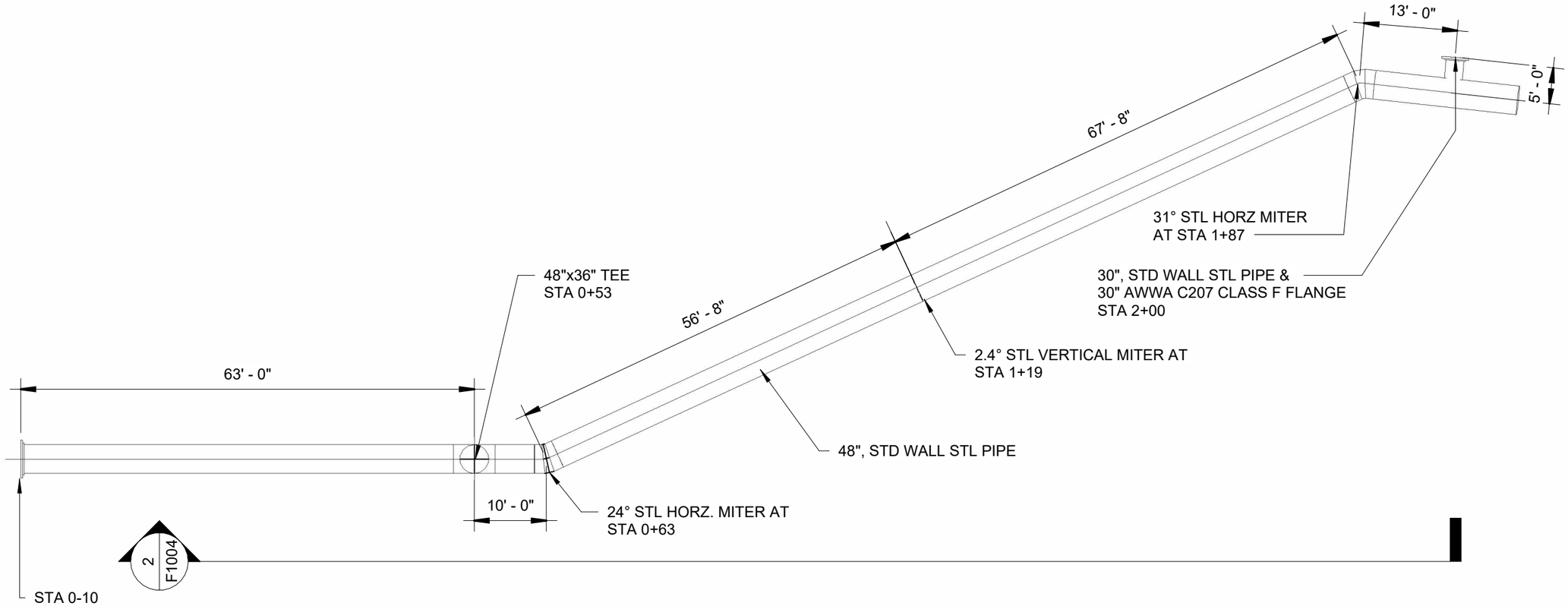
REGISTERED PROFESSIONAL ENGINEER
96512PE
OREGON
SEPT. 08, 2020
TY JAMES LORD
EXPIRES: 12/31/24

Sheet Name
WEID Canal Crossing Details

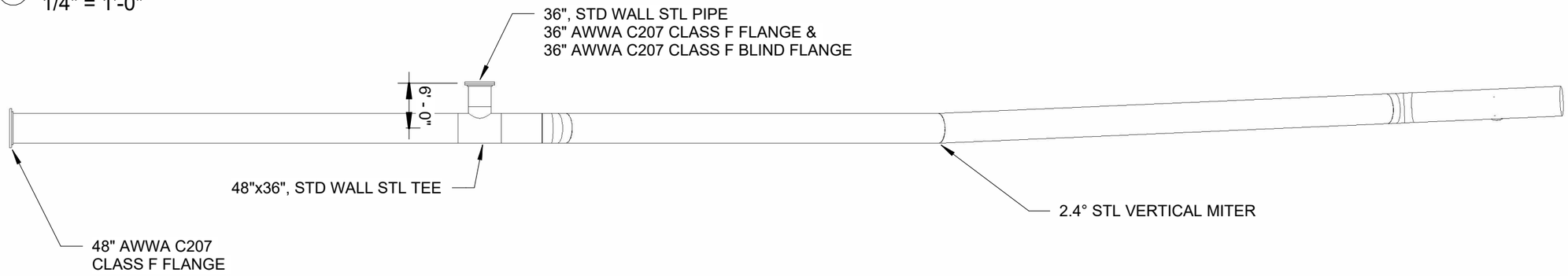
Drawing Number
C4030

2/9/2023 8:14:25 AM

Z:\1Clients\Umatilla County\Ordnance Project Proposal 2021\Drawings\Revit\Canal Crossing_48INCH2.0.rvt



1 STA 0-10 TO STA 2+00 - PLAN VIEW
1/4" = 1'-0"



2 STA 0-10 TO STA 2+00 - PROFILE VIEW
1/16" = 1'-0"

DRAWN	DH
DESIGNED	TL, DH
APPROVED	-
DATE	08/12/22
SCALE	As indicated
PROJECT	675-20-001

UMATILLA COUNTY

PHASE 1 ORDNANCE PROJECT

IRZ ENGINEERING™ & CONSULTING
500 N. 1st. ST. HERMISTON, OREGON 97838
OFFICE (541) 567- 0252 FAX (541) 567- 4239

NO.	DESCRIPTION	DATE
1		
2		
3		
4		

0 SCALE CHECK 1"

Engineer of Record:

Sheet Name
48" STEEL - PART D

Drawing Number
F1004

2/9/2023 8:27:22 AM

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