CLARKSBURG WATER BOARD
HARRISON COUNTY, WEST VIRGINIA

CONTRACT #2 – CHESTNUT STREET TRANSMISSION WATER LINE EXTENSION

ADDENDUM #1

July 3, 2023

THRASHER PROJECT #010-10203

TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Thursday, June 22, 2023, on the above-referenced project. A copy of the notes from the Pre-Bid Conference and a copy of the sign in sheet are included in this Addendum.

The following are clarifications and responses to questions before, during, and after the conference up until the close of questions (12:00 PM LPT, Friday, June 30, 2023).

A. GENERAL

1. **THE BID FORM HAS BEEN REVISED. YOU MUST USE THE REVISED BID FORM WHEN PREPARING YOUR BID PACKAGE FOR THIS PROJECT.**

B. SPECIFICATIONS

Specification Section 331113 (Water Distribution Piping) – Added product specifications for materials not provided by Clarksburg Water Board and purchased under Contract #1.

Specification Section 331216 (Water Utility Distribution Valves) – Added product specifications for materials not provided by Clarksburg Water Board and purchased under Contract #1.

C. DRAWINGS

Revised Plan Sheet 3 – Added a 24" EZ valve to the existing 24" water main.

Revised Plan Sheet 7 – Added a 24" water line and valve stub-out for future reconnection to Van Buren Street.

Revised Detailed Plan Sheet 11 - Added a 24" water line and valve stub-out for future reconnection to Hayes Street..

Revised Detail Sheet D4 – Replaced high pressure meter setting detail with low pressure meter setting.

Revised Detail Sheet D5 – Added fire hydrant detail.

D. QUESTIONS AND RESPONSES

1. QUESTION

Is all the work on WVDOH property?

RESPONSE

Most of the water line replacement and tie-ins are within the WVDOH right-of-way. South Chestnut Street is a West Virginia highway but all of the side streets belong to the City of Clarksburg.

Some of the water line work is within the property belonging to the Dollar General Store and some belonging to the Clarksburg Water Board.

2. QUESTION

What is the cost estimate?

RESPONSE

The estimated cost of construction will not be provided.

3. QUESTION

Where the water lines are reconnected, do we have to go under the existing 10- and 12-inch lines?

RESPONSE

Yes, the reconnections will have to go under the existing 10- and 12-inch water lines. The existing 10- and 12-inch water lines are to be abandoned in place after all reconnections are made.

4. QUESTION

What type of trench repair is required?

RESPONSE

Refer to the project drawings.

5. QUESTION

Are trench and HMA compaction testing required?

RESPONSE

Yes. The contractor is responsible for compaction testing. Refer to the project specifications, drawing details, and WVDOH notes on the drawing note sheet.

6. QUESTION

When are all Contract #1 materials expected to be delivered by?

RESPONSE

By mid- to late August.

7. QUESTION

What are the approximate lengths and types of the pipes to be installed on the project?

RESPONSE

The lengths and types of pipes provided by Clarksburg Water Board are included in this Addendum. The contractor shall note that there will be one (1) 24" EZ valve, one (1) 24" butterfly valve, and approximately 40 LF of 24" ductile iron pipe with fittings that were not purchased by CWB but are required as part of Addendum #1. The contractor shall provide the cost of any other water line material not provided by CWB, as deemed necessary to complete the work, in their bid.

8. QUESTION

Are there any portions of the project that will need to be bored?

RESPONSE

All trench excavation will be open cut. There are no bored or directionally drilled trenches.

9. QUESTION

Are the crossings to be jack & bored or directionally drilled?

RESPONSE

No. All crossings are open cut.

10. QUESTION

How do we drain the existing 24" water main to perform the reconnections?

RESPONSE

There is an existing 8" blow-off on the existing 24" water main that daylights to Arnolds Run. Refer to Sheet 2. There will also be a new 24" EZ valve installed on the existing 24" water main (refer to Sheet 3) approximately midway of the existing 24" main. The EZ valve will be utilized to isolate the existing 24" main for reconnections. After the new EZ valve is closed, the upper half can be isolated and the lower half can be drained through the existing 8" blowoff. The upper half can also be drained through the existing 8" blowoff by leaving the new EZ valve open. The EZ valve shall be removed and delivered to CWB upon completion of the work and the existing 24" water main capped. This work shall be incidental and no additional compensation shall be made

CLARIFICATIONS

1. The Pre-Bid Conference Notes from the Pre-Bid Conference are included.

2. The list of materials purchased by Clarksburg Water Board under Contract #1 are provided.

3. Do not provide a dollar amount for the bid bond. State only that the bid bond is 5% of the total bid price. Bids will be rejected if a dollar amount is provided.

4. Contact Clarksburg Water Board prior to operating any water line system valves.

5. Substantial and final completion periods are increased 60 calendar days to 120 and 150 calendar days respectively. Refer to the Advertisement for Bids, EJCDC C-111.

6. Valves to shut off the existing water lines, using EZ valves, shall be installed first, in case any existing water valves are inoperable.

7. Notify Clarksburg Water Board two to three business days prior to all water tie-ins. Anticipate a maximum of a 6-hour shutdown of the system when making tie-ins or other work requiring water stoppage.

8. Although Clarksburg Water Board has some repair collars in their inventory, it is strongly recommended that the Contractor maintain a supply of collars at the construction site.

9. Clarksburg Water Board can provide bacteriological testing of water samples as well as taking samples.

10. The contractor shall provide a 24-inch EZ valve approximately midway of the existing 24-inch water main in order to drain sections of the line for tie-in work.

11. Construction waste can be disposed at Posey Auto Parts, 542 Perry Hollow Road, Clarksburg. The contractor shall contact Mr. Darrell Posey at 304-622-6548 to make arrangement for disposal. The contractor is responsible for all required permits for the disposal of construction waste.

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 2:00 p.m. on Tuesday, July 11, 2023, at the

Clarksburg Water Board, 1001 S Chestnut Street, Clarksburg, WV 26301. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.

Gregory M. Belcher 7/3/2023

GREGORY M. BELCHER, P.E.
Project Manager

GREGORY M. BELCHER REGISTERED 12748 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

Enclosures: Pre-Bid Sign-In Sheet
Pre-Bid Notes
Contract #1 Material List
Revised Bid Form
Revised Specification Section 331113, Water Distribution Piping
Revised Specification Section 331216, Water Utility Distribution Valves
Revised Plan Sheet 3
Revised Plan Sheet7
Revised Detailed Plan Sheet 11
Revised Detail Sheet D4
Revised Detail Sheet D5

CLARKSBURG WATER BOARD
HARRISON COUNTY, WEST VIRGINIA
CONTRACT #2 – CHESTNUT STREET TRANSMISSION WATER LINE EXTENSION

PRE-BID CONFERENCE
Thursday, June 22, 2023

Thrasher Project #010-10203

Name	Representing	Phone #	Email Address
Steve Haynes	Thrasher	624-4108	shaynes@thethrashergroup.com
Steve Calvert	GreenRiver Group	304-288-1817	SCalvert@greenriverngroup LLC.com
Sean Phares	RDR UTILITY SERVICES GROUP	304.476.5286	sphares@rdrusg.com
Jonathan Eplin	Virco Contracting	304-542-1910	jonathan@vircocompany.com
Chris Allen	Virco	304 552 2906	c9llen250415@gmail.com
Chad Vandevender	Brian Vandevender Contracting	304-698-9799	BrianVcontracting@gmail.com
Dylan Bowers	Laurita Inc.	304-296-7531 304-276-3634	dbowers@Laurita.com
Roger Hull	Blue Ridge Construction	304 472.6408	hullscon@yahoo.com
Tony Closson	JF Allen Company	304-460-7424	Tclosson@JFAllenCo.Com

Name	Representing	Phone #	Email Address
Larry Gantz	CWB		
Clem Ferri	JR Contracting	412-680-9002	clem@jrconst.com
Doug Smith	The Thrasher Group	304-435-9184	dsmith@thethrashergroup.com

CLARKSBURG WATER BOARD
HARRISON COUNTY, WEST VIRGINIA
1001 South Chestnut Street
Clarksburg, WV 26301
Telephone # (304) 624-1624

CONTRACT #2 – CHESTNUT STREET TRANSMISSION WATER LINE EXTENSION

THE THRASHER GROUP, INC.
PO Box 940
Bridgeport, WV 26330
Telephone # (304) 624-4108
Fax # (304) 624-7831

PRE-BID CONFERENCE NOTES

Thursday, June 22, 2023

PROJECT LOCATION:	Harrison County, West Virginia
ENGINEER'S PROJECT #:	010-10203
DATE OF CONFERENCE:	Thursday, June 22, 2023, at 1:30 PM., LPT
CONFERENCE LOCATION:	**Clarksburg Water Board** **1001 South Chestnut Street** **Clarksburg, WV 26301**

PRE-BID CONFERENCE NOTES

I. Introductions

II. General Project Description

The project was generally described as per the Advertisement for Bids.

III. General Bidding Information

a. General – As per the Advertisement for Bids, bids are due at the Clarksburg Water Board, 1001 S Chestnut Street, Clarksburg, Harrison County, West Virginia, by 2:00 p.m., L.P.T., on Tuesday, July 11, 2023, at which time the bids will be publicly opened and read aloud.

b. Bid Opening Requirements – Described as per the blue sheets in the Contract Documents and Detailed Specifications.

c. Bid Form – Described as per the yellow sheets in the Contract Documents and Detailed Specifications.

d. Method of Award – Contingent upon sufficient funding for the project, the Owner may elect to award the contract to the lowest qualified Bidder, on the basis of the total bid.

IV. Details of Project

a. Construction Sequence of Events – Described as per the Index Sheet in the Plans.

b. Material and Equipment – A general description was provided as per the Bid Forms.

c. Prevailing Wages – Federal Davis-Bacon Wage Rates are not required for this project.

d. American Iron and Steel Requirements are not required for this project.

V. Submittals – Required for all materials used for the project as per Specification Sections 013300. Provide six (6) copies of all submittals.

VI. Permits – All required permits have been applied for by the owner and received.

VII. B & O Taxes/Building Permits –

a. Business and Occupation taxes are required.

b. No Building permits are required. However, the Contractor is required to obtain a Clarksburg City Business License for a nominal fee.

VIII. Geotechnical Report – None are available. All excavation is unclassified. No additional payment shall be made for rock or any unsuitable material.

IX. Office Trailer and Equipment, Storage Area, and Disposal Area

a. An office trailer for the Resident Project (RPR) Representative is required for this project. Space for the trailer is available at CWB's storage lot adjacent to the project site.

b. The Contractor is responsible for securing a storage area. Contractor storage is available at the CWB storage lot adjacent to the project site.

c. The Contractor is responsible for securing a disposal area.

X. Addressing Questions – All questions shall be written and provided to Mark Belcher by fax (304-624-7831) and email at mbelcher@thethrashergroup.com. The close of questions shall be 12:00 noon on Friday, June 30, 2023. All answers shall be provided in writing via Addenda.

XI. Addendum – At least one (1) Addendum will be written and supplied to all Plan Holders. All Addenda shall be acknowledged by the Contractor in the Bid Opening Requirements as well as the Bid Form.

The Addendum will also include the following:

1. A list of materials being supplied by Contract #1 will be provided.
2. Revised Sheet #7 indicating a new 24" water line stub out and butterfly valve for future tie-in to the Van Buren water line. The contractor shall supply all materials for the stub out.
3. Revised Detail Sheet D4 to indicate a single yoke, low pressure meter setting detail in lieu of double yoke, high pressure meter setting.
4. Detail for a fire hydrant relocation.
5. Revised Bid Form to include the 24" water line stub out and butterfly valve (Labor and Material).
6. Revised Spec Sections 331113 (Water Distribution Piping) and 331216 (Water Utility Distribution Valves) to provide material specifications for the 24" water line stub out and butterfly valve.

XII. Funding Agencies

a. Clarksburg Water Board.

XIII. Project Administrator – Clarksburg Water Board.

XIV. Owner – The following information was described by the Owner:

a. Project area cleanup is extremely important. All disturbed area shall be restored to conditions equal to or better than before construction begins. Restoration shall be performed in a timely basis as directed by the Engineer. Pre-construction photo/video documentation will be made by the Contractor and will be relied upon to establish pre-construction conditions.

b. The Contractor shall provide accurate, red-lined record/as-built drawings. These drawings shall be updated each day and shall be provided to the Owner as part of project close-out.

XV. Questions and Answers.

XVI. Site Visit – Conducted by Clarksburg Water Board staff.

CLARKSBURG WATER BOARD

HARRISON COUNTY, WEST VIRGINIA

CONTRACT #2 – CHESTNUT STREET TRANSMISSION WATER LINE EXTENSION

MATERIALS LIST

CONTRACT #1 – CHESTNUT STREET TRANSMISSION WATER LINE EXTENSION CITCO

1	2,100 LF	24" Zinc-Coated (Pressure Class 350) Ductile Iron Pipe w/ Push-On Joints
2	140 LF	16" Zinc-Coated (Pressure Class 350) Ductile Iron Pipe w/ Push-On Joints
3	40 LF	14" Zinc-Coated (Pressure Class 350) Ductile Iron Pipe w/ Push-On Joints
4	200 LF	8" (Pressure Class 350) Ductile Iron Pipe w/ Push-On Joints
5	160 LF	6" (Pressure Class 350) Ductile Iron Pipe w/ Push-On Joints
6	3 EA	Ductile Iron Fitting - 24" x 16" MJ Reducer
7	2 EA	Ductile Iron Fitting - 24" x 24" MJ Tee
8	1 EA	Ductile Iron Fitting - 24" x 24" MJ Cross
9	1 EA	Ductile Iron Fitting - 24" x 14" MJ Tee
10	6 EA	Ductile Iron Fitting - 24" x 12" MJ Tee
11	3 EA	Ductile Iron Fitting - 12" x 8" MJ Reducer
12	3 EA	Ductile Iron Fitting - 12" x 6" MJ Reducer
13	1 EA	Ductile Iron Fitting - 16" x 16" MJ Tee
14	1 EA	Ductile Iron Fitting - 16" x 6" MJ Tapping Sleeve
15	1 EA	Ductile Iron Fitting - 14" x 14" MJ Tee
16	1 EA	Ductile Iron Fitting - 8" x 8" MJ Tee
17	1 EA	Ductile Iron Fitting - 8" x 6" MJ Tee
18	3 EA	Ductile Iron Fitting - 6" x 6" MJ Tee
19	7 EA	Ductile Iron Fitting - 24" MJ 90° Fitting

20	16 EA	Ductile Iron Fitting - 24" MJ 45° Fitting
21	5 EA	Ductile Iron Fitting - 24" MJ 22.5° Fitting
22	7 EA	Ductile Iron Fitting - 24" MJ 11.25° Fitting
23	5 EA	Ductile Iron Fitting - 16" MJ 45° Fitting
24	4 EA	Ductile Iron Fitting - 8" MJ 90° Fitting
25	3 EA	Ductile Iron Fitting - 8" MJ 45° Fitting
26	2 EA	Ductile Iron Fitting - 8" MJ 22.5° Fitting
27	2 EA	Ductile Iron Fitting - 8" MJ 11.25° Fitting
28	3 EA	Ductile Iron Fitting - 6" MJ 90° Fitting
29	2 EA	Ductile Iron Fitting - 6" MJ 45° Fitting
30	2 EA	Ductile Iron Fitting - 6" MJ 22.5° Fitting
31	8 EA	24" MJ Cap (Solid)
32	1 EA	14" MJ Cap (Solid)
33	2 EA	12" MJ Cap (Solid)
34	2 EA	10" MJ Cap (Solid)
35	6 EA	8" MJ Cap (Solid)
36	6 EA	6" MJ Cap (Solid)
37	103 EA	Mechanical Joint Restraints (Megalug) - 24"
38	103 EA	Mechanical Joint Restraints (Megalug) - 24" Bolt Pack & Gasket
39	22 EA	Mechanical Joint Restraints (Megalug) - 16"
40	22 EA	Mechanical Joint Restraints (Megalug) - 16" Bolt Pack & Gasket
41	5 EA	Mechanical Joint Restraints (Megalug) - 14"
42	5 EA	Mechanical Joint Restraints (Megalug) - 14" Bolt Pack & Gasket
43	11 EA	Mechanical Joint Restraints (Megalug) - 12"
44	11 EA	Mechanical Joint Restraints (Megalug) - 12" Bolt Pack & Gasket
45	2 EA	Mechanical Joint Restraints (Megalug) - 10"
46	2 EA	Mechanical Joint Restraints (Megalug) - 10" Bolt Pack & Gasket
47	36 EA	Mechanical Joint Restraints (Megalug) - 8"

48	36 EA	Mechanical Joint Restraints (Megalug) - 8" Bolt Pack & Gasket
49	34 EA	Mechanical Joint Restraints (Megalug) - 6"
50	34 EA	Mechanical Joint Restraints (Megalug) - 6" Bolt Pack & Gasket
51	2 EA	24" CL150 EZ Valve
52	2 EA	Cast Iron Screw Valve Box for 24" EZ Valve
53	2 EA	Valve Box Plug for 24" EZ Valve
54	2 EA	Valve Box Adaptor for 24" EZ Valve
55	1 EA	16" CL150 EZ Valve
56	1 EA	Cast Iron Screw Valve Box for 16" EZ Valve
57	1 EA	Valve Box Plug for 16" EZ Valve
58	1 EA	Valve Box Adaptor for 16" EZ Valve
59	14 EA	24" CL150 Butterfly Valve
60	14 EA	Cast Iron Screw Valve Box for 24" Butterfly Valve
61	14 EA	Valve Box Plug for 24" Butterfly Valve
62	14 EA	Valve Box Adaptor for 24" Butterfly Valve
63	30 EA	Blue Water Valve 811 Fiberglass Marking Post w/ "Caution Water Valve Before Digging Call 811"
64	7 EA	16" CL150 Butterfly Valve
65	7 EA	Cast Iron Screw Valve Box for 16" Butterfly Valve
66	7 EA	Valve Box Plug for 16" Butterfly Valve
67	7 EA	Valve Box Adaptor for 16" Butterfly Valve
68	1 EA	14" CL150 Butterfly Valve
69	1 EA	Cast Iron Screw Valve Box for 14" Butterfly Valve
70	1 EA	Valve Box Plug for 14" Butterfly Valve
71	1 EA	Valve Box Adaptor for 14" Butterfly Valve
72	4 EA	8" Resilient Wedge Gate Valve
73	4 EA	Cast Iron Screw Valve Box for 8" Resilient Wedge Gate Valve
74	4 EA	Valve Box Plug for 8" Resilient Wedge Gate Valve
75	4 EA	Valve Box Adaptor for 8" Resilient Wedge Gate Valve

76	5 EA	6" Resilient Wedge Gate Valve
77	5 EA	Cast Iron Screw Valve Box for 6" Resilient Wedge Gate Valve
78	5 EA	Valve Box Plug for 6" Resilient Wedge Gate Valve
79	5 EA	Valve Box Adaptor for 6" Resilient Wedge Gate Valve
80	1 EA	6" Tapping Valve
81	1 EA	Cast Iron Screw Valve Box for 6" Tapping Valve
82	1 EA	Valve Box Plug for 6" Tapping Valve
83	1 EA	Valve Box Adaptor for 6" Tapping Valve
84	40 Rolls	Wax-Type, Non-Firming Anti-Corrosion Underground Pipe Wrap, for 24" DIP Fittings, 12" Wide x 18 Feet Long Roll
85	2 Rolls	Wax-Type, Non-Firming Anti-Corrosion Underground Pipe Wrap, for 16" DIP fittings, 9" Wide x 18 Feet Long Roll
86	25 Rolls	Wax-Type, Non-Firming Anti-Corrosion Underground Pipe Wrap, for 8" DIP Fittings, 4" Wide x 9 Feet Long Roll
87	2 EA	24" Hymax Coupling (Cast-Iron to Ductile Iron)
88	11 EA	16" Hymax Coupling (Cast-Iron to Ductile Iron)
89	1 EA	14" Hymax Coupling (Cast-Iron to Ductile Iron)
90	2 EA	8" Hymax Coupling (Cast-Iron to Ductile Iron)
91	6 EA	6" Hymax Coupling (Cast-Iron to Ductile Iron)
92	60 LF	1" Type K Copper Service Tubing
93	420 LF	3/4" Type K Copper Service Tubing
94	9 EA	24" x 3/4" Double Band Service Saddle
95	7 EA	20" Meter Box Cover w/ Locking 15" Overlapping Lid and Single Hole for Reading Module
96	1 EA	24" x 1" Double Band Service Saddle
97	19 EA	16" x 3/4" Double Band Service Saddle
98	7 EA	20" x 30" MS Plastic Meter Pit
99	27 EA	5/8" x 3/4 " Single Yoke Assembly w/ Drain Valve
100	27 EA	Flared Coupling
101	27 EA	3/4" x 3/4" Corporation Stop

102	3,000 LF	Magnetic Warning Tape (Blue)
103	2,500 LF	Tracer Wire
104	420 LF	2" PVC Casing

Revised per Addendum #1
June 29, 2023

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Clarksburg Water Board
1001 South Chestnut Street
Clarksburg, WV 26301

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

A. Bid Opening Requirements

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

GENERAL

The Bidder shall take notice of and shall be responsible for any local or state taxes levied and applicable, and the cost for the same shall be included as part of the submitted Bid.

The total Bid cost stated includes a complete operating installation including furnishing and installation of any and all changes or additions in plans, piping, mechanical work, additional electrical work, accessories, controls, etc. necessary to accommodate alternative equipment systems or materials used in construction.

BID PROPOSAL

The Bidder agrees to perform all required Work described in the detailed Specifications and as shown on the Plans for the complete construction and placing in satisfactory operation the Contract #2 – Chestnut Street Transmission Water Line Replacement. The Project "Sequence of Construction" has been detailed in the Drawings and Specification Division 1, Project Summary, Section 011000. The Bidder agrees to perform all the Work proposed for the total of the following Bid prices.

3.01 *Lump Sum Bids*

A. Bidder will complete the Work in accordance with the Contract Documents for the lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02 and shown in the bid schedule.

B. Lump Sum Bids may be one of the following:

1. Lump Sum Price (Single Lump Sum)

2. Lump Sum Price (Base Bid and Alternates)

3. Lump Sum Price (Sectional Lump Sum Bids)

C. All specified cash allowance(s) are included in the price(s) set forth in the bid schedule, and have been computed in accordance with Paragraph 13.02 of the General Conditions.

D. All specified contingency allowances are included in the price(s) set forth in the bid schedule, and have been computed in accordance with Paragraph 13.02 of the General Conditions.

3.02 *Unit Price Bids*

A. Bidder will perform the following Work at the indicated unit prices as shown in the Bid Schedule.

B. Bidder acknowledges that:

1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and

2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

3.03 *Total Bid Price (Lump Sum and Unit Prices)*

PROPOSED
CONTRACT #2 – CHESTNUT STREET TRANSMISSION WATER LINE REPLACEMENT
FOR THE

CLARKSBURG WATER BOARD
HARRISON COUNTY, WEST VIRGINIA

THRASHER PROJECT #010-10203

BID SCHEDULE

NOTE: Bid Unit Price amounts are to be shown in both words and figures. In case of discrepancy, the Bid Unit Price shown in words will govern. Bids shall include sales tax and all other applicable taxes and fees.

The Contractor shall include costs for any materials not provided by Clarksburg Water Board under Contract #1. Materials purchased under Contract #1 are provided in Addendum #1.

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
1	1	LS	Mobilization/Demobilization		
			_____ Dollars		
			_____ Cents	$ _____	$ _____
2	1	LS	Erosion and Sediment Control Measures		
			_____ Dollars		
			_____ Cents	$ _____	$ _____

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
3	2,100	LF	WVDOH Inspection Fee _____ Dollars _____ Cents	$ _____	$ _____
4	1	LS	Traffic Control _____ Dollars _____ Cents	$ _____	$ _____
5	1	LS	Video Recording _____ Dollars _____ Cents	$ _____	$ _____
6	600	LF	Restoration of Disturbed Area _____ Dollars _____ Cents	$ _____	$ _____
7	22	TN	Rubble Stone Rip Rap _____ Dollars _____ Cents	$ _____	$ _____
8	1,700	LF	WVDOH Type "A-1" Trench Repair with Controlled Low Strength Material (Flowable Fill), Rebar, and Hot Mixed Asphalt _____ Dollars _____ Cents	$ _____	$ _____
9	120	LF	WVDOH Type "B" Trench Repair _____ Dollars _____ Cents	$ _____	$ _____
10	90	LF	WVDOH Type "C" Trench Repair _____ Dollars _____ Cents	$ _____	$ _____
11	190	LF	Concrete Pavement Repair _____ Dollars _____ Cents	$ _____	$ _____

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
12	900	LF	Concrete Curb and Gutter Repair _____ Dollars _____ Cents	$ _____	$ _____
13	820	LF	Concrete Sidewalk Repair _____ Dollars _____ Cents	$ _____	$ _____
14	400	TN	1.5" Milling and Overlay of Bituminous Concrete Pavement (WVDOH Marshall Type (1) Wearing Course) _____ Dollars _____ Cents	$ _____	$ _____
15	2,100	LF	24" Pressure Class 350 Zinc-Coated Ductile Iron Pipe Water Line _____ Dollars _____ Cents	$ _____	$ _____
16	140	LF	16" Pressure Class 350 Zinc-Coated Ductile Iron Pipe Water Line _____ Dollars _____ Cents	$ _____	$ _____
17	40	LF	14" Pressure Class 350 Zinc-Coated Ductile Iron Pipe Water Line _____ Dollars _____ Cents	$ _____	$ _____
18	200	LF	8" Pressure Class 350 Zinc-Coated Ductile Iron Pipe Water Line _____ Dollars _____ Cents	$ _____	$ _____
19	180	LF	6" Pressure Class 350 Zinc-Coated Ductile Iron Pipe Water Line _____ Dollars _____ Cents	$ _____	$ _____
20	1	EA	Tie-In New 8" Water Line to Existing 10" Water Line _____ Dollars		

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
			_____ Dollars _____ Cents	$ _____	$ _____
21	1	EA	Tie-In New 8" Water Line to Existing 8" Water Line _____ Dollars _____ Cents	$ _____	$ _____
22	2	EA	Tie-In New 6" Water Line to Existing 16" Water Line Including One (1) 6" Tapping Sleeve and Valve _____ Dollars _____ Cents	$ _____	$ _____
23	2	EA	Tie-In New 24" Water Line to Existing 24" Water Line Including One (1) 24" Butterfly Valve _____ Dollars _____ Cents	$ _____	$ _____
24	2	EA	Tie-In New 24" Water Line to Existing 16" Water Line Including One (1) 16" Butterfly Valve _____ Dollars _____ Cents	$	$
25	1	EA	Tie-In New 24" Water Line to Existing 14" Water Line Including One (1) 14" Butterfly Valve _____ Dollars _____ Cents	$ _____	$ _____
26	3	EA	Tie-In New 24" Water Line to Existing 8" Water Line Including One (1) 8" Gate Valve _____ Dollars _____ Cents	$ _____	$ _____
27	3	EA	Tie-In New 24" Water Line to Existing 6" Water Line Including One (1) 6" Gate Valve _____ Dollars _____ Cents	$ _____	$ _____
28	1	EA	Tie-In New 24" Water Line to Existing 1" Water Line Including One (1) 1" Gate Valve _____ Dollars _____ Cents	$ _____	$ _____

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
29	1	EA	Tie-In New 16" Water Line to Existing 16" Water Line Including One (1) 16" Butterfly Valve _____ Dollars _____ Cents	$ _____	$ _____
30	1,800	LF	Abandon Existing 24" Cast Iron Pipe in Place _____ Dollars _____ Cents	$ _____	$ _____
31	25	LF	Abandon Existing 14" Cast Iron Pipe in Place with Flowable Fill _____ Dollars Cents	$	$
32	1,800	LF	Abandon Existing 12" Cast Iron Pipe in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____
33	2,200	LF	Abandon Existing 10" Cast Iron Pipe in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____
34	70	LF	Abandon Existing 8" Cast Iron Pipe in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____
35	4	EA	Abandon Existing 24" Butterfly Valve in Place _____ Dollars _____ Cents	$ _____	$ _____
36	1	EA	Abandon Existing 14" Butterfly Valve in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____
37	1	EA	Abandon Existing 12" Butterfly Valve in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
38	2	EA	Abandon Existing 8" Gate Valve in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____
39	3	EA	Abandon Existing 6" Gate Valve in Place with Flowable Fill _____ Dollars _____ Cents	$ _____	$ _____
40	420	LF	Open Cut 3/4" Soft Copper Tubing with 2" PVC Casing _____ Dollars _____ Cents	$ _____	$ _____
41	8	EA	Cut and Cap Existing 24" Water Line _____ Dollars _____ Cents	$ _____	$ _____
42	1	EA	Cut and Cap Existing 14" Water Line _____ Dollars _____ Cents	$ _____	$ _____
43	2	EA	Cut and Cap Existing 12" Water Line _____ Dollars _____ Cents	$ _____	$ _____
44	2	EA	Cut and Cap Existing 10" Water Line _____ Dollars _____ Cents	$ _____	$ _____
45	6	EA	Cut and Cap Existing 8" Water Line _____ Dollars _____ Cents	$ _____	$ _____
46	6	EA	Cut and Cap Existing 6" Water Line _____ Dollars		

Bid Item	Quantity		Description with Unit Price Written In Words	Unit Price (In Figures)	Total Price (In Figures)
			_____ Dollars _____ Cents	$ _____	$ _____
47	1	EA	Cut and Cap Existing 1" Water Line _____ Dollars _____ Cents	$ _____	$ _____
48	27	EA	3/4" Low Pressure Single Meter Setting with Relocated Water Meters _____ Dollars _____ Cents	$ _____	$ _____
49	27	EA	3/4" Connection to Existing Meter Setting _____ Dollars _____ Cents	$ _____	$ _____
50	15	EA	24" Butterfly Valve _____ Dollars _____ Cents	$ _____	$ _____
51	3	EA	24" (EZ) Valve _____ Dollars _____ Cents	$ _____	$ _____
52	1	EA	16" (EZ) Valve _____ Dollars _____ Cents	$ _____	$ _____
53	7	EA	16" Butterfly Valve _____ Dollars _____ Cents	$ _____	$ _____
54	4	EA	8" Gate Valve _____ Dollars _____ Cents	$ _____	$ _____

55	5	EA	6" Gate Valve		
				Dollars	
				Cents $	$

TOTAL BID: _____
(Words)

_____ ($_____)
(Words) (Figures)

(Bid Unit Price amounts are to be shown in both words and figures. In case of discrepancy, the Bid Unit Price shown in words will govern.)

3.04 *Method of Award*

If at the time this contract is to be awarded, the lowest total bid submitted by a qualified, responsive, responsible Bidder does not exceed the amount of funds then estimated by the Owner, as available to finance the contract, the construction contract will be awarded. If such bids exceeds such amount, the owner may reject all bids.

A. Unit prices have been computed in accordance with paragraph 13.03.A of the General Conditions.

B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

~~**ARTICLE 4 – BASIS OF BID – COST PLUS FEE**~~

4.01 ~~The Contract Price will be the Cost of the Work, determined as provided in Paragraph 13.01 of the General Conditions, together with the following fee, and subject to the Guaranteed Maximum Price.~~

4.02 ~~*Contractor's Fee*~~

~~A. Contractor's fee will be **[number]** percent of the Cost of the Work. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions.~~

~~1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed $**[insert cap amount]**, subject to increases or decreases for changes in the Work.~~

~~B. Contractor's fee will be determined by applying the following percentages to the various portions of the Cost of the Work as defined in Article 13 of the General Conditions. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions:~~

~~Costs~~	~~Percent~~
~~Payroll costs (See Paragraph 13.01.B.1, General Conditions)~~	
~~Materials and Installed Equipment cost (GC-13.01.B.2)~~	
~~Amounts to be paid to Subcontractors (GC-13.01.B.3)~~	
~~Amount to be paid to special consultants (GC-13.01.B.4)~~	
~~Other costs (GC-13.01.B.5)~~	

1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed $**[insert cap amount]**, subject to increases or decreases for changes in the Work.

C. Contractor's fee will be the fixed sum of $**[number]**.

4.03 *Guaranteed Maximum Price*

A. The Guaranteed Maximum Price to Owner of the Cost of the Work including Contractor's Fee will not exceed $**[Bidder fill in GMP]**.

Deleted

ARTICLE 5 – PRICE-PLUS-TIME BID

5.01 *Price-Plus-Time Contract Award (Stipulated Price Contract)*

A. The Bidder to which an award of the Contract will be made will be determined in part on the basis of the Total Bid Price and the total number of calendar days to substantially complete the Work, in accordance with the following:

	Description		Amount
A	1. Total Bid Price		$**[number]**
	2. Total number of calendar days to substantially complete the Work	**[number]** days	
	3. Liquidated Damages Rate (from Agreement)	$**[number]**/day	
B	4. Adjustment Amount (2 x 3)		$**[number]**
A+B	5. Amount for Comparison of Bids		$**[number]**

B. The purpose of the process in the table above is only to calculate the lowest price-plus-time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is the Total Bid Price.

C. Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.

5.02 *Price-Plus-Time Contract Award (Cost Plus Fee with Guaranteed Maximum Price Contract)*

A. The Bidder to which an award of Contract will be made will be determined in part on the basis of the Guaranteed Maximum Price and the total number of calendar days to substantially complete the Work, in accordance with the following:

	Description		Amount
A	1. Guaranteed Maximum Price		$**[number]**
	2. Total number of calendar days to substantially complete the Work	**[number]** days	
	3. Liquidated Damages Rate (from Agreement)	$**[number]**/day	
B	4. Adjustment Amount (2 x 3)		$**[number]**
A+B	5. Amount for Comparison of Bids		$**[number]**

B. The purpose of the process in the table above is only to calculate the lowest price-plus-time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is based on the cost of the Work, plus a fee, subject to a guaranteed maximum price, as set forth in the Agreement.

C. Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.

Deleted

ARTICLE 6—TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 ~~Bidder agrees that the Work will be substantially complete on or before **[Bidder inserts date]**, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **[Bidder inserts date]**.~~

Deleted

6.03 ~~Bidder agrees that the Work will be substantially complete within **[Bidder inserts number]** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **[Bidder inserts number]** calendar days after the date when the Contract Times commence to run.~~

Deleted

6.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

7.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

7.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

7.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 8—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

8.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or

subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

8.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:

   a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

   b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

Address for giving notices:

_____

_____

Bidder's Contact:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

Bidder's Contractor License No.: (if applicable) _____

SECTION 331113 - WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, and all related Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe and fittings for water lines.
2. Tapping sleeves and valves.
3. Valves.
4. Underground pipe markers.
5. Precast concrete vault.
6. Pipe supports and anchoring systems.
7. Bedding and cover materials.
8. Testing (Field Quality Control).

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Society of Mechanical Engineers:

1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

C. ASTM International:

1. ASTM A36 - Standard Specification for Carbon Structural Steel.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
4. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3).
5. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).

6. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
7. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
8. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
9. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
10. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
11. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
12. ASTM F2164 – Field Leak Testing of Polyethylene (PE) and Crosslinked Polyethylene (PEX) Pressure Piping Systems Using Hydrostatic Pressure

D. American Water Works Association:

1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
6. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
7. AWWA C153 - Ductile-Iron Compact Fittings.
8. AWWA C200 - Steel Water Pipe, 6 In. (150 mm) and Larger.
9. AWWA C203 - Coal-Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape - Hot-Applied.
10. AWWA C205 - Cement-Mortar Protective Lining and Coating for Steel Water Pipe - 4 In. (100 mm) and Larger - Shop Applied.
11. AWWA C206 - Field Welding of Steel Water Pipe.
12. AWWA C207 - Steel Pipe Flanges for Waterworks Service - Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).
13. AWWA C208 - Dimensions for Fabricated Steel Water Pipe Fittings.
14. AWWA C213 - Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines.
15. AWWA C300 - Reinforced Concrete Pressure Pipe, Steel-Cylinder Type.
16. AWWA C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type.
17. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
18. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
19. AWWA C605 - Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
20. AWWA C606 - Grooved and Shouldered Joints.
21. AWWA C700 - Cold-Water Meters - Displacement Type, Bronze Main Case.
22. AWWA C701 - Cold-Water Meters - Turbine Type, for Customer Service.
23. AWWA C702 - Cold-Water Meters - Compound Type.
24. AWWA C706 - Direct-Reading, Remote-Registration Systems for Cold-Water Meters.
25. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.

26. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In.(76 mm), for Water Service.
27. AWWA C905 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm) for Water Transmission and Distribution.
28. AWWA C909 - Polyvinyl Chloride
29. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

E. Manufacturers Standardization Society of the Valve and Fittings Industry:

1. MSS SP-60 - Connecting Flange Joints between Tapping Sleeves and Tapping Valves.

F. National Fire Protection Association:

1. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

1.4 SUBMITTALS

A. Product Data: Submit data on all materials and equipment.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

C. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.5 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of all installed materials and equipment.

B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

A. Perform Work according to AWWA standards.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store valves in shipping containers with manufacturer's labeling in place and inspect for damage. See Section 015000 – Temporary Facilities and Controls for material storage requirements.

B. Block individual and stockpiled pipe lengths to prevent moving.

C. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.

D. Store polyethylene and PVC materials out of sunlight.

1.8 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 PORTIONS OF THE FOLLOWING MATERIAL PRODUCTS SHALL BE PROVIDED BY THE OWNER UNDER CONTRACT #1 FOR INSTALLATION BY THE CONTRACTOR. A LIST OF MATERIALS PURCHASED BY CLARKSBURG WATER BOARD UNDER CONTRACT #1 IS PROVIDED IN ADDENDUM #1.

A. Water piping including fittings.

B. Tapping sleeves.

C. Water distribution valves, boxes, plugs, and adapters.

D. Underground pipe markers.

E. Meter boxes, frames, and lids.

F. Mechanical joints restraints.

G. Non-firming anticorrosion underground pipe wrap. (For fittings)

****(For any products not provided under Contract #1, the Contractor shall provide them in accordance with the following paragraphs.)**

2.2 WATER PIPING

A. Manufacturers: Same manufacturer as those purchased by Clarksburg Water Board under Contract #1.

B. Ductile-Iron Pipe:

1. Comply with AWWA C151.
2. Outside Coating: Zinc at 200 g/m² under top asphaltic topcoat as per ISO 8179-1.

3. Pipe Mortar Lining:

a. Comply with AWWA C104.
b. Double thickness.

4. Pipe Class:

a. Comply with AWWA C151.

b. Thickness Class or Pressure Class as shown in the Drawings and/or described in the Pay Item(s).

5. Fittings:

a. Material: Ductile iron, AWWA C110.
b. Compact Fittings: Comply with AWWA C153.
c. Coating and Lining:

1) Bituminous Coating: Comply with AWWA C110.
2) Cement Mortar Lining: Comply with AWWA C104, double thickness.

d. Anticorrosion Fitting Wrap:

1) Below-ground use type.
2) Non-firming.
3) Blend of microcrystalline waxes, plasticizers, and corrosion inhibitors saturated into a non-woven, non-stitch bonded synthetic fabric, forming a tape wrapper.
4) No siliceous mineral fillers accepted.
5) Manufacturer: Trenton Wax-Tape #1 Non-Firming Tape for Belowground Use.

e. All underground fittings shall be **Domestic Made Only** mechanical joint ductile iron unless otherwise noted.
f. Mechanical joint retainer restraints shall be EBAA Iron Sales, Inc. (Megalug).

6. Joints:

a. Push-On Joints: Comply with AWWA C111.

2.3 PIPE SUPPORTS AND ANCHORING

A. Metal for Pipe Support Brackets: Structural steel, galvanized, thoroughly coated with bituminous paint.

B. Metal Tie Rods and Clamps or Lugs: Galvanized steel sized according to NFPA 24, thoroughly coated with bituminous paint.

2.4 CONCRETE ENCASEMENT AND CRADLES

A. Concrete:

1. As specified in Section 033000 - Cast-in-Place Concrete.
2. Type: reinforced- if reflected in Drawings.
3. Compressive Strength:4,000 psi at 28 days.
4. Finish: Rough troweled.

B. Concrete Reinforcement: As specified in Section 032000 - Concrete Reinforcing.

2.5 BEDDING AND COVER MATERIALS

A. Bedding: As shown in Trench Detail(s) in the Drawings.

B. Cover: As shown in the Trench Detail(s) in the Drawings and as specified in Section 312316.13 – Trenching.

2.6 ACCESSORIES

A. Concrete for Thrust Restraints: As shown in the Details(s) in the Drawings.

B. All-Thread and Bolts: Comply with ASTM A36 or ASTM A307, coated with coal tar after installation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that trench excavation base is ready to receive work.

B. Verify that existing utility water main size, location, and invert are as indicated on Drawings.

3.2 PREPARATION

A. Correct over-excavation as specified in Section 312316.13 – Trenching.

B. Remove large stones or other hard materials that could damage pipe or impede consistent backfilling or compaction.

C. Protect and support existing utilities and appurtenances.

D. Pipe Cutting:

1. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.
2. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted.
3. Grind edges smooth with beveled end for push-on connections.

E. Remove scale and dirt on inside and outside before assembly.

F. Prepare pipe connections to equipment with flanges or unions.

3.3 INSTALLATION

A. Bedding:

1. Excavation:

   a. Excavate pipe trench as specified in Section 312316.13 – Trenching for Work of this Section.

2. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.
3. Provide sheeting and shoring if required and as specified in Section 312316.13 - Trenching.
4. Place bedding material as shown in the Trench Detail(s) in the Drawings and compact to 95 percent of maximum dry density as per ASTM D698 or 100 percent of the surrounding ground density.

B. Piping:

1. Install pipe according to AWWA C600 and/or AWWA C605.
2. Handle and assemble pipe according to manufacturer instructions and as indicated on Drawings.
3. Steel Rods, Bolt, Lugs, and Brackets: Coat buried steel with one coat of coal tar coating before backfilling.
4. Maintain 10 feet horizontal separation of water main from sewer piping and 18" vertical separation from sewer line.
5. Install ductile-iron piping and fittings according to AWWA C600.
6. Bearing:

   a. Install pipe to have bearing along entire length of pipe.
   b. Do not lay pipe in wet or frozen trench.

7. Prevent foreign material from entering pipe during placement.
8. Install pipe to allow for expansion and contraction without stressing pipe or joints.
9. Close pipe openings with watertight plugs during Work stoppages.
10. Install access fittings to permit disinfection of water system performed under Section 331300 - Disinfecting of Water Utility Distribution.
11. Cover:

    a. Establish elevations of buried piping with not less than thecover shown in the Trench Details(s) in the Drawings.
    b. Measure depth of cover from final surface grade to top of pipe barrel.

12. Pipe Markers:

    a. Install plastic ribbon tape continuous buried 18inches below finish grade. Install tracer wire above piping where shown in the Trench Detail(s) in the Drawings.
    b. Coordinate with trench Work as specified in Section 312316.13 – Trenching.

C. Valves:

1. Install valves as specified in Section 331216 - Water Utility Distribution Valves.

D. Tapping Sleeves and Valves:

1. As indicated on Drawings and according to manufacturer instructions.

E. Thrust Restraints:

1. Provide valves, tees, bends, caps, and plugs with concrete thrust blocks.
2. Pour concrete thrust blocks against undisturbed earth.
3. Locate thrust blocks at each elbow or change of pipe direction to resist resultant force and to ensure that pipe and fitting joints will be accessible for repair.
4. See drawings for sq. ft. of thrust restraint bearing on subsoil.
5. Install tie rods, clamps, setscrew retainer glands, or restrained joints.
6. Protect metal-restrained joint components against corrosion by applying a bituminous coating, was tape or encasing metal area using concrete mortar.
7. Do not encase pipe and fitting joints to flanges.
8. Install thrust blocks, tie rods, and joint restraint at dead ends of water main.

F. Service Connections:

1. As specified in Section 331213 - Water Service Connections.

G. Backfilling:

Furnish and place bedding as shown in the Trench Detail(s) in the Drawings. Place backfill over bedding in maximum lifts of eight inches (8") unless otherwise required by Authorities having jurisdiction. Tamp in place. Compact to 95 percent of maximum dry density as per ASTM D698 or 100 percent of the surrounding ground density. Maintain optimum moisture content of backfill material to attain required compaction density. Backfill around sides and to top of pipe as specified in Section 312316.13 – Trenching and as shown in the Trench Detail(s) in the Drawings.

H. Disinfection of Potable Water Piping System:

1. As specified in Section 331300 - Disinfecting of Water Utility Distribution.

3.4 FIELD QUALITY CONTROL

A. Request inspection by Engineer prior to and immediately after placing bedding.

B. Pressure test the system according to AWWA C600 and following:

1. Test Pressure: Not less than 200 psig or 50 psi in excess of maximum static pressure, whichever is greater.
2. Conduct hydrostatic test for at least two hours.

3. Slowly fill section to be tested with water; expel air from piping at high points. Install corporation cocks at high points. Close air vents and corporation cocks after air is expelled. Raise pressure to specified test pressure.
4. Observe joints, fittings, and valves under test. Remove and renew cracked pipes, joints, fittings, and valves showing visible leakage. Retest.
5. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate. Maintain pressure within plus or minus 5 psi of test pressure. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of test.
6. Compute maximum allowable leakage using following formula:

    a. $L = SD \times \sqrt{P}/C$.

        1) L = testing allowance, gph.
        2) S = length of pipe tested, feet.
        3) D = nominal diameter of pipe, inches.
        4) P = average test pressure during hydrostatic test, psig.
        5) C = 148,000.

    b. If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.

7. Leakage:

    a. If test of pipe indicates leakage greater than allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
    b. Correct visible leaks regardless of quantity of leakage.

C. Where significant lengths of mainline HDPE pipe are located in the system and those sections cannot meet the testing requirements of AWWA C600 and as described above, those sections of HDPE pipe may be isolated and tested according to ASTM F2164 as directed by the Engineer.

D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

E. Frequency of Compaction Tests: As required under Section 312316.13 – Trenching.

END OF SECTION 331113

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SECTION 331216 - WATER UTILITY DISTRIBUTION VALVES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, and all related Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Valves.
2. Valve boxes.

1.3 REFERENCE STANDARDS

A. American Water Works Association:

1. AWWA C504 - Rubber-seated Butterfly Valves, 3in (75mm) through 72in (1,800mm).
2. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
3. AWWA C550 - Protecting Interior Coatings for Valves and Hydrants.
4. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.

B. NSF International:

1. NSF 61 - Drinking Water System Components - Health Effects.
2. NSF 372 - Drinking Water System Components - Lead Content.

1.4 COORDINATION

A. Section 013000 - Administrative Requirements: Requirements for coordination.

1.5 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit manufacturer's latest published literature. Include illustrations, installation and maintenance instructions, and parts lists.

1.6 CLOSEOUT SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of valves.

C. Operation and Maintenance Data: Submit information for valves.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for maintenance materials.

1.8 QUALITY ASSURANCE

A. Cast manufacturer's name, pressure rating, and year of fabrication into valve body.

B. Perform Work according to applicable AWWA standards.

1.9 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section.

B. Installer: Company specializing in performing Work of this Section.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves and accessories for shipment according to applicable AWWA standards.

B. Seal valve and ends to prevent entry of foreign matter.

C. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

D. Storage:

1. Store materials in areas protected from weather, moisture, or other potential damage.
2. Do not store materials directly on ground.

E. Handle products carefully to prevent damage to interior or exterior surfaces.

PART 2 - PRODUCTS

2.1 PORTIONS OF THE FOLLOWING MATERIAL PRODUCTS SHALL BE PROVIDED BY THE OWNER UNDER CONTRACT #1 FOR INSTALLATION BY THE CONTRACTOR. A LIST OF MATERIALS PURCHASED BY CLARKSBURG WATER BOARD UNDER CONTRACT #1 IS PROVIDED IN ADDENDUM #1.

A. Gate valves (8" and 6").

B. Butterfly valves (24", 16", and 14").

C. EZ valves (24").

D. Valve boxes, plugs, and adapters.

E. Mechanical joint retainer restraints.

F. Valve box aligner.

2.2 ACCESSORIES

A. Concrete for Thrust Restraints: As per detail(s) in the Plans.

B. Valve Box Aligner: High-strength plastic device designed to automatically center valve box base and to prevent it from shifting off center during backfilling.

****(For any material products not provided under Contract #1, the Contractor shall provide in accordance with the following paragraphs.)**

2.3 RESILIENT WEDGE GATE VALVES

A. Manufacturer: Clow Valve Co, as provided by CITCO under Contract #1.

B. Description:

1. Comply with AWWA C509.
2. Materials:

    a. Body: Ductile iron.

3. Seats: Resilient.
4. Stem:

a. Type: Non-rising.
b. Material: Bronze conforming to ASTM B62.

5. Operation:

a. Square operating nut.
b. Open counterclockwise unless otherwise indicated.

6. End Connections: Mechanical joint.
7. Coatings:

a. Comply with AWWA C550.
b. Interior and exterior.

8. Pressure Rating:

a. 12-inch Diameter and Smaller: 200 psig.

2.4 BUTTERFLY VALVES

A. Manufacturer: Milliken/Pratt Valve Co., as provided by CITCO under Contract #1.

B. Description:

1. Comply with AWWA C504.
2. Materials:

a. Body: High-strength cast-iron, ASTM A126 Class B or ASTM A48 CL40.
b. Disc: Cast iron, ASTM A48 with Ni-Chrome or Type 316 stainless steel edge.

3. Seats: Resilient replaceable
4. Stem:

a. Type: Non-rising.
b. Material: Stainless steel type 316, conforming to ASTM A276.
c. Extension stems where required.

5. Operation:

a. Two-inch (2") operating nut with set screw, sealed, gasketed, and lubricated for underground service. Able to accept a standard T-wrench to allow open and close operation.
b. Open counterclockwise unless otherwise indicated.
c. Valve position indicator at ground level located at the top of the valve box, complete with cast iron adaptor and cap screws, guide bushing, position indicator, and flexible washer.

6. End Connections: mechanical joint.
7. Coatings:

a. Comply with AWWA C504.
b. Interior and exterior.

8. Pressure rating:

a. Greater than 12" diameter: 150 psi working, 300 psi static.

C. Mark manufacturer's name and pressure rating on valve body.

2.5 VALVE BOXES

A. Manufacturers:

1. Sigma, as provided by CITCO under Contract #1.

B. Description:

1. 12-inch Diameter Valves and Smaller:

a. Material: Cast iron.
b. Type: Two-piece, screw.

2. Valves Larger than 12-inch Diameter:

a. Material: Cast iron.
b. Type: Three-piece, screw.
c. Base: Round.

3. Lid Inscription: WATER.

2.6 VALVE BOX ACCESSORIES

A. Adaptor: Adaptor Inc., as provided by CITCO under Contract #1.

B. Plug: Mud plug type, INFACT Corporation, as provided by CITCO under Contract #1.

C. Valve Box Aligner: High-strength plastic device designed to automatically center valve box base and to prevent it from shifting off center during backfilling.

D. Mechanical joint retainer restraints shall be appropriate for pipe material.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.

B. Determine exact location and size of valves from Drawings.

3.2 PREPARATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Conduct operations to not interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures, utilities, and landscape in immediate or adjacent areas.

C. Identify required lines, levels, contours, and datum locations.

D. Locate, identify, and protect from damage utilities to remain.

E. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.

3.3 INSTALLATION

A. Perform trench excavation, backfilling, and compaction as specified in Section 331113 - Water Distribution Piping.

B. Install valves in conjunction with pipe laying.

C. Set valves plumb.

D. Provide buried valves with valve boxes installed flush with finished grade.

E. Disinfection of Water Piping System:

1. Flush and disinfect system as specified in Section 331300 - Disinfecting of Water Utility Distribution.

3.4 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Requirements for inspecting and testing.

B. Pressure test system according to AWWA C600 and following:

1. Test Pressure: Not less than 200 psig or 50 psi in excess of maximum static pressure, whichever is greater.
2. Conduct hydrostatic test for at least two hours.
3. Slowly fill section to be tested with water and expel air from piping at high points.
4. Install corporation cocks at high points.
5. Close air vents and corporation cocks after air is expelled.
6. Raise pressure to specified test pressure.
7. Observe joints, fittings, and valves under test.

8. Remove and replace cracked pipes, joints, fittings, and valves that show visible leakage and retest.
9. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate, maintaining test pressure within plus or minus 5.0 psi.
10. Leakage is defined as quantity of water supplied to piping as necessary to maintain test pressure during testing period.
11. Compute maximum allowable leakage using following formula:

    a. $L = SD \times \sqrt{P}/C$

        1) L = testing allowance, gph
        2) S = length of pipe tested, feet
        3) D = nominal diameter of pipe, inches
        4) P = average test pressure during hydrostatic test, psig
        5) C = 148,000

    b. If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.

12. If test of pipe indicates leakage greater than that allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
13. Correct visible leaks regardless of quantity of leakage.

END OF SECTION 331216

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TM 21 PAR 240
CLARK–CLARKSBURG DISTRICT
CONC. CURB AND GUTTER
A/C UNITS
SALVATION ARMY SIGN
SALVATION ARMY ACTIVITIES CENTER
CONCRETE ENTRANCE WITH COVER
CONCRETE SIDEWALK
HMA CURB
SALVATION ARMY SIGN
TM 21 PAR 241
CLARK–CLARKSBURG DISTRICT
STORAGE UNITS
GRAVEL
CHAIN LINK FENCE
SWINGING FENCE GATE
CHST–149
DI 6
RIM=966.63
18" PVC IN=962.94
18" PVC OUT=962.69
APPROX STORM MH 5 COVERED RIM=970.21
24" DIP WASTE WATER
CHST–151
STORM MH
RIM=960.62
30"/36" CAPPED
OUT=948.62
CURB AND GUTTER
APPROX. LOCATION OF 12" CAP
UTILITY POLE
CR 25/99
(GROUT AND ABANDON EXISTING 10" WATER LINE IN PLACE)
24" 45° FITTING
SECURE UTILITY POLE DURING CONSTRUCTION
REMOVE AND REPLACE SECTION OF 16" MAIN TO ELIMINATE 10" & 12" CONNECTIONS
12" BUTTERFLY VALVE (CLOSE, GROUT AND ABANDON IN PLACE)
16" WATER VALVE (SIZE FROM SYSTEM MAP)
8" WATER VALVE (SIZE FROM SYSTEM MAP)
(2) 16" BUTTERFLY VALVES
(4) CONNECT TO EXISTING 16" WATER LINE
RECONNECTION #4 (SEE SHEET #10)
SOUTH CHESTNUT STREET
CONNECT TO EXISTING 16" WATER LINE
SECURE UTILITY POLE DURING CONSTRUCTION
6" GATE VALVE (CLOSE, GROUT AND ABANDON IN PLACE)
(GROUT AND ABANDON EXISTING 12" WATER LINE IN PLACE)
6" STEEL LOW PRESSURE GL
24" (PRESSURE CLASS 350) DIP WATER LINE
24" WATER VALVE (SIZE FROM SYSTEM MAP)
12" WATER VALVE (SIZE FROM SYSTEM MAP)
24" BUTTERFLY VALVE (CLOSE, GROUT AND ABANDON IN PLACE)
24"X24" TEE W/ (3) 24" BUTTERFLY VALVES
TELEPHONE OFF POLE
WVDOH R/W
RECONNECTION #3 (SEE SHEET #10)
(ABANDON EXISTING 24" WATER LINE IN PLACE)
24" BUTTERFLY VALVE (REPLACE, CLOSE, GROUT AND ABANDON IN PLACE)
24" CAPS
(ABANDON EXISTING 24" WATER LINE IN PLACE)
INSTALL 24" EZ VALVE
MATCH MARK SHEET #4 STA. 7+00
MATCH MARK SHEET #2
CONCRETE DRIVEWAY REPAIR
6" WATER VALVE (SIZE FROM SYSTEM MAP)
(ABANDON EXISTING 6" WATER LINE IN PLACE)
EXISTING 16" WATER LINE TO REMAIN IN PLACE
15' PERMANENT WATER LINE EASEMENT
ABANDON EXISTING 24" WATER LINE IN PLACE
24" WATER VALVE (SIZE FROM SYSTEM MAP)
24" CAPS
24" WATER VALVE (SIZE FROM SYSTEM MAP)
24" (PRESSURE CLASS 350) DIP WATER LINE
STORM MH 1 RIM=968.41
24" 90° FITTING
ABANDONED 8" TC
24"X24" TEE W/ (2) 24" BUTTERFLY VALVES
24" BUTTERFLY VALVE (CLOSE, GROUT AND ABANDON IN PLACE)
TM 21 PAR CLARK–CLARKSBURG DISTRICT
24" WATER LINE TO TREATMENT PLANT
CHST–152
DI 5
RIM=959.66
15" CPP OUT=955.86
30' TEMPORARY CONSTRUCTION EASEMENT
CHST–150
SDMH MH–4
RIM=965.26
18"RCP IN=961.31
30"RCP IN=960.86
8"TC IN=961.06
18"RCP IN=962.49
36"RCP OUT=958.45
CONNECT TO EXISTING 24" D.I. WATER LINE
CLARKSBURG WATER BOARD SIGN
TM 21 PAR 242
CLARK–CLARKSBURG DISTRICT
MH
RIM=962.75
FL=954.05
24" 45° FITTING
24" RAW WATER
6" CAP
6"X6" TEE
24" 45° FITTING
UTILITY POLE
STEEL BOLLARD
(1) 24X12" TEE
(1) 12"X6" REDUCER
(1) 6" GATE VALVE
6" 90° FITTING
MAIL BOX
FIRE HYDRANT
CONNECT TO EXISTING 6" C.I. WATER LINE
15' PERMANENT WATER LINE EASEMENT
30' TEMPORARY CONSTRUCTION EASEMENT
30" DIP WASTE WATER
24" DIP WASTE WATER
16" C.I. WL
12" C.I. WL
10" C.I. WL
24" C.I. WL
30" RCP
NOTE: AFTER NEW 24" MAIN IS ACTIVE, CUT, CAP, AND BLOCK EX. 24" WATER LINE WHERE INDICATED
MOST COLORED FEATURES EXCEPT GAS LINE ARE SHOWN BASED UPON FIELD SURVEYED LOCATIONS. GAS LINES ARE SHOWN IN APPROXIMATE LOCATION BASED UPON EMAILED IMAGES OF SYSTEM PROVIDED BY ZACHARY NEFF DATED 6/02/22.
10' 0 10' 20'

LAYOUT TAB: 3
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USER: andrew sayre

NO.	BY	DATE	DESCRIPTION
1	AS	6/30/23	ADDENDUM #1

WEST VIRGINIA 811

SCALE: AS NOTED
DRAWN: A. SAYRE DATE: 06/2023
CHECKED: M. BELCHER DATE: 06/2023
APPROVED: M. BELCHER DATE: 06/2023
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

THRASHER
600 WHITE OAKS BLVD. P.O. BOX 940
BRIDGEPORT WV 26330
www.thethrashergroup.com
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FAX (304) 624–7831

PHASE No. 1
CONTRACT No. 2
PROJECT No. 101–010–10203.00

CLARKSBURG WATER BOARD
TASK ORDER #4 CHESTNUT STREET
TRANSMISSION WATER LINE REPLACEMENT
HARRISON COUNTY, WEST VIRGINIA
PLAN SHEET

SHEET No. 3

NOTE: ALL WATER METER SETTINGS INDICATED AS "LEAD" SHALL BE REPLACED AND CONNECTED AS SHOWN. CLARKSBURG WATER BOARD SHALL PROVIDE ALL CORPORATION STOPS, SADDLES, SERVICE TUBING, CHECK VALVES, METER WELLS, RING/LIDS, METERS AND ALL OTHER REQUIRED METER SETTING APPURTENANCES. CONTRACTOR SHALL RE-CONNECT SERVICE LINES, INCLUDING ALL ASSOCIATED WORK.

TM 21 PAR 21 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 8 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 11.1 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 22 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 1 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 34 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 23 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 9 CLARK-CLARKSBURG DISTRICT
TM 21 PAR 2 CLARK-CLARKSBURG DISTRICT

RESIDENCE
SPAG'S EXXON SERVICE CENTER
CARPORT
CANOPY
SPAG'S EXXON SIGN
ART BY CRIM SIGN
SHRUBS
HEDGES
A/C
TREATED WOOD PORCH AND STAIRS
GRAVEL
CONC. SIDEWALK
POLE
UTILITY POLE
BROKEN UTILITY POLE (NO LINES)
SUNKEN AREA IN GRASS
STREET SIGN
CONC. STEPS W/ 12" HIGH CONC. WALL
CONC. STEPS
HMA
GRASS
CONC. CURB AND GUTTER
4" STEEL LOW PRESSURE GL
MEDIUM PRESSURE GL
WVDOH R/W
CITY R/W
LOD
1020
1035
1037.8
1038.5
1039.4

MATCH MARK SHEET #6
STA. 15+30

CONCRETE CURB REPLACEMENT
CONCRETE PAVEMENT REPAIR
CONCRETE SIDEWALK REPLACEMENT
24" (PRESSURE CLASS 350) DIP WATER LINE
REPLACE LEAD SERVICE LINE AND WATER METER
RECONNECTION #8 (SEE SHEET #11)
HMA PAVEMENT REPAIR
24"X12" TEE
12"X8" REDUCER
WVDOH TYPE "A-1" TRENCH REPAIR
PUBLIC NOTICE SIGN
24" 90° FITTING
RECONNECTION #9 (SEE SHEET #11)
REPLACE LEAD SERVICE LINE (RE-USE WATER METER)
WVDOH TYPE "A-1" TRENCH REPAIR
CONCRETE CURB REPAIR
REPLACE LEAD SERVICE LINE (RE-USE WATER METER)

CHST-125 DI 18
CHST-126 MH RIM=1034.84 PAVED OVER
CHST-127 DI 19 RIM=1036.42 12" OR 15" TOP PIPE=1034.82 DEBRIS
CHST-128 MH RIM=1037.23'

10" C.I. WL
16" C.I. WL
12" C.I. WL
24" C.I. WL
8" C.I. WL

(GROUT AND ABANDON EXISTING 10" WATER LINE IN PLACE)
SOUTH CHESTNUT STREET
(GROUT AND ABANDON EXISTING 12" WATER LINE IN PLACE)
EX. STORM DRAIN (SIZE UNKNOWN)
WVDOH TYPE "A-1" TRENCH REPAIR
CR 25/99
INSTALL 16" INSERTION VALVE
CONCRETE CURB REPAIR
8" GATE VALVE
WVDOH TYPE "A-1" TRENCH REPAIR
EX. STORM DRAIN SIZE UNKNOWN
CONNECT TO EXISTING 16" C.I. WATER LINE
1.5" HMA MILLING AND OVERLAY
(ABANDON EXISTING 24" WATER LINE IN PLACE)
1.5" HMA MILLING AND OVERLAY
8" GATE VALVE (CLOSE, GROUT AND ABANDON IN PLACE)
ABANDON EXISTING 8" WATER LINE IN PLACE
CUT AND CAP EXISTING 8" C.I. WATER LINE
8"X8" TEE
CONNECT TO EXISTING 8" C.I. WATER LINE
INSTALL 8" GATE VALVE
GARFIELD ROAD
8" (PRESSURE CLASS 350) DIP WATER LINE
24" 90° FITTING
CONNECT TO EXISTING 16" C.I. WATER LINE
INSTALL 24" BUTTERFLY VALVE
20 LF STUB OUT OF 24" DIP WATER LINE W/ CAP
8" 90° FITTING
REMOVE 24" VALVE JAR AND STEM AND PLATE VALVE
HAYES STREET
INSTALL 24" EZ VALVE
SOUTH CHESTNUT STREET
MATCH MARK SHEET #8

16" WATER VALVE (SIZE FROM SYSTEM MAP)
24" CAPS
20" WATER VALVE #2200 (SIZE FROM SYSTEM MAP)
24" WATER VALVE #2199 (SIZE FROM SYSTEM MAP)
10" C.I. WL

CHST-122 DI 22 RIM=1040.28 15" STL OUT=1038.28
CHST-123 DI 23 RIM=1039.07 15" STL IN=1036.46 UNK OUT=1036.04
CHST-124 DI 17 RIM=1034.87 15" RCP IN=1030.72 15" RCP OUT=1030.47
CHST-120 DI 20 RIM=1038.74 12-15" IN=1033.91 12-15" OUT=1033.74
CHST-121 DI 21 RIM=1042.36 UNK OUT=1040.61
CH-97 APPROX MH PAVED OVER RIM=1038.55

MOST COLORED FEATURES EXCEPT GAS LINE ARE SHOWN BASED UPON FIELD SURVEYED LOCATIONS. GAS LINES ARE SHOWN IN APPROXIMATE LOCATION BASED UPON EMAILED IMAGES OF SYSTEM PROVIDED BY ZACHARY NEFF DATED 6/02/22.

10' 0 10' 20'

NO.	BY	DATE	DESCRIPTION
1	AS	6/26/23	ADDENDUM #1

WEST VIRGINIA 811

SCALE: AS NOTED
DRAWN: A. SAYRE DATE: 06/2023
CHECKED: M. BELCHER DATE: 06/2023
APPROVED: M. BELCHER DATE: 06/2023
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

THRASHER
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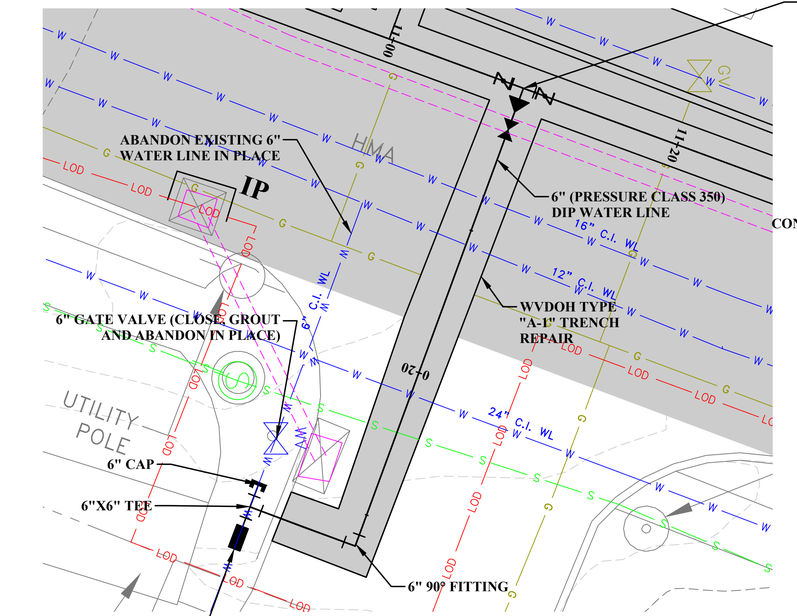
PHASE No. 1
CONTRACT No. 2
PROJECT No. 101-010-10203.00

CLARKSBURG WATER BOARD
TASK ORDER #4 CHESTNUT STREET
TRANSMISSION WATER LINE REPLACEMENT
HARRISON COUNTY, WEST VIRGINIA
PLAN SHEET

SHEET No. 7



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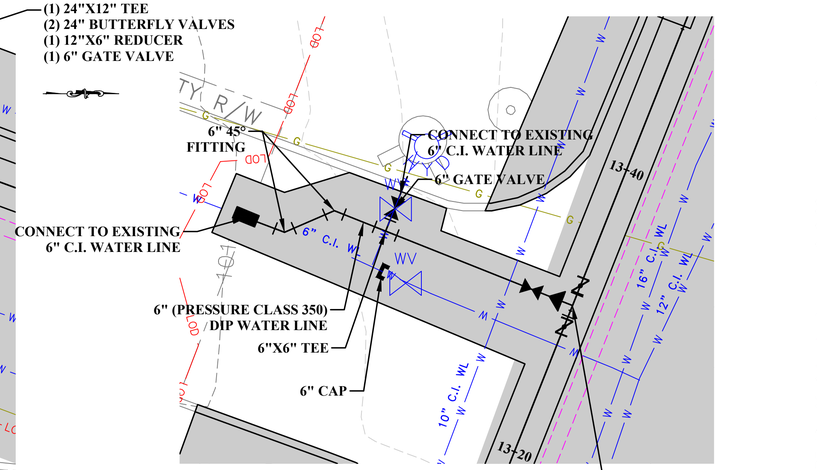

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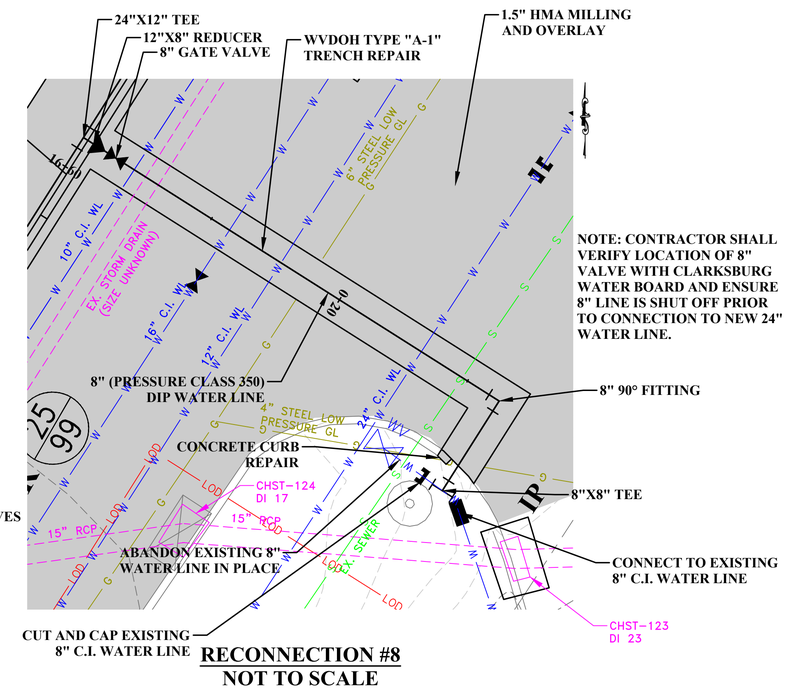

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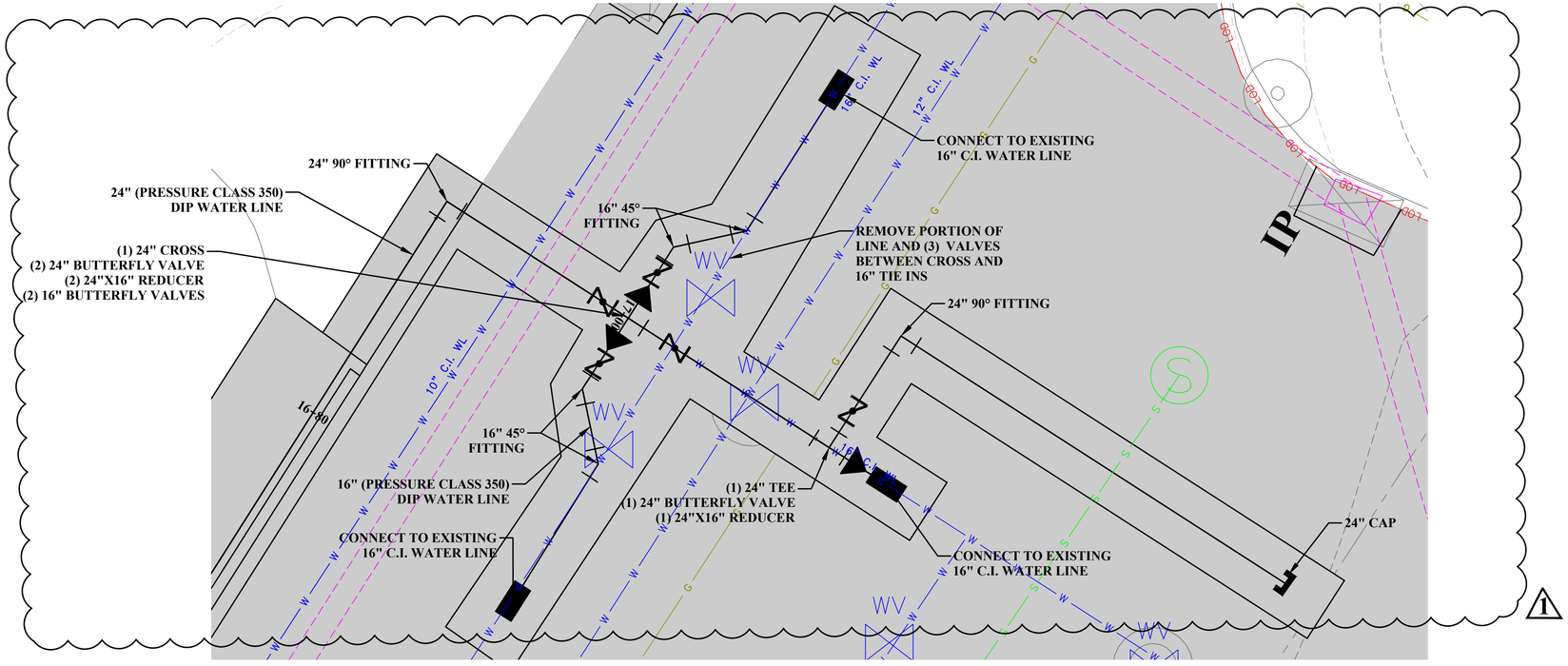
NOT TO SCALE



RECONNECTION #9
NOT TO SCALE

NO.	BY	DATE	DESCRIPTION
1	AS	6/26/23	ADDENDUM #1

WEST VIRGINIA 811

SCALE:	AS NOTED
DRAWN:	A. SAYRE DATE: 06/2023
CHECKED:	M. BELCHER DATE: 06/2023
APPROVED:	M. BELCHER DATE: 06/2023
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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FAX (304) 624-7831

PHASE No.	I
CONTRACT No.	2
PROJECT No.	101-010-10203.00

CLARKSBURG WATER BOARD
TASK ORDER #4 CHESTNUT STREET
TRANSMISSION WATER LINE REPLACEMENT
HARRISON COUNTY, WEST VIRGINIA
RECONNECTION WATER LINE DETAILS

SHEET No. 11

LAYOUT TAB: 11
CAD FILE: R:\010\010-10203.00-CWB-Task Order 4-Clarksburg Water Board-\Drawing\002-RECONNECTION_WATER_LINE_DETAILS.dwg
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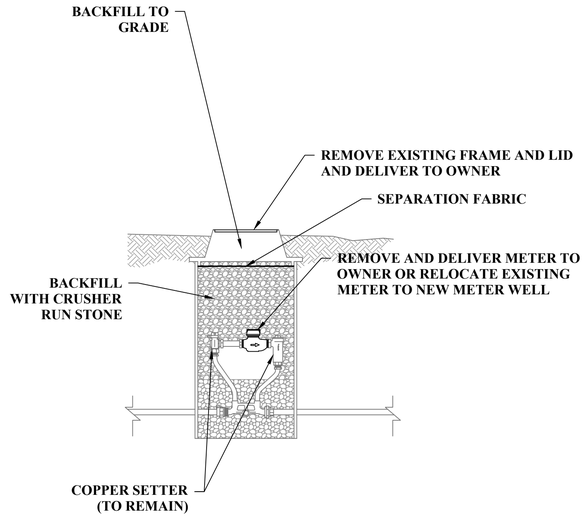
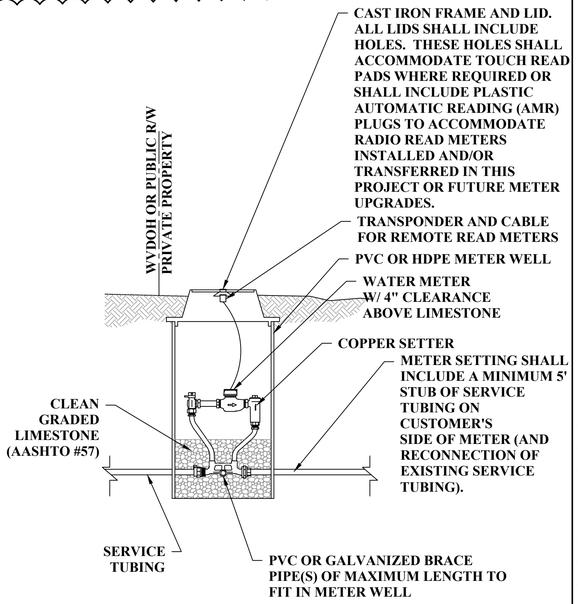
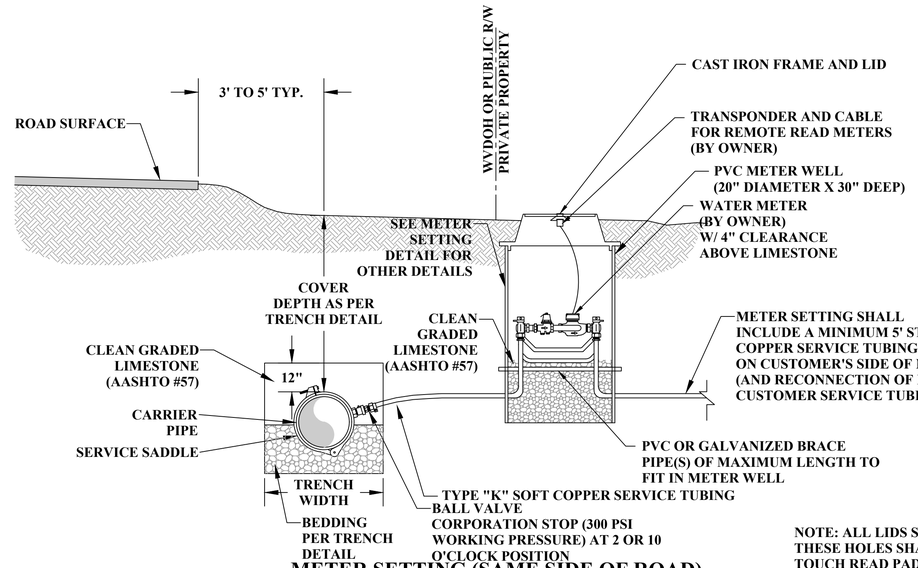
USER: andrew sayre



METER WELL DEMOLITION DETAIL
NOT TO SCALE



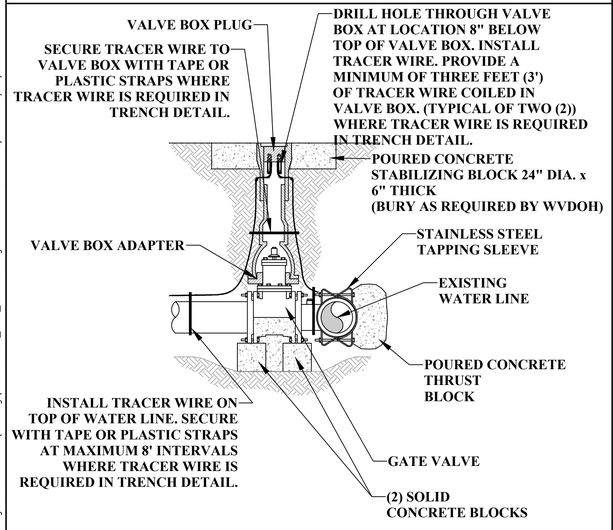
LOW PRESSURE METER SETTING DETAIL
NOT TO SCALE



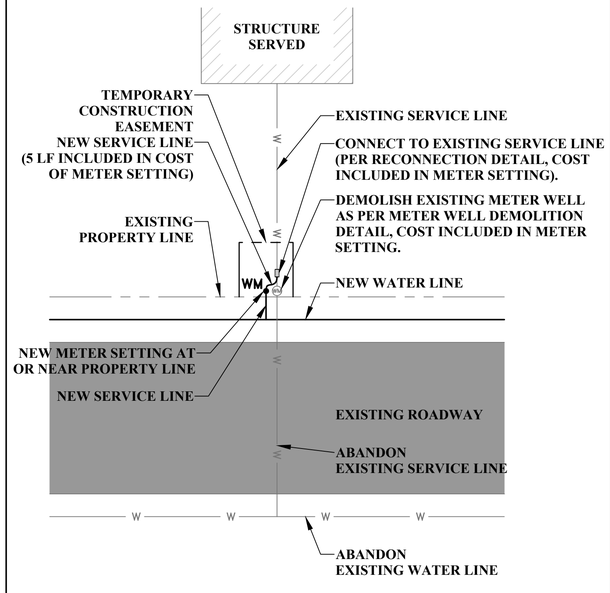
METER SETTING (SAME SIDE OF ROAD)
NOT TO SCALE

NOTE: SERVICE SADDLE AND CORPORATION STOP SHALL NOT BE INSTALLED UNTIL AFTER THE MAIN LINE WATER LINE IS SUCCESSFULLY PRESSURE TESTED AND STERILIZED.

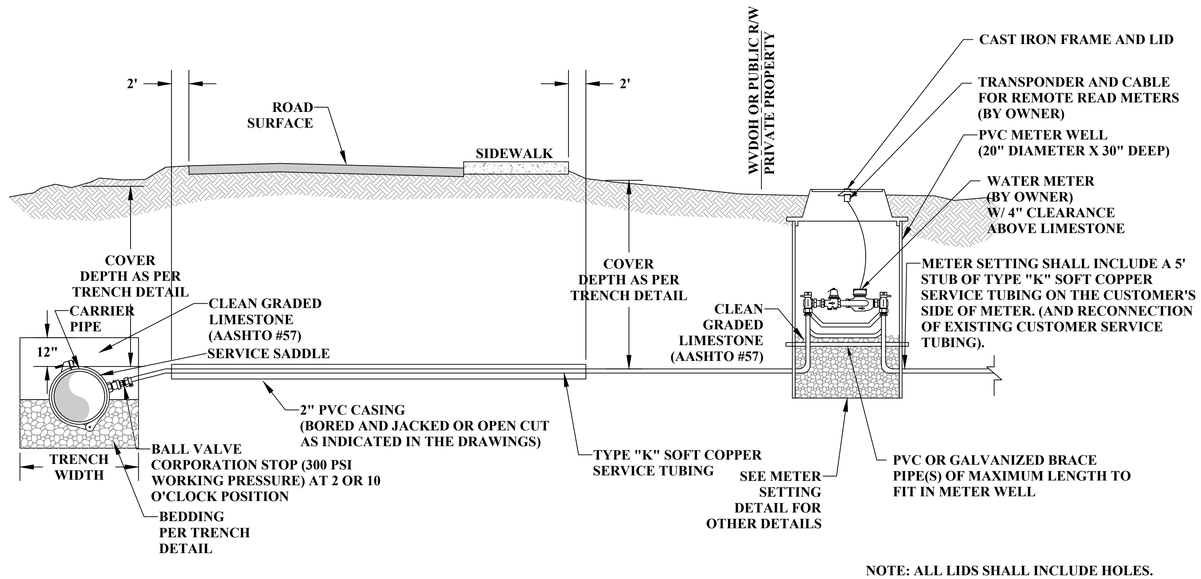
NOTE: ALL LIDS SHALL INCLUDE HOLES. THESE HOLES SHALL ACCOMMODATE TOUCH READ PADS WHERE REQUIRED OR SHALL INCLUDE PLASTIC AUTOMATIC READING (AMR) PLUGS TO ACCOMMODATE RADIO READ METERS INSTALLED AND/OR TRANSFERRED IN THIS PROJECT OR FUTURE METER UPGRADES.



HOT TAP DETAIL
NOT TO SCALE



RECONNECTION DETAIL WITH EXISTING WATER METER AT OR NEAR PROPERTY LINE
NOT TO SCALE



METER SETTING (OPPOSITE SIDE OF ROAD)
NOT TO SCALE

NOTE: SERVICE SADDLE AND CORPORATION STOP SHALL NOT BE INSTALLED UNTIL AFTER THE MAIN LINE WATER LINE IS SUCCESSFULLY PRESSURE TESTED AND STERILIZED.

NOTE: ALL LIDS SHALL INCLUDE HOLES. THESE HOLES SHALL ACCOMMODATE TOUCH READ PADS WHERE REQUIRED OR SHALL INCLUDE PLASTIC AUTOMATIC READING (AMR) PLUGS TO ACCOMMODATE RADIO READ METERS INSTALLED AND/OR TRANSFERRED IN THIS PROJECT OR FUTURE METER UPGRADES.

NO.	BY	DATE	DESCRIPTION
1	AS	6/30/23	ADDENDUM #1

WEST VIRGINIA 811

SCALE: AS NOTED	
DRAWN: A. SAYRE	DATE: 06/2023
CHECKED: M. BELCHER	DATE: 06/2023
APPROVED: M. BELCHER	DATE: 06/2023
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No. 1
CONTRACT No. 2
PROJECT No. 101-010-10203.00

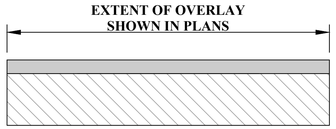
CLARKSBURG WATER BOARD
TASK ORDER #4 CHESTNUT STREET
TRANSMISSION WATER LINE REPLACEMENT
HARRISON COUNTY, WEST VIRGINIA
WATER LINE DETAILS

SHEET No. D4

LAYOUT TAB: D4
CAD FILE: R:\010\010-10203.00-CWB-Task Order 4-Clarksburg Water Board-\Drawing\002-WATER_LINE_DETAILS.dwg
PLOT DATE/TIME: 6/30/2023 8:08 AM
USER: andrew sayre

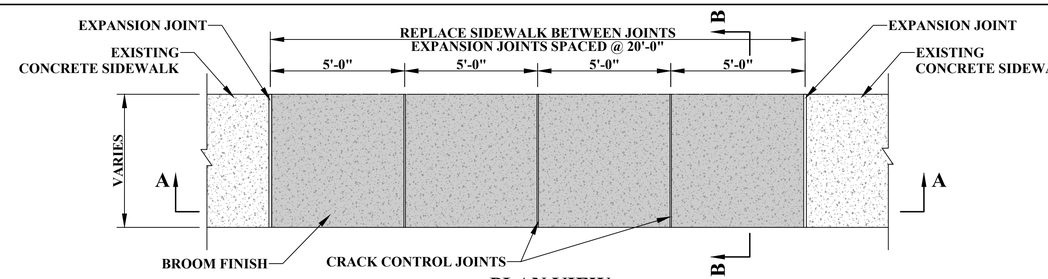
1. MILL TOP 1.5" OF EXISTING ASPHALT PAVEMENT TO DIMENSIONS SHOWN IN PLANS.
2. APPLY TACK COAT AT RATE(S) REQUIRED IN WVDOH STANDARD SPECIFICATIONS TABLE 408.11.
3. FURNISH AND INSTALL 1.5" THICK MARSHALL ASPHALT PAVEMENT WEARING MIX TYPE 1.
4. FURNISH AND INSTALL PAVEMENT MARKINGS TO MATCH EXISTING PAVEMENT MARKINGS THAT WERE MILLED.

MILLING AND OVERLAY DETAIL
NOT TO SCALE

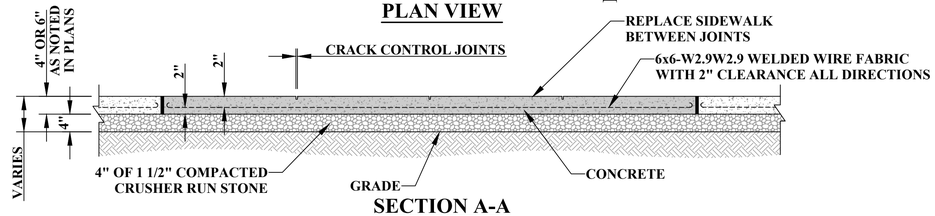


1. CONSTRUCT HEEL-INS AS PER DETAIL.
2. APPLY TACK COAT AT RATE(S) REQUIRED IN WVDOH STANDARD SPECIFICATIONS TABLE 408.11.
3. FURNISH AND INSTALL 1.5" THICK MARSHALL ASPHALT PAVEMENT WEARING MIX TYPE 1.
4. FURNISH AND INSTALL PAVEMENT MARKINGS TO MATCH EXISTING PAVEMENT MARKINGS THAT ARE OVERLAID.

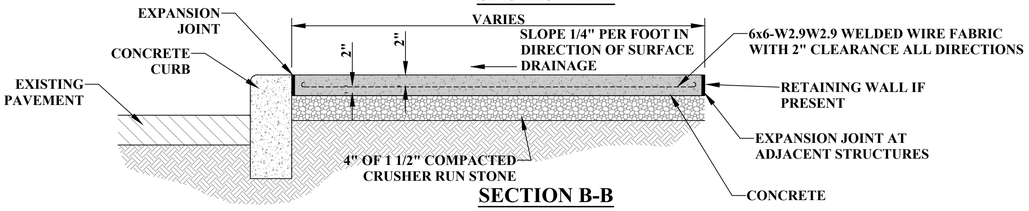
OVERLAY DETAIL
NOT TO SCALE



PLAN VIEW



SECTION A-A

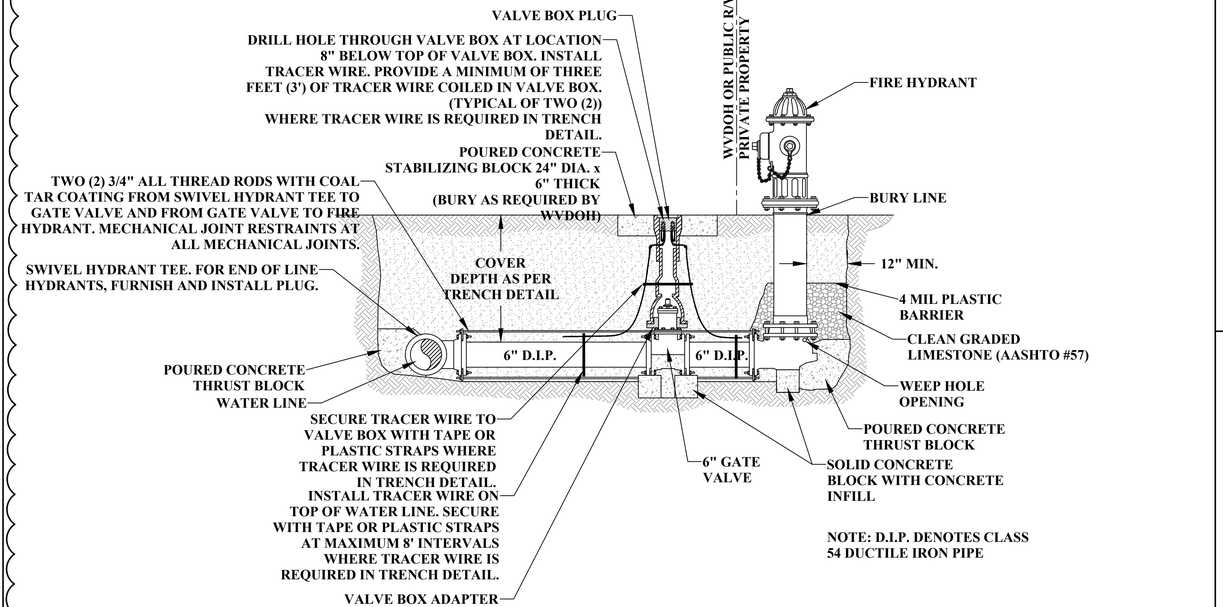


SECTION B-B

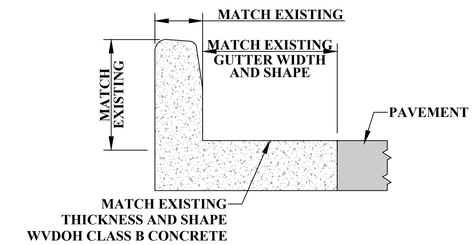
CONCRETE SIDEWALK REPAIR DETAIL
NOT TO SCALE

CONCRETE SIDEWALK CONSTRUCTION NOTES

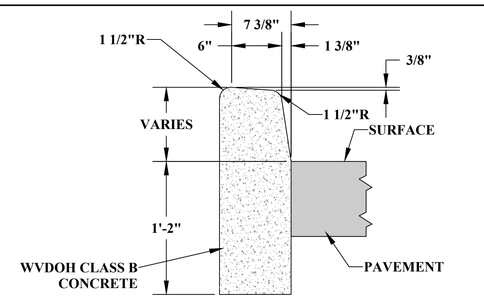
NOTES:
1) EXPANSION JOINTS SHALL BE 1/4" WIDE AND FULL CONCRETE DEPTH CONSTRUCTED AT 20 FOOT INTERVALS, AT ALL RETURNS, AND OPPOSITE EXPANSION JOINTS IN CURBS. A LONGITUDINAL EXPANSION JOINT 1/4" WIDE AND FULL CONCRETE DEPTH SHALL BE PLACED BETWEEN SIDEWALK AND CURB.
2) EXPANSION JOINTS SHALL BE 1/4" WIDE PREFORMED EXPANSION JOINT FILLER AND SEALED WITH JOINT SEALING MATERIAL AS APPROVED BY THE ARCHITECT OR ENGINEER.
3) WHERE CURBS AND SIDEWALKS ARE PLACED AROUND OR ADJACENT TO DRAINAGE STRUCTURES OR OTHER MISCELLANEOUS STRUCTURES, EXPANSION JOINTS SHALL BE CONSTRUCTED BETWEEN SUCH APPURTENANCES AND THE CURB OR SIDEWALK.
4) AROUND UTILITY POLES, METERS, FIRE HYDRANTS, AND OTHER LIKE FEATURES, CONSTRUCT AN INDEPENDENT RETANGULAR-SHAPED SLAB A MINIMUM OF 1' IN ALL DIRECTIONS. PROVIDE 1/4" PREMOLDED EXPANSION JOINT MATERIAL AT ALL INTERFACES WITH ADJOINING CONCRETE.
5) FOR SIDEWALK, PROVIDE 1/4" WIDE CRACK CONTROL JOINTS TO A DEPTH OF 1/4TH THE SIDEWALK THICKNESS AT INTERVALS EQUAL TO THE SIDEWALK WIDTH, AT ALL CHANGES OF DIRECTION, AND AT THE BEGINNING AND ENDING OF ALL TAPERED CURBS.
6) FOR CURBS, PROVIDE 1/4" WIDE CRACK CONTROL JOINTS TO A DEPTH OF 2 MINIMUM IN UNIFORM INTERVALS NOT TO EXCEED 20 FEET, AT ALL CHANGES OF DIRECTION, AND THE BEGINNING AND ENDING OF ALL TAPERED CURBS.
7) FINISHING SIDEWALKS - OUTSIDE EDGES AND JOINTS SHALL BE EDGED WITH A 1/4" RADIUS EDGING TOOL. DUMMY JOINTS SHALL BE 3/8" DEEP AND 1/8" WIDE AND SPACED EVERY 10 FEET. SURFACE SHALL HAVE BROOM FINISH.
BROOMING SHALL BE TRANSVERSE TO THE LINE OF TRAFFIC. CURBING UPON REMOVAL OF FORMS THE EXPOSED CURBING FACE SHALL BE IMMEDIATELY RUBBED TO A UNIFORM SURFACE.
8) CURBING TO BE INSTALLED ONLY WHERE CURBING EXISTED PRIOR TO REMOVING OLD SIDEWALK. IF CURBING DID NOT EXIST, CONCAVING CONCRETE NEXT TO ROAD IS ACCEPTABLE.
9) WHERE JOINING TO EXISTING CONCRETE, THE EXISTING SHALL BE SAW CUT IN NEAT, EVEN 90° LINES.
10) ANY EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO, PARKING METERS AND FLAG POLE HOLDERS IN THE SIDEWALK REQUIRING REINSTALLATION SHALL BE REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST.
11) CURB AND SIDEWALK MAY BE POURED INTEGRALLY UNLESS OTHERWISE NOTED OR REQUIRED.



FIRE HYDRANT ASSEMBLY DETAIL
NOT TO SCALE

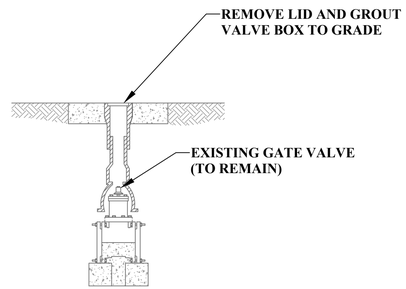


CONCRETE CURB AND GUTTER REPAIR
NOT TO SCALE



CONCRETE CURBING
NOT TO SCALE

NOTE: MATCH PROFILE OF ADJOINING CURBING AS REQUIRED.



GATE VALVE DEMOLITION DETAIL
NOT TO SCALE

1

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WEST VIRGINIA 811

SCALE: AS NOTED	
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HARRISON COUNTY, WEST VIRGINIA
WATER LINE DETAILS

SHEET No.
D5