

COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA

CONTRACT #1 – PHASE II: WATER SYSTEM REHABILITATION PROJECT

ADDENDUM #2

JANUARY 19, 2021

THRASHER PROJECT # 010-0856

TO WHOM IT MAY CONCERN:

The following are clarifications and responses to questions posed by contractors for the above reference project.

A. GENERAL

1. Bid Opening for Contract #1 has been rescheduled to **2:00 p.m. on Tuesday, FEBRUARY 2, 2021.**
2. The Bid Form has been revised to modify the quantities. The revised Bid Form is included with this Addendum #2. **YOU MUST USE THE ATTACHED BID FORM INCLUDED WITH THIS ADDENDUM #2 WHEN PREPARING YOUR BID PACKAGE.**
3. Updated Wage Rates are included with this Addendum #2. **YOU MUST USE THE ATTACHED WAGE RATES INCLUDED WITH THIS ADDENDUM #2 WHEN PREPARING YOUR BID PACKAGE.**
4. Bids will be received by the Cowen Public Service District, located at 7017 Webster Road, Cowen, West Virginia 26206. Bids shall be mailed, or hand delivered by **2:00 p.m. on Tuesday, February 2, 2021.** Social distancing guidelines will be followed. Conference call information is as follows: Call in number 1-646-558-8656; Meeting ID: 854-8803-2955; Passcode: 773709; and at the following address:

<https://us02web.zoom.us/j/85488032955?pwd=SXBDZ0VicC8xV2J1dElqRytqOExCZz09>

B. SPECIFICATIONS

1. **REPLACE** Section C-410 – Bid Form included with this Addendum #2.
2. **REPLACE** Section C-520 – Agreement Stipulated Price included in this Addendum #2.
3. **REPLACE** Section 011000 – Summary included with this Addendum #2.
4. **REPLACE** Section 012000 – Price and Payment Procedures included with this Addendum #2.
5. **INSERT** Section 036000 – Grouting included with this Addendum # 2.

6. **REPLACE** Section 221123.13 – Pressure/Booster Pump Station included with this Addendum # 2.
7. **INSERT** Section 260500 – Basic Electrical Materials and Methods included with this Addendum #2.

C. DRAWINGS

1. **REPLACE** Sheet GV-1A included with this Addendum #2.
2. **REPLACE** Sheet GV-1B included with this Addendum #2.
3. **REPLACE** Sheet GV-1C included with this Addendum #2.
4. **REPLACE** Sheet 20 included with this Addendum #2.
5. **REPLACE** Sheet 33 included with this Addendum #2.
6. **REPLACE** Sheet 34 included with this Addendum #2.
7. **REPLACE** Sheet 35 included with this Addendum #2.
8. **REPLACE** Sheet 37 included with this Addendum #2.
9. **REPLACE** Sheet 40 included with this Addendum #2.

D. QUESTIONS AND RESPONSES

1. QUESTION

Are the valves shown on sheets GV-1A – GV-1C to be cut in on existing waterlines? If so, please provide what type of pipe these valves are to be cut in on.

RESPONSE

Yes. Bid Items No. 43 – 57 have been added to the revised Bid Form and dictate the appropriate sizes and types of valve replacements.

2. QUESTION

On several of the connection details you are showing 4” tapping sleeve with a 4 x 2 reducer and 2” gate valve that is supposed to be hot tapped. Can this be done another way?

RESPONSE

Yes. Please see revised Plan Sheets 33 - 40.

3. QUESTION

On sheet 17, you are showing new service lines on the existing waterline. Please clarify what we are doing here.

RESPONSE

New service lines will be tapped into an existing 6" Asbestos Cement Pipe. The new service lines will be connected to the existing customer meters. The existing service lines shall be shut off at the corporation stop and abandoned in place.

4. QUESTION

Are we to tie the new service line into the PSD side of the existing meter settings?

RESPONSE

Yes.

5. QUESTION

Is there an Engineer's Estimate available for this contract?

RESPONSE

The Engineer's estimated cost of construction is \$1,800,000.

6. QUESTION

When will construction start on this project?

RESPONSE

Construction is estimated to begin in May 2021.

7. QUESTION

Page 1 of the Advertisement for Bids indicate a substantial completion time of 240 calendar days. Whereas, the agreement in the specifications indicates a substantial completion time of 300 calendar days. Please clarify.

RESPONSE

Substantial completion shall be 240 calendar days. A revised Section C-520-Agreement has been provided with this Addendum.

8. QUESTION

Bid Item #28 – since there are both ¾" services and 1" services involved; would the Owner/Engineer entertain two separate bid items for these two instances?

RESPONSE

No.

9. QUESTION

Bid Item #7 – 1” PVC quantity seems to be more than shown on the plans. Please clarify.

RESPONSE

Please see the revised Bid Form included in this Addendum.

10. QUESTION

Plan sheet 19 indicates the 4” line is alternate #1. Plan sheet 20 (continuation of 4” line), does not indicate this sheet as being an alternate. Is the remaining 4” line on sheet 20 is also alternate #1? Please clarify.

RESPONSE

The line on Sheet 20 is also part of ADDITIVE ALTERNATE A.

11. QUESTION

Can the two stations be taken out of service for a period of time? If so, for approximately how long?

RESPONSE

The Raw Water Intake, Nursing Home Booster Station, and Bolair Booster Station can be taken out of service for approximately two (2) days.

12. QUESTION

Bid Item #4 – 6” PVC quantity shows 19,000 LF but plans show less. Please clarify.

RESPONSE

The project shall be bid per the quantities on the revised Bid Form.

13. QUESTION

Will the gravity water line at the Raw Water Intake need to be grouted?

RESPONSE

Yes. Please refer to Specification Section 36000 – Grouting included in this Addendum #2.

14. QUESTION

Bid Item #5 – 4” PVC quantity shows 3,000 LF but plans show more. Please clarify.

RESPONSE

The project shall be bid per the quantities on the revised Bid Form.

15. QUESTION

There are several tie-ins to existing 1” Water line that are not on the Bid Form. Please add them.

RESPONSE

Please see the revised Bid Form included in this Addendum 2.

16. QUESTION

Bid Item #7 – 1 PVC; can 1” HDPE be used for this?

RESPONSE

Yes.

E. CLARIFICATIONS

1. American Iron and Steel (AIS) requirements DO apply to this project.
2. Davis Bacon wage rates apply to this project.
3. Bidders are hereby notified to acknowledge receipt of all addenda in space provided.

If you have any questions or comments, please feel free to contact me at your earliest convenience. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.



Jonathan Carpenter
Jonathan Carpenter, P.E.
Principal

**COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
PROPOSED**

**CONTRACT #1 – PHASE II: WATER SYSTEM REHABILITATION PROJECT
THRASHER PROJECT #101-00856**

BID FORM

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to:
Cowen Public Service District
7017 Webster Rd.
Cowen, WV 26206
- 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 – BIDDER’S ACKNOWLEDGEMENTS

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

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum Date</u>
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_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect

to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. 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 any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. 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.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. 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.
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process.
 - 2. "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;
 - 3. "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; and

4. "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.

ARTICLE 5 – BASIS OF BID

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 #1 – Phase II: Water System Rehabilitation Project. A suggested "Sequence of Construction" has been detailed in the Specifications. The Bidder agrees to perform all the Work proposed for the total of the following Bid prices.

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

PROPOSED

CONTRACT #1 – PHASE II: WATER SYSTEM REHABILITATION PROJECT

FOR THE

COWEN PUBLIC SERVICE DISTRICT

WEBSTER COUNTY, WEST VIRGINIA

THRASHER PROJECT #101-00856

BID SCHEDULE

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

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
1	LS	Mobilization/Demobilization		
			Dollars	
			Cents	
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Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
2	LS	Erosion and Sediment Control	Dollars _____ Cents _____	_____
3	29,000 LF	WVDOH Inspection Fee Allowance	Dollars _____ Cents _____	_____
		Zero	Dollars _____	_____
		Eighty five	Cents \$0.85	\$24,650.00
4	19,000 LF	6" PVC C900 DR-14 Water Line	Dollars _____ Cents _____	_____
5	2,750 LF	4" PVC C900 DR-14 Water Line	Dollars _____ Cents _____	_____
6	7,600 LF	2" PVC SDR-17 Water Line	Dollars _____ Cents _____	_____
7	1,000 LF	1" PVC SDR-17 Water Line	Dollars _____ Cents _____	_____
8	175 LF	12" Steel Casing (Open Cut)	Dollars _____ Cents _____	_____
9	150 LF	8" Steel Casing (Open Cut)	Dollars _____ Cents _____	_____
10	55 LF	4" Steel Casing (Open Cut)	Dollars _____ Cents _____	_____

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
11	200 LF	12" Steel Casing (Bore & Jack)	Dollars Cents	
12	55 LF	8" Steel Casing (Bore & Jack)	Dollars Cents	
13	250 LF	4" Steel Casing (Bore & Jack)	Dollars Cents	
14	75 LF	2" Steel Casing (Bore & Jack)	Dollars Cents	
15	650 LF	1" SDR-9 Polyethylene Service Tubing (Open Cut)	Dollars Cents	
16	3,200 LF	3/4" SDR-9 Polyethylene Service Tubing (Open Cut)	Dollars Cents	
17	150 LF	1" Polyethylene Service Tubing (Bore & Jack)	Dollars Cents	
18	4,200 LF	3/4" Polyethylene Service Tubing (Bore & Jack)	Dollars Cents	

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
19	1 EA	10" M.J.T. Gate Valve w/ Box & Lid	_____ Dollars _____ Cents	_____
20	7 EA	8" M.J.T. Gate Valve w/ Box & Lid	_____ Dollars _____ Cents	_____
21	8 EA	6" M.J.T. Gate Valve w/Box & Lid	_____ Dollars _____ Cents	_____
22	6 EA	4" M.J.T. Gate Valve w/Box & Lid	_____ Dollars _____ Cents	_____
23	5 EA	2" M.J.T. Gate Valve w/Box & Lid	_____ Dollars _____ Cents	_____
24	3 EA	Tie-in to Existing 8" PVC Water Line	_____ Dollars _____ Cents	_____
25	17 EA	Tie-in to Existing 6" PVC Water Line	_____ Dollars _____ Cents	_____
26	18 EA	Tie-in to Existing 4" PVC Water Line	_____ Dollars _____ Cents	_____

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
27	12 EA	Tie-in to Existing 2" Water Line	Dollars Cents	
27A	5 EA	Tie-in to Existing 1" Water Line	Dollars Cents	
28	215 EA	Customer Service Reconnection	Dollars Cents	
29	1 EA	1" Combination Vacuum/Air Release Valve	Dollars Cents	
30	1 EA	Reconnect Existing Service Tubing to New 4" PVC	Dollars Cents	
31	10 EA	Fire Hydrant Assembly, Complete	Dollars Cents	
32	5 EA	2" Blow-off Valve Assembly	Dollars Cents	
33	3 EA	1" Blow-off Valve Assembly	Dollars Cents	

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
34	35 EA	Cut and Cap Existing Water Line	_____ Dollars _____ Cents	_____
35	250 LF	WVDOH Type "B" Trench Repair	_____ Dollars _____ Cents	_____
36	4,600 LF	WVDOH Type "C" Trench Repair	_____ Dollars _____ Cents	_____
37	3,500 LF	Gravel Driveway Repair	_____ Dollars _____ Cents	_____
38	150 LF	HMA Driveway Repair	_____ Dollars _____ Cents	_____
39	100 LF	Concrete Driveway Repair	_____ Dollars _____ Cents	_____
40	LS	Raw Water Intake Rehabilitation, Complete	_____ Dollars _____ Cents	_____
41	LS	Bolair Booster Station Improvements, Complete	_____ Dollars _____ Cents	_____

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
42	LS	Nursing Home Booster Station Improvements, Complete	Dollars Cents	
43	1 EA	Existing 10" Gate Valve Replacement on AC Pipe	Dollars Cents	
44	2 EA	Existing 8" Gate Valve Replacement on AC Pipe	Dollars Cents	
45	3 EA	Existing 6" Gate Valve Replacement on AC Pipe	Dollars Cents	
46	6 EA	Existing 4" Gate Valve Replacement on AC Pipe	Dollars Cents	
47	2 EA	Existing 2" on AC Pipe Gate Valve Replacement	Dollars Cents	
48	1 EA	Existing 8" Gate Valve Replacement on PVC Pipe	Dollars Cents	
49	1 EA	Existing 6" Gate Valve Replacement on PVC Pipe	Dollars Cents	

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
50	3 EA	Existing 4" Gate Valve Replacement on PVC Pipe	Dollars _____ Cents _____	_____
51	2 EA	Existing 2" Gate Valve Replacement on PCV Pipe	Dollars _____ Cents _____	_____
52	2 EA	Existing 8" Gate Valve Replacement on Ductile Iron Pipe	Dollars _____ Cents _____	_____
53	3 EA	Existing 6" Gate Valve Replacement on Ductile Iron Pipe	Dollars _____ Cents _____	_____
54	4 EA	Existing 4" Gate Valve Replacement on Ductile Iron Pipe	Dollars _____ Cents _____	_____
<hr/>				
TOTAL BASE BID: _____				
(\$ _____)				

ADDITIVE ALTERNATE A

5	2,500 LF	4" PVC C900 DR-14 Water Line			
			Cents		
11	65 LF	12" Steel Casing (Bore & Jack)			
			Dollars		
			Cents		
26	2 EA	Tie-in to Existing 4" Water Line			
			Dollars		
			Cents		
34	5 EA	Cut and Cap Existing Water Line			
			Dollars		
			Cents		

TOTAL ADDITIVE ALTERNATE A: _____

(\$ _____)

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

NOTE: THE CONTRACTOR'S UNIT PRICES SHALL INCLUDE PURCHASE AND INSTALLATION, COMPLETE IN PLACE, PER BID ITEM IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.

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 Bid items will be based on actual quantities, determined as provided in the Contract Documents.

METHOD OF AWARD

If at the time this contract is to be awarded, the lowest total Base Bid submitted by a qualified, 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 exceed such amount, the Owner may reject all bids.

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 accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Bid Opening Requirements

ARTICLE 8 – DEFINED TERMS

- 8.01 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 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____

(where applicable)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between Cowen Public Service District (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Phase II: Water System Rehabilitation Project.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Phase II: Water System Rehabilitation Project.

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the Work has been designed by The Thrasher Group, Inc.

3.02 The Owner has retained The Thrasher Group, Inc. (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

A. The Work will be substantially completed within 240 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 270 days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of

requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$1,000.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$1,000.00 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.04 *Special Damages* [DELETED]

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work other than Unit Price Work, a lump sum of: \$ As described in Bid Form.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

- B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

Unit Price Work					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Extended Price
	As described in Bid Form				
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					\$

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

- C. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) \$ As described in Bid Form.

- D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 30* day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 90 percent of Work completed (with the balance being retainage). ~~If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and~~
 - b. 90 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion of the entire construction to be provided under the contract documents, Owner shall pay an amount sufficient to increase total payments to Contractor to 95 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

* Unless adjusted at the Pre Construction Conference.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

- 7.01 All amounts not paid when due shall bear interest at the rate of 1.5 percent per annum.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor’s safety precautions and programs.
 - F. Based on the information and observations referred to in the preceding paragraph, Contractor 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.
 - G. Contractor 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 Contract Documents.
 - H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 - I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
 - J. Contractor’s entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS9.01 *Contents*

- A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 7, inclusive).
 2. Performance bond (pages C-610-1 to C-610-3, inclusive).
 3. Payment bond (pages C-615-1 to C-615-3, inclusive).
 4. Other bonds.
 - a. Bid Bond (pages BOR-2 to BOR-3, inclusive).
 5. General Conditions (pages C-700-1 to C-700-65, inclusive).
 6. Supplementary Conditions (pages C-800-1 to C-800-12, inclusive).
 7. Additional Supplemental General Conditions.
 8. Specifications as listed in the table of contents of the Project Manual.
 9. Drawings (not attached but incorporated by reference) consisting of 31 sheets with each sheet bearing the following general title: Phase II: Water System Rehabilitation Project.
 10. Addenda (numbers to , inclusive).
 11. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages C-410-1 to C-410-10, inclusive).
 12. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an

assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "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 or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "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; and
 - 4. "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.

10.06 *Other Provisions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on [REDACTED] (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

Cowen Public Service District

By: Jim Gamble

By: _____

Title: Chairman

Title: _____

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

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

Cowen Public Service District

717 Webster Rd.

Cowen, WV 26206

License No.: _____

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work under separate contracts.
4. Access to site.
5. Work restrictions.
6. Specification and drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Contract #1 – Phase II: Water System Rehabilitation Project

1. Project Location: Webster County, WV.

B. Owner: Cowen Public Service District

C. Engineer: The Thrasher Group, Inc.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

- B. The proposed project consists of the replacement of approximately 19,000 linear feet (LF) of 6" PVC water line; 2,700 LF 4" PVC; 7,600 LF 2" PVC; 1,200 LF 1" PVC; 175 LF 12" Steel Casing (Open Cut); 100 LF 8" Steel Casing (Open Cut); 55 LF 4" Steel Casing (Open Cut); 185 LF 12" Steel Casing (Bore & Jack); 50 LF 8" Steel Casing (Bore & Jack); 250 LF 4" Steel Casing (Bore & Jack); 75 LF 2" Steel Casing (Bore & Jack); 475 LF 1" Polyethylene Service Tubing (Open Cut); 2,850 LF 3/4" Polyethylene Service Tubing (Open Cut); 150 LF 1" Polyethylene Service Tubing (Bore & Jack); 4,200 LF 3/4" Polyethylene Service Tubing (Bore & Jack); 2 EA 10" M.J.T. Gate Valve w/ Box and Lid; 7 EA 8" M.J.T. Gate Valve w/ Box and Lid; 10 EA 6" M.J.T. Gate Valve w/ Box and Lid; 15 EA 4" M.J.T. Gate Valve w/ Box and Lid; 7 EA 2" M.J.T. Gate Valve w/ Box and Lid; 3 EA Tie-in to Existing 8" Water Line; 17 EA Tie-in to Existing 6" Water Line; 18 EA Tie-in to Existing 4" Water Line; 12 EA Tie-in to Existing 2" Water Line; 215 EA Customer Service Reconnection; 1 EA 1" Combination Vacuum/Air Release Valve; 1 EA Reconnect Existing Service Tubing to New 4" PVC; 9 EA Fire Hydrant; 5

EA 2” Blow-off Valve; 2 EA 1” Blow-off Vale; 35 EA Cut and Cap Existing Water Line; 250 LF WVDOH Type “B” Trench Repair; 4,600 LF WVDOH Type “C” Trench Repair; 3,500 LF Gravel Driveway Repair; 150 LF HMA Driveway Repair; 100 LF Concrete Driveway Repair; 23,500 LF Reclamation of Disturbed Area; 1 LS Raw Water Intake Rehabilitation; 1 LS Bolair Booster Station Improvements; 1 LS Nursing Home Booster Station Improvements. Per Section 436 of the American Iron and Steel (AIS) requirement, all metal used for the purposes of this project will be American Iron and Steel.

C. Type of Contract.

1. Project will be constructed under coordinated, concurrent multiple contracts. Contracts for this Project include the following:
 - a. Contract #1 – Phase II: Water System Rehabilitation
 - b. Contract #2 – Water Storage Tank Rehabilitation

1.4 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

1.5 ACCESS TO SITE

- A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:30 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Engineer's written permission before proceeding with utility interruptions.

D. Environmental Protection

1. Applicable Regulations

- a. The Contractor and his subcontractors, in the performance of this Contract, shall comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement as well as the specific requirements stated elsewhere in the Contract Documents.

b. Water Pollution

- 1) The Contractor shall take all precautions necessary to avoid pollution of water in adjacent watercourses or water storage areas including wells.
- 2) All earthwork, equipment movement, control of water in excavations and other operations which may create silting shall be conducted in a manner to keep water pollution to an absolute minimum.
- 3) Water used during the contract work which has become polluted with oil, harmful or objectionable chemicals, sewage or other pollutants shall be disposed of in a manner that will not affect nearby waters and land. The Contractor shall not, under any circumstances, discharge pollutants into any watercourse.

- c. Noise, Vibration, and Odors: Coordinate operations that may result in high level of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

- 1) The Contractor shall take all precautions necessary to avoid noise and air pollution during the course of the Contract.
- 2) Notify Engineer not less than two days in advance of proposed disruptive operations.
- 3) Obtain Engineer's written permission before proceeding with disruptive operations.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.
- D. Errors or Omissions in Plans
1. The Contractor shall take no advantage of any apparent error or omission in the plans or specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations necessary for fulfilling the intent of the plans and specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, Division 01, and all related Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Schedule of Values.
- B. Application for Payment.
- C. Change procedures.
- D. Defect assessment.
- E. Measurement and Payment.
- F. Alternates.

1.3 SCHEDULE OF VALUES

- A. Submit printed schedule on Progress Estimate schedule on EJCDC C-620.
- B. Submit Schedule of Values in duplicate within twenty (20) days after date established in Notice to Proceed.
- C. Format: Identify each line item with number and title of major Specification Section. Contractor shall submit a balanced Schedule of Values. The total value of activities shall equal the identifiable Contract Price. The Schedule of Values shall be accompanied by a proposed cash flow for the duration of the Project. Line items shall be broken down as appropriate and listed as units. Overhead and profit shall be prorated to all the activities.

- 1. Unless otherwise specified, the Schedule of Values shall include the following percentages for each of the listed activities:
 - a. Mobilization, Bonds, Insurance, and Demobilization: no greater than 5 percent
 - b. As-Built Drawings: no less than 1 percent
 - c. Punchlist: no less than 2 percent
 - d. Final Bound O&M Manuals: no less than 1 percent
 - e. All Spare Parts Values not specifically assigned elsewhere: no less than 0.5 percent

- f. Testing: no less than 1 percent
- 2. Schedules whose non-equipment related cash flow exceeds 10 percent of the total Contract amount (exclusive of equipment) in any one (1) month, or 45 percent of the total Contract amount (exclusive of equipment) in any three (3) consecutive months shall be deemed unacceptable and require revision. Exceptions may be granted at the discretion of the Engineer for unusual circumstances or non-routine construction.
- 3. If, in the opinion of Engineer or Owner, the Schedule of Values is unbalanced, Contractor shall submit documentation substantiating the cost allocations of those activities believed to be unbalanced. No pay requests will be accepted until the Schedule of Values submittals has been marked “No Exceptions Taken” or “Make Corrections Noted” by Engineer.
- D. Include within each line item, direct proportional amount of Contractor’s overhead and profit.
- E. Revise schedule to list approved Change Orders with each Application for Payment.

1.4 APPLICATION FOR PAYMENT

- A. Submit five (5) copies of each Application for Payment on EJCDC C-620 – Contractor’s Application for Payment.
- B. Content and Format: Use Bid Form for listing items in Application for Payment.
- C. Submit updated construction schedule and payment schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 013300 - Submittal Procedures.
- F. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Current construction photographs
 - 2. Partial release of Liens from major Subcontractors and vendors.
 - 3. Record Documents as specified in Section 017000 - Execution and Closeout Requirements, for review by Owner, which will be returned to Contractor.
 - 4. Affidavits attesting to off-Site stored products.
 - 5. Construction Progress Schedule revised and current as specified in Section 013300 - Submittal Procedures.

1.5 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor’s employ or Subcontractors of changes to the Work.

- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.
 - 1. Use Request for Information Form for requesting interpretations (provided by Engineer upon request).
 - 2. Engineer may respond with a direct answer on the Request for Information form, separate Engineer Response, EJCDC C-942 - Field Order, or EJCDC C-940 - Work Change Directive Form.
- D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942 – Field Order.
- E. Engineer may issue Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with stipulation of overtime Work required and with the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within ten (10) days.
- F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work by separate or other Contractors.
- G. Stipulated Sum/Price Change Order: Based on Proposal Request or Work Change Directive and Contractor's maximum price quotation or Contractor's request for Change Order as approved by Engineer.
- H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- I. Work Change Directive: Engineer may issue directive, on EJCDC C-940 - Work Change Directive, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- J. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- K. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.

- L. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- M. Change Order Forms: EJCDC C-941 - Change Order.
- N. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- O. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of Work affected by the change, and resubmit.
 - 3. Promptly enter changes in Record Documents.

1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Engineer or Owner, it is not practical to remove and replace the Work, Engineer or Owner will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Owner.
- D. Defective Work will be partially repaired according to instructions of Engineer, and unit sum/price will be adjusted to new sum/price at discretion of Owner.
- E. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- F. Authority of Owner to assess defects and identify payment adjustments is final.
- G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.7 MEASUREMENT AND PAYMENT

A. General Requirements

1. Contractor shall take measurements and compute quantities. Resident Project Representative and Engineer will verify measurements and quantities.
2. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.
 - a. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at Contracted unit sum/prices.
 - b. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
3. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
4. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

B. Measurement of Quantities

1. Weigh Scales: Inspected, tested, and certified by applicable West Virginia weights and measures department within past year.
2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
3. Metering Devices: Inspected, tested, and certified by applicable West Virginia department within past year.
4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
5. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
6. Measurement by Area: Measured by square dimension using mean length and width or radius.
7. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
8. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

C. Unit Price Schedule:

1. Bid Item 1 – Mobilization/Demobilization
 - a. This item shall include the performance of construction preparatory operations, including, but not limited to, the movement of equipment and personnel to and from the Project Site, establishment and decommissioning of Contractor's Field Office, storage buildings, and other facilities necessary to conduct Work under this Contract.

- b. This item shall also include all costs associated with fabricating, installing, maintaining, and removing the Project Sign.
 - c. Payment shall be made at the lump sum (LS) price Bid for mobilization/Demobilization, but in no case shall the total lump sum Bid Price exceed 5 percent of the total Bid.
 - d. Partial Payments of the lump sum Bid amount for mobilization/demobilization shall be as follows:
 - 1) One-fourth of the amount Bid for Mobilization/Demobilization will be released to the Contractor as the first estimate payable, not less than fifteen (15) days after the start of Work at the Project Site.
 - 2) The second one-fourth of the amount Bid for Mobilization/Demobilization shall be released with the estimate payable thirty (30) days after the first estimate.
 - 3) The third one-fourth of the amount Bid for Mobilization/Demobilization shall be released with the estimate payable thirty (30) days later than the estimate in which the second one-fourth has been paid.
 - 4) The final one-fourth of the amount Bid for Mobilization/Demobilization shall be released with the final payment.
 - 5) No reduction will be made, nor any increase be made, in the lump sum mobilization item amount regardless of decreased or increases in the final total Contract amount or for any other cause.
2. Bid Item 2 – Erosion and Sediment Controls
- a. This Bid item shall include all costs associated with erosion and sedimentation controls including, but not limited to, all materials, labor, and equipment required for installation, maintenance, and removal.
 - b. The cost of this Work shall be paid for at the lump sum Bid price for all erosion and sedimentation controls at all locations directly and/or indirectly disturbed by the Work.
3. Bid Item 3 – WVDOH Inspection Allowance
- a. This Bid item shall include all costs associated with WVDOH Inspection services provided by WVDOH personnel. The Contractor will be required to compensate the WVDOH for the inspection services performed at the unit price Bid.
 - b. Payment shall be based on linear footage of inspection services performed by the WVDOH personnel as determined in the field by the Contractor and confirmed by the Engineer.
4. Bid Item 4 – 6” PVC C-900 DR-14 Water Line
- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 6-inch PVC C-900 DR-14 waterline including, but not limited to, excavation, bedding, backfill, ductile iron fittings, pipe joints, concrete thrust blocks, pipe, supplies, cleaning and disinfection, testing, pipe identification markers, restoration, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary

fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.

- b. The water line installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of the water line and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie into centerline of tie in.

5. Bid Item 5 – 4” PVC C-900 DR-14 Water Line

- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 4-inch C-900 DR-14 waterline including, but not limited to, excavation, bedding, backfill, ductile iron fittings, pipe joints, concrete thrust blocks, pipe, supplies, cleaning and disinfection, testing, pipe identification markers, restoration, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
- b. The water line installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of the water line and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie in to centerline of tie in.

6. Bid Item 6 – 2” PVC SDR-17 Water Line

- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 2-inch PVC SDR-17 waterline including, but not limited to, excavation, bedding, backfill, ductile iron fittings, pipe joints, concrete thrust blocks, pipe, supplies, cleaning and disinfection, testing, pipe identification markers, restoration, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
- b. The water line installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of the water line and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie in to centerline of tie in.

7. Bid Item 7 – 1” PVC SDR-17 Water Line

- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 1-inch PVC SDR-17 waterline including, but not limited to, excavation, bedding, backfill, ductile iron fittings, pipe joints, concrete thrust blocks, pipe, supplies, cleaning and disinfection, testing, pipe identification markers, restoration, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs)

- required for sequencing the work shall be included in the linear foot price of the pipe.
- b. The water line installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of the water line and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie in to centerline of tie in.
8. Bid Item 8 – 12” Steel Casing (Open Cut)
- a. This Bid item shall include all labor, material, and equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, sheeting, bracing, backfilling, grouting, casing, blocking, etc.
 - b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 12” steel casing pipe satisfactorily installed.
 - c. Payment shall be for 12” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.
9. Bid Item 9 – 8” Steel Casing (Open Cut)
- a. This Bid item shall include all labor, material, and equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, sheeting, bracing, backfilling, grouting, casing, blocking, etc.
 - b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 8” steel casing pipe satisfactorily installed.
 - c. Payment shall be for 8” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.
10. Bid Item 10 – 4” Steel Casing (Open Cut)
- a. This Bid item shall include all labor, material, and equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, sheeting, bracing, backfilling, grouting, casing, blocking, etc.
 - b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 4” steel casing pipe satisfactorily installed.
 - c. Payment shall be for 4” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.

11. Bid Item 11 – 12” Steel Casing (Bore & Jack)
 - a. This Bid item shall include all labor, material, equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, launching and receiving pits, sheeting, bracing, backfilling, grouting, casing, block, etc.
 - b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 12” steel casing pipe satisfactorily installed.
 - c. Payment shall be for 12” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.

12. Bid Item 12 – 8” Steel Casing (Bore & Jack)
 - a. This Bid item shall include all labor, material, equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, launching and receiving pits, sheeting, bracing, backfilling, grouting, casing, block, etc.
 - b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 8” steel casing pipe satisfactorily installed.
 - c. Payment shall be for 8” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.

13. Bid Item 13 – 4” Steel Casing (Bore & Jack)
 - a. This Bid item shall include all labor, material, equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, launching and receiving pits, sheeting, bracing, backfilling, grouting, casing, block, etc.
 - b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 4” steel casing pipe satisfactorily installed.
 - c. Payment shall be for 4” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.

14. Bid Item 14 – 2” Steel Casing (Bore & Jack)
 - a. This Bid item shall include all labor, material, equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, launching and receiving pits, sheeting, bracing, backfilling, grouting, casing, block, etc.

- b. Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 2" steel casing pipe satisfactorily installed.
 - c. Payment shall be for 2" steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d. Compensation for unauthorized steel casing footage beyond that which is called for in the Drawings and Specifications will not be made.
15. Bid Item 15 - 1" SDR-9 Polyethylene Service Tubing (Open Cut)
- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with, and incidental to, the installation of 1" SDR-9 polyethylene service tubing via open cut including, but not limited to, excavation, bedding, backfill, fittings, tools, supplies, cleaning and disinfection, testing, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
 - b. The service tubing installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie into centerline of tie in.
16. Bid Item 16 – 3/4" SDR-9 Polyethylene Service Tubing (Open Cut)
- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 3/4" SDR 9 polyethylene service tubing via open cut including excavation, bedding, backfill, fittings, tools, supplies, cleaning and disinfection, testing, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
 - b. The service tubing installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie into centerline of tie in.
17. Bid Item 17 – 1" SDR 9 Polyethylene Service Tubing (Bore & Jack)
- a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 1" SDR 9 Polyethylene Service Tubing via bore and jack including, but not limited to, excavation, launching and receiving pits, backfill, materials, fittings, pipe, tools, supplies, cleaning and disinfection, testing, and all other incidentals. All items and appurtenances shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
 - b. The service tubing installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall

be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie into centerline of tie in.

18. Bid Item 18 – 3/4” SDR 9 Polyethylene Service Tubing (Bore & Jack)
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 3/4” SDR 9 Polyethylene Service Tubing via bore and jack including, but not limited to, excavation, launching and receiving pits, backfill, materials, fittings, pipe, tools, supplies, cleaning and disinfection, testing, and all other incidentals. All items and appurtenances shall be included in the linear foot price of the pipe. All temporary fittings (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
 - b. The service tubing installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie into centerline of tie in.

19. Bid Item 19 – 10” M.J.T. Gate Valve w/Box & Lid
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 10” mechanical joint gate valve and associated valve box and lid including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

20. Bid Item 20 – 8” M.J.T. Gate Valve w/Box & Lid
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 8” mechanical joint gate valve and associated valve box and lid including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

21. Bid Item 21 – 6” M.J.T. Gate Valve w/Box & Lid
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 6” mechanical joint gate valve and associated valve box and lid including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

22. Bid Item 22 – 4” M.J.T. Gate Valve w/Box & Lid
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 4” mechanical joint gate valve and associated valve box and lid including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

23. Bid Item 23 – 2” M.J.T. Gate Valve w/Box & Lid
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 2” mechanical joint gate valve and associated valve box and lid including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

24. Bid Item 24 –Tie-in to Existing 8” PVC Water Line
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with Tie-In to Existing 8” Water Line, as detailed on the Drawings, including but not limited to, tapping sleeve, fittings, valve, and incidental pipe to make the complete connection.
 - b. Payment shall be based on the per each Bid Price.

25. Bid Item 25 –Tie-in to Existing 6” PVC Water Line
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with Tie-In to Existing 6” Water Line, as detailed on the Drawings, including but not limited to, tapping sleeve, fittings, valve, and incidental pipe to make the complete connection.
 - b. Payment shall be based on the per each Bid Price.

26. Bid Item 26 –Tie-in to Existing 4” PVC Water Line
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with Tie-In to Existing 4” Water Line, as detailed on the Drawings, including but not limited to, tapping sleeve, fittings, valve, and incidental pipe to make the complete connection.
 - b. Payment shall be based on the per each Bid Price.

27. Bid Item 27 –Tie-in to Existing 2” Water Line
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with Tie-In to Existing 2” Water Line, as detailed on the Drawings, including but not be limited to, tapping sleeve, fittings, valve, and incidental pipe to make the complete connection.
 - b. Payment shall be based on the per each Bid Price.

- 27A Bid Item 27A –Tie-in to Existing 1” Water Line
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with Tie-In to Existing 1” Water Line, as detailed on the Drawings, including but not be limited to sleeve, fittings, valve, and incidental pipe to make the complete connection.
 - b. Payment shall be based on the per each Bid Price.

28. Bid Item 28 – Customer Service Reconnection
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with connecting new service line to existing customer meters, as detailed on the Drawings, including but not be limited to, fittings and incidental pipe to make the complete connection.
 - b. Payment shall be based on the per each Bid Price.

29. Bid Item 29 – 1” Combination Vacuum/Air Release Valve
 - a. This Bid item shall include all required labor, materials, equipment and all other costs associated with installation of the 1” Combination Vacuum/Air Release Valve, pits, and associated appurtenances including excavation, bedding, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

30. Bid Item 30 – Reconnect Existing Service Tubing to New 4” PVC
 - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with reconnecting an existing customers service tubing to the new 4” PVC water line as shown on the Drawings. This Unit Bid Price shall include all necessary equipment to complete the reconnection of existing customers.

31. Bid Item 31 – Fire Hydrant Assembly, Complete
 - a. This Bid item shall include all required labor, materials, equipment and other costs associated with the installation of a fire hydrant assembly, as detailed on the Drawings, including but not limited to, excavation, bedding, concrete, pipe, fittings, valves, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

32. Bid Item 32 – 2” Blow-off Valve Assembly
 - a. This Bid item shall include all required labor, materials, equipment and other costs associated with the installation of a 2” Blow-off Valve, as detailed in the Drawings, including but not limited to, excavation, bedding, concrete, pipe, fittings, valves, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

33. Bid Item 33 – 1” Blow-off Valve Assembly
 - a. This Bid item shall include all required labor, materials, equipment and other costs associated with the installation of a 1” Blow-off Valve, as detailed in the Drawings, including but not limited to, excavation, bedding, concrete, pipe, fittings, valves, backfill, and testing.
 - b. Payment shall be based on the per each Bid Price.

34. Bid Item 34 - Cut and Cap Existing Water Line
- a. This Bid item shall include all required labor, materials, equipment and other costs associated with a cut and cap existing water line, as detailed on the Drawings, including but not limited to, excavation, bedding, fittings, and backfill.
 - b. Existing water line shall include Asbestos Cement, PVC, and Ductile Iron pipe.
 - c. Payment shall be based on the per each Bid Price.
35. Bid Item 35 – WVDOH Type “B” Trench Repair
- a. This Bid item shall include all required labor, materials, equipment and other costs associated with Type “B” Trench Repair, as detailed on the Drawings or as directed by the Engineer and installed complete in place. All costs associated with traffic control shall be included in the unit price. Trench repairs shall be paid for by the linear foot, without regard to width, times the Bid price. No payment shall be made for trench repair outside the limits shown on the Contract Documents.
 - b. Payment shall be based on horizontal linear footage of trench repair as determined by the Contractor and confirmed by the Engineer. The Engineer has final authority for measured quantity.
36. Bid Item 36 – WVDOH Type “C” Trench Repair
- a. This Bid item shall include all required labor, materials, equipment and other costs associated with the Type “C” Trench Repair, as detailed on the Drawings or as directed by the Engineer and installed complete in place. All costs associated with traffic control shall be included in the unit price. Trench repairs shall be paid for by the linear foot, without regard to width, times the Bid price. No payment shall be made for trench repair outside the limits shown on the Contract Documents.
 - b. Payment shall be based on horizontal linear footage of trench repair as determined by the Contractor and confirmed by the Engineer. The Engineer has final authority for measured quantity.
37. Bid Item 37 – Gravel Driveway Repair
- a. This Bid item shall include all required labor, materials, equipment and other costs associated with gravel driveway restoration. All costs required for traffic control shall be included in the unit price. Driveway repairs shall be paid for by the linear foot, without regard to width, times the Bid price. No payment shall be made for driveway repair outside the limits shown on the Contract Documents. No payment will be made for temporary paving required during construction. All driveway repair Work shall be included in this linear foot Bid Price.
 - b. Payment shall be based on horizontal linear footage of driveway repair as determined by the Contractor and confirmed by the Engineer. The Engineer has final authority for measured quantity.
38. Bid Item 38 – HMA Driveway Repair
- a. This Bid item shall include all required labor, materials, equipment and other costs associated with hot mix asphalt driveway restoration. All costs required for traffic control shall be included in the unit price. Driveway repairs shall be paid for by the

linear foot, without regard to width, times the Bid price. No payment shall be made for driveway repair outside the limits shown on the Contract Documents. No payment will be made for temporary paving required during construction. All driveway repair Work shall be included in this linear foot Bid Price.

- b. Payment shall be based on horizontal linear footage of driveway repair as determined by the Contractor and confirmed by the Engineer. The Engineer has final authority for measured quantity.

39. Bid Item 39 – Concrete Driveway Repair

- a. This Bid item shall include all required labor, materials, equipment and other costs associated with concrete driveway restoration. All costs required for traffic control shall be included in the unit price. Driveway repairs shall be paid for by the linear foot, without regard to width, times the Bid price. No payment shall be made for driveway repair outside the limits shown on the Contract Documents. No payment will be made for temporary paving required during construction. All driveway repair Work shall be included in this linear foot Bid Price.
- b. Payment shall be based on horizontal linear footage of driveway repair as determined by the Contractor and confirmed by the Engineer. The Engineer has final authority for measured quantity.

40. Bid Item 40 – Raw Water Intake Rehabilitation, Complete

- a. Payment for this bid item shall be based on a lump sum Bid Price on the approved Schedule of Values, as provided by Contractor.
- b. This Bid Item shall include all required labor, materials, equipment, electrical, bypass pumping, and other costs associated with furnishing three (3) pumps, motors, drives, controls, anchors, piping, valves, fittings, concrete, gravel, and other associated appurtenances, for the Raw Water Intake Rehabilitation detailed in the Drawings and Specifications to provide a complete, functioning raw water intake.
- c. This Bid Item shall also include all costs associated with the following Specification Sections relating to Work of this Bid Item:
 - 1) Section 017823 – Operation and Maintenance Data
 - 2) Section 019100 – Commissioning
 - 3) Section 22123.14 – Raw Water Intake Pumps and Controls
 - 4) Section 036000 – Grouting

41. Bid Item 41 – Bolair Booster Station Improvements, Complete

- a. Payment for this bid item shall be based on a lump sum Bid Price on the approved Schedule of Values, as provided by Contractor.
- b. This Bid item shall include all costs associated with furnishing and installing one (1) 10 Hp pump, electrical and all other associated appurtenances for the Bolair Booster Station improvements detailed in the Drawings and Specification to provide a complete, functioning booster station.
- c. This Bid Item shall include all costs associated with reconnecting service.
- d. This Bid Item shall include all costs associated with the following Specification Sections relating to Work of this Bid Item:

- 1) Section 017823 – Operation and Maintenance Data
 - 2) Section 019100 – Commissioning
 - 3) Section 221123.13 – Booster Station Pumps
42. Bid Item 42 – Nursing Home Booster Station Improvements, Complete
- a. Payment for this bid item shall be based on a lump sum Bid Price on the approved Schedule of Values, as provided by Contractor.
 - b. This Bid Item shall include all required labor, materials, equipment, electrical, bypass pumping, and other costs associated with furnishing all pumps, motors, drives, controls, anchors, piping, valves, fittings, concrete, gravel, and other associated appurtenances, for the Nursing Home Booster Station detailed in the Drawings and Specifications to provide a complete, functioning booster station.
 - c. This Bid Item shall include all costs associated with reconnecting service.
 - d. This Bid Item shall also include all costs associated with the following Specification Sections relating to Work of this Bid Item:
 - 1) Section 017823 – Operation and Maintenance Data
 - 2) Section 019100 - Commissioning
 - 3) Section 221123.13 – Pressure Booster Station Pumps
43. Bid Item 43 – 10” Gate Valve Replacement on AC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 10” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 10” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be Asbestos Cement (AC).
 - c. Contractor shall be responsible for the disposal of the removed gate valve.
 - d. Payment shall be based on the per each Bid Price.
44. Bid Item 44 – 8” M.J.T. Gate Valve Replacement on AC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 8” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 8” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be AC.
 - c. Contractor shall be responsible for the disposal of the removed gate valve.
 - d. Payment shall be based on the per each Bid Price.
45. Bid Item 45 – 6” M.J.T. Gate Valve Replacement on AC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 6” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 6” mechanical joint gate

- valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
- b. The associated pipe material to tie into for this Bid Item shall be AC.
 - c. Contractor shall be responsible for the disposal of the removed gate valve.
 - d. Payment shall be based on the per each Bid Price.
46. Bid Item 46 – 4” M.J.T. Gate Valve Replacement on AC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 4” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 4” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be AC.
 - c. Contractor shall be responsible for the disposal of the removed gate valve.
 - d. Payment shall be based on the per each Bid Price.
47. Bid Item 47 – 2” M.J.T. Gate Valve Replacement on AC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 2” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 2” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be AC.
 - c. Payment shall be based on the per each Bid Price.
48. Bid Item 48 – 8” M.J.T. Gate Valve Replacement on PVC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 8” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 8” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be Polyvinyl Chloride (PVC).
 - c. Payment shall be based on the per each Bid Price.
49. Bid Item 49 – 6” M.J.T. Gate Valve Replacement on PVC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 6” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 6” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be PVC.
 - c. Payment shall be based on the per each Bid Price.

50. Bid Item 50 – 4” M.J.T. Gate Valve Replacement on PVC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 4” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 4” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be PVC.
 - c. Payment shall be based on the per each Bid Price.
51. Bid Item 51 – 2” M.J.T. Gate Valve Replacement on PVC Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 2” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 2” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be PVC.
 - c. Payment shall be based on the per each Bid Price.
52. Bid Item 52 – 8” M.J.T. Gate Valve Replacement on Ductile Iron Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 8” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 8” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be Ductile Iron Pipe (DIP).
 - c. Payment shall be based on the per each Bid Price.
53. Bid Item 53 – 6” M.J.T. Gate Valve Replacement on Ductile Iron Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 6” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 6” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be DIP.
 - c. Payment shall be based on the per each Bid Price.
54. Bid Item 54 – 4” M.J.T. Gate Valve Replacement on Ductile Iron Pipe
- a. This Bid item shall include all required labor, materials, equipment, mechanical joint sleeves, necessary 4” PVC C-900 DR-14 water line, and all other costs associated with the removal and replacement of existing 4” mechanical joint gate valve including, but not limited to, excavation, bedding, concrete, backfill, and testing.
 - b. The associated pipe material to tie into for this Bid Item shall be DIP.
 - c. Payment shall be based on the per each Bid Price.

1.8 ALTERNATES

- A. Definition: An amount proposed by Bidders and stated on the Bid Form for certain Work defined in the Bidding requirements that may be added to or deducted from the base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
1. Alternates are part of the Work only if enumerated in the Agreement.
 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
- B. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement. The Owner-Contractor Agreement may identify certain Alternates to remain an Owner option for a stipulated period of time.
- C. Coordinate related Work and modify surrounding Work. Description for each Alternate is recognized to be abbreviated but requires that each change shall be complete for scope of Work affected.
1. Coordinate related requirements among Specification Sections as required.
 2. Include as part of each Alternate, miscellaneous devices, appurtenances, and similar items incidental to or necessary for complete installation.
 3. Coordinate Alternate with adjacent Work and modify or adjust as necessary to ensure integration.
- D. Schedule of Alternate
1. There is one (1) Additive Alternate for this Contract. This Alternate may be implemented at any time via a Change Order at the Owner's discretion.
 2. These Bid Items are based on the work designated as Additive Alternate A on Sheets 19 & 20.
 3. Bid Item prices for Additive Alternate A shall be equal to the Bid Item prices for the Base Bid.
 4. There is one (1) Alternate Bid associated with this Contract. This Alternate may be implemented via a Change Order. Alternate 1 is found on Drawing Sheets 19 and 20.
 - a. Additive Alternate A includes the following:
 - 1) Bid Item 5 – 4" PVC C-900 DR-14 Water Line
 - a) This Bid item shall include all required labor, materials, equipment and all other costs associated with the installation of 4-inch C-900 SDR 17 waterline including, but not limited to, excavation, bedding, backfill, ductile iron fittings, pipe joints, concrete thrust blocks, pipe, supplies, cleaning and disinfection, testing, pipe identification markers, restoration, and all other incidentals. All fittings used shall be included in the linear foot price of the pipe. All temporary fittings

- (i.e. plugs) required for sequencing the work shall be included in the linear foot price of the pipe.
- b) The water line installed under this item shall be measured and paid for by the linear foot of pipe installed complete in place. The measurement under this item shall be the length of the water line and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured centerline of tie in to centerline of tie in.
- 2) Bid Item 11 – 12” Steel Casing (Bore & Jack)
- a) This Bid item shall include all labor, material, equipment required for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, launching and receiving pits, sheeting, bracing, backfilling, grouting, casing, block, etc.
 - b) Measurement and payment under this item shall be measured and paid for at the unit price Bid per linear foot of the overall length of the 12” steel casing pipe satisfactorily installed.
 - c) Payment shall be for 12” steel casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
 - d) Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.
- 3) Bid Item 26 –Tie-in to Existing 4” Water Line
- a) This Bid item shall include all required labor, materials, equipment and all other costs associated with Tie-In to Existing 4” Water Line, as detailed on the Drawings, including but not limited to, tapping sleeve, fittings, valves, and incidental pipe to make the complete connection.
 - b) Payment shall be based on the per each Bid Price.
- 4) Bid Item 34 - Cut and Cap Existing Water Line
- a) This Bid item shall include all required labor, materials, equipment, and other costs associated with cut and cap existing water line, as detailed on the Drawling, including, but not limited to, excavation, bedding, fittings, and backfill.
Payment shall be based on the per each Bid Price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012000

SECTION 036000 - GROUTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, Division 01, and all related Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Portland cement grout.
 - 2. Non-shrink cementitious grout.
 - 3. Curing.

1.3 REFERENCES

- A. American Concrete Institute
 - 1. ACI 301 - Specifications for Structural Concrete.
 - 2. ACI 318 - Building Code Requirements for Structural Concrete.
- B. American Society of Testing and Materials
 - 1. ASTM C33 - Standard Specification for Concrete Aggregates.
 - 2. ASTM C40 - Test Method for Organic Impurities in Fine Aggregates for Concrete.
 - 3. ASTM C150 - Standard Specification for Portland Cement.
 - 4. ASTM C191 - Test Method for Time of Setting of Hydraulic Cement by Vicat Needle.
 - 5. ASTM C307 - Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing.
 - 6. ASTM C494 - Chemical Admixtures for Concrete.
 - 7. ASTM C531 - Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
 - 8. ASTM C579 - Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, monolithic Surfacing and Polymer Concretes.
 - 9. ASTM C827 - Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures.
- C. U.S. Army Corps of Engineers Concrete Research Division (CRD)
 - 1. CRD C621 - Non-Shrink Grout.

1.4 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit product data on grout.
- C. Manufacturer's Installation Instructions: Submit manufacturer's instructions for mixing, handling, surface preparation, placing epoxy type and non-shrink type grouts.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with West Virginia Division of Highways standard.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver grout in manufacturer's unopened containers with proper labels intact.
- C. Store grout in a dry shelter, protected from moisture.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 016000 - Product Requirements.
- B. Do not perform grouting if temperatures exceed the manufacturer's requirements.
- C. Maintain minimum temperature per the manufacturer's requirements before, during, and after grouting, until grout has set.

PART 2 - PRODUCTS

2.1 PORTLAND CEMENT GROUT MATERIALS

- A. Portland Cement: ASTM C150 Type I and II.
- B. Water
 - 1. Potable; containing no impurities, suspended particles, algae or dissolved natural salts in quantities capable of causing:
 - a. Corrosion of steel.
 - b. Volume change increasing shrinkage cracking.

- c. Efflorescence.
 - d. Excess air entraining.
2. Water for washing aggregate, for mixing and for curing shall be free from oil and deleterious amounts of acids, alkalies, and organic materials; shall not contain more than 1000 mg/L of chlorides as Cl, nor more than 1300 mg/L of sulfates as SO₄; and shall not contain an amount of impurities that may cause a change of more than 25 percent in the setting time of the cement nor a reduction of more than five (5) percent in the compressive strength of the grout at 14 days when compared with the result obtained with distilled water. Additionally, water used for curing shall not contain an amount of impurities sufficient to discolor the grout.

C. Fine Aggregate

1. Washed natural sand.
2. Gradation in accordance with ASTM C33 and represented by smooth granulometric curve within required limits.
3. Free from injurious amounts of organic impurities as determined by ASTM C40.

D. Mix

1. Portland cement, sand and water. Do not use ferrous aggregate or staining ingredients in grout mixes.
2. Admixtures shall be compatible with the grout. Calcium chloride or admixtures containing calcium chloride are not acceptable. Admixtures shall be used in accordance with the manufacturer's recommendations and shall be added separately to the grout mix.
3. If required, Water Reducing Retarder shall be ASTM C494 Type D and shall be Master Builders Pozzolith 300-R, Sika Corporation Plastiment, or equal.

2.2 NON-SHRINK CEMENTITIOUS GROUT

- A. Furnish materials in accordance with West Virginia Division of Highways and West Virginia Department of Health standards.
- B. Manufacturers:
 1. Sika Corporation
 2. L&M Construction Chemicals
 3. Euclid Chemical Company
 4. ThoRoc Concrete Restoration Solutions
- C. Description: Pre-mixed ready for use formulation requiring only addition of water; non-shrink, non-corrosive, non-metallic, non-gas forming, no chlorides.
- D. Properties: Certified to maintain initial placement volume or expand after set and meet following minimum properties when tested according to CRD-C621, for Type D non-shrink grout:
 1. Setting Time

- a. Initial: Two (2) hours, approximately.
 - b. Final: Three (3) hours, approximately.
 - c. Comply with ASTM C191.
2. Maximum Expansion: 0.10 to 0.40 percent.
 3. Compressive Strength
 - a. 1-Day: 4,000 psi.
 - b. 7-Day: 7,000 psi.
 - c. 28-Day: 10,000 to 10,800 psi.
 - d. Comply with CRD-C621.

2.3 CURING

- A. Prevent rapid loss of water from grout during first 48 hours by use of approved membrane curing compound or with use of wet burlap method.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 013000 - Administrative Requirements.
- B. Verify areas to receive grout.

3.2 PREPARATION

- A. Remove defective concrete, laitance, dirt, oil, grease and other foreign material from concrete surfaces by brushing, hammering, chipping or other similar means until sound, clean concrete surface is achieved.
- B. Rough concrete lightly, but not enough to interfere with placement of grout.
- C. Remove foreign materials from metal surfaces in contact with grout.
- D. Align, level, and maintain final positioning of components to be grouted.
- E. Saturate concrete surfaces with clean water; remove excess water, leave none standing.

3.3 INSTALLATION - FORMWORK

- A. Construct leak proof forms anchored and shored to withstand grout pressures.
- B. Install formwork with clearances to permit proper placement of grout.

3.4 MIXING

A. Portland Cement Grout

1. Use proportions of two (2) parts sand and one (1) part cement, measured by volume.
2. Prepare grout with water to obtain consistency to permit placing and packing.
3. Mix water and grout in two (2) steps; pre-mix using approximately $\frac{2}{3}$ of water; after partial mixing, add remaining water to bring mix to desired placement consistency and continue mixing two (2) minutes to three (3) minutes.
4. Mix only quantities of grout capable of being placed within 30 minutes after mixing.
5. Do not add additional water after grout has been mixed.

B. Mix and prepare non-shrink cementitious grout in accordance with written manufacturer's instructions.

1. Capable of developing minimum compressive strength of 2400 psi in 48 hours and 7000 psi in 28 days.

C. Mix grout components in proximity to Work area and transport mixture quickly and in manner not permitting segregation of materials.

3.5 PLACING GROUT

A. Place grout material quickly and continuously.

B. Do not use pneumatic-pressure or dry-packing methods.

C. Apply grout from one (1) side only to avoid entrapping air.

D. Do not vibrate placed grout mixture, or permit placement when area is being vibrated by nearby equipment.

E. Thoroughly compact final installation and eliminate air pockets.

F. Do not remove leveling shims for at least 48 hours after grout has been placed.

3.6 CURING

A. Immediately after placement, protect grout from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. After grout has attained its initial set, keep damp for minimum of three (3) days.

3.7 FIELD QUALITY CONTROL

A. Section 017000 - Execution and Closeout Requirements.

- B. Tests of grout components may be performed to ensure conformance with specified requirements.

END OF SECTION 036000

SECTION 221123.13 – PRESSURE/BOOSTER PUMP STATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vertical Inline Multi-Stage Centrifugal Pumps
2. Controls

B. SCOPE OF WORK

1. Contractor shall furnish and install two (2) inline centrifugal pumps in the Nursing Home Booster Station and controls with a handoff, automatic alternator.
2. Contractor shall furnish and install one (1) inline centrifugal pump in the Bolair Booster Station.

1.2 REFERENCE STANDARDS

A. The work in this section is subject to the requirements of applicable portions of the following standards:

1. Hydraulic Institute
2. ANSI – American National Standards Institute
3. ASTM – American Society for Testing and Materials
4. IEEE – Institute of Electrical and Electronics Engineers
5. NEMA – National Electrical Manufacturers Association
6. NEC – National Electric Code
7. ISO – International Standards Organization

1.3 ACTION SUBMITTALS

A. The equipment submittal shall have a cover sheet with the name of the project and the equipment manufacturer's representative and contact information.

B. Submittals shall include the following:

1. Pump Performance Curves
2. Pump Outline Drawing
3. Electrical Motor Data
4. Typical Installation Guides
5. Technical Manuals and Parts List
6. Printed Warranty
7. Management system certificate ISO 9001

8. Manufacturer's Equipment Storage Recommendations
 9. Manufacturer's Standard Recommended Start-Up Report Form
- C. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal form shall be sufficient cause for rejection of the entire submittal with no further consideration.
- D. Lack of the above requested submittal data is cause for rejection.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

- A. Referenced Standards and Guidelines:

1. Institute of Electrical and Electronic Engineers (IEEE)
 - a. IEEE 519, Guide for Harmonic Content and Control.
2. Underwriters Laboratories (as appropriate)
 - a. UL508C
 - b. UL61800-5-1
3. National Electrical Manufacturer's Association (NEMA)
 - a. ICS 7.0, AC Adjustable Speed Drives
4. International Electro-technical Commission
 - a. EN/IEC 61800-3
 - b. 2014/35/EU Low Voltage Directive
 - c. 2014/30/EU Electromagnetic compatibility (EMC)
 - d. 2006/42/EC Machinery Directive
5. National Electric Code (NEC)
 - a. NEC 430.120, Adjustable-Speed Drive Systems
6. International Building Code (IBC)

- a. IBC 2012 Seismic – referencing ASC 7-05 and ICC AC-156

B. Qualifications:

1. Only manufacturers with 20 or more years of experience shall be considered.

1.6 WARRANTY

- A. All equipment supplied under this specification shall be provided with a two (2) year extended warranty from the date of Substantial Completion.
- B. Warranty shall include defects in the design, material or construction of the Unit. A copy of the startup report shall be completed by Contractor and sent back to the system manufacturer and Engineer to validate the warranty.

1.7 OPERATION AND MAINTENANCE MANUALS

- A. The pump station manufacturer shall provide one (1) electronic copy and four (4) printed copies with a project specific cover, of an Operation and Maintenance Manual covering the equipment specified herein.
- B. The manual shall contain complete descriptions on operation of each item of equipment, a complete parts list with factory numbers, recommended spare parts list, and name, address, and phone numbers of nearest service center(s). Manual shall be submitted promptly following equipment delivery.

1.8 POST-BID SUBMITTALS

- E. The equipment submittal shall have a cover sheet with the name of the project and the equipment manufacturer's representative and contact information.
- F. The submittal shall include data sheets covering all individual components that make up the booster pump station and the UL file number under which the manufacturer is listed.
- G. Submittals shall include the following:
10. Full size 11" x 17" mechanical drawing
 11. Manufacturer's warranty
 12. Copy of the manufacturer's UL label.
 13. Detailed sequence of operation.
 14. 11" x 17" Electrical drawings to include schematics and control panel layouts.

1.9 PUMP STATION DESIGN CRITERIA:

Booster Station	Nursing Home	Bolair
Number of Pumps	2	1
Capacity per Pump	60 GPM	60 GPM
Total Dynamic Head	300'	489'
Inlet and Outlet Size	2"	2"
Pump Speed	3,500 rpm	3,500 rpm
Motor Horsepower	7.5 HP	10 HP
Voltage	230 V	208 V
Phase	3	3
Frequency	60 Hz	60 Hz

PART 2 - PRODUCTS

2.1 VERTICAL IN-LINE MULTI-STAGE CENTRIFUGAL PUMPS

- A. All pumps shall be ANSI/NSF 61 approved for drinking water.
- B. The head-capacity curve shall have a steady decrease in head from minimum to maximum flow within the preferred operating region. The shut-off head shall be a minimum of 20% higher than the head at the best efficiency point.
- C. All pump bearings shall be of tungsten carbide construction, which includes the lower pump bearing and sleeves. They shall be lubricated by the pumped liquid.
- D. Vertical In-Line Multi-Stage Pumps shall have the following features:
 - 1. Each pump shall be designed for in-line installation requiring no more than 1.5 square feet of floor space (including motor).
 - 2. The pump impellers shall be secured directly to the pump shaft by means of a square-edge four spline shaft. This arrangement provides positive location and drive of impellers, eliminating wear.
 - 3. The suction/discharge base shall have ANSI Class 250 flange or internal pipe thread (NPT) connections as indicated in the drawings or pump schedule. Oval flange, Loose ANSI compatible flanges, Victaulic, and clamp connections shall also be available.

4. Pump Construction; all metallic wetted components in the standard 304SS construction pump shall be made of AISI 304SS or superior corrosion resistant materials; no wetted CI components are allowed.

- E. Impellers must be designed to inherently balance hydraulic axial thrust loads, thus eliminating the need for special motors equipped with bearings to manage these loads. Additionally, pumps must not be equipped with anti-friction roller bearing above the mechanical seal to manage hydraulic axially thrust loads. Impellers shall be of enclosed design and constructed of AISI 316L or AISI 304L stainless steel.

- F. The shaft seal shall be offered with two configurations; balanced and unbalanced (standard) O-ring cartridge type with the following features: the type chosen will be based on total discharge pressure as each seal configuration is designed for different pressure ranges.
 1. Collar, Drivers, spring: 316 Stainless Steel
 2. Shaft Sleeve, Gland Plate: 316 Stainless Steel
 3. Stationary Ring: Silicon Carbide
 4. Rotating Ring: Carbon
 5. O-Rings: FPM (Standard)

- G. The Silicon Carbide vs. Carbon is the ideal face combination for water application based on the PV mechanical design principles.

- H. Shaft seal replacement shall be possible without removal of any pump components other than the coupling guard, shaft coupling and motor. Pumps shall have adequate space within the motor stool so that shaft seal replacement is possible without motor removal.

- I. The maximum working temperature shall be 248°F. The maximum working pressure for the standard flange configuration; ANSI Flange (Class 250) shall be 360 psig.

- J. Manufacturers:
 1. The Owner and Engineer believe the following manufacturers are capable of producing equipment and products, which will satisfy the requirements of this Section. This statement, however, shall not be construed as an endorsement of a particular manufacturer's product, nor shall it be construed that a named manufacturer's standard product will comply with the requirements of this Section. It shall be the responsibility of the contractor to coordinate with the "selected" equipment manufacturer by use of this specification and all related design drawings for any necessary adjustments, modifications or alterations to standard products to ensure that the product complies with all sections of this specification.
 2. Candidate manufacturers include:
 - a. Goulds Water Technology
 - b. Grundfos
 - c. Ebarra
 - d. Engineer's approved equal.

2.2 SPARE PARTS

- A. The following spare parts shall be provided for each pump:
 - 1. One set of shaft sleeves.
 - 2. One set of mechanical gaskets.
 - 3. One set of all gaskets and O-rings.

2.3 FACTORY CERTIFIED PUMP PERFORMANCE TESTING

- A. A certified performance test shall be performed by the pump manufacturer on each pump.
- B. All tests shall be performed in accordance with the Hydraulic Institute Test Standards for Centrifugal Pumps – 1.6 (1988).
- C. Six evenly spaced test points shall be taken and shall include conditions at shut-off (zero flow) and the operating points specified herein.
- D. The engineer and/or a representative of the owner shall be given sufficient notice of the testing dates and shall have the opportunity to witness these tests.
- E. Components shall be tested for hydraulic shock, vibration, or excessive noise. Any parts found to be defective must be replaced prior to shipment.
- F. Data shall be generated showing duty point at full capacity for each pump.
- G. Test report shall be furnished to Owner upon shipment. Factory is to use current NIST traceable Flow Instruments.
- H. Copy of test to be kept on file by the manufacturer for troubleshooting references.

2.4 HYDRO-STATIC TESTING

- A. When the station plumbing is completed, the pressure piping within the station (including valves, pumps, control valves, and fittings) connections make up, the entire system shall be hydro-statically tested at a pressure not less than 150% of max system design pressure.
- B. The test pressure shall be applied for a minimum of 60 minutes, during which time all joints, connections, and seams shall be checked for leaking.
- C. Any deficiencies found shall be repaired and the system shall be re-tested at no expense to the contractor.

2.5 USER INTERFACES

- A. CONTROL PANEL
 - 1. The control panel shall include Hand-Off-Auto selections and manual speed control to an alternator to switch between the two (2) pumps every other day. Pump run time shall be

approximately 4-5 hours per day. The drive shall incorporate “bump-less transfer” of speed reference when switching between “Auto” and “Hand” modes.

2. The control panel shall include a backlit LCD. The display shall be in complete words, in a language selectable by the user, for programming and fault diagnostics (alphanumeric fault codes are not acceptable).
3. The control panel shall have a real-time clock with battery backup for adding time stamps to events, faults, warnings and also timer functions utilizing real-time clock.
4. There shall be an editable home-view in the control panel to allow different customer specific configurations.
5. A dedicated “Help” button shall be available on the control panel. The Help button shall provide context sensitive assistance for programming and troubleshooting.
6. The control panel shall provide interactive assistants (wizards) to help to commission and use the drive.
7. The control panel shall provide a clear, interactive, context sensitive menu-based user interface to make it easy to adjust the settings of the drive.
8. The control panel shall provide an easy to use I/O menu, where the user can see the status and function of all the analog and digital inputs and outputs.
9. The control panel shall have a menu, which contains diagnostic data about the drive operation collected in one single location. The data shall include data about active faults, warnings and events. The user shall be able to take a screen capture snapshot of the display with the control panel and be able to download the screen capture for user’s computer for further purposes.

2.6 CONTROLLER ENCLOSURE SPECIFICATIONS

A. Type NEMA 3R enclosure:

1. Type 3R Enclosures are constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts, to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt) to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow), and that will be undamaged by the external formation of ice on the enclosure.
 - a. 0.048 In., 0.063 In. & 0.075 In. Galvanized steel.
 - b. Concealed hinges.
 - c. Spot weld construction.
 - d. Rain cap.
 - e. Mounting hole in back of enclosure.
 - f. Provisions for sub-panel.
 - g. Black quarter turn wing knob latch with padlocking provisions.
 - h. Doors open 180 degrees.
 - i. Pour in place oil & water-resistant gasket.
 - j. Ground stud on door & body.
 - k. 3/8-16 Grounding Kit.
 - l. Sub-panel mounting hardware included.
 - m. Finish ANSI-61 gray powder coating inside and out and sub-panels are powder coated white.

2.7 SPARE PARTS

- A. The following spare parts shall be provided for each pump:
 - 1. One set of shaft sleeves.
 - 2. One set of mechanical gaskets.
 - 3. One set of all gaskets and O-rings.

- B. The following spare parts shall be provided for the control and electrical system:
 - 1. One complete set of all fuses.
 - 2. One complete set of all relays.
 - 3. One complete set of all bulbs.

- C. The following spare parts shall be provided for the pump station enclosure:
 - 1. One spare set of all keys.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Equipment Mounting:
 - 1. Install booster pumps on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."

3.2 FACTORY CERTIFIED PUMP PERFORMANCE TESTING

- B. A certified performance test shall be performed by the pump manufacturer on each pump.
- C. All tests shall be performed in accordance with the Hydraulic Institute Test Standards for Centrifugal Pumps – 1.6 (1988).
- D. Six evenly spaced test points shall be taken and shall include conditions at shut-off (zero flow) and the operating points specified herein.
- E. The engineer and/or a representative of the owner shall be given sufficient notice of the testing dates and shall have the opportunity to witness these tests.
- F. Components shall be tested for hydraulic shock, vibration, or excessive noise. Any parts found to be defective must be replaced prior to shipment.
- G. Data shall be generated showing duty point at full capacity for each pump.

- H. Test report shall be furnished to Owner upon shipment. Factory is to use current NIST traceable Flow Instruments.
- I. Copy of test to be kept on file by the manufacturer for troubleshooting references.

3.2 HYDRO-STATIC TESTING

- A. When the station plumbing is completed, the pressure piping within the station (including valves, pumps, control valves, and fittings) connections make up, the entire system shall be hydro-statically tested at a pressure not less than 150% of max system design pressure.
- B. The test pressure shall be applied for a minimum of 60 minutes, during which time all joints, connections, and seams shall be checked for leaking.
- C. Any deficiencies found shall be repaired and the system shall be re-tested at no expense to the contractor.

3.3 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. Perform visual and mechanical inspection.
 - 2. Leak Test: After installation, charge booster pump and test for leaks. Repair leaks and retest until no leaks exist.
 - 3. Operational Test: After electrical circuitry has been energized, start booster pumps to confirm proper motor rotation and booster-pump operation.
 - 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Pumps will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

3.4 ADJUSTING

- A. Adjust booster pumps to function smoothly and lubricate as recommended by manufacturer.
- B. Adjust pressure set points.

3.5 DEMONSTRATION

- A. After installation, pump start-up shall be performed by the Manufacturer, or authorized Manufacturer's Representative, eight (8) hours of field service shall be provided by an authorized, factory trained representative of the pump manufacturer. Services shall include, but not be limited to, inspection of the completed pump installation to ensure that it has been performed in accordance with the manufacturer's instructions and recommendations and

supervision of all field-testing. The test shall demonstrate to the satisfaction of the Owner that the equipment meets all specified performance criteria, is properly installed and anchored, and operates smoothly without exceeding the full load amperage rating of the motor. The Contractor shall be responsible for coordinating the required field services with the pump manufacturer.

- B. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain booster pumps.

3.6 CLOSE-OUT

- A. Contractor shall submit a copy of startup report to Engineer prior to Substantial Completion.

END OF SECTION 221123.13

SECTION 260500 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Supporting devices for electrical components.
2. Electrical identification.
3. Electrical demolition.
4. Cutting and patching for electrical construction.
5. Building Wires and Cables
6. Raceways
7. Boxes, enclosures, pull and junction boxes.
8. Receptacles, connectors, switches, ad finish plates.
9. Touchup painting.

1.2 SUBMITTALS

- A. Product Data: For electrical-metering equipment.
- B. Shop Drawings: Dimensioned plans and sections or elevation layouts of electricity-metering equipment.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

1.4 COORDINATION

- A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.
1. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.

- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.
- C. Coordinate electrical service connections to components furnished by utility companies.
 - 1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components.
 - 2. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.
- D. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.
- E. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.
- F. Where electrical identification markings and devices will be concealed by acoustical ceilings and similar finishes, coordinate installation of these items before ceiling installation.

1.5 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services:
 - 1. Notify Engineer at least seven days in advance of proposed utility interruptions. Identify extent and duration of utility interruptions.
 - 2. Indicate method of providing temporary utilities.
 - 3. Do not proceed with utility interruptions without Engineer's written permission.

PART 2 - PRODUCTS

2.1 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating.
- B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
- C. Slotted-Steel Channel Supports: Flange edges turned toward web, and 9/16-inch-diameter slotted holes at a maximum of 2 inches o.c., in webs.
 - 1. Channel Thickness: Selected to suit structural loading.
 - 2. Fittings and Accessories: Products of the same manufacturer as channel supports.

- D. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- E. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- F. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.
- G. Expansion Anchors: Carbon-steel wedge or sleeve type.
- H. Toggle Bolts: All-steel springhead type.
- I. Powder-Driven Threaded Studs: Heat-treated steel.

2.2 ELECTRICAL IDENTIFICATION

- A. Identification Devices: A single type of identification product for each application category. Use colors prescribed by ANSI A13.1, NFPA 70, and these Specifications.
- B. Raceway and Cable Labels: Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and minimum length of color field for each raceway and cable size.
 - 1. Type: Preprinted, flexible, self-adhesive, vinyl. Legend is overlaminated with a clear, weather- and chemical-resistant coating.
 - 2. Color: Black letters on orange background.
 - 3. Legend: Indicates voltage.
- C. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1 inch wide by 3 mils thick.
- D. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape with the following features:
 - 1. Not less than 6 inches wide by 4 mils thick.
 - 2. Compounded for permanent direct-burial service.
 - 3. Embedded continuous metallic strip or core.
 - 4. Printed legend that indicates type of underground line.
- E. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.

- F. Color-Coding Cable Ties: Type 6/6 nylon, self-locking type. Colors to suit coding scheme.
- G. Engraved-Plastic Labels, Signs, and Instruction Plates: Engraving stock, melamine plastic laminate punched or drilled for mechanical fasteners 1/16-inch minimum thickness for signs up to 20 sq. in. and 1/8-inch minimum thickness for larger sizes. Engraved legend in black letters on white background.
- H. Interior Warning and Caution Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145. Preprinted, aluminum, baked-enamel-finish signs, punched or drilled for mechanical fasteners, with colors, legend, and size appropriate to the application.
- I. Exterior Warning and Caution Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch, galvanized-steel backing, with colors, legend, and size appropriate to the application. 1/4-inch grommets in corners for mounting.
- J. Fasteners for Nameplates and Signs: Self-tapping, stainless-steel screws or No. 10/32 stainless-steel machine screws with nuts and flat and lock washers.
- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Wires and Cables:
 - a. Alcan Aluminum Corporation; Alcan Cable Div.
 - b. American Insulated Wire Corp.; Leviton Manufacturing Co.
 - c. General Cable Corporation
 - d. Senator Wire & Cable Company.
 - e. Southwire Company.
 - 2. Connectors for Wires and Cables:
 - a. AFC Cable Systems, Inc.
 - b. AMP Incorporated.
 - c. Hubbell Kenderon.
 - d. O Z Gedney.
 - e. 3M Company; Electrical Products Division.

2.3 BUILDING WIRES AND CABLES

- A. UL-listed building wires and cables with conductor material, insulation type, cable construction, and rating as specified in Part 3 "Wire and Insulation Applications" Article.
- B. Thermoplastic Insulation Material: Comply with NEMA WC 5.

- C. Conductor Material: Copper.

2.4 CONNECTORS AND SPLICES

- A. UL-listed, factory-fabricated wiring connectors of size, ampacity rating, material, type, and class for application and service indicated. Comply with Project's installation requirements and as specified in Part 3 "Wire and Insulation Applications" Article.

2.5 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1. Metal Conduit and Tubing:

- a. Alflex Corp.
- b. Anamet, Inc.; Anaconda Metal Hose.
- c. Anixter Brothers, Inc.
- d. Carol Cable Co., Inc.
- e. Cole-Flex Corp.
- f. Electri-Flex Co.
- g. Flexcon, Inc.; Coleman Cable Systems, Inc.
- h. Grinnell Co.; Allied Tube and Conduit Div.
- i. Monogram Co.; AFC.
- j. Spiraduct, Inc.
- k. Triangle PWC, Inc.
- l. Wheatland Tube Co.

- 2. Nonmetallic Conduit and Tubing:

- a. Anamet, Inc.; Anaconda Metal Hose.
- b. Arcco Corp.
- c. Breeze-Illinois, Inc.
- d. Cantex Industries; Harsco Corp.
- e. Certainteed Corp.; Pipe & Plastics Group.
- f. Cole-Flex Corp.
- g. Condux International; Electrical Products.
- h. Electri-Flex Co.
- i. George-Ingraham Corp.
- j. Hubbell, Inc.; Raco, Inc.
- k. Lamson & Sessions; Carlon Electrical Products.
- l. R&G Sloan Manufacturing Co., Inc.
- m. Spiraduct, Inc.
- n. Thomas & Betts Corp.

- 3. Conduit Bodies and Fittings:

- a. American Electric; Construction Materials Group.
 - b. Crouse-Hinds; Div. of Cooper Industries.
 - c. Emerson Electric Co.; Appleton Electric Co.
 - d. Hubbell, Inc.; Killark Electric Manufacturing Co.
 - e. Lamson & Sessions; Carlon Electrical Products.
 - f. O-Z/Gedney; Unit of General Signal.
 - g. Scott Fetzer Co.; Adalet-PLM.
 - h. Spring City Electrical Manufacturing Co.
4. Metal Wireways:
- a. Hoffman Engineering Co.
 - b. Keystone/Rees, Inc.
 - c. Square D Co.
5. Boxes, Enclosures, and Cabinets:
- a. American Electric; FL Industries.
 - b. Butler Manufacturing Co.; Walker Division.
 - c. Crouse-Hinds; Div. of Cooper Industries.
 - d. Electric Panelboard Co., Inc.
 - e. Erickson Electrical Equipment Co.
 - f. Hoffman Engineering Co.; Federal-Hoffman, Inc.
 - g. Hubbell Inc.; Killark Electric Manufacturing Co.
 - h. Hubbell Inc.; Raco, Inc.
 - i. Lamson & Sessions; Carlon Electrical Products.
 - j. O-Z/Gedney; Unit of General Signal.
 - k. Parker Electrical Manufacturing Co.
 - l. Robroy Industries, Inc.; Electrical Division.
 - m. Scott Fetzer Co.; Adalet-PLM.
 - n. Spring City Electrical Manufacturing Co.
 - o. Thomas & Betts Corp.
 - p. Woodhead Industries, Inc.; Daniel Woodhead Co.
- 2.6 METAL CONDUIT AND TUBING
- A. Rigid Steel Conduit: ANSI C80.1.
 - B. Rigid Aluminum Conduit: ANSI C80.5.
 - C. Plastic-Coated Steel Conduit and Fittings: NEMA RN 1.
 - D. EMT and Fittings: ANSI C80.3.
 1. Fittings: Set-screw or compression type.

- E. FMC: Zinc-coated steel.
- F. LFMC: Flexible steel conduit with PVC jacket.
- G. Fittings: NEMA FB 1; compatible with conduit/tubing materials.

2.7 NONMETALLIC CONDUIT AND TUBING

- A. RNC: NEMA TC 2, Schedule 40 or 80 PVC.
- B. RNC Fittings: NEMA TC 3; match to conduit or conduit/tubing type and material.

2.8 METAL WIREWAYS

- A. Material: Sheet metal sized and shaped as indicated.
- B. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- C. Select features, unless otherwise indicated, as required to complete wiring system and to comply with NFPA 70.
- D. Finish: Manufacturer's standard enamel finish.

2.9 OUTLET AND DEVICE BOXES

- A. Sheet Metal Boxes: NEMA OS 1.

2.10 PULL AND JUNCTION BOXES

- A. Small Sheet Metal Boxes: NEMA OS 1.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Wiring Devices:
 - a. Bryant Electric, Inc.
 - b. Cooper Wiring Devices, Inc.
 - c. Hubbell, Inc.; Wiring Devices Div.
 - d. Leviton Manufacturing Co., Inc.
 - e. Pass & Seymour/Legrand; Wiring Devices Div.
 - 2. Wiring Devices for Hazardous (Classified) Locations:
 - a. Crouse-Hinds Electrical Co.; Distribution Equipment Div.
 - b. Killark Electric Manufacturing Co.

c. Pyle-National, Inc.; an Amphenol Co.

2.11 RECEPTACLES

- A. Specification Grade, heavy-duty grade, straight-blade and locking type, side wire, high impact thermoplastic face and body. Large brass grounding contacts, triple brass wipe blade contacts, side wire screw terminals to accept #10, #12, or #14 AWG copper wire - NEMA WD 1 - 4.02. U.L. Standard 498 "Electrical Attachment Plugs and Receptacles", 2 pole 3 wire grounding, 20 amp, 125 volt, straight blade, Fed. Spec., W-C-596F - F(UL)S, color to be selected by Architect.
- B. GFCI Receptacles: Feed-through type, with integral NEMA 5-20R duplex receptacle arranged to protect connected downstream receptacles on same circuit. Design units for installation in a 2-3/4-inch- deep outlet box without an adapter.
- C. Hazardous (Classified) Location Receptacles: Comply with NEMA FB 11.

2.12 SWITCHES

- A. Snap Switches: Heavy-duty, quiet type.

2.13 WALL PLATES

- A. Single and combination types and color match corresponding wiring devices.
 - 1. Plate-Securing Screws: Metal with head color to match plate finish.
 - 2. Material for Finished Spaces: smooth face thermoplastic.
 - 3. Material for Unfinished Spaces: Galvanized steel.
- B. Gray, unless otherwise indicated or required by Code.

2.14 TOUCHUP PAINT

- A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.
- B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- B. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.

3.2 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, U-channel system components.
- B. Dry Locations: Steel materials.
- C. Support Clamps for PVC Raceways: Click-type clamp system.
- D. Selection of Supports: Comply with manufacturer's written instructions.
- E. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four; minimum of 200-lb design load.

3.3 SUPPORT INSTALLATION

- A. Install support devices to securely and permanently fasten and support electrical components.
- B. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assemblies and for securing hanger rods and conduits.
- C. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- D. Size supports for multiple raceway installations so capacity can be increased by a 25 percent minimum in the future.
- E. Support individual horizontal raceways with separate, malleable-iron pipe hangers or clamps.
- F. Install 1/4-inch- diameter or larger threaded steel hanger rods, unless otherwise indicated.
- G. Spring-steel fasteners specifically designed for supporting single conduits or tubing may be used instead of malleable-iron hangers for 1-1/2-inch and smaller raceways serving lighting and receptacle branch circuits above suspended ceilings and for fastening raceways to slotted channel and angle supports.

- H. Arrange supports in vertical runs so the weight of raceways and enclosed conductors is carried entirely by raceway supports, with no weight load on raceway terminals.
- I. Simultaneously install vertical conductor supports with conductors.
- J. Separately support cast boxes that are threaded to raceways and used for fixture support. Support sheet-metal boxes directly from the building structure or by bar hangers. If bar hangers are used, attach bar to raceways on opposite sides of the box and support the raceway with an approved fastener not more than 24 inches from the box.
- K. Install metal channel racks for mounting cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices unless components are mounted directly to structural elements of adequate strength.
- L. Install sleeves for cable and raceway penetrations of concrete slabs and walls unless core-drilled holes are used. Install sleeves for cable and raceway penetrations of masonry and fire-rated gypsum walls and of all other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.
- M. Securely fasten electrical items and their supports to the building structure, unless otherwise indicated. Perform fastening according to the following unless other fastening methods are indicated:
 - 1. Wood: Fasten with wood screws or screw-type nails.
 - 2. Masonry: Toggle bolts on hollow masonry units and expansion bolts on solid masonry units.
 - 3. New Concrete: Concrete inserts with machine screws and bolts.
 - 4. Existing Concrete: Expansion bolts.
 - 5. Instead of expansion bolts, threaded studs driven by a powder charge and provided with lock washers may be used in existing concrete.
 - 6. Steel: Welded threaded studs or spring-tension clamps on steel.
 - a. Field Welding: Comply with AWS D1.1.
 - 7. Welding to steel structure may be used only for threaded studs, not for conduits, pipe straps, or other items.
 - 8. Light Steel: Sheet-metal screws.
 - 9. Fasteners: Select so the load applied to each fastener does not exceed 25 percent of its proof-test load.

3.4 IDENTIFICATION MATERIALS AND DEVICES

- A. Install at locations for most convenient viewing without interference with operation and maintenance of equipment.

- B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout Project.
- C. Self-Adhesive Identification Products: Clean surfaces before applying.
- D. Identify raceways and cables with color banding as follows:
 - 1. Bands: Pretensioned, snap-around, colored plastic sleeves or colored adhesive marking tape. Make each color band 2 inches wide, completely encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
 - 2. Band Locations: At changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- E. Tag and label circuits designated to be extended in the future. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.
- F. Install continuous underground plastic markers during trench backfilling, for exterior underground power, control, signal, and communication lines located directly above power and communication lines. Locate 12 inches below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches, use a single line marker. If width of common trench or concrete envelope exceeds 16 inches (400 mm), use multiple line markers spaced 16 inches (400 mm) on center.
- G. Color-code 240/120-V system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Black.
 - 2. Phase B: Red.
 - 3. Phase C: Blue.
 - 4. Neutral: White.
 - 5. Ground: Green.
- H. Install warning, caution, and instruction signs where required to comply with 29 CFR, Chapter XVII, Part 1910.145, and where needed to ensure safe operation and maintenance of electrical systems and of items to which they connect. Install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.

- I. Install engraved-laminated emergency-operating signs with white letters on red background with minimum 3/8-inch- high lettering for emergency instructions on power transfer, load shedding, and other emergency operations.

3.5 UTILITY COMPANY ELECTRICITY-METERING EQUIPMENT

- A. Contractor shall coordinate with utility company for installation of electric meter. Provide grounding and empty conduits as required by utility company.

3.6 EXAMINATION

- A. Examine raceways and building finishes to receive wires and cables for compliance with requirements for installation tolerances and other conditions affecting performance of wires and cables. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.7 WIRE AND INSULATION APPLICATIONS

- A. Service Entrance: Type THHN/THWN, rated for 75° C (167°F), in raceway.
- B. Feeders: Type THHN/THWN, rated for 75° C (167° F), in raceway.
- C. Branch Circuits: Type THHN/THWN, rated for 75° C (167° F), in raceway.

3.8 INSTALLATION

- A. Install wires and cables as indicated, according to manufacturer's written instructions and NECA's "Standard of Installation."
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Install devices and assemblies plumb and secure.
- E. Install wall plates when painting is complete.
- F. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical, and grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

- G. Protect devices and assemblies during painting.

3.9 CONNECTIONS

- A. Install splices and tapes that possess equivalent or better mechanical strength and insulation ratings than conductors being spliced.
- B. Use splice and tap connectors compatible with conductor material.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.
- D. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
- E. Connect wiring device grounding terminal to branch-circuit equipment grounding conductor.

3.10 EMOLITION

- A. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
- B. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
- C. Abandoned Work: Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
- D. Remove demolished material from Project site.
- E. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

3.11 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing firestopping has been

disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.12 FIELD QUALITY CONTROL

A. Inspect installed components for damage and faulty work, including the following:

1. Supporting devices for electrical components.
2. Electrical identification.
3. Electrical metering components.
4. Electrical demolition.
5. Cutting and patching for electrical construction.
6. Touchup painting.

3.13 REFINISHING AND TOUCHUP PAINTING

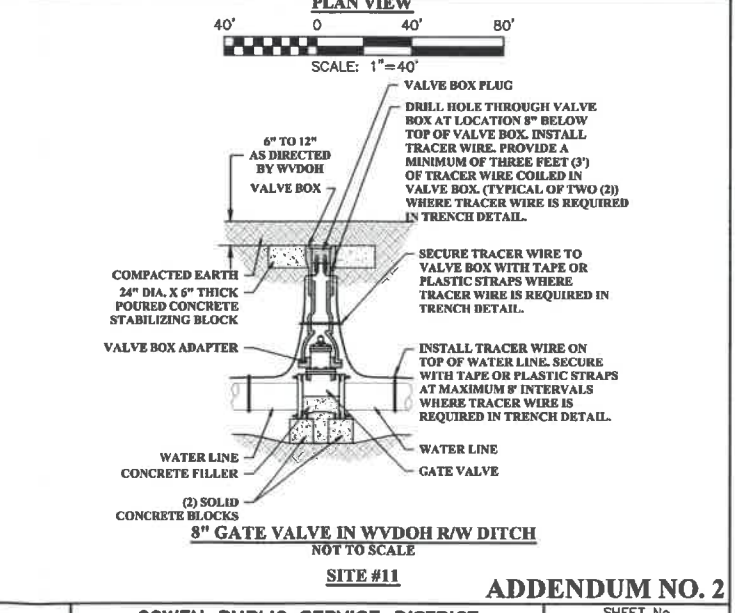
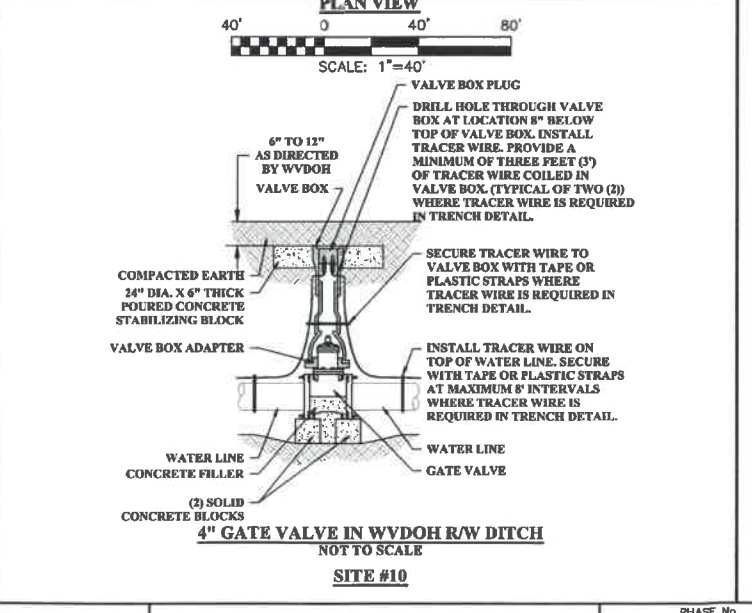
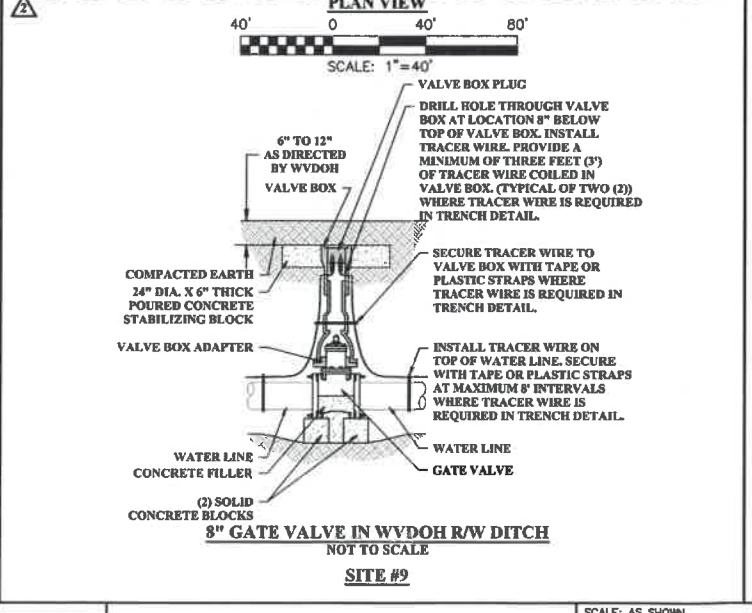
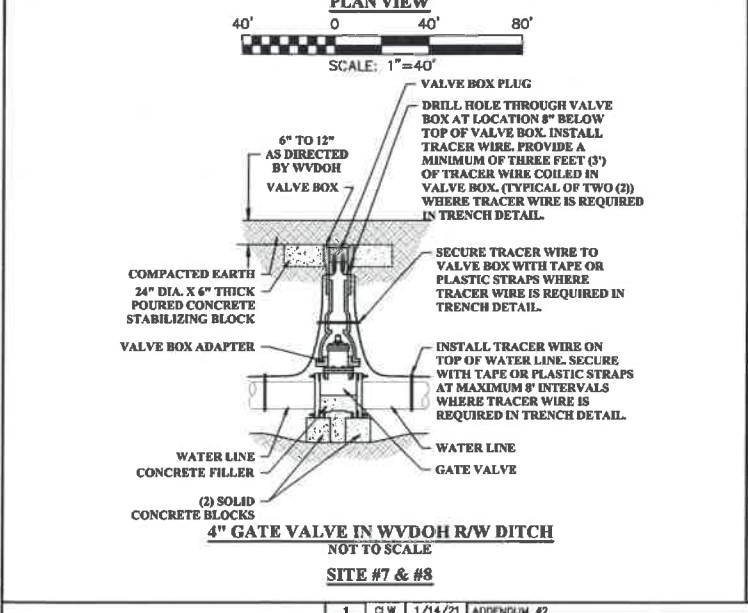
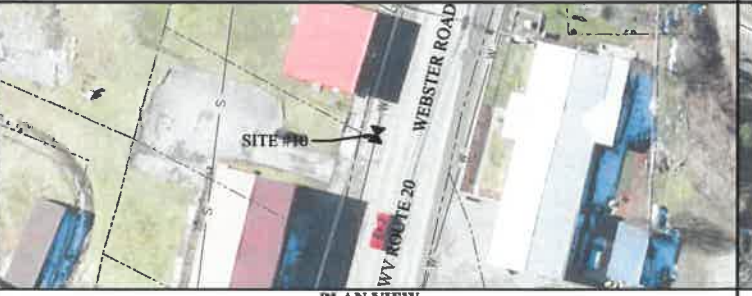
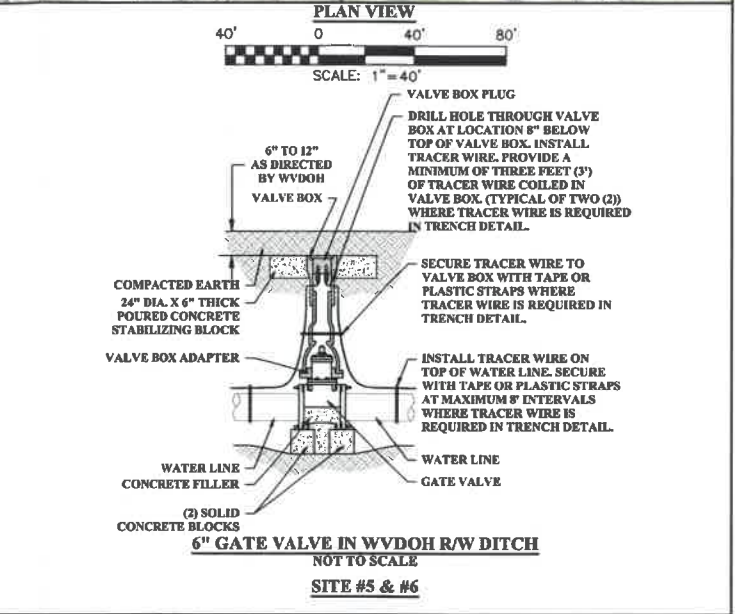
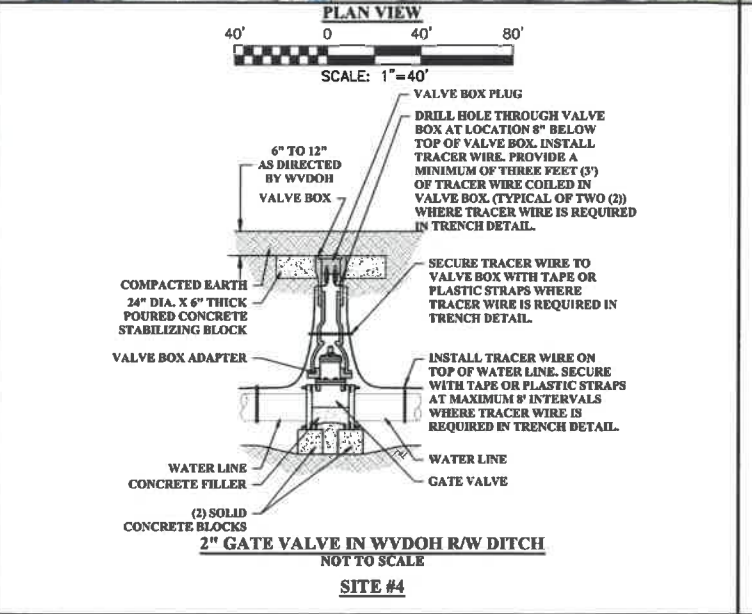
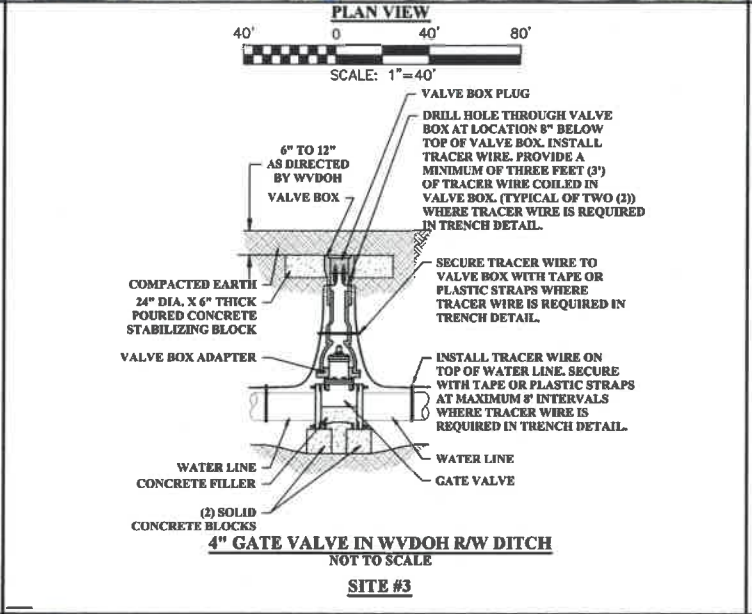
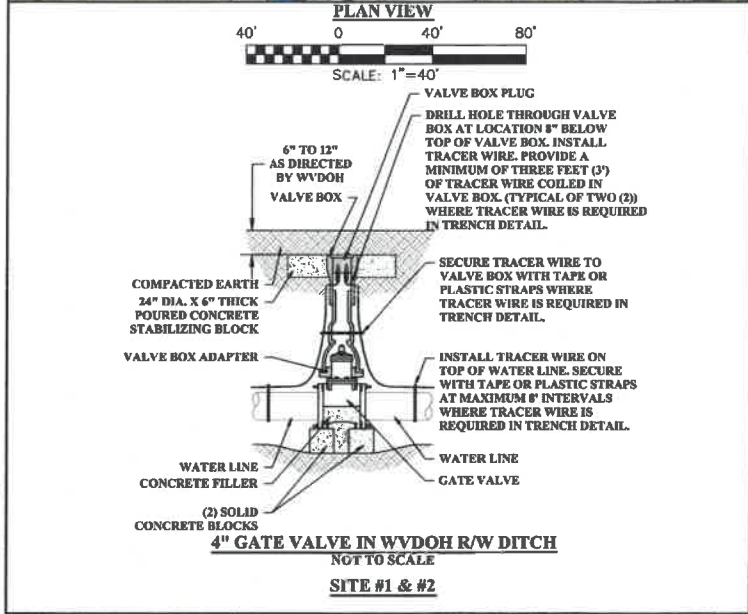
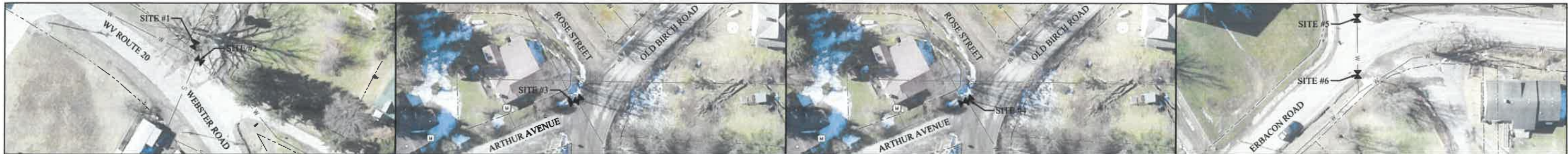
A. Refinish and touch up paint.

1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.
2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
3. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
4. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.14 CLEANING AND PROTECTION

- A. On completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION



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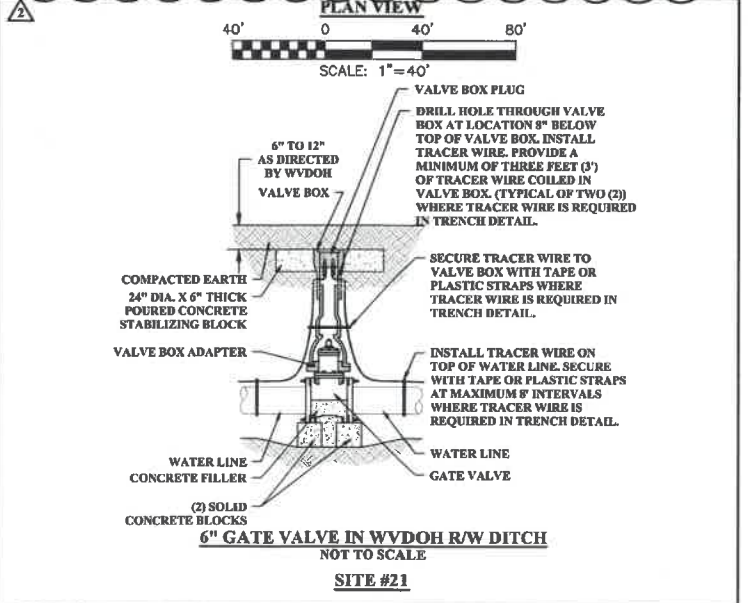
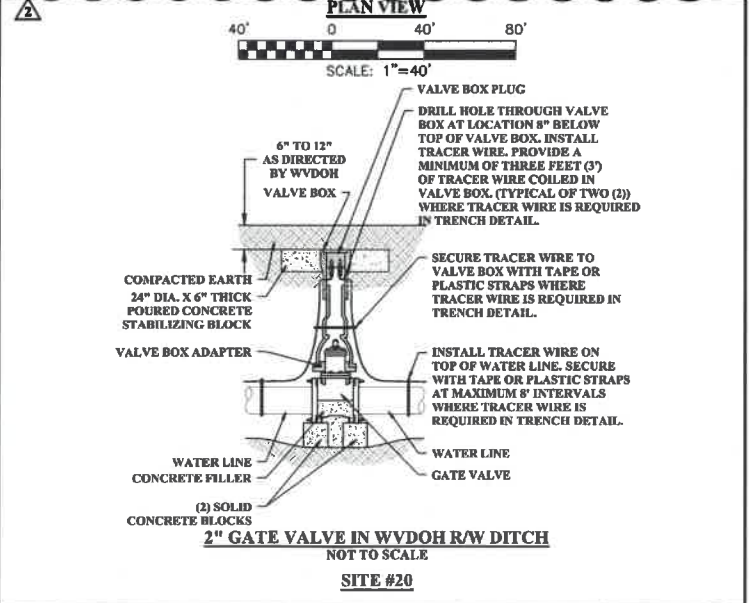
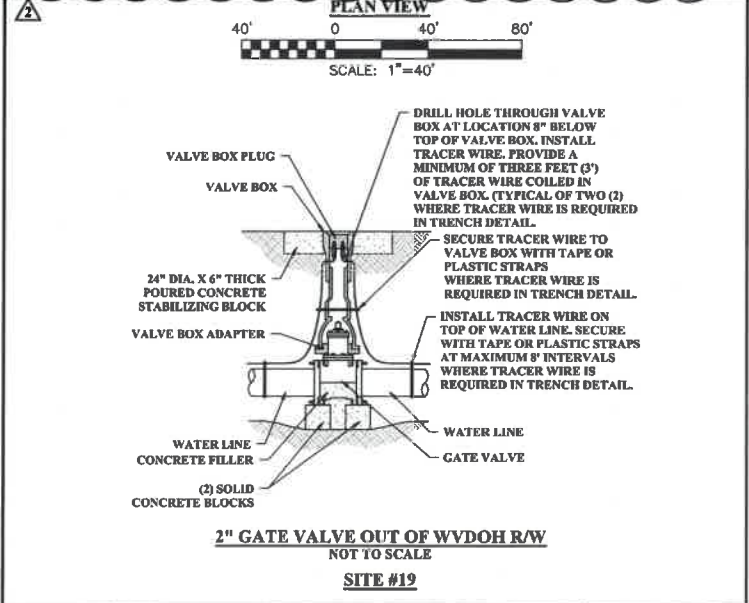
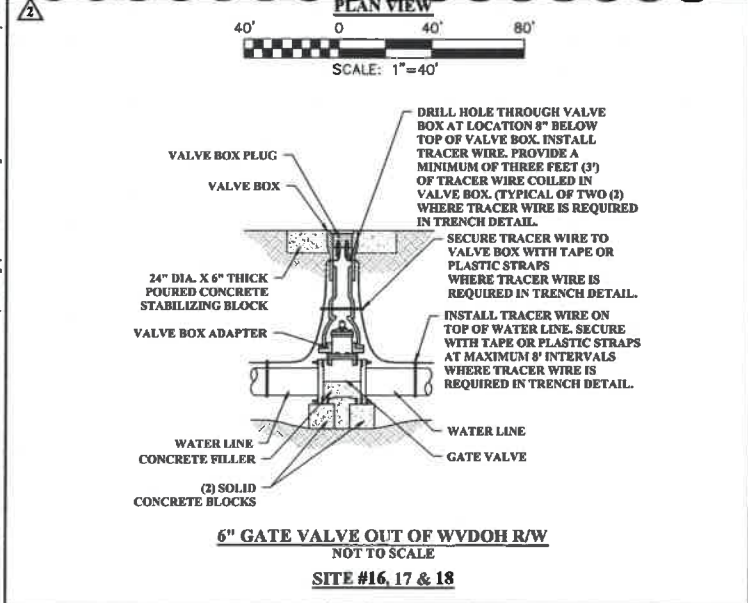
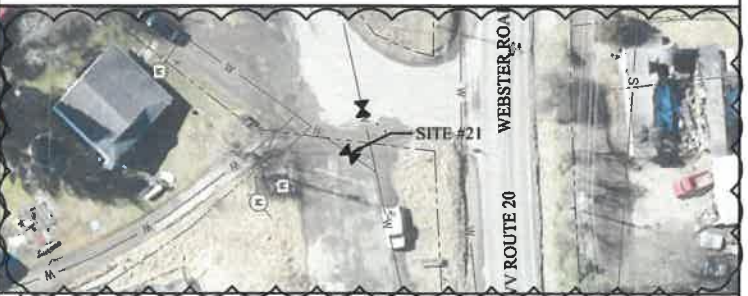
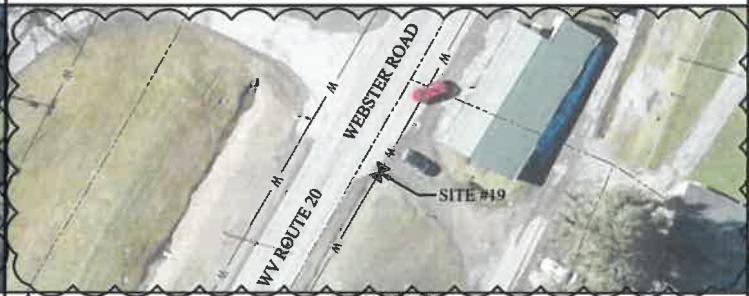
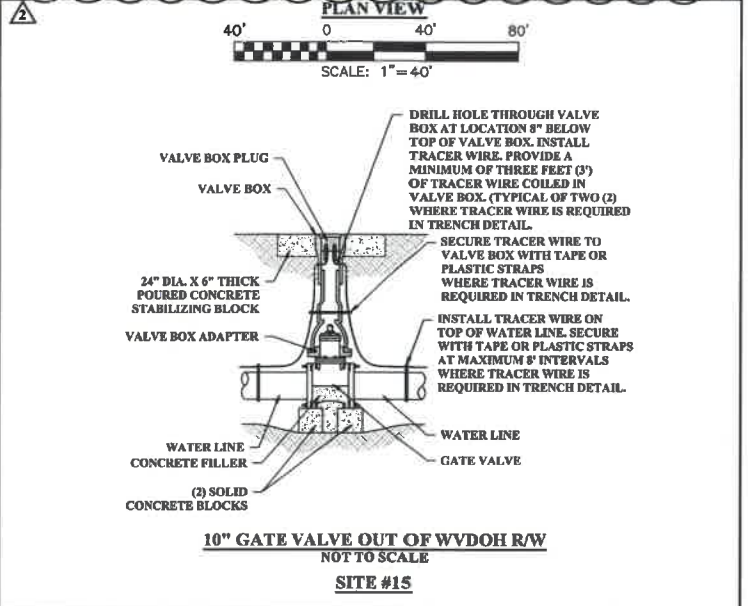
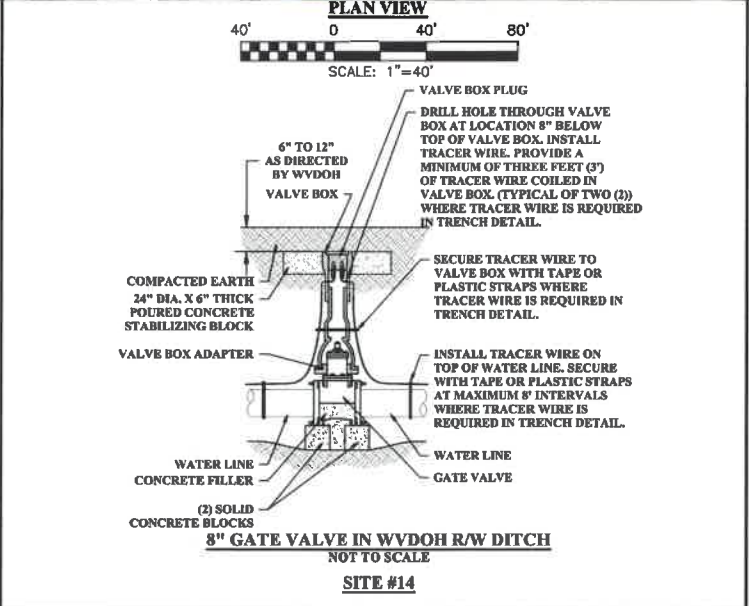
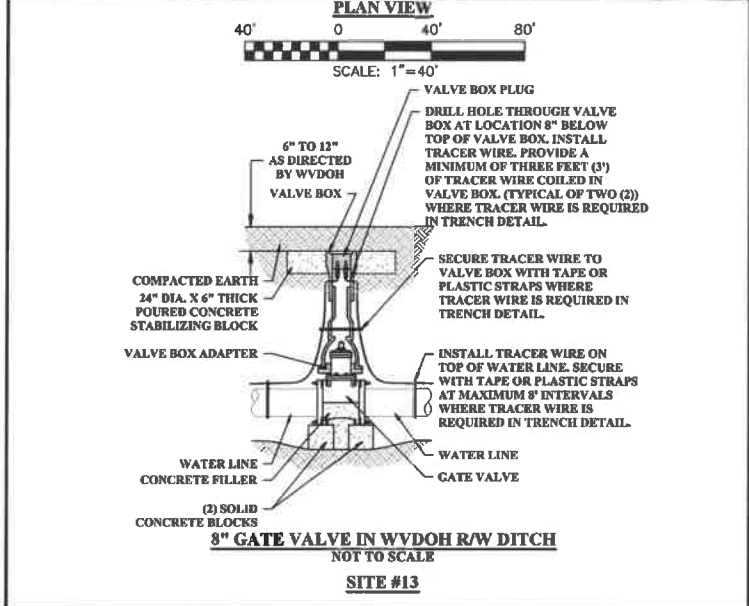
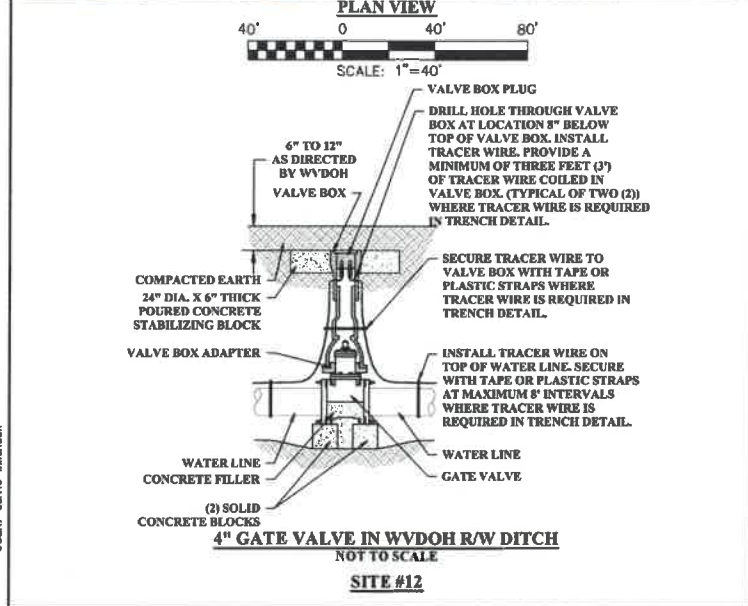
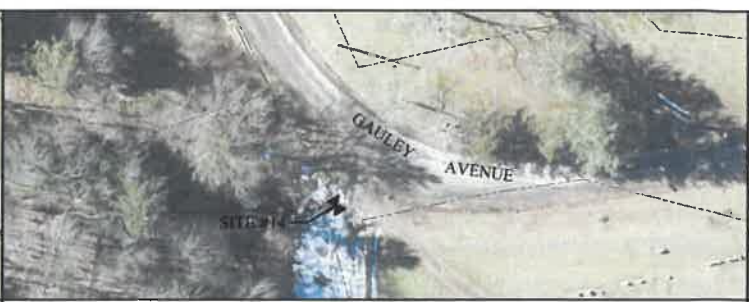
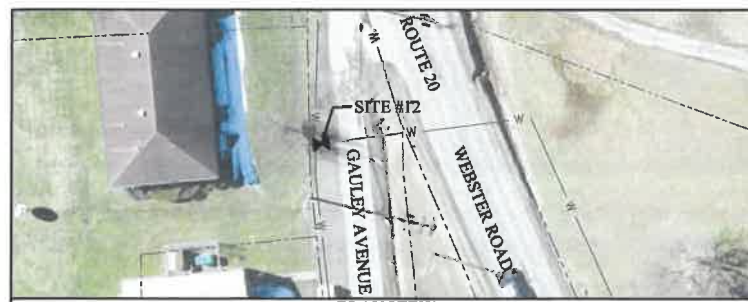
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 APPROVED: J. CARPENTER DATE: JANUARY 2020
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

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 FAX (304)-343-7604

PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

COWEN PUBLIC SERVICE DISTRICT
 WEBSTER COUNTY, WEST VIRGINIA
 WATER SYSTEM REHABILITATION
 PROJECT PHASE II
 GATE VALVE REPLACEMENTS

ADDENDUM NO. 2
 SHEET No.
GV-1A



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CHECKED: R. BOUSTANY
APPROVED: J. CARPENTER
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

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300 ASSOCIATION DRIVE
CHARLESTON, WV 25311
www.thrashergroup.com
PHONE (304)-343-7601 FAX (304)-343-7604

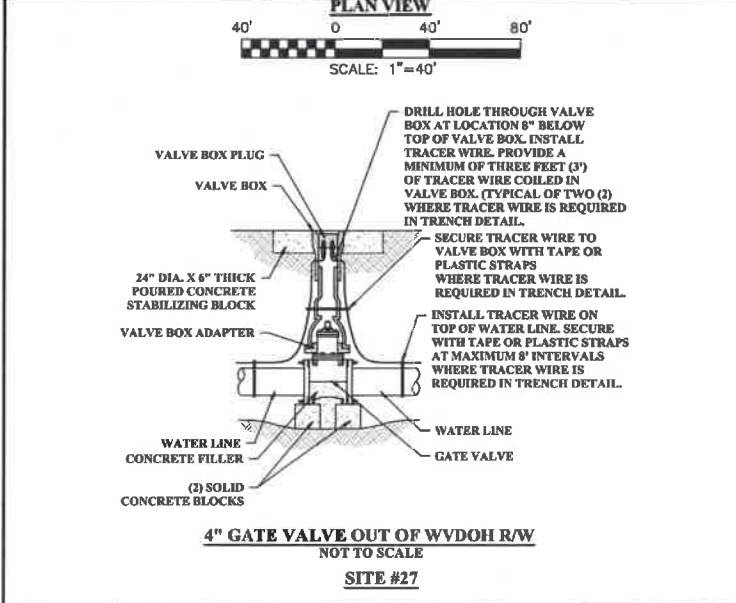
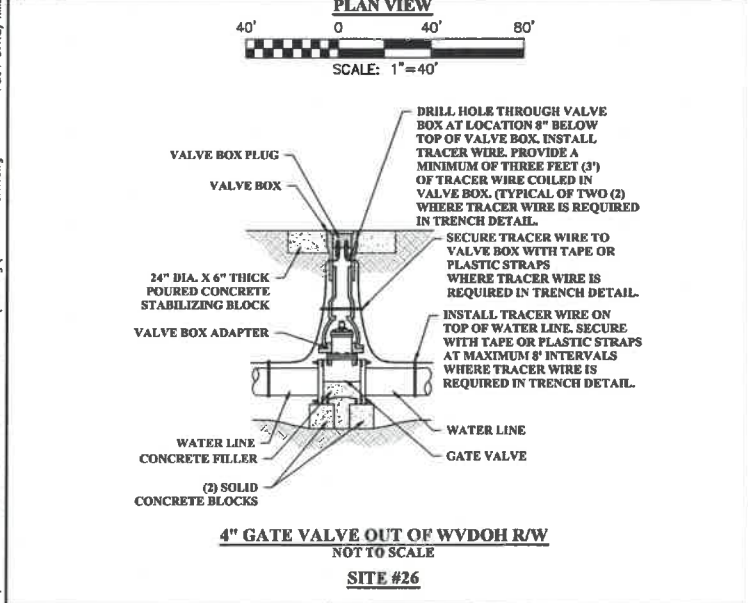
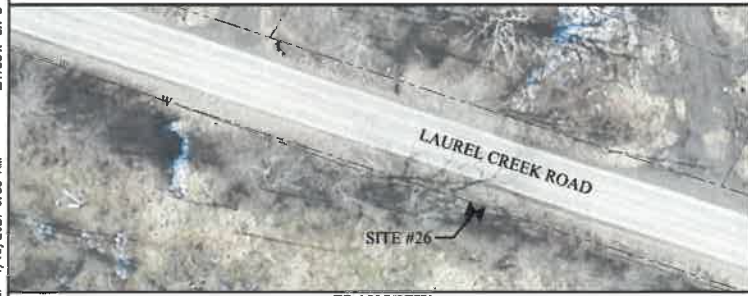
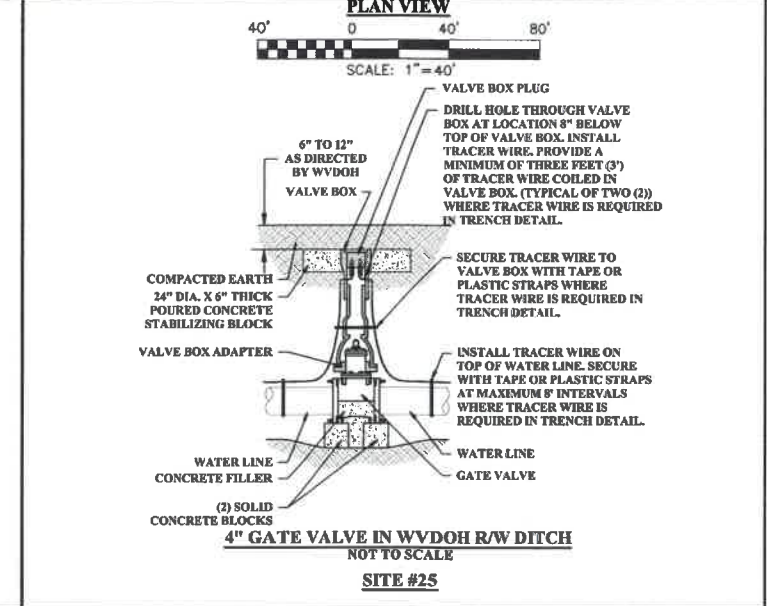
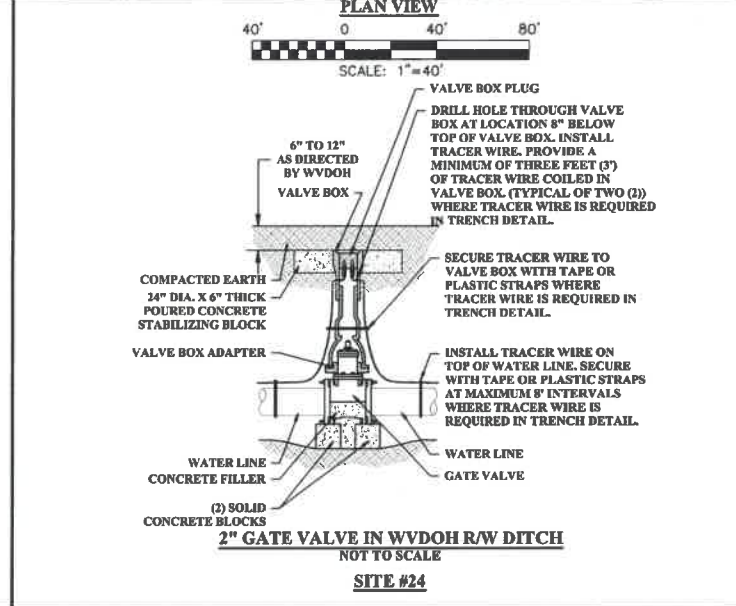
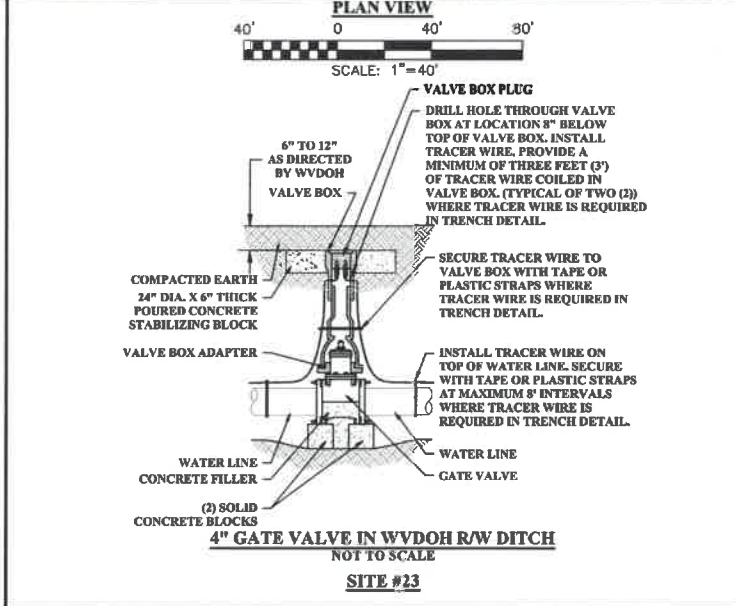
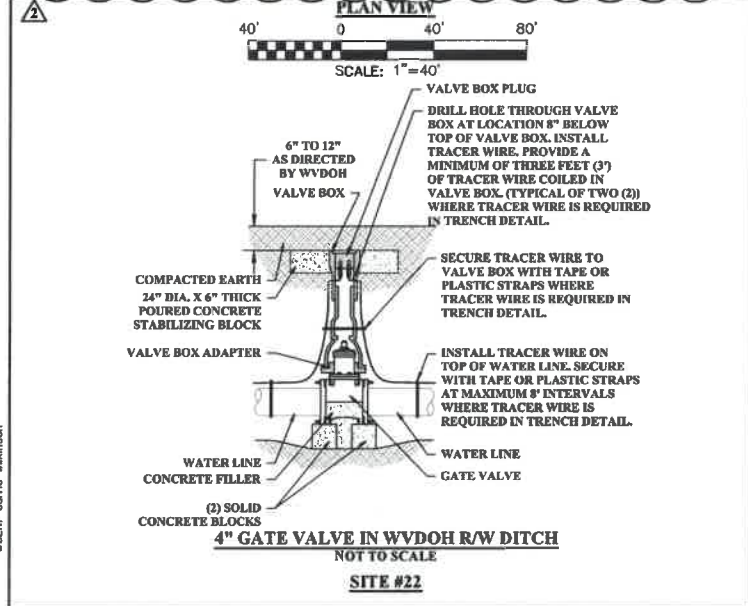
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PROJECT No. **010-0856**

**COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
WATER SYSTEM REHABILITATION
PROJECT PHASE II
GATE VALVE REPLACEMENTS**

SHEET No. **GV-1B**

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1	CLW	1/14/21	ADDENDUM #2
NO.	BY	DATE	DESCRIPTION

SCALE: AS SHOWN
DRAWN: C. WILKINSON
CHECKED: R. BOUSTANY
APPROVED: J. CARPENTER
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

DATE: JANUARY 2020
DATE: JANUARY 2020
DATE: JANUARY 2020



PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
WATER SYSTEM REHABILITATION
PROJECT PHASE II
GATE VALVE REPLACEMENTS

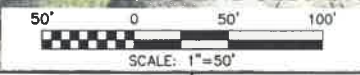
ADDENDUM NO. 2
SHEET No.
GV-1C

USER: carrie_wilkinson
 LAYOUT: SH 3
 PLOT DATE/TIME: 1/15/2021 9:35 AM
 CAD FILE: R:\010\010-0856 Cowen Rehab Phase 2 - Charleston\Drawing\001 - GV SH1.dwg

CAD FILE: R:\010\010-0856 Cowen Rehab Phase 2 - Chorifeston\Drawing\020-Sheet 20.dwg
 PLOT DATE/TIME: 1/19/2021 12:10 PM
 LAYOUT: Sheet 20
 USER: carrie willison



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NO.	BY	DATE	DESCRIPTION
1	CLW	1/14/21	ADDENDUM #2

SCALE: 1" = 50'-0"
 DRAWN: B. QUERREY DATE: MARCH 2019
 CHECKED: R. BOUSTANY DATE: MARCH 2019
 APPROVED: J. CARPENTER DATE: MARCH 2019
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

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 CHARLESTON, WV 25311
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PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

**COWEN PUBLIC SERVICE DISTRICT
 WEBSTER COUNTY, WEST VIRGINIA
 WATER SYSTEM REHABILITATION
 PROJECT PHASE II
 PLAN SHEET**

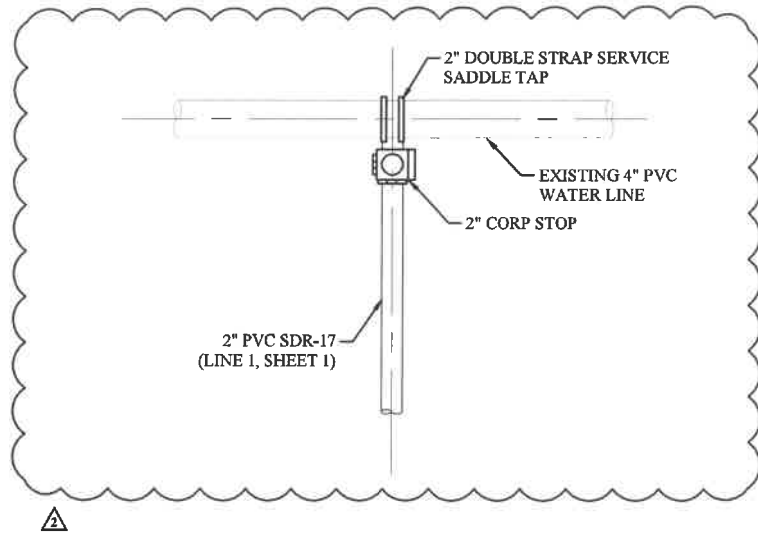
SHEET No.
20

USER: carrie wilkinson

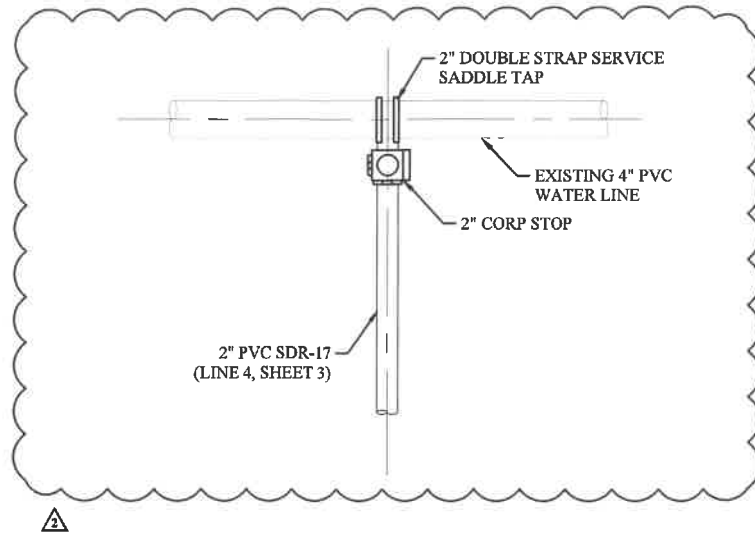
LAYOUT: Sheet 33

PLOT DATE/TIME: 1/18/2021 9:03 AM

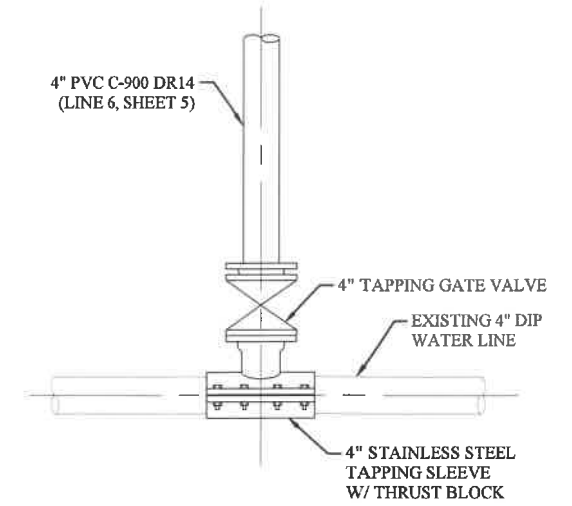
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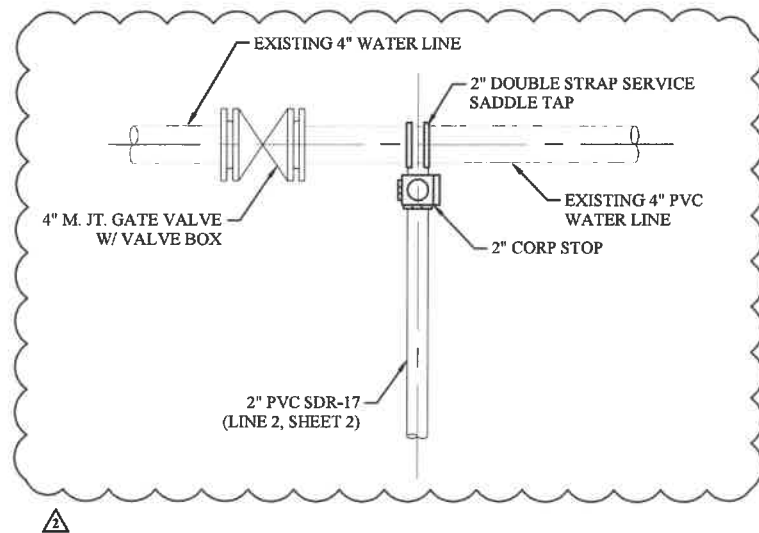
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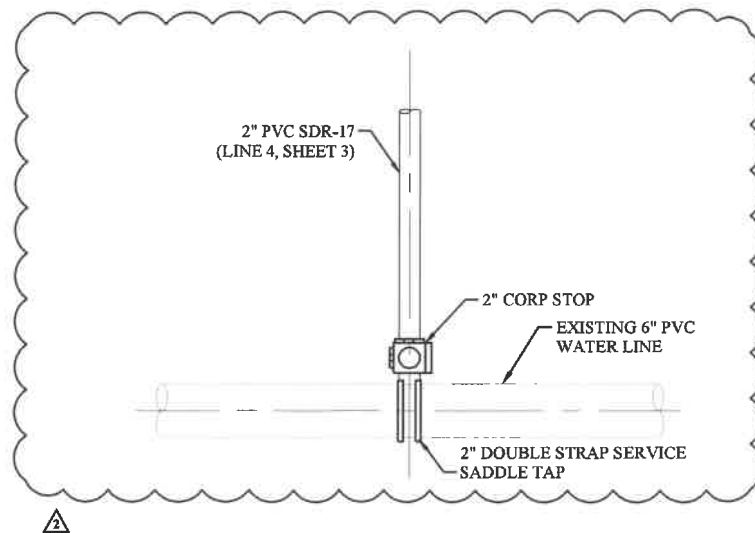
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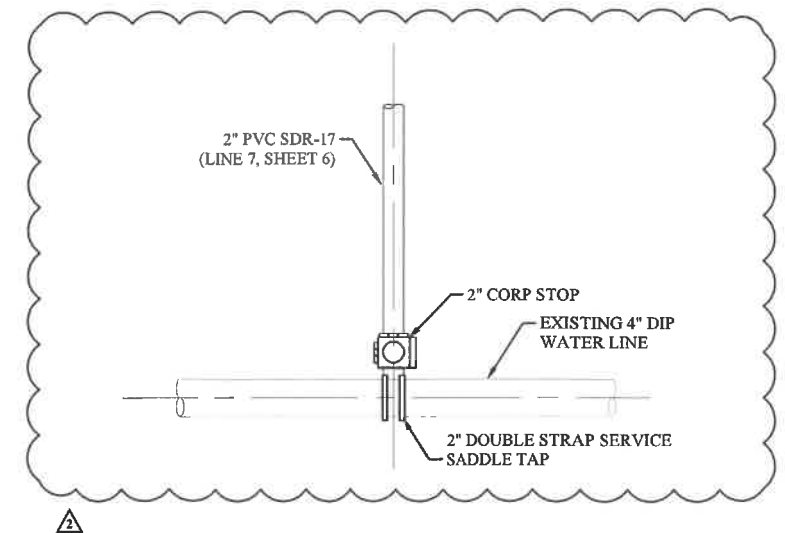
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SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 2
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 4
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 9
SCALE: 1" = 1'-0"

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NO.	BY	DATE	DESCRIPTION
1	CLW	1/14/21	ADDENDUM #2

SCALE:	
DRAWN: B. QUERREY	DATE: APRIL 2019
CHECKED: R. BOUSTANY	DATE: APRIL 2019
APPROVED: J. CARPENTER	DATE: APRIL 2019
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

**COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
WATER SYSTEM REHABILITATION
PROJECT PHASE II
CONNECTION DETAILS**

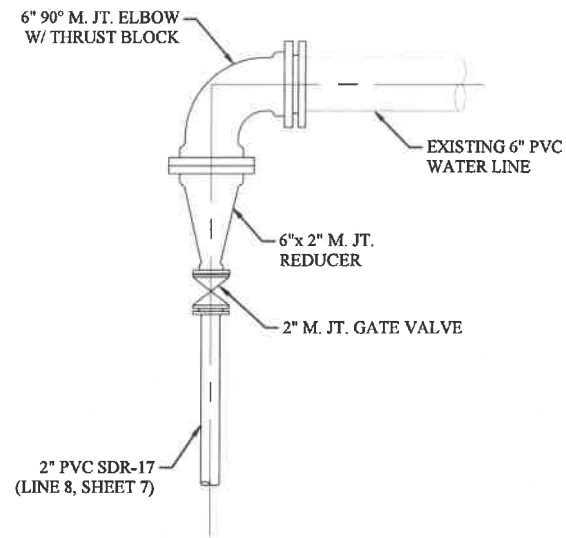
SHEET No.	33
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USER: carrie willkinson

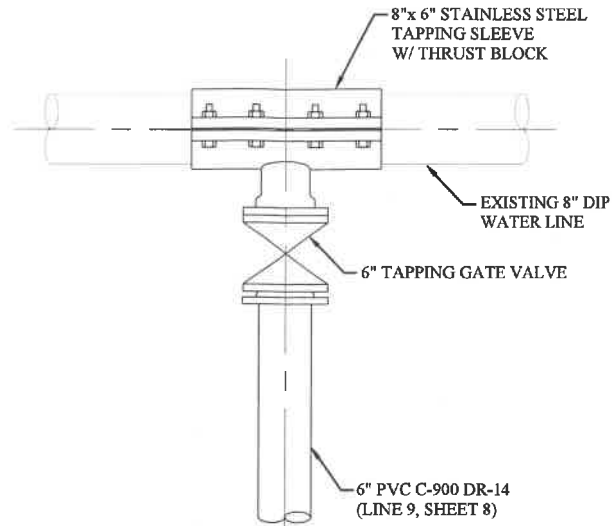
LAYOUT: Sheet 34

PLOT DATE/TIME: 1/19/2021 9:02 AM

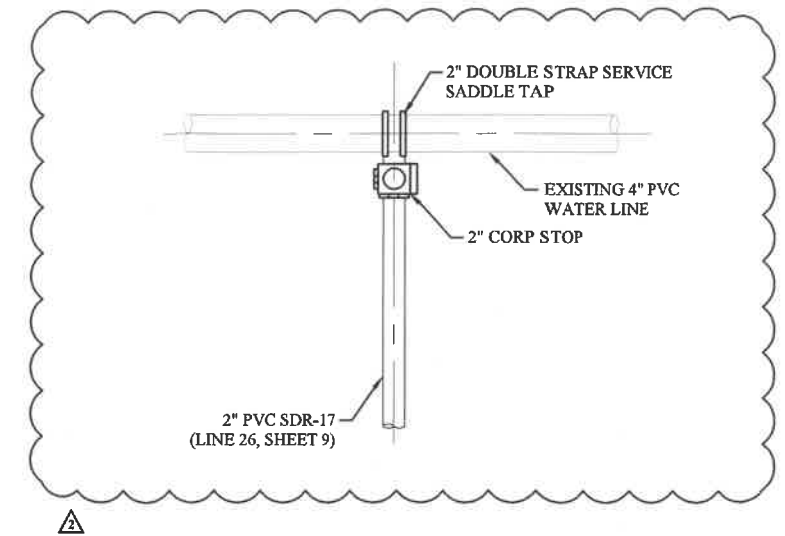
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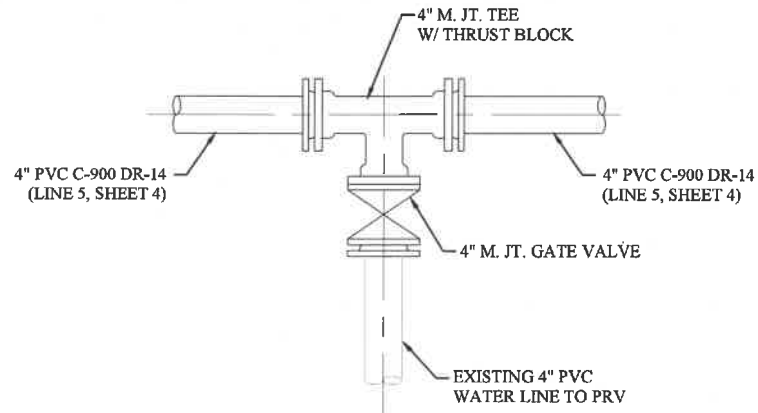
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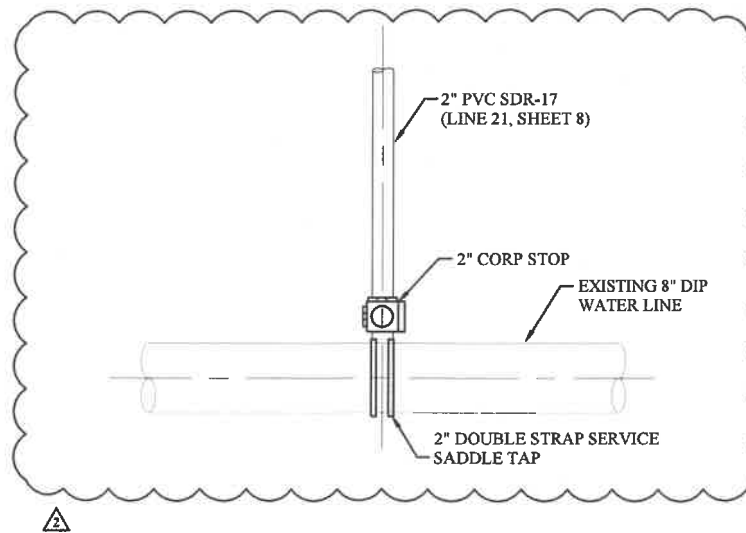
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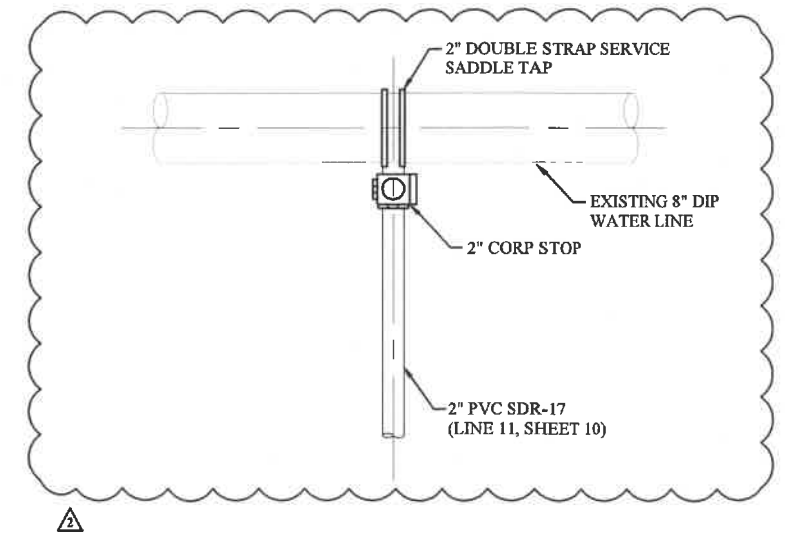
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CONNECTION DETAIL NO. 11
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 13
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 15
SCALE: 1" = 1'-0"

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1	CLW	1/14/21	ADDENDUM #2

SCALE:	DATE:
DRAWN: B. QUERREY	DATE: APRIL 2019
CHECKED: R. BOUSTANY	DATE: APRIL 2019
APPROVED: J. CARPENTER	DATE: APRIL 2019
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

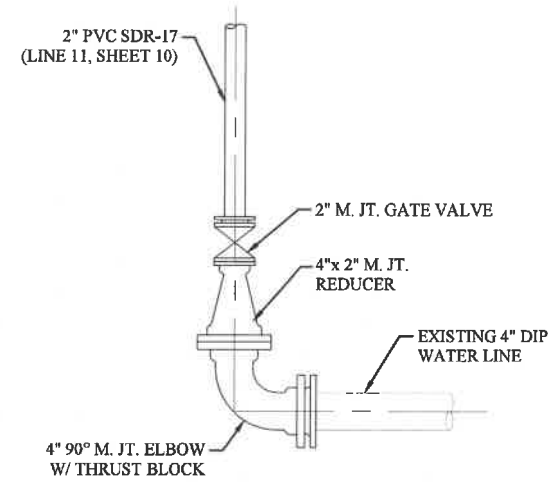
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PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

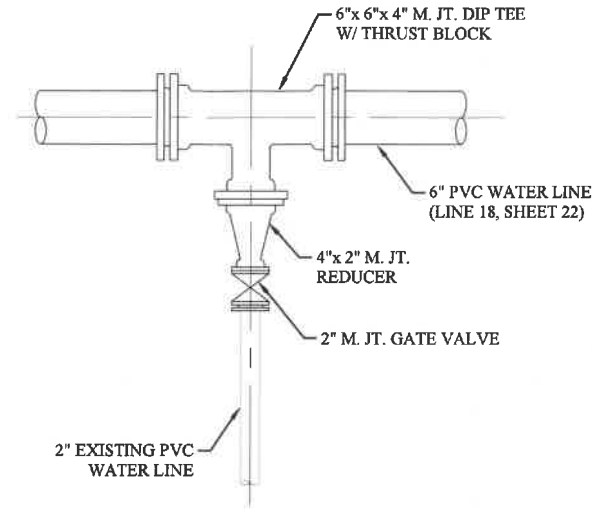
**COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
WATER SYSTEM REHABILITATION
PROJECT PHASE II
CONNECTION DETAILS**

SHEET No.	34
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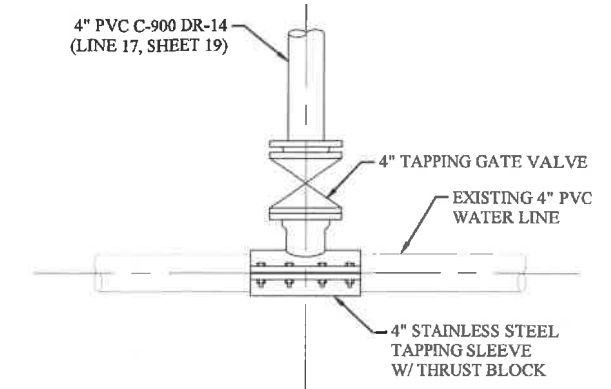
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 LAYOUT: Sheet 35
 USER: carrie wilkinson



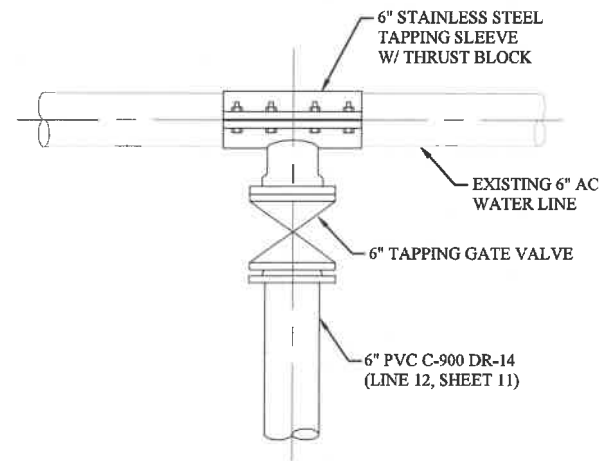
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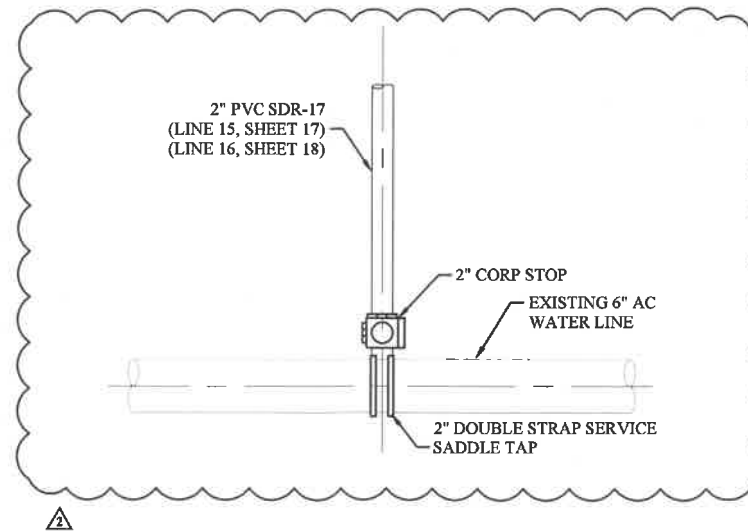
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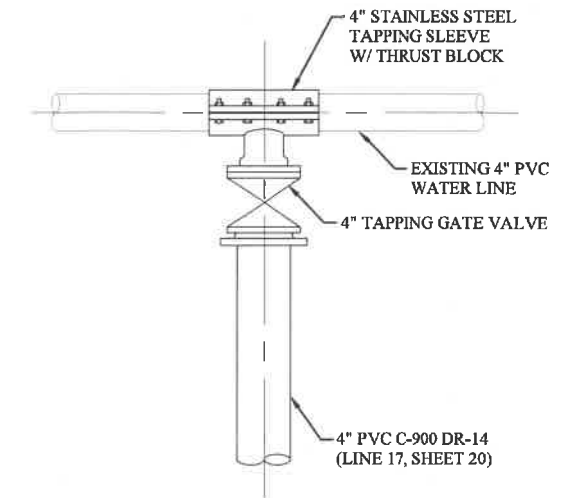
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CONNECTION DETAIL NO. 17
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 21
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 23
SCALE: 1" = 1'-0"

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1	CLW	1/14/21	ADDENDUM #2

SCALE:	
DRAWN: B. QUERREY	DATE: APRIL 2019
CHECKED: R. BOUSTANY	DATE: APRIL 2019
APPROVED: J. CARPENTIER	DATE: APRIL 2019
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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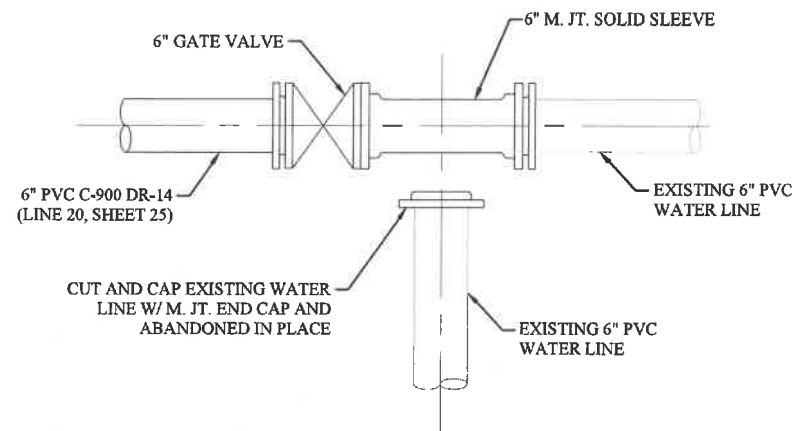
PHONE (304)-343-7601
 FAX (304)-343-7604

PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

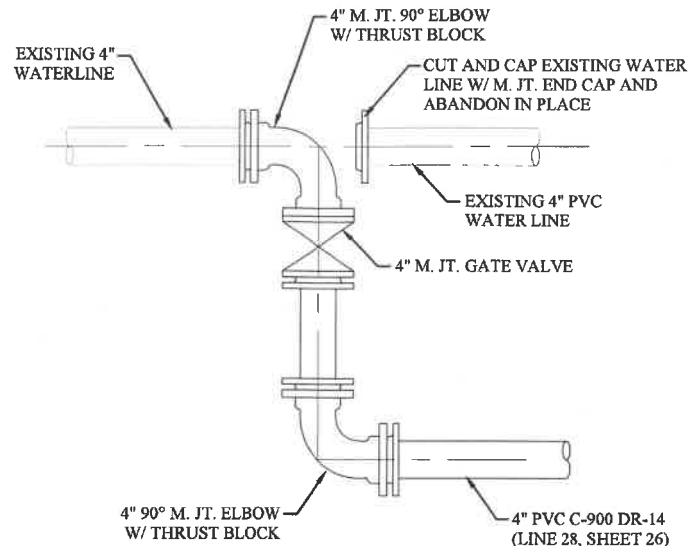
COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
WATER SYSTEM REHABILITATION
PROJECT PHASE II
CONNECTION DETAILS

SHEET No.	35
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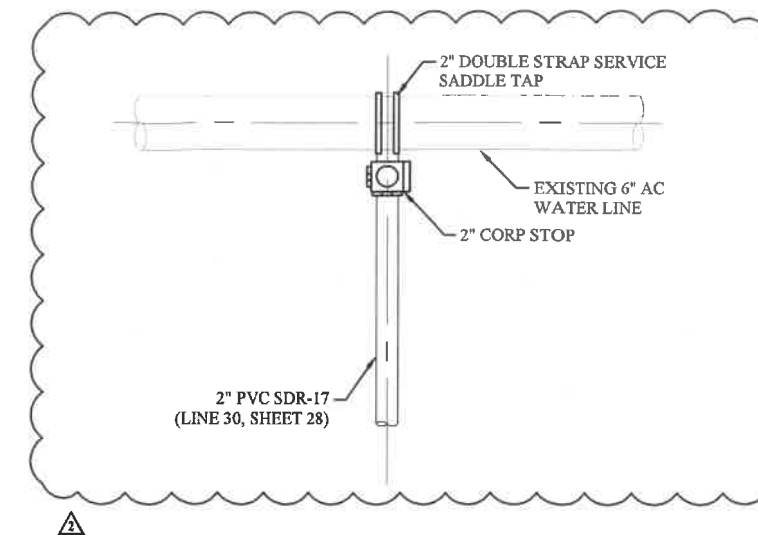
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 PLOT DATE/TIME: 1/18/2021 9:02 AM
 LAYOUT: Sheet 37
 USER: carrie willinson



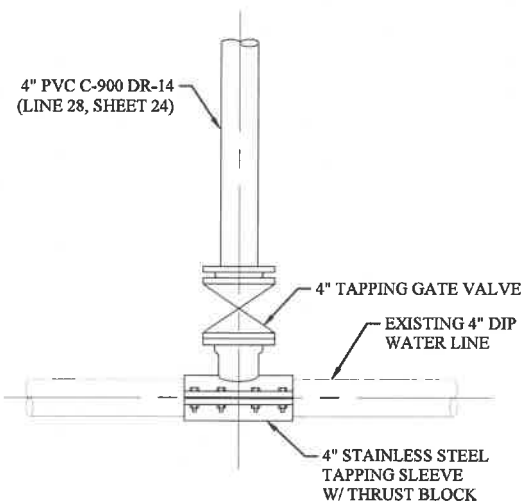
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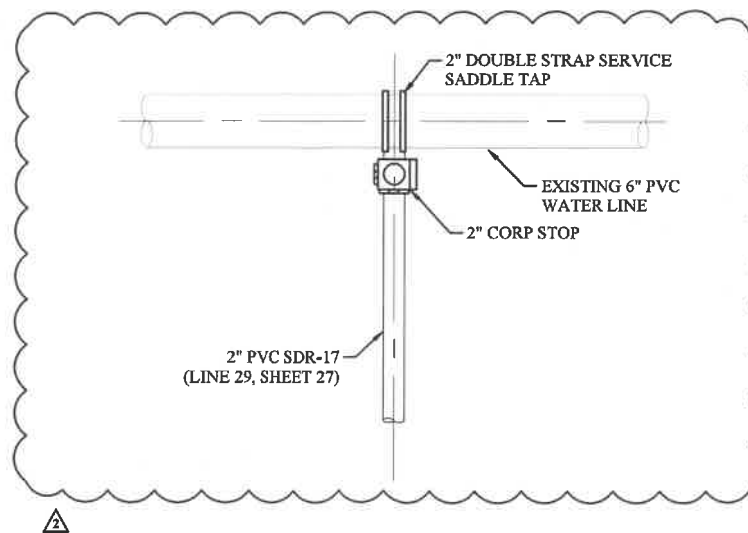
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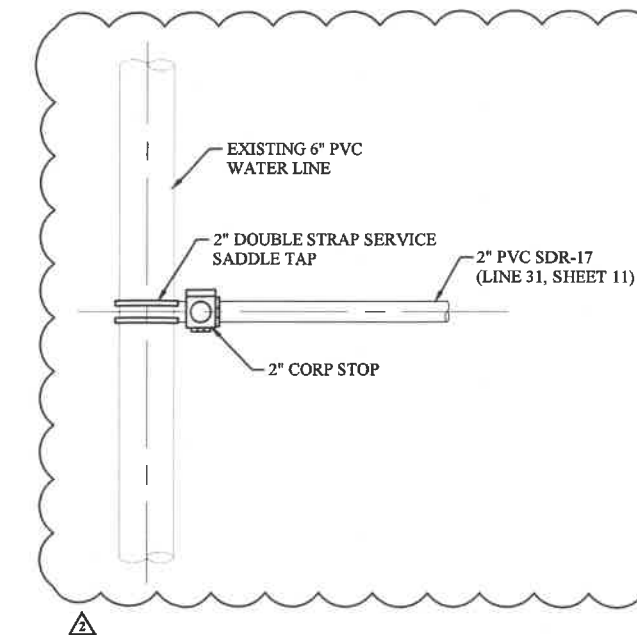
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SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 30
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 32
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 34
SCALE: 1" = 1'-0"

ADDENDUM NO. 2

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1	CLW	1/14/21	ADDENDUM #2

SCALE:
 DRAWN: B. QUERREY DATE: APRIL 2019
 CHECKED: R. BOUSTANY DATE: APRIL 2019
 APPROVED: J. CARPENTER DATE: APRIL 2019
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

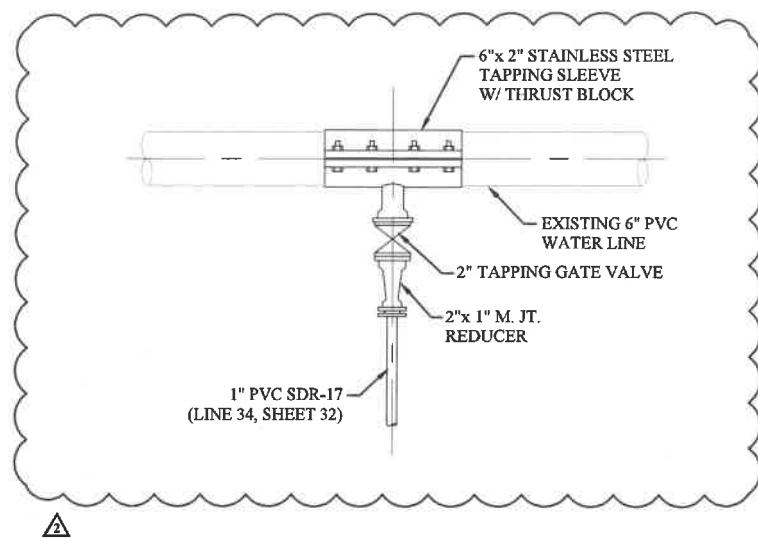
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PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

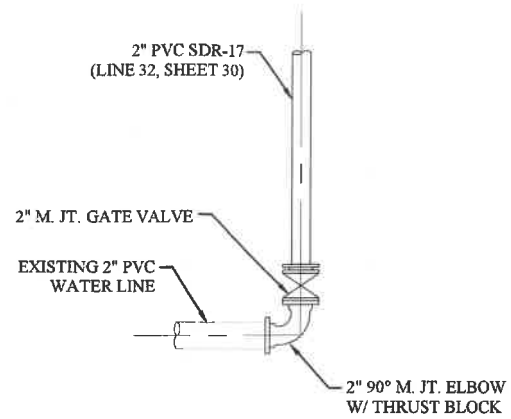
**COWEN PUBLIC SERVICE DISTRICT
 WEBSTER COUNTY, WEST VIRGINIA
 WATER SYSTEM REHABILITATION
 PROJECT PHASE II
 CONNECTION DETAILS**

SHEET No.
37

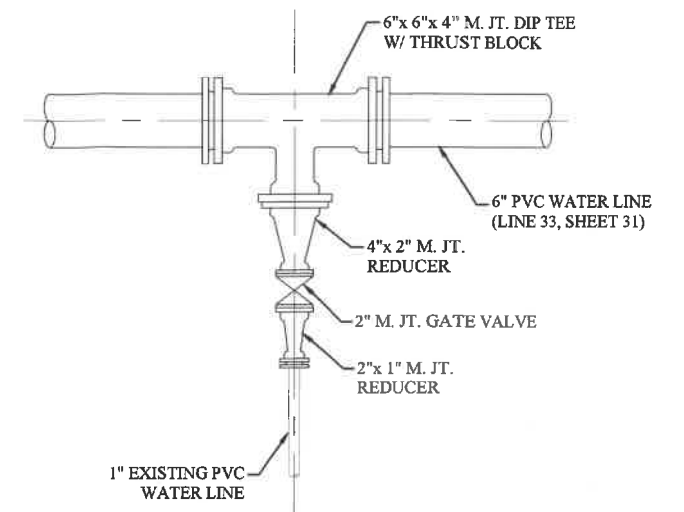
USER: carrie willinson
 LAYOUT: Sheet 40
 PLOT DATE/TIME: 1/18/2021 9:01 AM
 CAD FILE: R:\010\010-0856 Cowen Rehab Phase 2 - Charleston\Drawing\033-Sheet 33 Thru 40.dwg



CONNECTION DETAIL NO. 50
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 47
SCALE: 1" = 1'-0"



CONNECTION DETAIL NO. 49
SCALE: 1" = 1'-0"

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NO.	BY	DATE	DESCRIPTION
1	CLW	1/14/21	ADDENDUM #2

SCALE:
 DRAWN: B. QUERREY DATE: APRIL 2019
 CHECKED: R. BOUSTANY DATE: APRIL 2019
 APPROVED: J. CARPENTER DATE: APRIL 2019
 SURVEY DATE:
 SURVEY BY:
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PHASE No.	2
CONTRACT No.	1
PROJECT No.	010-0856

COWEN PUBLIC SERVICE DISTRICT
WEBSTER COUNTY, WEST VIRGINIA
WATER SYSTEM REHABILITATION
PROJECT PHASE II
CONNECTION DETAILS

ADDENDUM NO. 2	SHEET No.
	40

"General Decision Number: WV20210031 01/01/2021

Superseded General Decision Number: WV20200031

State: West Virginia

Construction Type: Building

County: Webster County in West Virginia.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021

ASBE0080-002 03/09/2020

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 32.40	26.37

BOIL0667-005 03/01/2018

	Rates	Fringes
BOILERMAKER.....	\$ 39.38	23.77

BRWV0009-001 12/01/2019

	Rates	Fringes
BRICK POINTER/CAULKER/CLEANER....	\$ 29.93	24.38

BRWV0015-010 06/01/2020

Rates	Fringes
-------	---------

MASON - STONE.....\$ 29.75 23.64

 CARP0476-008 12/01/2016

Rates Fringes

CARPENTER (All other work,
 excluding Drywall Hanging).....\$ 28.70 19.08

 CARP1024-001 12/01/2017

Rates Fringes

CARPENTER (Scaffold Builder
 Only).....\$ 28.05 17.10

 CARP1755-003 12/01/2016

Rates Fringes

MILLWRIGHT.....\$ 33.95 21.75

 CARP1911-004 12/01/2017

Rates Fringes

CARPENTER (Floor Laying -
 Carpet, Hardwood, Resilient
 and Vinyl Only).....\$ 29.63 20.75

 ENGI0132-007 12/01/2018

Rates Fringes

POWER EQUIPMENT OPERATOR:

- GROUP 1.....\$ 39.56 19.95
- GROUP 2.....\$ 39.21 19.95
- GROUP 3.....\$ 38.21 19.95
- GROUP 4.....\$ 27.71 19.95

GROUP 1: All Friction Cranes, Tower Cranes and all Cranes
 with 180 ft. or more of boom including mast and jibs or
 lifting capacity of 100 tons or more and hoists with 30,000
 pound line pull or more

GROUP 2: Operating Cranes and Tower Cranes with a lifting
 capacity of 15 tons and over

GROUP 3: Backhoe, all other Cranes

GROUP 4: Bobcat/Skid Steer/Skid Loader, Roller, Oiler

 * IRON0549-006 12/01/2020

Rates Fringes

IRONWORKER (Ornamental).....\$ 34.03 23.22

 IRON0787-006 12/01/2020

Rates Fringes

PLAS0926-008 06/01/2018

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER....	\$ 31.63	21.26
PLASTERER.....	\$ 30.06	20.36

* UAVG-WV-0001 01/01/2019

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 29.10	21.02

* UAVG-WV-0002 01/01/2019

	Rates	Fringes
LABORER (Carpenter Tender).....	\$ 23.32	16.12
LABORER (Chipping Gun).....	\$ 24.78	16.25
LABORER (Concrete Worker).....	\$ 23.57	16.17
LABORER (Grade Checker).....	\$ 23.45	16.16
LABORER (Landscape).....	\$ 22.99	16.35
LABORER (Mortar Mixer).....	\$ 23.35	16.06
LABORER (Pipelayer).....	\$ 23.94	16.34
LABORER (Scaffold Builder).....	\$ 23.28	16.24
LABORER (Tampers - Hand Held).....	\$ 24.75	16.04

* UAVG-WV-0028 01/01/2019

	Rates	Fringes
PLUMBER.....	\$ 32.54	24.58

SUWV2012-029 08/13/2012

	Rates	Fringes
BRICKLAYER.....	\$ 27.50	12.35
CARPENTER (Drywall Hanging Only).....	\$ 25.08	12.58
ELECTRICIAN.....	\$ 28.16	15.11
IRONWORKER, STRUCTURAL.....	\$ 26.01	12.18
LABORER: Common or General.....	\$ 20.66	8.78
LABORER: Demolition.....	\$ 20.58	9.47
LABORER: Mason Tender - Brick...\$	21.47	8.29
LABORER: Mason Tender - Cement/Concrete.....	\$ 22.05	8.54
OPERATOR: Bulldozer.....	\$ 30.24	10.26
OPERATOR: Excavator.....	\$ 30.31	10.81
OPERATOR: Forklift.....	\$ 33.09	3.00
PAINTER: Brush, Roller and Spray.....	\$ 22.03	9.95

PIPEFITTER, Includes HVAC Pipe Installation.....	\$ 27.64	18.09
ROOFER.....	\$ 24.28	9.32
SHEET METAL WORKER, Includes HVAC Duct Installation.....	\$ 25.61	15.68
Truck Driver: Single and Double Axle Dump Trucks.....	\$ 28.52	3.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number,

005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted

because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

"

"General Decision Number: WV20210061 01/01/2021

Superseded General Decision Number: WV20200061

State: West Virginia

Construction Type: Heavy

Counties: Barbour, Braxton, Calhoun, Fayette, Gilmer, Greenbrier, Jackson, Lewis, Mason, McDowell, Mingo, Monroe, Nicholas, Pendleton, Pocahontas, Randolph, Ritchie, Roane, Summers, Tucker, Upshur, Webster and Wyoming Counties in West Virginia.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021

CARP0443-008 12/01/2019

	Rates	Fringes
MILLWRIGHT.....	\$ 34.75	24.05

 ELEC0307-008 06/01/2020

	Rates	Fringes
ELECTRICIAN.....	\$ 34.90	18.15

 ENGI0132-014 12/01/2018

	Rates	Fringes
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POWER EQUIPMENT OPERATOR:

GROUP 1.....	\$ 35.95	18.60
GROUP 2.....	\$ 33.19	18.60
GROUP 3.....	\$ 32.08	18.60
GROUP 4.....	\$ 28.62	18.60

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Cranes (All types), Boom trucks, Loaders of six (6) cubic yard capacity and over, Excavators and shovels with an operating weight of one hundred ten thousand (110,000) pounds and over.

GROUP 2: Loaders up to six (6) cubic yard capacity, Backhoe, Bulldozers, Bobcat/Skid Steer/Skid Loader, Forklift, Drill, Excavators and shovels with an operating weight of up to one hundred ten thousand (110,000) pounds

GROUP 3: Roller.

GROUP 4: Oiler

 ENGI0132-027 12/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR: (PIPELINE)		
GROUP 1.....	\$ 35.95	18.60
GROUP 2.....	\$ 33.19	18.60

POWER EQUIPMENT OPERATOR PIPELINE CLASSIFICATIONS

GROUP 1: Boom, Bulldozer, Excavator, Mechanic, Pipe Bending Machine

GROUP 2: Oiler.

 ENGI0132-029 12/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Single and Double Axle Dump Trucks.....	\$ 33.19	18.60

* IRON0549-011 12/01/2020

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 34.03	23.22

* IRON0568-020 12/01/2020

	Rates	Fringes
IRONWORKER, REINFORCING AND STRUCTURAL.....	\$ 33.70	22.04

 LABO0379-040 12/01/2017

	Rates	Fringes
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LABORER: (PIPELINE).....\$ 25.11 16.50

LABORER CLASSIFICATIONS:

Chain Saw, Common, Flagger, Landscape, Pipelayer, Sandblaster

LABO0379-043 12/01/2020

	Rates	Fringes
LABORER:		
GROUP 1.....	\$ 27.35	16.50
GROUP 2.....	\$ 26.32	16.50
GROUP 3.....	\$ 25.26	16.50

GROUP 1: Tunnel Driller, Tunnel Miner.

GROUP 2: Air Tool Operator, Chain Saw, Compactor (Dirt) Hand Held, Concrete Worker, Hand Held Drill, Form Work Only, Grade Checker, Grouting, Pipelayer, Skytrak Forklift Operator, Tamper (Hand Held), Wacker Roller Operator.

GROUP 3: Carpenter Tender, Common or General, Flagger, Landscape

PLAS0926-001 06/01/2018

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 31.63	21.26

* UAVG-WV-0010 01/01/2019

	Rates	Fringes
LABORER (Mason Tender - Cement/Concrete).....	\$ 26.17	16.50

* UAVG-WV-0012 01/01/2019

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Mechanic).....	\$ 35.45	18.30

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other

health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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Wage and Hour Division
U.S. Department of Labor
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2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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U.S. Department of Labor
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Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material,

etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

"

"General Decision Number: WV20210080 01/01/2021

Superseded General Decision Number: WV20200080

State: West Virginia

Construction Type: Highway

Counties: West Virginia Statewide.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021

SUWV2015-001 01/01/2014

Rates	Fringes
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BRICKLAYER

Barbour, Berkeley,
 Doddridge, Gilmer, Grant,
 Hampshire, Hardy,
 Harrison, Jefferson,
 Lewis, Marion, Mineral,
 Monongalia, Morgan,

Pendleton, Pocahontas, Preston, Randolph, Taylor, Tucker, Upshur, Webster.....\$ 30.74	18.21
Boone, Braxton, Clay, Fayette, Greenbrier, Kanawha, Logan, McDowell, Mercer, Monroe, Nicholas, Putnam, Raleigh, Summers, Wyoming.....\$ 29.66	20.20
Brooke, Hancock.....\$ 29.94	16.22
Cabell, Lincoln, Mason, Mingo, Wayne.....\$ 30.61	20.88
Calhoun, Jackson, Pleasants, Ritchie, Roane, Wirt, Wood.....\$ 30.33	15.27
Marshall, Ohio, Tyler, Wetzel.....\$ 30.01	16.26
CARPENTER	
Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton.....\$ 31.26	15.90
Brooke, Hancock, Marshall, Ohio.....\$ 27.86	19.30
Remaining Counties.....\$ 27.72	19.44
CEMENT MASON/CONCRETE FINISHER	
All Counties.....\$ 28.67	18.85
DIVER	
Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton	
Diver Tender.....\$ 31.26	15.90
Diver.....\$ 32.25	15.90
Brooke, Hancock, Marshall, Monongalia, Ohio, Wetzel	
Diver Tender.....\$ 32.01	16.76
Diver.....\$ 48.02	16.76
Remaining Counties	
Diver Tender.....\$ 27.72	19.44
Diver.....\$ 28.27	19.44
ELECTRICIAN (SIGNAL & LIGHTING)	
Equipment Operator.....\$ 23.30	17.99
Flagger.....\$ 17.00	7.39
Groundman/Truck Driver.....\$ 20.79	17.89
Installer.....\$ 26.21	18.11
Technician.....\$ 29.12	18.22
ELECTRICIAN	
Barbour, Doddridge, Harrison, Lewis, Marion, Monongalia, Pendleton, Pocahontas, Preston, Randolph, Taylor, Tucker, Upshur.....\$ 30.14	21.14
Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan..\$ 30.50	15.78
Boone, Braxton, Calhoun,	

Clay, Fayette, Gilmer, Kanawha, Nicholas, Putnam, Raleigh, Roane, Summers, Webster, Wyoming.....\$ 35.34	16.62
Brooke, Marshall, Ohio, Wetzel.....\$ 28.35	22.74
Cabell, Lincoln, Logan, Mason, Mingo, Wayne.....\$ 32.62	21.70
Greenbrier, McDowell, Mercer, Monroe.....\$ 25.05	16.32
Hancock.....\$ 34.00	29.10
Jackson, Pleasants, Ritchie, Tyler, Wirt, Wood..\$ 31.56	21.43

IRONWORKER

Barbour, Brooke, Hancock, Harrison, Marion, Marshall, Monongalia, Ohio, Taylor, Tyler, Wetzel.\$ 35.74	22.84
Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton, Preston, Tucker.....\$ 33.29	17.39
Boone, Braxton, Clay, Fayette, Kanawha, Lincoln, Logan, McDowell, Mingo, Nicholas, Putnam, Raleigh, Randolph, Webster, Wyoming..\$ 34.87	19.50
Cabell, Wayne.....\$ 33.89	21.98
Calhoun, Doddridge, Gilmer, Jackson, Lewis, Mason, Pleasants, Ritchie, Roane, Upshur, Wirt, Wood...\$ 33.02	20.10
Greenbrier, Mercer, Monroe, Pocahontas, Summers.\$ 35.43	16.13

LABORER

Class 1.....\$ 26.95	16.30
Class 2.....\$ 25.92	16.30
Class 3.....\$ 24.86	16.30

LABORER CLASSIFICATIONS:

GROUP 1: Powderman, Laser Screed Operator, and GPS Operator.

GROUP 2: Pipelayer (Including Laser Beam Set Up), Form Setter (Road), Drill Operator, Air Tool Operator, Grade Checker and Asphalt Raker, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Brick Mason Tender, Cement Finisher Tender, Drill Tender, Powderman Tender, Water Proofer, Sheeter & Shorer, Placement of Lagging, Pipelayer Tender, Bull-Float Man, Pavement Reinforcing Placer, Handyman, Signal Man, Greencutter, Georgia Power Buggie, Burner, Cement Blower Man, Bituminous Hand Sprayer, Bork 250 Remote Control Ditch Witch and Walk Behind Concrete Saw, Mulcher and Seeder (hand and machine), Installation of Ground Mounted Beams and Signs including Concrete Footers, Installation of Overhead Sign Supports and Signs including Concrete Footers, Installation of Guardrail and Anchors Assemblies, Tree Trimmer, Caisson Bottom Man, Bush Hammering, Core Drilling, Placement and Mixing of Grout and Bridge Demolition Specialist.**

GROUP 3: Flag Person, Traffic Control Maintenance Person, Carpenter's Tender, and General Laborer.

PAINTER

Barbour, Berkeley,		
Doddridge, Gilmer, Grant,		
Hampshire, Hardy,		
Harrison, Jefferson,		
Lewis, Marion, Mineral,		
Monongalia, Morgan,		
Pendleton, Preston,		
Randolph, Taylor, Tucker,		
Upshur, Webster.....\$ 31.87	14.20	
Boone, Braxton, Cabell,		
Calhoun, Clay, Fayette,		
Greenbrier, Kanawha,		
Lincoln, Logan, Mason,		
McDowell, Mercer, Mingo,		
Monroe, Nicholas,		
Pocahontas, Putnam,		
Raleigh, Summers, Wayne,		
Wyoming.....\$ 32.05	14.30	
Brooke, Hancock, Marshall,		
Ohio, Wetzell.....\$ 30.95	14.36	
Jackson, Pleasants,		
Ritchie, Roane, Tyler,		
Wirt, Wood.....\$ 30.84	14.30	

PILEDRIVERMAN

Berkeley, Grant,		
Hampshire, Hardy,		
Jefferson, Mineral,		
Morgan, Pendleton.....\$ 32.25	15.90	
Brooke, Hancock, Marshall,		
Monongalia, Ohio, Wetzell....\$ 32.01	16.76	
Remaining Counties.....\$ 28.27	19.44	

POWER EQUIPMENT OPERATOR:

Class 1.....\$ 33.25	18.60
Class 2.....\$ 30.49	18.60
Class 3.....\$ 29.38	18.60
Class 4.....\$ 25.92	18.60
Class 5A.....\$ 26.04	18.60
Class 5B.....\$ 28.64	18.60
Class 5C.....\$ 26.94	18.60

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Cranes, tower cranes, derricks, derrick boats, draglines, clamshells, cableways, boom truck, loaders of 6 cubic yard capacity and over, excavators and shovels with an operating weight of 110,000 pounds and over.

GROUP 2: Loaders up to 6 cubic yard capacity, gradall, hoist 2 drums or more, mixer plant (2 or more mixers including batch control), pile driver operator, core drill, trencher, backhoe, asphalt paver, cement paver, rotary drill, bulldozers, concrete pump, controlled fine grade machine, slip form paver, log loader, log skidder, motor grader, rubber tired scraper, tractor pan, Roto Miller, tow or work boat, mobile conveyor, transloader, articulating equipment, material hauler, carry deck, compactor with blade, skidsteer including attachments, fork lift, self-propelled concrete spreader, concrete finishing machine, derrick (single drum), hoist (single drum), single drum paver, air tugger, Ross Carrier, multiple concrete saw, hydraulic post driver, horizontal road-boring machine, tie distributor, track lining machine, ballast tamper, anchor

application machine, ribbon rail puller, ballast regulator, auto sled, turn table, pavement breaker, asphalt batch plant, concrete batch plant, crushing plant, compactor with blade, power broom, vac-all truck, self-propelled concrete spreader and concrete finishing machine, mechanics with tools and greasers, excavators, and shovels with an operating weight of up to 110,000 pounds.

GROUP 3: Asphalt roller

GROUP 4: Air compressor, concrete mixer (under 1 cubic yard), light plant, mechanic's tender, assistant engineer, screedman, spreader box man, joint sealer and pump, steam jenny, stationary conveyor (belt or bucket), A-frame, tire man, screening and washing plant, form sub-grader, power form handling equipment, burlap and curing machine, form grader, bull float, bar and joint installing machine, roller and compactor, hydroblaster, concrete mixer (single drum, 1 cu. yd. or over), portable concrete saw and highway striping operator. Utility operators shall be paid Group 2 rate when operating 1 to 5 air compressors, pumps, stationary conveyors (belt or bucket), light plants, and gasoline or diesel powered welders and all farm type tractors.

GROUP 5A: Those operating off-road trucks in the following counties: Barbour, Braxton, Boone, Calhoun, Clay, Doddridge, Fayette, Gilmer, Greenbrier, Harrison, Jackson, Kanawha, Lewis, Marion, Mercer, McDowell, Monongalia, Monroe, Nicholas, Pleasants, Pocohontas, Preston, Putnam, Raleigh, Randolph, Roane, Ritchie, Summers, Taylor, Tucker, Tyler, Upshur, Webster, Wirt, Wood, and Wyoming.

GROUP 5B: Those operating off-road trucks in the following counties: Cabell, Lincoln, Logan, Mason, Mingo, and Wayne.

GROUP 5C: Those operating off-road trucks in the following counties: Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan and Pendleton.

FOOTNOTE: \$2.00 per hour shall be added to the Group 1 rate for individuals operating a lattice boom crane with a fixed boom of 150 feet or more. \$0.25 per hour shall be added to all of the above schedules for underground work.

TRUCK DRIVER

Berkeley, Grant,		
Hampshire, Hardy,		
Jefferson, Mineral,		
Morgan, Pendleton		
Class 1.....	\$ 25.72	18.11
Class 2.....	\$ 26.61	18.11
Class 3.....	\$ 27.38	18.11
Brooke, Hancock		
Class 1.....	\$ 29.17	13.86
Class 2.....	\$ 30.92	13.86
Class 3.....	\$ 31.71	13.86
Cabell, Lincoln, Logan,		
Mason, Mingo, Wayne		
Class 1.....	\$ 29.79	15.60
Class 2.....	\$ 30.76	15.60
Class 3.....	\$ 31.55	15.60
Marshall, Ohio, Wetzel		
Class 1.....	\$ 26.26	16.81
Class 2.....	\$ 27.16	16.81

Class 3.....	\$ 27.76	16.81
Remaining Counties		
Class 1.....	\$ 26.97	16.15
Class 2.....	\$ 27.76	16.15
Class 3.....	\$ 28.44	16.15

TRUCK DRIVER CLASSIFICATIONS:

GROUP 1: Single Axle Trucks used as Dumps, Supply, Fuel, Water, Van, Flatbody, Monorail, Distributor (other than Bituminous Distributors) including Towed Single Units, Material Checkers and Receivers, Greasers, Tireman and Mechanic Tenders (Trucks), Warehouse, Yardmen and Pick-up trucks.

GROUP 2: Tandem and Tri-Axle Trucks used as Dumps, Supply, Fuel, Water, Van, Flatbody, Monorail and including Towed Single Units, Truck Tractors used in combination with Dump, Van, Tank, Flatbed, Low platform or Pole Trailers, Bituminous Distributors, Agitator or Mixer Trucks (up to 20 cubic-yards), Rubber-tired tractors (towing and pushing), Drag and Tag-alongs.

GROUP 3: Mobile Metered Mixer, Agitator or Mixer Trucks (over 20 cubic yards), & Mechanic Truck.

A. Double Hitch equipment operated by 1 driver shall pay 50% more than the wages set out above.

B. \$0.25 per hour shall be added for tunneling and all other underground work.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is

based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.
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END OF GENERAL DECISION

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