

MILTON MUNICIPAL UTILITY COMMISSION  
CABELL COUNTY, WEST VIRGINIA

CONTRACT #1 – MORRIS MEMORIAL SANITARY SEWER EXTENSION

ADDENDUM #1

FEBRUARY 1, 2022

THRASHER PROJECT #020-1526

TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Tuesday, January 25, 2022 on the above-referenced project, a copy of the sign in sheet, pre-bid agenda and meeting minutes are included in this Addendum. The following are clarifications and responses to questions posed by contractors for the above reference project.

**A. GENERAL**

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

**B. SPECIFICATIONS**

1. **DELETE** Specification Index in its entirety and **REPLACE** with attached Specification Index.
2. **DELETE** Section C-410 Bid Form in its entirety and **REPLACE** with attached Section C-410 Bid Form.
3. **DELETE** Section 011000 - Summary in its entirety and **REPLACE** with attached Section 011000 – Summary.
4. **DELETE** Section 012000 – Price and Payment Procedures in its entirety and **REPLACE** with attached Section 012000 – Price and Payment Procedures.
5. **ADD** the attached Section 110520 - Jib Crane and Trolley.
6. **DELETE** Section 312316 - Excavation in its entirety and **REPLACE** with attached Section 312316 - Excavation.
7. **DELETE** Section 312316.13 - Trenching in its entirety and **REPLACE** with attached Section 312316.13 - Trenching.

**C. DRAWINGS**

1. **DELETE** Sheet 3 in its entirety and **REPLACE** with the attached Sheet 3.

2. **DELETE** Sheet 6 in its entirety and **REPLACE** with the attached Sheet 6.
3. **DELETE** Sheet LS-1 in its entirety and **REPLACE** with the attached Sheet LS-1.
4. **DELETE** Sheet LS-2 in its entirety and **REPLACE** with the attached Sheet LS-2.
5. **DELETE** Sheet LS-3 in its entirety and **REPLACE** with the attached Sheet LS-3.
6. **DELETE** Sheet LS-4 in its entirety and **REPLACE** with the attached Sheet LS-4.
7. **DELETE** Sheet LS-5 in its entirety and **REPLACE** with the attached Sheet LS-5.
8. **DELETE** Sheet LS-6 in its entirety and **REPLACE** with the attached Sheet LS-6.
9. **DELETE** Sheet DET-1 in its entirety and **REPLACE** with the attached Sheet DET-1.
10. **DELETE** Sheet DET-3 in its entirety and **REPLACE** with the attached Sheet DET-3.
11. **DELETE** Sheet E-1 in its entirety and **REPLACE** with the attached Sheet E-1.
12. **DELETE** Sheet E-2 in its entirety and **REPLACE** with the attached Sheet E-2.
13. **DELETE** Sheet E-3 in its entirety and **REPLACE** with the attached Sheet E-3.

## **D. QUESTIONS AND RESPONSES**

### **QUESTION**

1. Can we pull bids?

### **RESPONSE**

The three contracts will be opened in order from Contract #1 to Contract #3 at Milton City Hall. All bids must be received by 2:00 p.m. on Tuesday, February 17, 2022. After opening all bids for Contract #1, the apparent low bidder has the ability to pull their bid on the other contracts. The same procedure applies to Contract #2.

### **QUESTION**

2. Will there be an issue with Liquidated damages with supply issues?

### **RESPONSE**

The Contractor will be required to submit the proper documentation of the supply chain delays for review by the Engineer.

### **QUESTION**

3. NPDES plans – will contractor have to submit anything?

### **RESPONSE**

The NPDES Construction Stormwater permit has been submitted with the Erosion and Sediment Control in the Bid Plans. The contractor will not need to submit anything but the contractor will need to install the erosion and sediment controls shown in the plans and described in the specifications.

**QUESTION**

4. Is there any asbestos in the demo of the stations?

**RESPONSE**

Asbestos testing has not been completed on the grinder stations. Due to the estimated installation date of the grinder stations, asbestos is not expected to be encountered.

**QUESTION**

5. Is WVAW aware that the 16" waterline along Route 60 will be in very close contact with the new sewerline? How do we propose to not disturb the waterline with the new sewer line being so much deeper and very close to it or below it?

**RESPONSE**

We completed a utility location ticket during the design of this project and we completed the designed to the best of our knowledge of the location and depth of the waterline. The Contractor will be required to coordinate with WVAWC prior to installation.

**QUESTION**

6. Can a line item be added for unsuitable material on all contracts since many of the line will be installed in bad ground conditions and/or fill areas?

**RESPONSE**

No.

**E. CLARIFICATIONS**

1. None

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 2:00 p.m. on Tuesday, February 17, 2022 at Milton City Hall, 1139 Smith Street, Milton, WV 25541. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.

  
COREY SMITH, PE  
Project Manager



**MILTON MUNICIPAL UTILITY COMMISSION**  
**CABELL COUNTY, WEST VIRGINIA**  
**CONTRACT #1 – MORRIS MEMORIAL SANITARY SEWER EXTENSION**  
**CONTRACT #2 – SANITARY SEWER REHABILITATION AND LIFT STATION RELOCATION**  
**CONTRACT #3 – MISCELLANEOUS SEWER IMPROVEMENTS**

**PRE-BID CONFERENCE**

Tuesday, January 25, 2022

Thrasher Project #020-01526

Name	Representing	Phone #	Email Address
ERIK ALBRIGHT	THRASHER	(304) 343-7601	ealbright@the-thrashergrp.com
COREY SMITH	THRASHER	(304) 343-7601	casmith@the-thrashergrp.com
Robert Hunt	Chojnacki	(304) 545-2664	
GLEN COOK	TRITON	304-759-2100	skimmy.cook@tritonwv.com
Mark Stolle	FOSTER	304.206.7800	mark@fastersupply.com
Tim Davis	TR Davis Inc	304-544-6650	TRDAVISInc@hotmail.com
Charlie McKenzie	Service Pump	304 429 6731	Charlie.McKenzie@servicepump.com
Ron Lesser	Service Pump	304 429 6731	RonLesser@servicepump.com
Brian Morton	TMI	304-963-0251	bmorton@tmiconstruct.com





**MILTON MUNICIPAL UTILITY COMMISSION**

**1139 Smith Street  
Milton, WV 25541  
Phone: (304) 743-3032**

**CONTRACT #1 – MORRIS MEMORIAL SANITARY SEWER EXTENSION  
CONTRACT #2 – SANITARY SEWER REHABILITATION AND LIFT STATION  
RELOCATION  
CONTRACT #3 – MISCELLANEOUS SEWER IMPROVEMENTS**

**THE THRASHER GROUP, INC.**

**300 Association Drive  
Charleston, WV 25311  
Telephone # (304) 343-7601  
Fax # (304) 343-7604**

**PRE-BID CONFERENCE AGENDA**

Tuesday, January 25, 2022

**PROJECT LOCATION:** Cabell County, West Virginia

**ENGINEER'S PROJECT #:** 020-01526

**DATE OF CONFERENCE:** Tuesday, January 25, 2022 at 11:00 A.M., LPT

**CONFERENCE LOCATION:** Milton Municipal Utility Commission  
1139 Smith Street  
Milton, WV 25541

## PRE-BID AGENDA

- I. **Introductions – City of Milton – Tom Canterbury (Mayor), Charlie Conard (Utility Director)**  
**Engineer: Corey Smith (Project Manager), Erik Allbright (Staff Engineer)**
- II. **General Project Description**
  - a. **Contract #1 – Morris Memorial Sanitary Sewer Extension - The project consists of the following:**
    - i. **Construction of 2,760 LF of 10” Gravity Sewer Line; 2,165 LF of 8” Gravity Sewer Line; 3,400 LF of 6” Forcemain; Grand Patrician Lift Station; Flea Market Lift Station; and all other necessary appurtenances.**
  - b. **Contract #2 – Sanitary Sewer Rehabilitation and Lift Station Relocation - The project consists of the following:**
    - i. **Construction of 5,060 LF of 15” Gravity Sewer Line Removal and Replacement; 615 LF of 12” Gravity Sewer Line Removal and Replacement; 810 LF of 10” Gravity Sewer Line Removal and Replacement; 270 LF of 6” Forcemain; South Main Lift Station Relocation; and all other necessary appurtenances.**
  - c. **Contract #3 – Miscellaneous Sewer Improvements - The project consists of the following:**
    - i. **Construction of 560 LF of 12” Gravity Sewer Line Removal and Replacement; 770 LF of 10” Gravity Sewer Line; 175 LF of 10” Gravity Sewer Line Removal and Replacement; 805 LF of 8” Gravity Sewer Line; 470 LF of 8” Gravity Sewer Line Removal and Replacement; 620 24” HDPE Storm Pipe; 810 LF of 6” Forcemain; 1780 LF of 4” Forcemain; Abbott Lane Lift Station Rehabilitation; Sunset Lift Station Rehabilitation; Jim’s Camping Lift Station; and all other necessary appurtenances.**
- III. **General Bidding Information**
  - a. **General**
    - i. **Both Contracts**
      1. **Bid opening will be on February 17, 2022**
      2. **Time - 2:00 PM**

**Location: (Same Location as Pre-Bid) – City of Milton, 1139 Smith Street, Milton, WV 25541**
    - ii. **Two Envelope System – All BOR (blue) in 1<sup>st</sup> envelope, and BID Form (Yellow) in other.**
      1. **Envelope 1**

- a. Name & address of Bidder
- b. Bid for Contract #
- c. Project Owner name – Milton Municipal Utility Commission

**2. Envelope 2**

- a. Placed in Envelope 1
- b. Labeled “Bid Proposal”

**iii. Contract Time**

- a. Contract #1
  - i. Substantial Completion - 330 days
  - ii. Final Completion - 360 days
  - iii. Liquidated Damages - \$1,000/day
- b. Contract #2
  - i. Substantial Completion - 330 days
  - ii. Final Completion - 360 days
  - iii. Liquidated Damages - \$1,000/day
- c. Contract #3
  - i. Substantial Completion - 330 days
  - ii. Final Completion - 360 days
  - iii. Liquidated Damages - \$1,000/day

**b. Bid Opening Requirements - Blue Pages – Labeled BOR**

- i. Submitted on Time
- ii. Bid Bond – 5% total Bid (ORIGINAL)
- iii. Certification of receipt of all Addenda

**c. Certification for Contracts, Grants, and Loans**

- i. Certification of Non-Segregated Facilities
- ii. Certification of Debarment, Suspension, Ineligibility, and Voluntary Exclusion
- iii. Drug Free Work Place
- iv. American Iron and Steel (AIS) Requirements
  - 1. Additional information in the front-end documents
- v. WVIJDC WV Jobs Act
- vi. Copy of Current Contractor’s License

d. **Bid Form - Yellow Pages – Section 410**

i. **Contract #1**

1. **6 Lump Sum Base Bid Items**

2. **31 Unit Price Base Bid Items**

ii. **Contract #2**

1. **4 Lump Sum Base Bid Items**

2. **37 Unit Price Base Bid Items**

iii. **Contract #3**

1. **7 Lump Sum Base Bid Items**

2. **45 Unit Price Base Bid Items**

3. **1 Lump Sum Add. Alt. #1 Bid Items**

4. **9 Unit Price Add. Alt. #1 Bid Items**

5. **6 Unit Price Add. Alt. #2 Bid Items**

6. **7 Unit Price Add. Alt. #3 Bid Items**

e. **Method of Award –**

i. **Contract #1 and #2 - Lowest Responsive Responsible Bidder – Base Bids for both Contracts**

ii. **Contract #3 - Lowest Responsive Responsible Bidder – Base Bids -**

The Additive Alternates will be added to the Base Bid from Additive Alternate Number 1 to Additive Alternate Number 2 to increase the construction contract cost to within the funds available

IV. **Details of Project**

a. **Construction Sequence of Events – As Described in the Summary Section 011000 for each Contract.**

b. **Material and Equipment - As Described in the Plans/Specs. “Or Equal” items will be reviewed during the submittal process as described in Section 012500 “Substitution Procedures” and 013300 “Submittal Requirements”.**

- c. Other Miscellaneous Items
  - i. **Project Estimates:**
    - 1. **Contract #1 - \$1,700,000**
    - 2. **Contract #2 - \$2,500,000**
    - 3. **Contract #3 - \$2,000,000**
  
- V. **Permits – The City has obtained the following permits:**
  - a. **WV BPH – Health Department Permit**
  - b. **WVDEP – Construction Stormwater Permit**
  - c. **WVDEP – NPDES permit modification.**
  - d. **SHPO Clearance – Archeologist will need to be on site during excavations.**
  
- VI. **B & O Taxes, Building Permits, and City Contractor License**
  - a. **B&O Rate = 0.50%**
  - b. **\$15 Business License – Yearly Renewal**
  
- VII. **Office Trailer and Equipment and Storage Area**
  - a. **Locations for the Office Trailer, Equipment and Storage Area for each Contract must be coordinated with the Engineer and Owner. The area shall be included in the Pre-Construction Videos – must be set up prior to 1<sup>st</sup> pay. Will include bathroom, phone, internet, etc.**
  
- VIII. **Addressing Questions**
  - a. **All in Writing – Fax 304-343-7604 Attn: Corey Smith or Email: [casmith@thethrashergroup.com](mailto:casmith@thethrashergroup.com) - Reference City of Milton – Contract #, Please Reference Sheet # and Spec Section for all questions.**
  
- IX. **Addendum**
  - a. **Last Day for Questions will be COB Tuesday, February 8, 2022.**

- X. Funding Agencies – **This project is funded by the USDA. Davis Bacon Wage Rates DO NOT Apply to both contracts.**
- XI. Owner – Milton Municipal Utility Commission
- XII. Question and Answer Session



**MILTON MUNICIPAL UTILITY COMMISSION  
CABELL COUNTY, WEST VIRGINIA  
FOR THE  
CONTRACT #1 – MORRIS MEMORIAL SANITARY SEWER EXTENSION**

**- I N D E X -**

**BIDDING DOCUMENTS**

Advertisement for Bids	C-111
Instructions to Bidders	C-200
Bid Opening Requirements	BOR
Bid Forms	C-410

**CONDITIONS OF WORK**

Notice of Award	C-510
Agreement	C-520
Certificate of Owner's Attorney and Agency Concurrence	GC-A
Engineer's Certification of Final Plans and Specifications	GC-B
Engineer's Certification of Compliance with AIS	GC-C
Performance Bond	C-610
Payment Bond	C-615
Notice to Proceed	C-550
Contractors Application for Payment	C-620
Change Order	C-941
Field Order	C-942
Work Change Directive	C-940
Certificate of Substantial Completion	C-625
General Conditions	C-700
Supplementary Conditions	C-800

RUS – WV Supplemental General Conditions	RUS
Additional Supplemental General Conditions	ASGC
American Iron and Steel	AISR
<b>TECHNICAL SPECIFICATIONS</b>	
Summary	011000
Price and Payment Procedures	012000
Substitution Procedures	012500
Contract Modification Procedures	012600
Administrative Requirements	013000
Construction Progress Schedule	013216
Submittal Procedures	013300
Quality Requirements	014000
Temporary Facilities and Controls	015000
Traffic Control	015700
Product Requirements	016000
Execution and Closeout Requirements	017000
Closeout Procedures	017700
Operation and Maintenance Data	017823
Project Record Documents	017839
Commissioning	019100
Video Recording	020100
Cast-In-Place Concrete	033000
Crystalline Concrete Waterproofing	033050
Grouting	036000

Rough Carpentry	061000
Access Hatches	083500
Coating Systems for Wastewater Equipment	099010
Jib Crane Hoist and Trolley	110520
Basic Electrical Materials and Methods	260500
Conductors and Cables	260523
Grounding and Bonding	260526
Raceways	260533
Wiring Devices	262726
Fuses	262813
Enclosed Switches and Circuit Breakers	262816
Transfer Switches	263200
LED Exterior Lighting	265619
Portable Generator	268010
Soils for Earthwork	310513
Aggregates for Earthwork	310516
Earth Moving	312000
Excavation	312316
Trenching	312316.13
Dewatering	312319
Erosion and Sedimentation Controls	312500
Asphalt Paving	321216
Stone Surfacing Material	321217
Concrete Paving	321313

Chain Link Fences and Gates	323113
Landscaping	329119
Sewer and Manhole Testing	330130.13
Utility Directional Drilling	330507.13
Manholes and Structures	330513
Trenchless Utility Installation	330523
Utility Identification	330526
Temporary Bypass Pumping	330600
Public Sanitary Utility Sewage Piping	333113
Sanitary Utility Sewerage Force Mains	333400
Hangers and Supports for Process Piping	400507
Ductile Iron Process Pipe	400519
Plug Valves	400562
Swing Check Valves	400565.23
Air/Vacuum Valves for Wastewater Service	400578.23
Abbott Lane Lift Station Rehabilitation	432540.01
Sunset View Lift Station Rehabilitation	432540.02
Jim's Camping Lift Station	432540.03

WV WAGE RATES

ACCOMMODATION OF UTILITIES ON HIGHWAY RIGHT OF WAY

**MILTON MUNICIPAL UTILTIY COMMISSION  
CABELL COUNTY, WEST VIRGINIA  
PROPOSED**

**CONTRACT #1 – MORRIS MEMORIAL SANITARY SEWER EXTENSION  
THRASHER PROJECT #020-01526**

**BID FORM**

**ARTICLE 1 – BID RECIPIENT**

1.01 This Bid is submitted to:

*MILTON MUNICIPAL UTILITY COMMISSION  
1139 SMITH STREET  
MILTON, WV 25541*

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>
---------------------	----------------------

_____	_____
_____	_____
_____	_____

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 and including all AIS requirements.

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 Milton Municipal Utility Commission Contract #1 – Morris Memorial Sanitary Sewer Extension. The Project "Sequence of Construction" has been detailed in the Drawings and Specification Division 1, Project Summary, Section 1010, Part-2 Execution. 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 – MORRIS MEMORIAL SANITARY SEWER EXTENSION  
FOR THE  
  
MILTON MUNICIPAL UTILTIY COMMISSION  
CABELL COUNTY, WEST VIRGINIA  
  
THRASHER PROJECT #020-01526**

**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.*

<b>Item</b>	<b>Quantity</b>	<b>Description with Unit Price Written</b>	<b>Unit Price</b>	<b>Total Price</b>
1	1 LS	Mobilization/Demobilization		
			Dollars _____	
			Cents _____	
2	1 LS	Videotaping of Project Area		
			Dollars _____	
			Cents _____	
<b>Item</b>	<b>Quantity</b>	<b>Description with Unit Price Written</b>	<b>Unit Price</b>	<b>Total Price</b>
3	1 LS	Erosion and Sedimentation Control		
			Dollars _____	



\_\_\_\_\_ Cents \_\_\_\_\_

4a 1,200 LF 10" Gravity Sewer Line (0'-6' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

4b 660 LF 10" Gravity Sewer Line (6'-9' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

4c 1,060 LF 10" Gravity Sewer Line (9'-12' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

5a 1,130 LF 8" Gravity Sewer Line (0'-6' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

5b 2,130 LF 8" Gravity Sewer Line (6'-9' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

5c 240 LF 8" Gravity Sewer Line (9'-12' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

5d 30 LF 8" Gravity Sewer Line (12'-15' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

5e 90 LF 8" Gravity Sewer Line (+18' Deep)

\_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents \_\_\_\_\_

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
6a	40 LF	8" D.I. Gravity Sewer Line (0'-6' Deep)		
			_____ Dollars	
			_____ Cents	

6b	40 LF	8" D.I. Gravity Sewer Line (6'-9' Deep)		
			Dollars	
			Cents	

6c	30 LF	8" D.I. Gravity Sewer Line (+18' Deep)		
			Dollars	
			Cents	

7	1,500 LF	6" Forcemain		
			Dollars	
			Cents	

8	2,600 LF	6" Forcemain, Installed in Same Trench as Gravity Sewer Line		
			Dollars	
			Cents	

9	270 LF	4" Customer Service Lateral		
			Dollars	
			Cents	

10a	60 LF	20" Steel Casing		
			Dollars	
			Cents	

10b	180 LF	16" Steel Casing (Bore & Jack)		
			Dollars	
			Cents	

Item	Quantity	Description with Unit Price Written	Unit Price	Total Price
10c	120 LF	12" Steel Casing (Bore & Jack)		
			Dollars	
			Cents	

11a	35 EA	48" Diameter Manhole Base, Cone Top, Regular Casting		
			Dollars	
			Cents	
11b	2 EA	60" Diameter Manhole Base, Cone Top, Regular Casting		
			Dollars	
			Cents	
12a	55 VF	48" Diameter Manhole Riser Pipe		
			Dollars	
			Cents	
12b	35 VF	60" Diameter Manhole Riser Pipe		
			Dollars	
			Cents	
13a	6 EA	10"x4" PVC Wye Connection		
			Dollars	
			Cents	
13b	12 EA	8"x4" PVC Wye Connection		
			Dollars	
			Cents	
14	18 EA	Customer Service Lateral Cleanout Assembly		
			Dollars	
			Cents	
<b>Item</b>	<b>Quantity</b>	<b>Description with Unit Price Written</b>	<b>Unit Price</b>	<b>Total Price</b>
15	2 EA	Pressure Inline Cleanout		
			Dollars	
			Cents	
16	4 EA	Combination Vacuum/Air Release Valve		
			Dollars	

			Cents		
17a	375 LF	WVDOH Type "B" Trench Repair			
			Dollars		
			Cents		
17b	400 LF	WVDOH Type "C" Trench Repair			
			Dollars		
			Cents		
18a	90 LF	Asphalt Driveway Repair			
			Dollars		
			Cents		
18b	1,660 LF	Gravel Driveway Repair			
			Dollars		
			Cents		
19	1 LS	Aerial Crossing			
			Dollars		
			Cents		
20	1 LS	Grand Patrician Lift Station			
			Dollars		
			Cents		
21	1 LS	Flea Market Lift Station			
			Dollars		
			Cents		
<b>Item</b>	<b>Quantity</b>	<b>Description with Unit Price Written</b>		<b>Unit Price</b>	<b>Total Price</b>
22	1 EA	Existing Grinder Station Decommissioning			
			Dollars		
			Cents		
23	8,300 LF	Reclamation of Disturbed Area			
			Dollars		
			Cents		

---

24	2,000 LF	WVDOH Inspection Fee Allowance				
		Three	Dollars			
		Thirty-Seven	Cents	\$3.37		\$6,740.00

---

**TOTAL BID:** \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_)

(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 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.

- A. Unit prices have been computed in accordance with paragraph 13.03.A of the General Conditions.
- B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

**ARTICLE 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)*

\_\_\_\_\_



## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work under separate contracts.
5. Access to site.
6. Coordination with occupants.
7. Work restrictions.
8. Specification and drawing conventions.
9. Miscellaneous provisions.

##### 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 – Morris Memorial Sanitary Sewer Extension

1. Project Location: Cabell County, West Virginia

##### B. Owner: Milton Municipal Utility Commission

1. Owner's Representative: Tom Canterbury

##### 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:

1 LS Mobilization/Demobilization; 1 LS Videotaping of Project Area; 1 LS Erosion and Sedimentation Control; 2,920 LF 10" PVC SDR-35 Gravity Sewer Line; 3,625 LF 8" PVC SDR-35 Gravity Sewer Line; 110 LF 8" D.I. Gravity Sewer Line; 1,500 LF 6" PVC DR-18 Forcemain; 2,600 LF 6" PVC DR-18 Forcemain, Installed in Same Trench as Gravity Sewer Line; 270 LF 4" PVC SDR-35 Customer Service Lateral; 60 LF 20" Steel Casing, 180 LF 16" Steel Casing (Bore & Jack); 120 LF 12" Steel Casing (Bore & Jack); 35 EA 48" Diameter Manhole Base, Cone Top, Regular Casting; 2 EA 60" Diameter Manhole Base, Cone Top, Regular Casting;

55 VF 48" Diameter Manhole Riser Pipe; 35 VF 60" Diameter Manhole Riser Pipe; 6 EA 10"x4" PVC Wye Connection; 12 EA 8"x4" PVC Wye Connection; 18 EA Customer Service Lateral Cleanout Assembly; 2 EA Pressure Inline Cleanout; 4 EA Combination Vacuum/Air Release Valve; 375 LF WVDON Type "B" Trench Repair; 400 LF WVDON Type "C" Trench Repair; 90 LF Asphalt Driveway Repair; 1,660 LF Gravel Driveway Repair; 1 LS Aerial Crossing; 1 LS Grand Patrician Lift Station; 1 LS Flea Market Lift Station; 1 EA Existing Grinder Station Decommissioning; 8,300 LF Reclamation of Disturbed Area; \$6,740.00 WVDON Inspection Fee Allowance.

B. Type of Contract.

1. Project will be constructed under coordinated, concurrent multiple contracts. Contracts for this Project include the following:
  - a. Contract #1 – Morris Memorial Sanitary Sewer Extension
  - b. Contract #2 – Sanitary Sewer Rehab and Lift Station Relocation
  - c. Contract #3 – Miscellaneous Sewer Improvements

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.
  1. Coordinate Work of this Contract with work performed under Contract #2 and Contract #3

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 parking 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.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

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 5:00 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.
- E. Controlled Substances: Use of tobacco products and other controlled substances within the existing building on Project site is not permitted.

## 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. Plans and Working Drawings
1. Approved plans will show the location, profile, typical cross section, structures except as hereinafter specified, incidental items, and a summary of all items appearing in the proposal. Any deviations which may be required by the construction will be determined by the Engineer and authorized by him in writing. The Contractor shall keep one set of approved plans available of the work at the project site at all times.
  2. Plans will show details necessary to give a comprehensive idea of the construction contemplated. Any information which may be shown on drawings regarding results obtained from test borings will be a record of conditions encountered at the place where such test borings were made, as nearly as these conditions could be interpreted by the Engineer observing the operations. The Contractor shall interpret the data in the light of his own experience. The Contractor is not bound to accept or rely on the data shown on the drawings, but may make additional borings and investigations, including test piles, to satisfy himself concerning the lengths of piles and the conditions governing or entering into the construction of foundations.
  3. The plans may show the construction depths and dimensions on which the estimate of quantities is based. These depths and dimensions, however, are subject to variations as necessary to the Engineer, and the right is expressly reserved to increase or diminish the dimensions and depths as the Engineer may determine.
  4. The Contractor shall submit to the Engineer for approval additional calculation sheets, shop details, and other working drawings required for the construction of any part of the work; and prior to the approval of such plans, any work done or materials ordered shall be at the Contractor's risk.

5. Working drawings for concrete structures shall consist of detailed plans required for the successful execution of the work and which are not included in the plans furnished by the Engineer. These may include plans for drainage structures, falsework, bracing, centering and formwork, masonry layout diagrams, and diagrams for reinforced concrete structures and bent reinforcement.
6. The Contractor shall furnish the Engineer copies of the working drawings for approval and for construction purposes, and upon completion of the work the original tracings of working drawings shall be delivered to the Engineer. The drawings are to be on tracing paper, in ink or in pencil. The size of all drawings and prints shall be 22 inches by 34 inches or 24 inches by 36 inches, including margins.
7. It is expressly understood that the Engineer's approval of the Contractor's working drawings relate to the requirements for strength and general arrangement, and approval will not relieve the Contractor of responsibility for omissions, errors in dimensions, shop fits, field connections, etc., for quantity of materials, or of his responsibility under the contract for the successful completion of the work.
8. The contract price shall include the cost of furnishing all working drawings, and the Contractor will be allowed no extra compensation for such drawings.

E. Conformity with Plans and Specifications

1. All work performed, and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the plans or indicated in the specifications.
2. Should the Engineer determine the materials or the finished product does not conform with the specifications or the plans, he will then make a determination if the work will be accepted and remain in place. In this event, the Engineer will document the basis of acceptance by contract modification which will provide for an adjusted payment. All nonconforming material or construction judged to be inadequate for the use intended shall either be reworked or removed and replaced at no expense to the Owner.

F. 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.

1.8 CONSTRUCTION SEQUENCE OF EVENTS

1. Call Miss Utility 1-800-245-4848.
2. Pre-Construction Video of Project Area.
3. Mobilization to Project Site.
4. Installation of Erosion and Sediment Control Measures.
5. Site Preparation.
6. Install Force Mains, Gravity Sewer Lines, and Manholes.
7. Testing of Force Mains, Gravity Sewer Lines and Manholes.
8. Complete Flea Market Lift Station.
9. Complete Grand Patrician Lift Station.

10. Start up. Testing, and Commissioning of Lift Stations.
11. Complete all Restoration of Disturbed Areas and Clean-Up.
12. Substantial Completion.
13. Complete Punch List Items.
14. Remove Erosion and Sediment Control Measures once Site is Stabilized.
15. Final Completion and Demobilization.
16. Project Closeout.

#### 1.9 MISCELLANEOUS PROVISIONS

- A. The Contractor shall be responsible for conducting all Work in a safe manner and shall take reasonable precautions to ensure the safety and protection of workers, property and the general public.
- B. All construction shall be conducted in accordance with the latest applicable requirements for Part 1926 of the Occupational Safety and Health Act. Safety and Health Regulations for Construction, Section 107 of the Contract Work Hours and Safety Standards Act, as well as any other local, state or federal safety codes and regulations.
- C. The Contractor shall designate a trained and qualified employee who is to be responsible for ensuring that the Work is performed safely and in conformance with all applicable regulations.
- D. The Contractor shall determine the safety hazards involved in prosecuting the Work and the precautions necessary to conduct the Work safely. If the Contractor is unsure as to any special hazards which may be unique to the various processes and facilities at the treatment plant, it shall be the Contractor's responsibility to determine such information prior to beginning the Work.
- E. The Contractor shall bear all risks associated with performing the Work and shall fully indemnify and hold harmless the Owner and Engineer.
- F. The Contractor's attention to the fact that construction activities within wastewater collection systems and treatment plants shall occasionally involve work in potentially hazardous environments in which oxygen deficient, toxic or explosive conditions may exist. Additional hazards arise from the presence of pathogens in wastewater and sludge found in collection systems and wastewater treatment plants, which form the slime and scum layer that coat walking, working and other surfaces. In dealing with these hazards, the Contractor shall take special precautions to ensure worker safety. Such precautions shall include, but are not limited to, the following, as applicable:
  1. Installing temporary forced air ventilation equipment and ducts for fresh air in enclosed areas.
  2. Using pneumatic tools and equipment instead of electric-driven equipment in hazardous areas.
  3. Avoiding the use of cutting torches, field welding and grinders in hazardous areas.
  4. Cleaning and disinfecting working surfaces with hot water, high pressure washers prior to commencing work.
  5. Installing sealed wooden baffles or bulkheads to isolate working areas from hazardous atmospheres.

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6. Providing portable oxygen meters, combustible gas detectors and hydrogen sulfide detectors to continuously monitor the atmosphere in enclosed working areas.
  7. Providing safety harnesses, safety lines and recovery crews for workers in hazardous areas.
  8. Providing self-contained breathing apparatus with spare air cylinders for workers in hazardous areas.
  9. Providing dry chemical fire extinguishers and connected fire hoses in areas where a danger of fire or explosion exists.
  10. Providing adequate, oxygen-equipped, first aid facilities.
  11. Providing suitable wash-up areas and facilities for workers.
  12. Installing temporary lighting using explosion-proof fixtures in hazardous environments.
  13. Installing approved warning and hazard signs and posting safety procedures.
  14. Instructing all workers as to the hazards present, the procedures to be followed and the proper function and use of all safety and emergency equipment furnished.
- G. Prior to commencing Work on existing facilities and equipment, the Contractor shall notify the collection system and/or plant superintendent and shall ensure that the source of electrical energy to all affected equipment is shut off and locked out at the appropriate motor control center. Local switches and pushbutton stations, where provided, shall be locked in the "off" position.
- H. Prior to entering or commencing work in a hazardous area, the Contractor shall ensure all safety and emergency equipment is in place and in satisfactory operating condition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000



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## 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

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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 Schedule of Values 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.

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- 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.
- 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.

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- 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

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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 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 Bid Item shall also include all costs associated with installing, maintaining, and removing the Project Sign.
  - c. This Bid Item shall also include any and all costs associated with the following Specification Sections:
    - 1) Section 013000 – Administrative Requirements
    - 2) Section 013216 – Construction Progress Schedule

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- 3) Section 013300 – Submittal Procedures
  - 4) Section 015000 – Temporary Facilities and Controls
  - 5) Section 017000 – Execution and Closeout Requirements
  - 6) Section 017839 – Project Record Documents
- d. 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.
- e. 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 - Videotaping of Project Area
- a. The cost of this work shall be included in a lump sum bid item. Such payment shall constitute full compensation for labor, materials, equipment and other cost associated to provide a complete documentation.
  - b. Videotaping shall include the entire construction area affected, including any Contractor secured waste site and material storage or staging areas. The measurement for this bid items shall be based on a complete video recording on a DVD of the entire project area.
3. Bid Item 3 – Erosion and Sedimentation Controls
- a. The cost for this Work shall be a lump sum.
  - b. This Bid item shall include all costs associated with erosion and sedimentation controls including all materials and labor for installation, maintenance, and removal.
  - c. 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.
4. Bid Item 4 – 10” Gravity Sewer Line
- a. Bid Items are broken out according to the depth of excavation required as shown on the Bid form and as follows: 4a – 0’-6’, 4b – 6’-9’, 4c – 9’-12’.

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- b. This Bid item shall include all required labor, materials, equipment and all other costs associated with the complete installation of 10" gravity sewer including excavation, bedding, backfill, materials, fittings, pipe joints, pipe, tools, supplies, testing, and incidentals. All pipe covered under this bid item shall have a minimum pressure rating of 46 psi in conformance with the contract drawings. All fittings used shall be included in the linear foot price of the pipe.
  - c. The sewers installed under this item shall be measured and paid for at the unit price Bid per linear feet of pipe of each type and size as specified on Drawings or as directed by the Engineer, and 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 from the face of manhole to face of manhole.
5. Bid Item 5 – 8" Gravity Sewer Line
- a. Bid Items are broken out according to the depth of excavation required as shown on the Bid form and as follows: 5a – 0'-6', 5b – 6'-9', 5c – 9'-12', 5d – 12'-15', 5e – +18'.
  - b. This Bid Item shall include all required labor, materials, equipment and all other costs associated with the complete installation of 8" gravity sewer including excavation, bedding, backfill, materials, fittings, pipe joints, concrete anchors, pipe, tools, supplies, testing, and incidentals. All pipe covered under this bid item shall have a minimum pressure rating of 46 psi in conformance with the contract drawings. All fittings used shall be included in the linear foot price of the pipe.
  - c. The sewers installed under this item shall be measured and paid for unit price Bid per linear foot of pipe of each type and size as specified on Drawings or as directed by the Engineer, and 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 from the face of manhole to face of manhole.
6. Bid Item 6 – 8" D.I. Gravity Sewer Line
- a. Bid Items are broken out according to the depth of excavation required as shown on the Bid form and as follows: 6a – 0'-6', 6b – 6'-9', 6c – +18'.
  - b. This Bid Item shall include all required labor, materials, equipment and all other costs associated with the complete installation of 8" Class 50 ductile iron gravity sewer line including, but not limited to, excavation, bedding, backfill, concrete anchors, materials, fittings, pipe joints, concrete thrust blocks, pipe, tools, supplies, testing, and incidentals. All fittings used shall be included in the linear foot price of the pipe.
  - c. The sewer line installed under this Bid item shall be measured and paid for at the unit price Bid per linear feet of pipe of each type and size as specified on Drawings or as directed by the Engineer and 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 from the face of manhole to face of manhole.
7. Bid Item 7 – 6" Forcemain

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- a. The force main installed under this Bid 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 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. All pipe covered under this bid item shall have a minimum pressure rating of 235 psi in conformance with the contract drawings.
  - b. The quantities determined as provided above will be paid for at the unit price Bid, which shall be full compensation for excavation, bedding, and backfilling and furnishing all materials and doing all the work herein prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, testing, and incidentals necessary to complete the work.
  - c. Fittings used will be paid for as part of linear foot of pipe.
8. Bid Item 8 – 6” Forcemain, Installed in Same Trench as Gravity Sewer Line
- a. The force main installed under this Bid Item shall be measured and paid for by the linear feet of pipe installed complete in place. The measurement under this item shall be the length of pipe and fittings 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. All pipe covered under this bid item shall have a minimum pressure rating of 235 psi in conformance with the contract drawings.
  - b. The quantities determined as provided above will be paid for at the unit price Bid, which shall be full compensation for excavation, bedding, and backfilling and furnishing all materials and doing all the work herein prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, testing, and incidentals necessary to complete the work.
  - c. Fittings used will be paid for as part of linear foot of pipe.
  - d. The price for this Bid Item shall be reduced in comparison to any other pipe bid item installed in its own trench. This is due to the reduced and equipment labor requirements for installation within the same trench as the gravity sewer line.
9. Bid Item 9 – 4” Customer Service Lateral
- a. This Bid Item shall include all required labor, materials, equipment and all other costs associated with the complete installation and removal of existing customer service lateral regardless of size and material and the subsequent replacement with 4” PVC customer service lateral including, but not limited to, excavation, bedding, backfill, materials, fittings, pipe, tools, supplies, testing, and incidentals. All fittings used shall be included in the linear foot price of the pipe. All pipe covered under this bid item shall have a minimum pressure rating of 46 psi in conformance with the contract drawings.
  - b. This Bid Item shall also include all costs associated with temporary bypass pumping, as required, to ensure existing sanitary service remains during construction. Any and all spills, fines, and/or backups shall be the sole responsibility of the Contractor.
  - c. The customer service laterals installed under this item shall be measured and paid for at the unit price Bid per linear feet of pipe as specified on Drawings or as



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directed by the Engineer and installed complete in place. The measurement under this item shall be the length of pipe and fittings installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the customer service wye connection to the customer service lateral cleanout.

10. Bid Item 10 – Steel Casing (Bore and Jack)

- a. Bid Items are broken out according to the size of the casing as shown on the Bid form and as follows: 10a – 20”, 10b – 16”, 10c – 12”.
- b. This Bid item shall include all labor, material, and equipment necessary for, and incidental to, the construction of the crossing, complete in place, including, but not limited to, excavation, sheeting, bracing, backfilling, grouting, casing seal, blocking, etc.
- c. 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 casing pipe satisfactorily installed.
- d. Payment shall be for casing pipe only; carrier pipe shall be paid by the unit Bid price per foot.
- e. Compensation for unauthorized casing footage beyond that which is called for in the Drawings and Specifications will not be made.

11. Bid Item 11 – Manhole Base, Cone Top, Regular Casting

- a. Bid Items are broken out according to the size of the manhole as shown on the Bid form and as follows: 11a – 48”, 11b – 60”.
- b. This Bid Item shall include all required labor, materials, equipment and all other costs associated with the complete installation of manholes bases, cone tops, and regular castings including, but not limited to, excavation, bedding backfill, installation of pre-cast manholes, and other appurtenances.
- c. Payment for manholes shall be as follows:
  - 1) Gravel sub-base, manhole base, steps, cone top, frame, and watertight cover, up to 6-foot depth measured from invert out elevation to top of cover elevation, shall be paid at the Contract unit Bid price per each.
  - 2) Payment for internal drop connectors, as required, for manhole construction shall be included in the unit Bid price for each new manhole installed.
  - 3) Manhole Riser Pipe required for additional depth over 6 feet shall be paid for by the unit Bid price per vertical foot for Manhole Riser Pipe.

12. Bid Item 12 – 48” Diameter Manhole Riser Pipe

- a. Bid Items are broken out according to the size of the manhole riser section as shown on the Bid form and as follows: 12a – 48”, 12b – 60”.
- b. Manhole riser section required for depths over 6-feet shall be paid for at the unit Bid price per vertical foot.

13. Bid Item 13 – Wye Connection

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- a. Bid Items are broken out according to the size of gravity sewer line as shown on the Bid form and as follows: 13a – 10"x4", 13b – 8"x4".
  - b. This Bid item shall include all required labor, materials, equipment, and other costs associated with the complete construction of a customer service wye connection, as detailed in the Drawings.
  - c. The Wye fitting shall be of the same size and material as the main sewer line.
  - d. Payment for this Bid item shall be made on a per each basis for all customer service wye connections.
14. Bid Item 14 – Customer Service Lateral Cleanout Assembly
- a. This Bid Item shall include all required labor, materials, equipment, and other costs associated with the complete construction of a new cleanout assembly, as detailed in the Drawings.
  - b. Payment for this Bid item shall be made on a per each basis for all new cleanout assemblies.
15. Bid Item 15 - Pressure Inline Cleanout
- a. Payment for this Bid Item shall include the purchase and installation of all required material in order to construct an inline cleanout as detailed on the Drawings.
  - b. This Unit Bid Price shall include all required piping, valves, fittings, concrete, cast iron frame and cover, bedding, backfilling, restoration, cleanup, etc.
16. Bid Item 16 – Combination Vacuum/Air Release Valve
- a. Payment for this Bid Item shall include the purchase and installation of all required material to construct a combination air/vac release valve as detailed on the Drawings.
  - b. This Unit Bid Price shall include all required piping, valves, fittings, manhole riser sections, cast iron frame and cover, bedding, backfilling, restoration, cleanup, etc.
17. Bid Item 17 – WVDOH Trench Repair
- a. Bid Items are broken out according to the type of Trench Repair as shown on the Bid form and as follows: 17a – Type "B", 17b – Type "C".
  - b. This Bid item shall include all required labor, materials, equipment and all other costs associated with the type of trench repair within the WV Division of Highways Right-of-Way as shown 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.
  - c. 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.
18. Bid Item 18 – Driveway Repair

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- a. Bid Items are broken out according to the type of Driveway Repair as shown on the Bid form and as follows: 18a – Asphalt, 18b – Gravel.
  - b. This Bid item shall include all required labor, materials, equipment and all other costs associated with the type of driveway and road restoration as shown on the Drawings or as directed by Engineer. 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.
  - c. 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.
19. Bid Item 19 – Aerial Crossing
- a. This Bid Item shall include all costs associated with the Aerial Crossing, as specified herein and detailed within the Drawings for a complete and fully operating system.
  - b. This Bid Item shall include all required labor, materials, equipment and all other costs associated with the installation of the 10” PVC sanitary sewer line, 18” galvanized steel casing, casing spacers, end seals, coatings systems, anchoring brackets, and concrete support structures including excavation, backfill, materials, fittings, pipe joints, pipe, tools, supplies, material testing, sanitary sewer line testing, traffic control, asphalt repair, curb repair, seeding and mulching, and all other incidentals.
20. Bid Item 20 – Grand Patrician Lift Station
- a. Measurement and payment for this bid item shall be based on the approved Schedule of Values provided by Contractor.
  - b. This Bid Item shall include all costs associated with furnishing a complete, in-place, working sewage pumping station, as detailed on the Drawings and in the Specifications, including, but not limited to, gravel surfacing, fencing, site lighting, control panel structure, pumps, motors, drives, controls, lifting chains, anchors, level control system, piping, valves, fittings, wet well, valve vault, access hatches, electrical conduit and wiring, and all other associated appurtenances.
  - c. This Bid Item shall also include all costs associated with the following Specification Sections relating to Work of this Bid Item:  
  
Section 432540.01 – Grand Patrician Lift Station  
Section 019100 – Commissioning
21. Bid Item 21 – Flea Market Lift Station
- a. Measurement and payment for this bid item shall be based on the approved Schedule of Values provided by Contractor.
  - b. This Bid Item shall include all costs associated with furnishing a complete, in-place, working sewage pumping station, as detailed on the Drawings and in the

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Specifications, including, but not limited to, gravel surfacing, fencing, site lighting, control panel structure, pumps, motors, drives, controls, lifting chains, anchors, level control system, piping, valves, fittings, wet well, valve vault, access hatches, electrical conduit and wiring, and all other associated appurtenances.

- c. This Bid Item shall also include all costs associated with the following Specification Sections relating to Work of this Bid Item:

- 1) Section 432540.02 – Flea Market Lift Station
- 2) Section 019100 – Commissioning

22. Bid Item 22 – Existing Grinder Station Decommissioning

- a. This Bid Item shall include all labor, material, and equipment necessary for, and incidental to, the complete decommissioning of existing grinder station, including, but not limited to, excavation, backfilling, disposal of wet well, disposal of equipment, removal of electrical service, and all other associated appurtenances.

23. Bid Item 23 – Reclamation of Disturbed Area

- a. This Bid Item shall include all costs associated with furnishing and placing lime, fertilizer, seed, and mulch to all disturbed areas.
- b. This Bid item shall be measured and paid for by the liner foot, regardless of width, times the Bid Price. No payment shall be made for Reclamation of Disturbed Area outside the limits shown in the Drawings.

24. Bid Item 24 – WVDOH Inspection Fee Allowance

- a. This Bid Item shall include all costs associated with paying the inspection fee required by the West Virginia Division of Highways for the project. The inspection fee allowance is \$6,740.00.
- b. The costs associated with this fee shall be in accordance with General Conditions Article 13. The fee is based on the per linear foot cost of sewer line installed in the WVDOH right-of-way to cover all WVDOH inspection costs. This bid item specifically excludes any work shown on the Contract Documents. All work within the Contract Documents shall be included in previous bid items.

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.

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- 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012000

## SECTION 110520 - JIB CRANE HOIST AND TROLLEY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Hoist shall be heavy-duty, hand chain, army type.
- B. Trolley shall be I-beam, plain push designed to fit jib crane (wide flange).

#### 1.3 QUALITY ASSURANCE

- A. The hoist chain shall be of sufficient length to permit operation from finish grade.
- B. Operating Requirements shall be as follows:

1.	Capacity, tons	2
2.	Boom length, feet	12'
3.	Power Requirements	None
4.	Trolley, type	Plain Push
5.	Trolley motor, hp	NA
6.	Hoist, type	Electric Hoist
7.	Hoist motor, hp	NA
8.	Vertical lift, feet	40 (approximate)
9.	Hoist Speed, fpm	NA

#### 1.4 ENVIRONMENTAL CONDITIONS

- A. Jib crane hoist and trolley shall operate in weather-exposed location at a wastewater pumping station with high levels of hydrogen sulfide. Temperatures are expected to range between -10 degrees F and 110 degrees F.

#### 1.5 SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 – Submittal Procedures and shall include all pertinent catalog information.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

Component	Material
Boom mast assembly	Steel, ASTM A36
Trolley wheels	Cast Iron
Trolley side plates	Steel ASTM A36
Hoist frame	Cast Aluminum
Hoist gears	Steel ASTM A36
Hoist chain	Zinc-Plated Steel
Hoist suspension hook	Steel, ASTM A36
Hoist shaft	Steel, ASTM A36

### 2.2 EQUIPMENT

- A. Jib Crane: The existing jib crane boom is constructed of heavy section I-beam with trolley stops at both ends. The existing jib crane shall be refurbished by the Contractor.
- B. Hoist: Chain hoists shall be enclosed in tightly sealed housings with machined joints between housing and covers. Gears shall be spur type with machine shaved teeth in each gear. All fastenings shall be spline fitted for greater strength.
- C. Trolley: Provide a plain push trolley with wide flanges to fit the jib crane.
- D. Chain: The load chain shall be rated for overhead lifting and suitable for outdoor use at a sewer pump station. An automatic load brake, with large roller bearing in the ratchet wheel for controlled lowering shall be provided. A floating load chain guide which completely surrounds the load chain pocket wheel shall be provided to insure proper chain entry regardless of pulling angle. The sheaves in the lower block shall be arranged to eliminate angular chain load. Weatherproof enclosure, or measures at industry standards, shall be provided.
- E. Load: Load limiter device shall be provided.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. The trolley and hoist shall be installed at the location shown and in accordance with manufacturer's recommendations.

3.2 TESTING

- A. After completion of installation, the jib crane, trolley and hoist shall be completely tested to ensure compliance with the performance requirements as specified. As a minimum, testing shall be by operating the equipment through a complete lift and lowering cycle and through a complete rotation of the mast to determine that the equipment performs smoothly and safely without failure. Such tests shall be carried out with the hoisting equipment loaded as near to the specified capacity as possible. Any defects shall be corrected or replaced immediately by the Contractor and at no expense to the Owner. All testing shall be at the Contractor's expense.

3.3 USE BY CONTRACTOR

- A. Any crane used by the Contractor shall be repaired, repainted, and otherwise refurbished to like-new condition prior to its acceptance. The Contractor assumes all responsibility for operation and maintenance until the crane has been accepted.

END OF SECTION 110520



## SECTION 312316 - EXCAVATION

### 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 excavation procedures for the following:
  - 1. Manholes.
  - 2. Structures.
- B. Related Sections
  - 1. Section 310513 - Soils for Earthwork.
  - 2. Section 310516 – Aggregates for Earthwork
  - 3. Section 312000 – Earth Moving
  - 4. Section 312316.13 - Trenching.

#### 1.3 REFERENCES

- A. Local utility standards when working within 24 inches of utility lines.

#### 1.4 SUBMITTALS

- A. Section 013300 - Submittal Procedures.
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan. The excavation protection plan shall be prepared under the direction of a professional engineer licensed in the state of West Virginia. The excavation protection plan shall be signed and sealed by the licensed professional engineer.

#### 1.5 QUALITY ASSURANCE

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

## 1.6 QUALIFICATIONS

- A. Prepare excavation protection plan under direct supervision of professional engineer experienced in design of this Work and licensed in State of West Virginia.

## PART 2 - PRODUCTS (NOT USED)

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Call Miss Utility and Local Utility Companies Information service not less than five (5) Working days before performing Work.
  - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company to remove and relocate utilities.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, rock outcroppings and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

### 3.2 EXCAVATION

- A. Excavate subsoil from areas designated.
- B. Stockpile excavated material meeting requirements for subsoil materials.
- C. Remove excess excavated materials not intended for reuse, from Site.
- D. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from Site.

### 3.3 DEWATERING

- A. Prevent surface water and subsurface or ground water from flowing into excavations, and flooding the Project Site and surrounding area. Positive drainage of fills shall be maintained at all times.

- B. All excavations shall be free of water. Do not allow water to accumulate in excavations. Remove water from excavations to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from the Site.
  
- C. Convey water removed from excavations and rainwater to collecting ponds or to run-off areas. Do not use trench excavations for Site utilities as temporary drainage ditches or collecting ponds.

#### 3.4 REMOVAL OF UNSUITABLE MATERIALS

- A. Excavate unsuitable soil materials encountered to a depth of 2 feet below the required elevations, or as directed by the Engineer. Any additional excavation of unsuitable materials beyond the first 2 feet, provided it is not due to the fault or neglect of the Contractor, will be measured as directed by the Engineer and paid for as a change in the quantity of Work.
  
- B. Excavation handling and disposal of unsuitable material and its replacement with suitable, compacted materials, up to and including a depth of 2 feet below proposed elevations in accordance to Section 310513 - Soils for Earthwork.

#### 3.5 EXCAVATION AND FILL FOR CONCRETE SLABS

- A. Excavation for structures shall be made to the depths and grades shown on the construction Drawings.
  
- B. Excavation shall be the minimum required for installation of a structure. Structure excavation shall not exceed the overall dimension plus 2 feet unless sloping and safety conditions warrant variations.
  
- C. Excavation shall be maintained relatively dry and free from accumulating water.
  
- D. The Contractor shall perform all filling, compaction, and grading to bring the subgrade of a structure or slab to the design grade and position.
  
- E. The Contractor shall install all granular fills over filter fabric under all structures and slabs as shown on the construction Drawings.
  
- F. The Contractor shall test and compact all subgrade and granular materials placed in accordance with the respective Section of this Specification.

#### 3.6 COMPACTION

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
  - 1. Under structures and building slabs compact each layer of backfill or fill soil material at 100 percent.
  - 2. For steps and pavements compact each layer of backfill or fill soil material at 98 percent.
  - 3. Under walkways, compact each layer of backfill or fill soil material at 95 percent.
  - 4. Under turf or unpaved areas, and for utility trenches, compact each layer of backfill or fill soil material at 95 percent.
  - 5. Compaction tests shall be conducted at least one (1) test per every 200 square feet or at least one (1) per lift.

### 3.7 ROUGH GRADING

- A. Rough grading shall be completed over all areas which are disturbed by any Work for this Project.
- B. Rough grading shall not be completed until surface drainage and drains are in place per construction Drawings.
- C. Rough grading shall not be completed until settlement areas have been brought to grade.
- D. Rough grading shall include excavation, fill, and compaction of all areas of Work outlined for the Project. The finish shall be obtainable by dozer or scraper equipment unless otherwise directed in the Drawings or Specifications.
- E. Excess material removed from the Site shall be placed in areas designated for fill.

### 3.8 FINISH GRADING

- A. Uniformly grade areas within the limits of Site grading under this Section, including adjacent transition areas. Smooth finished surfaces within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades. The degree of finish required will be that ordinarily obtainable from either blade-grader or scraper operations.
- B. Ditches: Finish ditches to ensure proper flow and drainage. Conduct final rolling operations to produce a hard, uniform and smooth cross-section.
- C. Grass Areas: Finish areas to receive topsoil to within not more than 0.10 feet above or below the required subgrade elevations, compacted as specified, and free from irregular surface changes.
- D. Pavement: Shape the surface of the areas under pavement to line, grade and cross-section, with the finish surface not more than ½ inch above or below the required subgrade elevation, compacted as specified, and graded to prevent ponding of water after rains. Include such

operations as plowing, dicing, and any moisture or aerating required to provide the optimum moisture content for compaction. Fill low areas resulting from removal of unsatisfactory soil materials, obstructions, and other deleterious materials, using satisfactory soil material. Shape to line, grade, and cross-section as shown on the Drawings.

### 3.9 STORM DRAINS

- A. Repair or replacement of existing storm drains shall match existing alignment, grade and material unless otherwise noted.

### 3.10 STOCKPILING

- A. Stockpile materials on Site at locations indicated or as designated by Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Stockpile topsoil 8 feet high maximum.
- E. Prevent intermixing of soil types or contamination.
- F. Direct surface water away from stockpile Site to prevent erosion or deterioration of materials.
- G. Dispose of all excess unsatisfactory soil material, trash and debris.

### 3.11 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

### 3.12 BLASTING

- A. Blasting will not be allowed for accomplishment of the construction goal of the Project, unless otherwise specified.

### 3.13 FIELD QUALITY CONTROL

- A. Section 017000 - Execution and Closeout Requirements: Request visual inspection of bearing surfaces by Engineer before installing subsequent Work.
- B. Protect newly graded areas from traffic and erosion, and keep free of trash and debris daily. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.
- C. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

3.14 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION 312316

## SECTION 312316.13 - TRENCHING

### 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. Preparation.
  - 2. Trenching.
  - 3. Sheeting and Shoring.
  - 4. Backfilling.
  - 5. Dewatering.
- B. Related Sections
  - 1. Section 310513 - Soils for Earthwork.
  - 2. Section 310516 – Aggregates for Earthwork
  - 3. Section 312000 – Earth Moving
  - 4. Section 312316 - Excavation.

#### 1.3 REFERENCES

- A. American Association of State Highway and Transportation Officials
  - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-inch) Drop.
- B. ASTM International
  - 1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>).
  - 2. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
  - 3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>).
  - 4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
  - 5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

#### 1.4 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, or cable.

#### 1.5 SUBMITTALS

- A. Section 013300 - Submittal Procedures.
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan. The excavation protection plan shall be prepared under the direction of a professional engineer licensed in the state of West Virginia. The excavation protection plan shall be signed and sealed by the licensed professional engineer.
- C. Product Data: Submit data for geotextile fabric indicating fabric and construction.

#### 1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the City of Milton and West Virginia Division of Highways standards.

#### 1.7 QUALIFICATIONS

- A. Prepare excavation protection plan under direct supervision of professional engineer experienced in design of this Work and licensed in State of West Virginia.

#### 1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

#### 1.9 COORDINATION

- A. Section 013000 - Administrative Requirements.
- B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.



## PART 2 - EXECUTION

### 2.1 LINES AND GRADES

- A. Lay pipes to lines and grades indicated on Drawings.
  - 1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

### 2.2 PREPARATION

- A. Call Miss Utility and Local Utility Companies Information service at, no less than, five (5) Working days before performing Work.
  - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.
- C. Protect plant life, lawns, rock outcropping and other features remaining as portion of final landscaping.
- D. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.
- F. Cutting Paved Surfaces
  - 1. Make cuts in paved surfaces with an appropriate saw cut in a neat uniform fashion forming straight lines parallel with the centerline of the trench. Cut offsets at right angles to the centerline of the trench.
  - 2. Protect edges of cut pavements during excavation to prevent raveling or breaking; square edges prior to pavement replacement.

### 2.3 TRENCHING

- A. Remove lumped subsoil, boulders, and rock up of  $\frac{1}{6}$  cubic yard, measured by volume. Remove and properly dispose of larger material.
- B. Perform excavation within 24 inches of existing utility service in accordance with utility's requirements.
- C. Do not advance open trench more than 200 feet ahead of installed pipe.
- D. Cut trenches to width indicated on Drawings. Remove water or materials that interfere with Work.

- E. Excavate bottom of trenches maximum 1 foot wider than outside diameter of pipe per details.
- F. Excavate trenches to depth indicated on Drawings.
- G. Provide uniform and continuous bearing and support for bedding material and pipe.
- H. Do not interfere with 45 degree bearing splay of foundations.
- I. When Project conditions permit, slope side walls of excavation starting 2 feet above top of pipe. When side walls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this Section.
- J. When subsurface materials at bottom of trench are loose or soft, notify Engineer, and request instructions.
- K. Cut out soft areas of subgrade not capable of compaction in place. Backfill with subsoil material and compact to density equal to or greater than requirements for subsequent backfill material.
- L. Trim excavation: Hand trim for bell and spigot pipe joints. Remove loose matter.
- M. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.
- N. Remove excess subsoil not intended for reuse, from Site.

#### 2.4 SHEETING AND SHORING

- A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- B. Support trenches more than 3 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.
- C. Withdraw shoring, bracing and sheeting as backfilling proceeds unless otherwise directed by Engineer.

#### 2.5 BACKFILLING

- A. Backfill trenches to contours and elevations with approved excavated material or approved subsoil material.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Maintain optimum moisture content of fill materials to attain required compaction density.
- D. Backfill trenches from trench bottom or from the top of pipe bedding material, whichever is greater, to 12 inches above the crown of the pipe with specified backfill material hand placed and carefully compacted with hand-operated mechanical tampers in layers of suitable thickness

to provide specified compaction around and under the haunches of the pipe. Backfill and compact the remainder of the trench with specified backfill material.

- E. **Lift Thickness Limitations:** Submit a list of the compaction equipment to be utilized on the Project, the recommendations of the equipment manufacturer as to the maximum lift thickness which can be placed, and the method of compaction to be used with this equipment to achieve the required compaction. In no case shall maximum lift thickness placed exceed previously specified. However, if the equipment manufacturer's lift thickness recommendation is followed and the specified compaction is not obtained, the Contractor shall, at his own expense, remove, replace, and retest as many times as is required to obtain the specified compaction.
- F. **Installation of Magnetic Marking Tape:** A magnetic marking tape shall be incorporated into the backfill of the pipe trenches. This tape shall be at least 6 inches wide and located 12 inches to 18 inches below the final surface and directly above the center of the pipe line. Tape shall be used on all sanitary sewer lines, water lines, gas lines, and buried power lines, regardless of pipe type. Red magnetic warning tape shall be used for buried power lines, blue shall be used for water, and green for sewer.

## 2.6 DEWATERING

- A. Prevent surface water and subsurface or ground water from flowing into excavations, and flooding the Project Site and surrounding area. Positive drainage of fills shall be maintained at all times.
- B. All excavations shall be free of water. Do not allow water to accumulate in excavations. Remove water from excavations to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from the Site.
- C. Convey water removed from excavations and rainwater to collecting ponds or to run-off areas. Do not use trench excavations for Site utilities as temporary drainage ditches or collecting ponds.

## 2.7 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas:  $\pm 1$  inch from required elevations.
- B. Top Surface of General Backfilling:  $\pm 1$  inch from required elevations.

## 2.8 FIELD QUALITY CONTROL

- A. Perform laboratory material tests in accordance with ASTM D1557.
- B. Perform in place compaction tests in accordance with the following:
  - 1. Density Tests: ASTM D1556, ASTM D2167, or ASTM D2922.
  - 2. Moisture Tests: ASTM D3017.

- C. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.
- D. Frequency of Tests: Compaction tests will be conducted at least one (1) per every 200 linear feet of trench with at least one (1) test per lift, and one test for each structure or as necessary to insure proper compaction.

## 2.9 PROTECTION OF FINISHED WORK

- A. Reshape and re-compact fills subjected to vehicular traffic during construction.

## PART 3 - EXECUTION (Not Used)

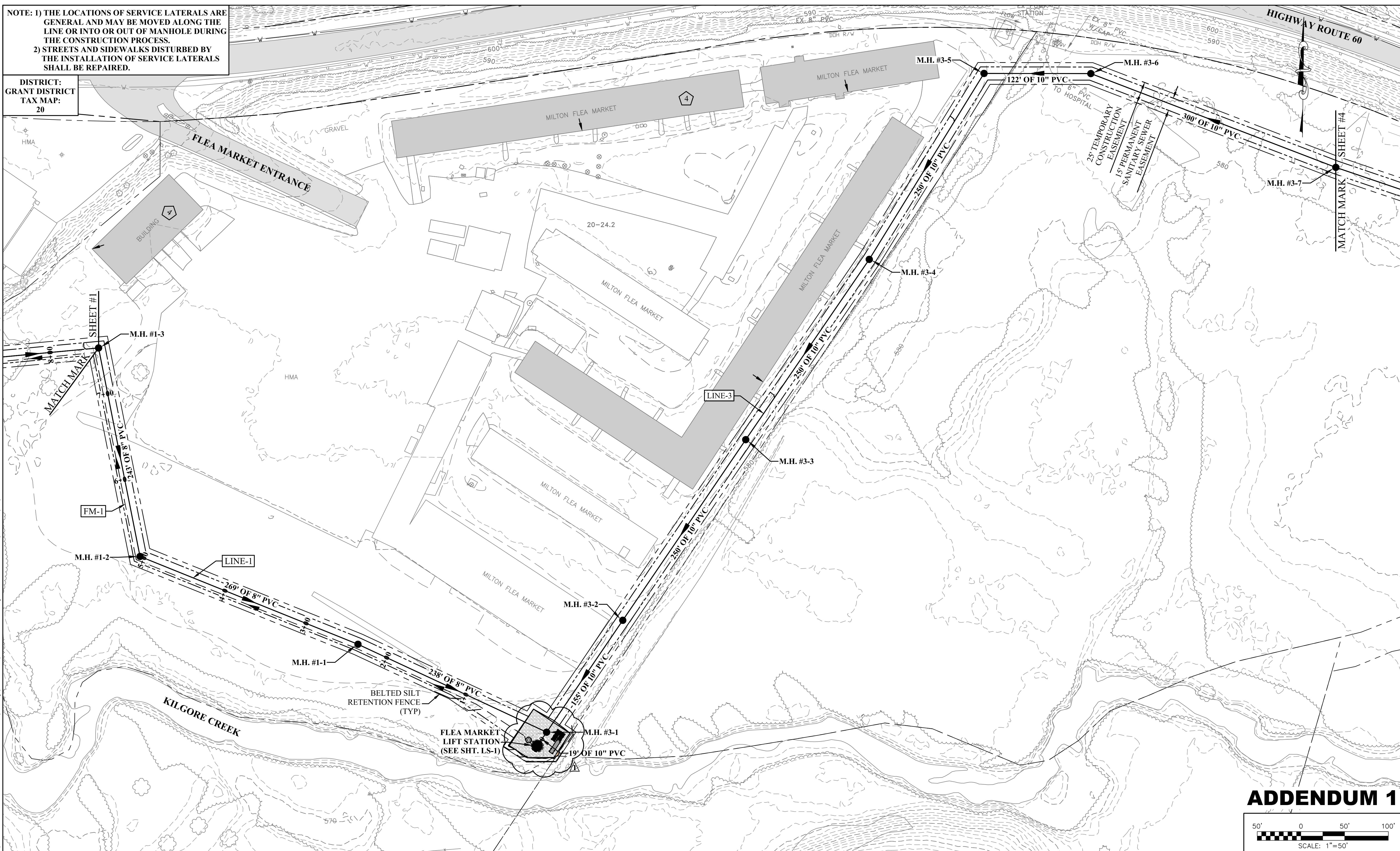
END OF SECTION 312316.13



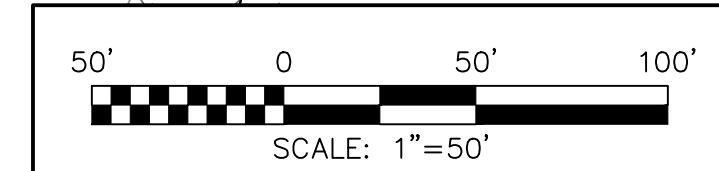
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 2) STREETS AND SIDEWALKS DISTURBED BY THE INSTALLATION OF SERVICE LATERALS SHALL BE REPAIRED.

DISTRICT:  
 GRANT DISTRICT  
 TAX MAP:  
 20

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 LAYOUT: 3  
 USER: kevin.phillips



**ADDENDUM 1**



1	KMP	1/2022	ADDENDUM 1 - UPDATED LIFT STATION SITE - SEE SHEET LS-1
NO.	BY	DATE	DESCRIPTION


SCALE: AS SHOWN  
 DRAWN: K. PHILLIPS DATE: APRIL 2021  
 CHECKED: J. CARPENTER DATE: APRIL 2021  
 APPROVED: C. SMITH DATE: APRIL 2021  
 SURVEY DATE:  
 SURVEY BY:  
 FIELD BOOK No.:

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PHASE No.	
CONTRACT No.	
PROJECT No.	020-1526

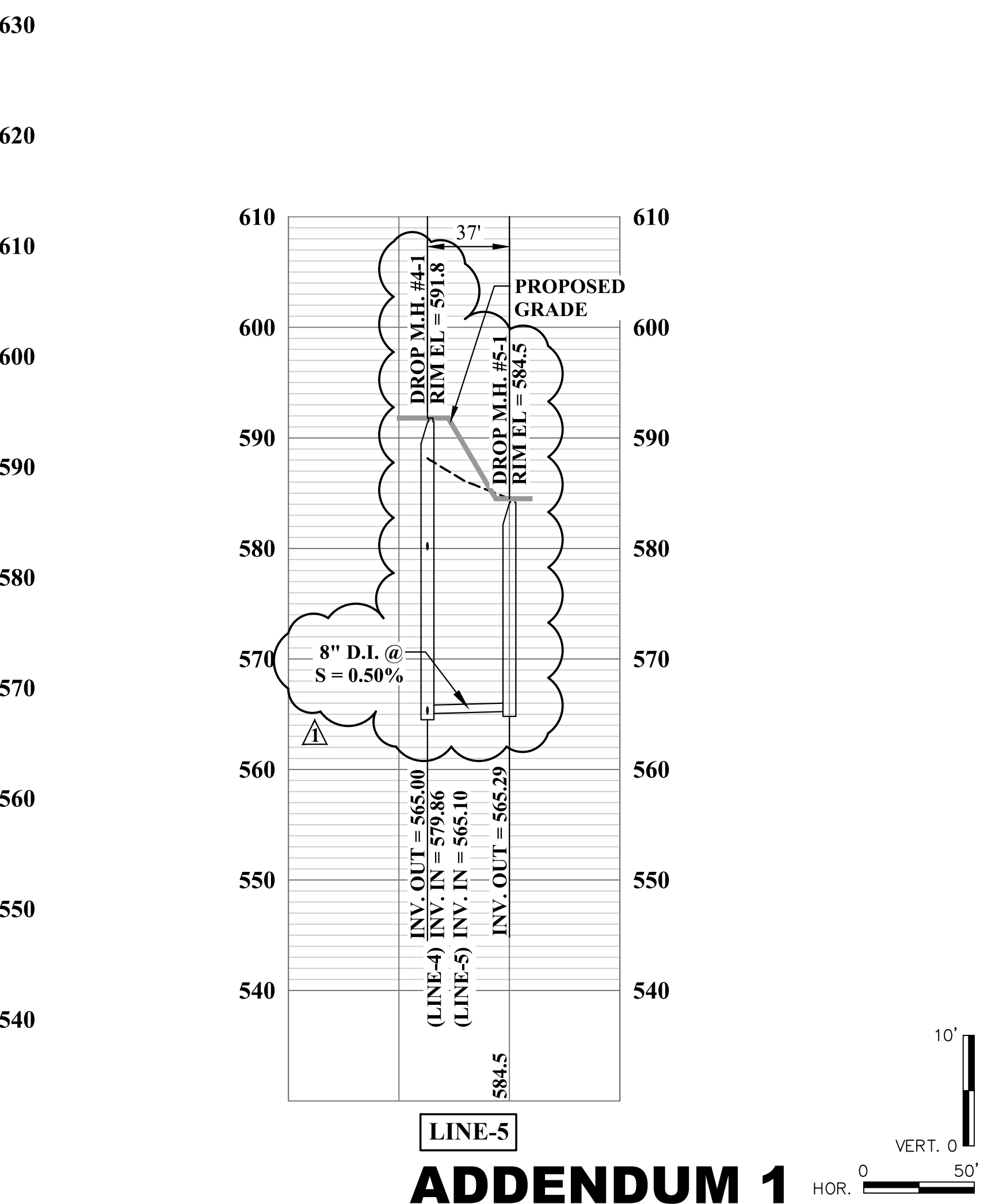
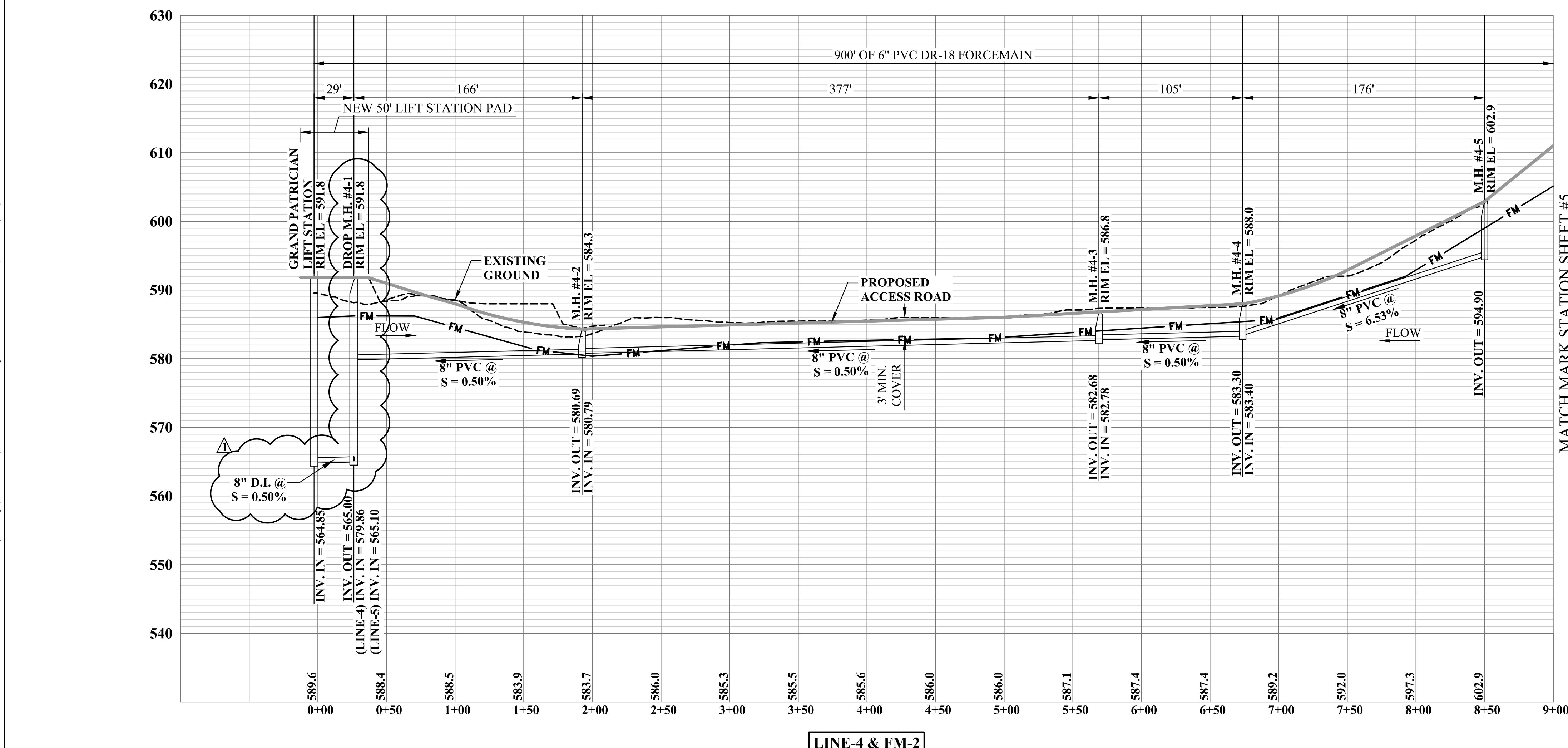
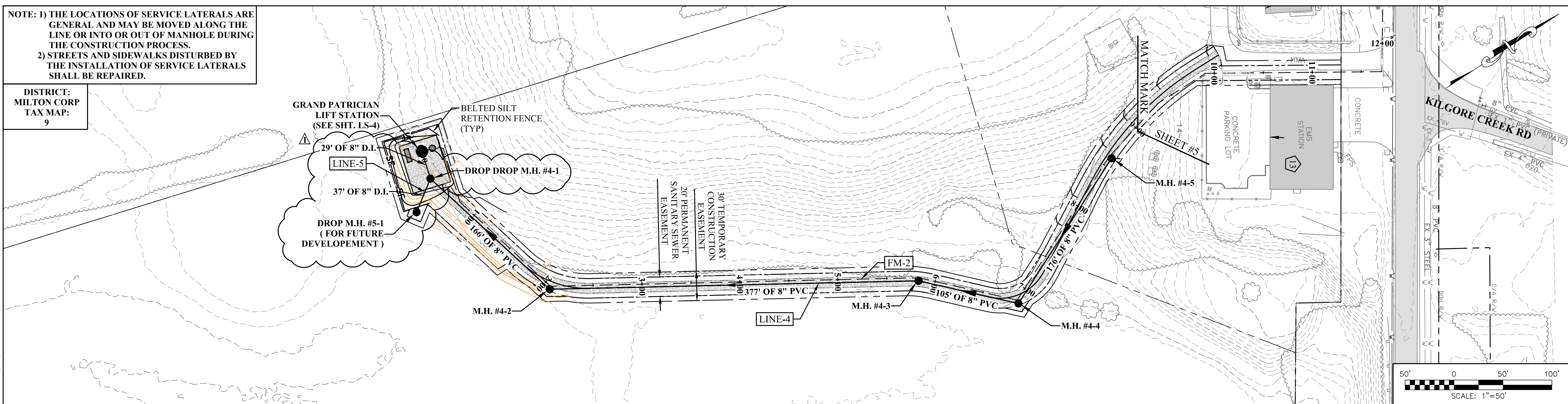
MILTON MUNICIPAL UTILITY COMMISSION  
 CABELL COUNTY, WEST VIRGINIA  
 MORRIS MEMORIAL  
 SANITARY SEWER EXTENSION  
 PLAN AND PROFILE

SHEET No.  
**3**



NOTE: 1) THE LOCATIONS OF SERVICE LATERALS ARE GENERAL AND MAY BE MOVED ALONG THE LINE OR INTO OR OUT OF MANHOLE DURING THE CONSTRUCTION PROCESS.  
 2) STREETS AND SIDEWALKS DISTURBED BY THE INSTALLATION OF SERVICE LATERALS SHALL BE REPAIRED.

DISTRICT:  
 MILTON CORP  
 TAX MAP:  
 9



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NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - UPSIZED MANHOLES - SWAPPED PIPE MATERIAL

SCALE: AS SHOWN  
 DRAWN: K. PHILLIPS DATE: APRIL 2021  
 CHECKED: J. CARPENTER DATE: APRIL 2021  
 APPROVED: C. SMITH DATE: APRIL 2021  
 SURVEY DATE:  
 SURVEY BY:  
 FIELD BOOK No.:

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 PLAN AND PROFILE

SHEET No.  
**6**

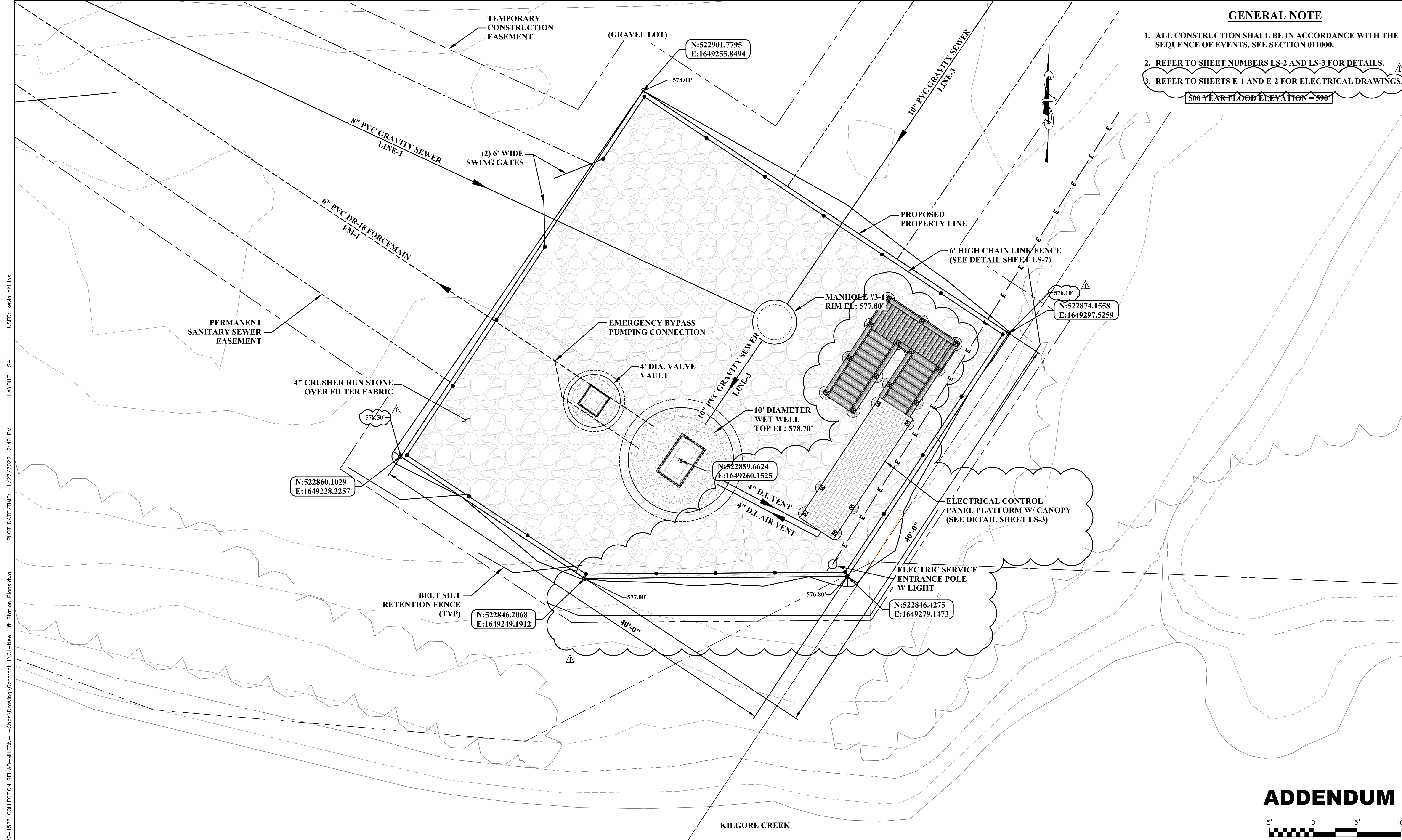
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**GENERAL NOTE**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SEQUENCE OF EVENTS. SEE SECTION 011000.
2. REFER TO SHEET NUMBERS LS-2 AND LS-3 FOR DETAILS.
3. REFER TO SHEETS E-1 AND E-2 FOR ELECTRICAL DRAWINGS.

500-YEAR FLOOD ELEVATION = 590'



**ADDENDUM 1**



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NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - ADJUSTED BOUNDARY AND PANEL LOCATION

SCALE: AS SHOWN	DATE: APRIL 2021
DRAWN: K. PHILLIPS	DATE: APRIL 2021
CHECKED: J. CARPENTER	DATE: APRIL 2021
APPROVED: C. SMITH	DATE: APRIL 2021
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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CONTRACT No.	1
PROJECT No.	020-1526

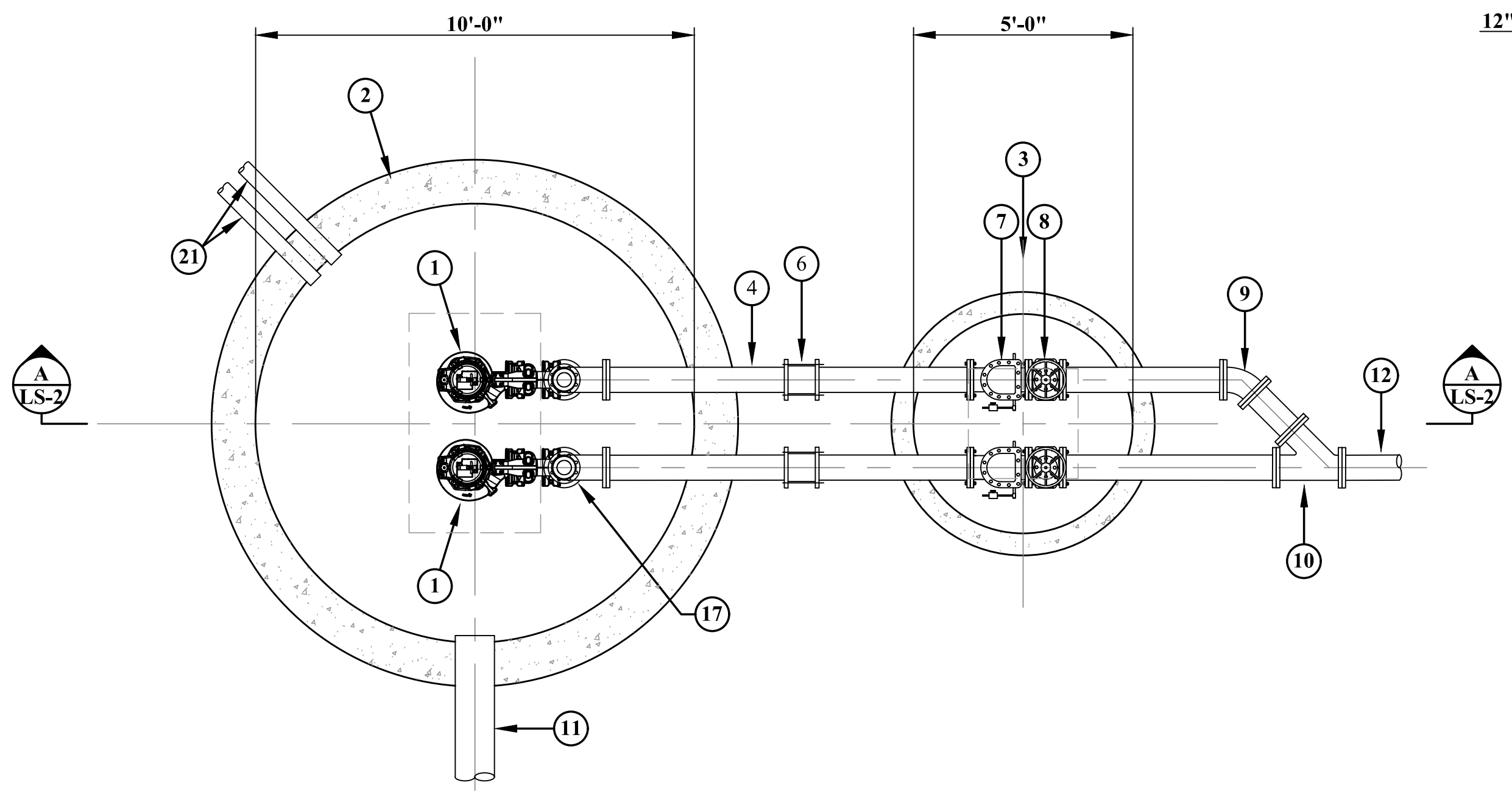
MILTON MUNICIPAL UTILITY COMMISSION  
CABELL COUNTY, WEST VIRGINIA  
MORRIS MEMORIAL  
SANITARY SEWER EXTENSION  
FLEA MARKET LIFT STATION SITE PLAN

SHEET No.  
**LS-1**

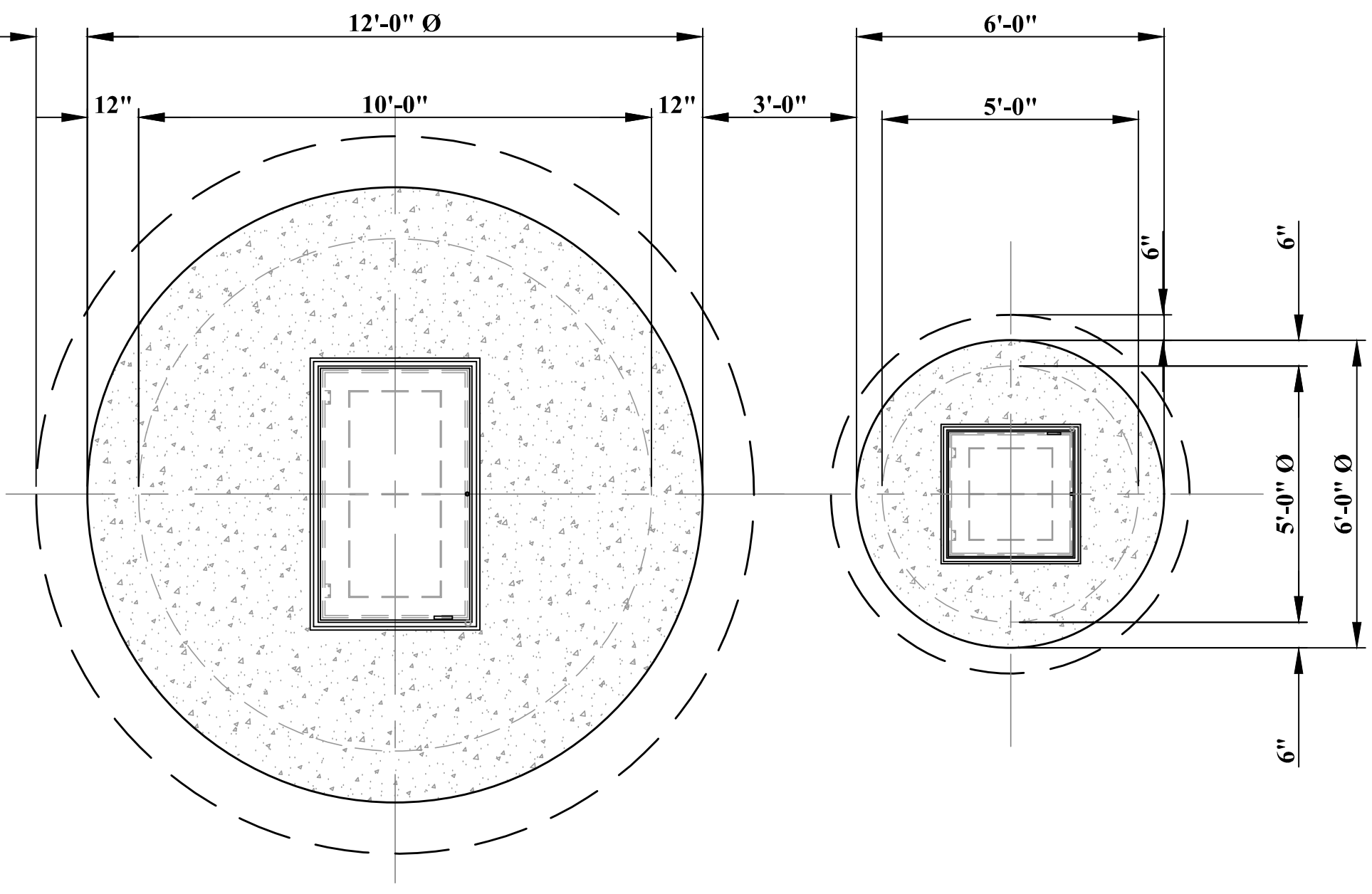
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USER: kevin phillips  
 LAYOUT: LS-2  
 PLOT DATE/TIME: 1/22/2022 4:05 PM  
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**FLEA MARKET LIFT STATION**  
**PLAN VIEW**  
 SCALE: 3/8" = 1'-0"

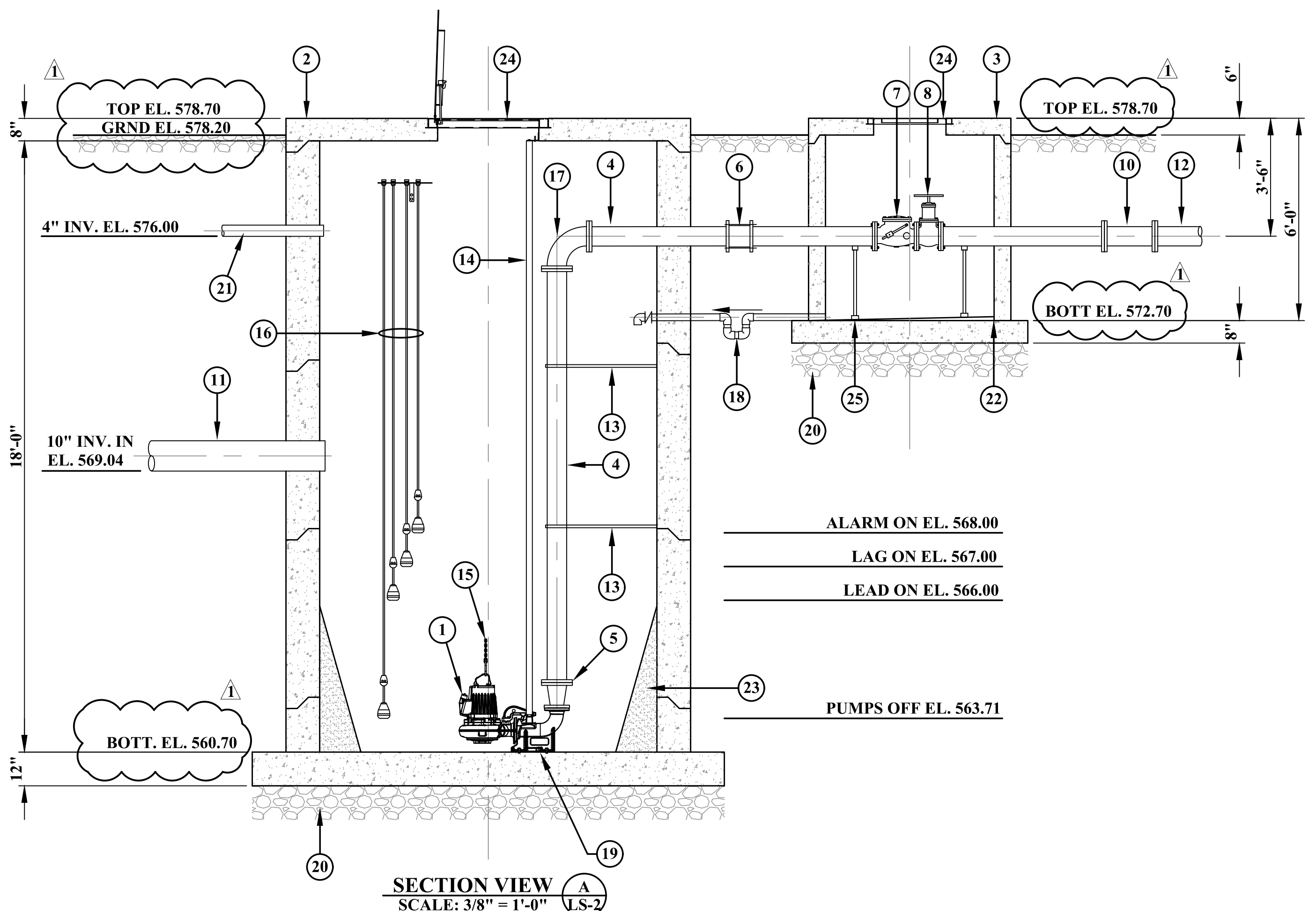


**FLEA MARKET LIFT STATION**  
**LAYOUT VIEW**  
 SCALE: 3/8" = 1'-0"

- KEY NOTES:**
- 1 TWO (2) RAW SEWAGE PUMPS. SEE SPECIFICATION 432540.02 FOR DETAILS.
  - 2 PROPOSED 10'-0" x 18'-0" DEEP WET WELL W/36"x60" ACCESS HATCH. SEE SPECIFICATION 083500 FOR HATCH DETAILS.
  - 3 PROPOSED 5'-0" DIA. x 6'-0" DEEP VALVE VAULT W/30" x 30" ACCESS HATCH. SEE SPECIFICATION 083500 FOR HATCH DETAILS.
  - 4 6" D.I. DISCHARGE PIPING.
  - 5 4" x 6" D.I. REDUCER. (TYP OF 2).
  - 6 6" MJ COUPLING W/UNIFLANGE RESTRAINTS. (TYP. OF 2)
  - 7 6" SWING TYPE CHECK VALVE. (TYP. OF 2)
  - 8 6" PLUG VALVE. (TYP OF 2)
  - 9 6" MJ D.I. 45° BEND.
  - 10 6" MJ D.I. WYE.
  - 11 10" PVC GRAVITY SEWER (LINE-3)
  - 12 6" PVC C-900 FORCE MAIN.
  - 13 INTERMEDIATE STAINLESS STEEL PIPE SUPPORT. (TYP)
  - 14 2" STAINLESS STEEL GUIDERAIL. (TYP)
  - 15 STAINLESS STEEL LIFTING CHAIN. (TYP)
  - 16 PUMP LEVEL SYSTEM.
  - 17 6" D.I. 90° BEND. (TYP. OF 2)
  - 18 2" PVC DRAIN W/TRAP AND BALL TYPE CHECK VALVE SLOPED @ 1%.
  - 19 ANCHOR BOLTS PER MANUFACTURERS RECOMMENDATIONS.
  - 20 12" COMPACTED #57 STONE BASE.
  - 21 4" D.I. VENT PIPE
  - 22 GROUT FILL SLOPE TO DRAIN.
  - 23 GROUT SLOPE, PER PUMP MANUFACTURER'S RECOMMENDATIONS.
  - 24 FLOOD PROOF HATCH.
  - 25 PIPE SUPPORTS.

**PAINTING NOTE:**

- 1 PAINT ALL EXPOSED PIPING, FITTINGS AND VALVES IN THE WET WELL AND VALVE VAULT PER SPECIFICATION SECTION 099010.



**SECTION VIEW**  
 SCALE: 3/8" = 1'-0"  
 A-LS-2

**ADDENDUM 1**

PUMP INFO					
MAKE	MODEL	HP	VOLT/PH	GPM	TDH
FLYGT	NP 3127HT	10	230/3	335	60'

LIFT STATION INFORMATION TABLE												
LIFT STATION	SITE PLAN SHEET No.	WET WELL SCHEDULE			VALVE VAULT SCHEDULE		DISCHARGE PIPING & ELEV.	INFLUENT GRAVITY SEWER		GRADE ELEV.	500 YEAR FLOOD ELEVATION	
		DIAMETER	TOP ELEV.	BOT ELEV.	DIMENSIONS	TOP ELEV.		BOT ELEV.	10"			--
FLEA MARKET	LS-1	10'-0"	578.70'	560.70' $\Delta$	5'-0" DIA.	578.70'	572.70' $\Delta$	574.00'	569.04'	--	578.20'	590.00'

NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - UPDATED ELEVATIONS & WET WELL DEPTH

SCALE: AS SHOWN  
 DRAWN: K. PHILLIPS DATE: APRIL 2021  
 CHECKED: J. CARPENTER DATE: APRIL 2021  
 APPROVED: C. SMITH DATE: APRIL 2021  
 SURVEY DATE:  
 SURVEY BY:  
 FIELD BOOK No.:

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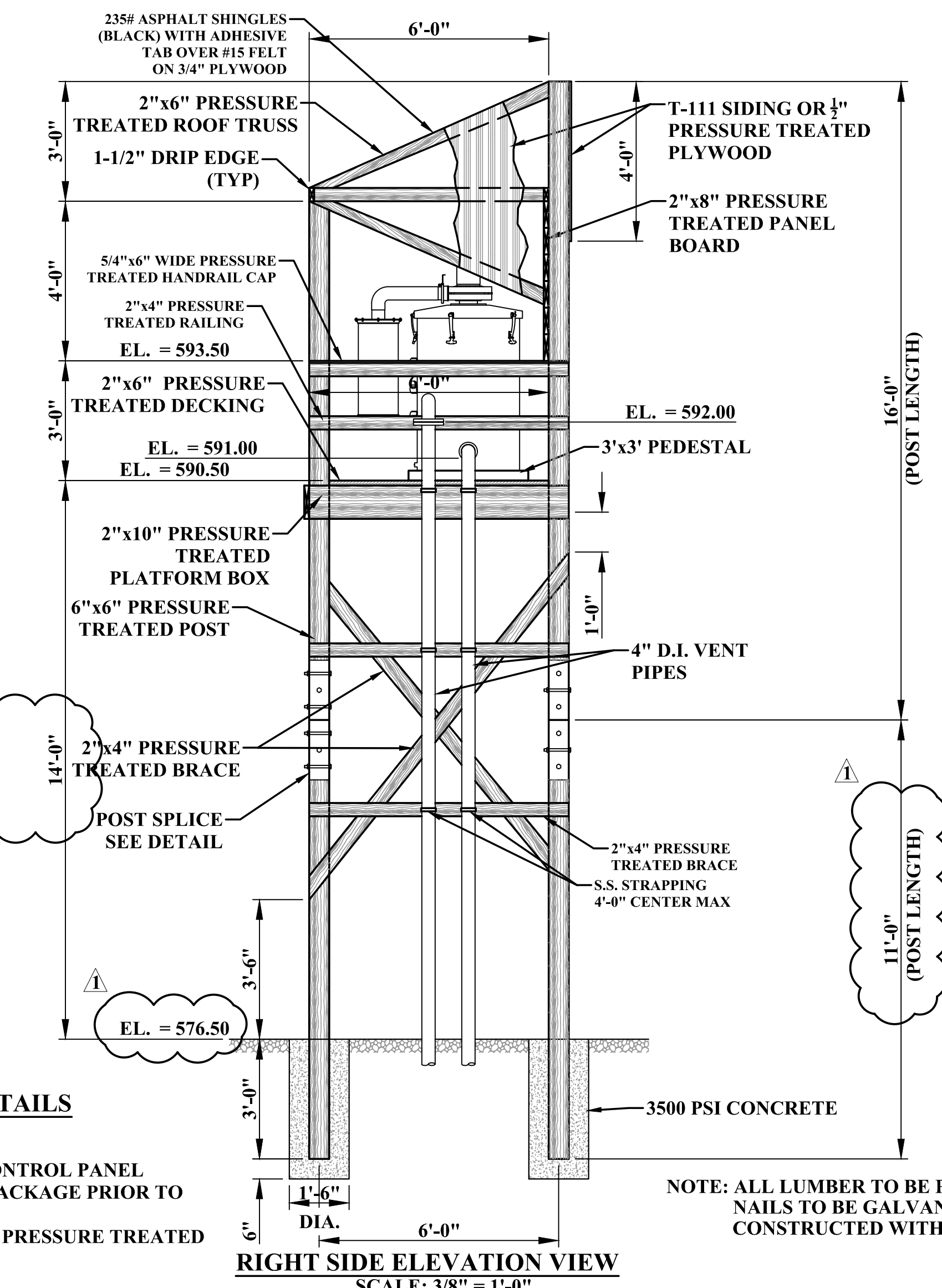
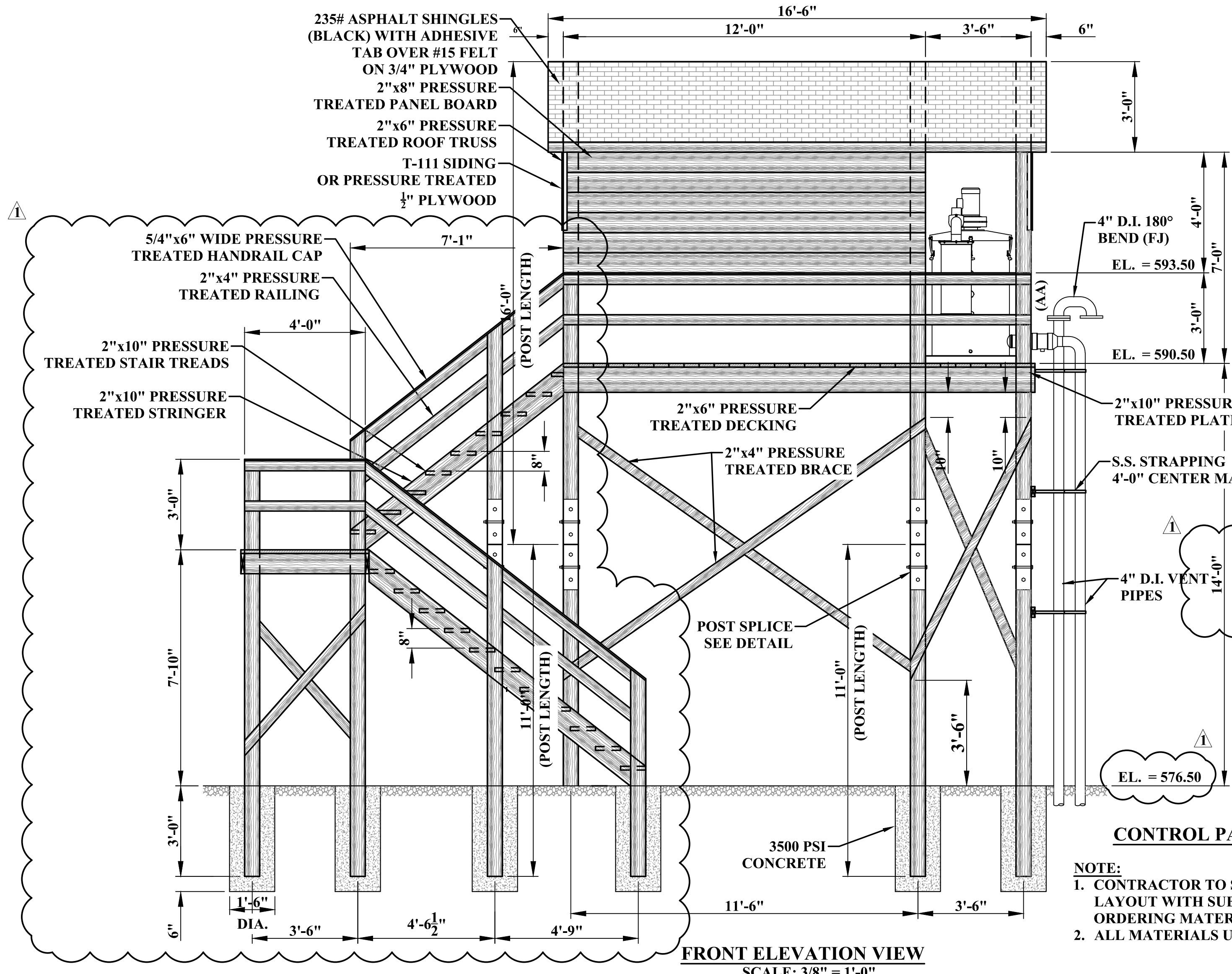
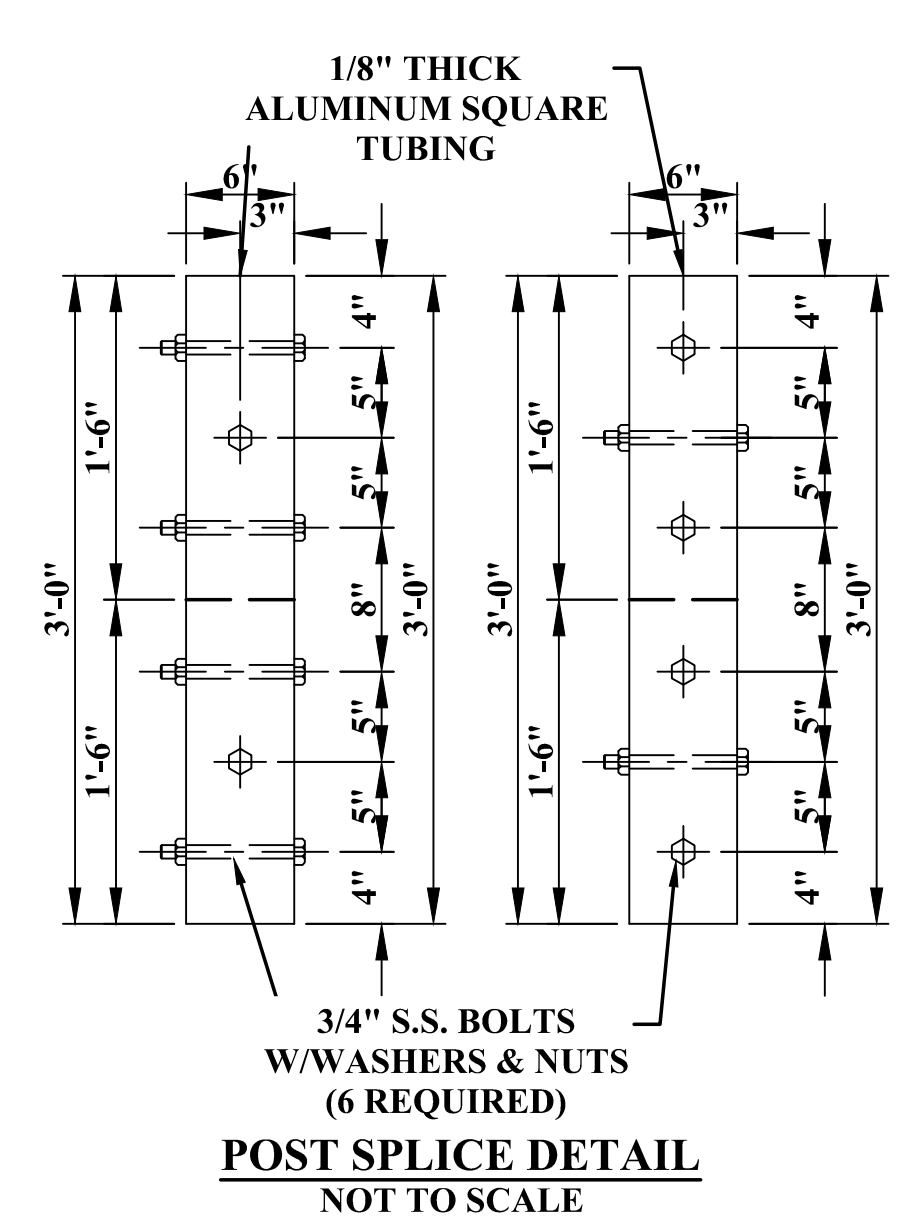
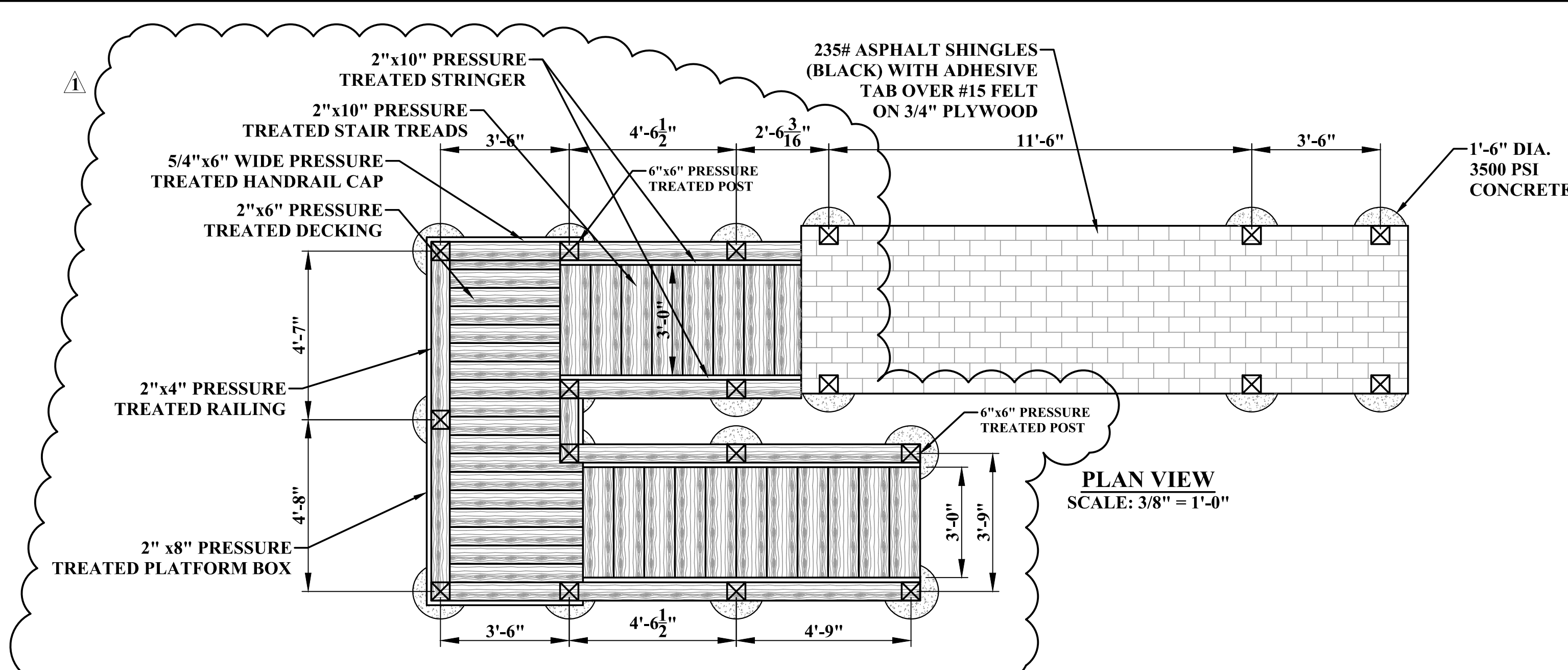
PHASE No.  
 CONTRACT No.  
 PROJECT No.  
**020-1526**

MILTON MUNICIPAL UTILITY COMMISSION  
 CABELL COUNTY, WEST VIRGINIA  
 MORRIS MEMORIAL  
 SANITARY SEWER EXTENSION  
 FLEA MARKET LS PLAN & SECTION

SHEET No.  
**LS-2**



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 PLOT DATE/TIME: 1/28/2022 8:37 AM  
 LAYOUT: LS-3  
 USER: kevin phillips



**NOTE:**  
 1. CONTRACTOR TO SUBMIT CONTROL PANEL LAYOUT WITH SUBMITTAL PACKAGE PRIOR TO ORDERING MATERIALS.  
 2. ALL MATERIALS USED TO BE PRESSURE TREATED

**NOTE:** ALL LUMBER TO BE PRESSURE TREATED ALL NAILS TO BE GALVANIZED AND PLATFORMS TO BE CONSTRUCTED WITH 1/2" Ø S.S. CARRIAGE BOLTS

**ADDENDUM 1**

NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - UPDATED PAD ELEVATION & STAIR & POST LENGTHS

NO.	BY	DATE	DESCRIPTION

SCALE: AS SHOWN	DATE: APRIL 2021
DRAWN: K. PHILLIPS	DATE: APRIL 2021
CHECKED: J. CARPENTER	DATE: APRIL 2021
APPROVED: C. SMITH	DATE: APRIL 2021
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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 FAX (304)-343-7604

PHASE No.	
CONTRACT No.	
PROJECT No.	020-1526

MILTON MUNICIPAL UTILITY COMMISSION  
 CABELL COUNTY, WEST VIRGINIA  
 MORRIS MEMORIAL  
 SANITARY SEWER EXTENSION  
 FLEA MARKET LS CONTROL PANEL

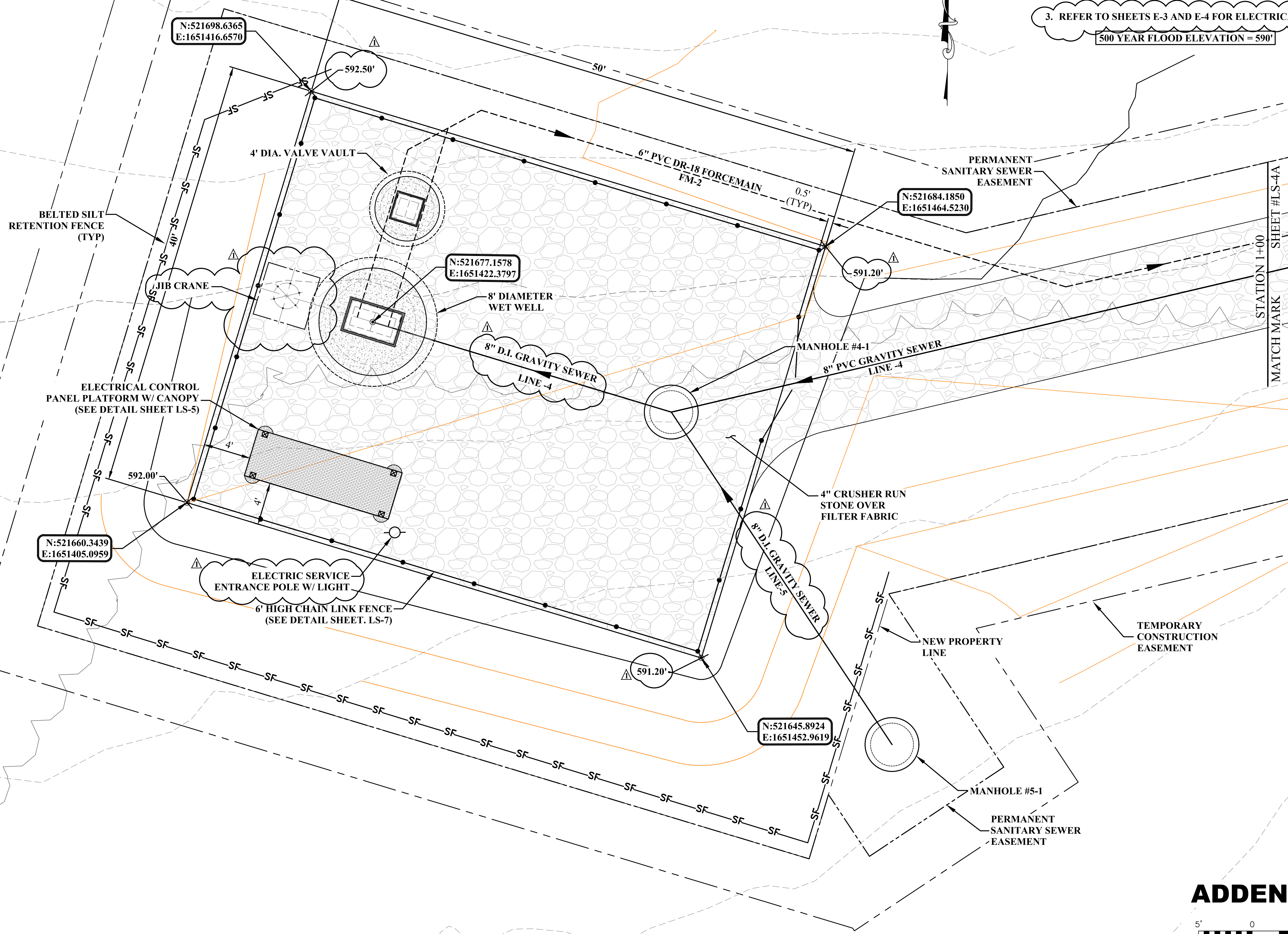
SHEET No.	LS-3
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**GENERAL NOTE**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SEQUENCE OF EVENTS. SEE SECTION 011000.
2. REFER TO SHEET NUMBERS LS-5 AND LS-6 FOR DETAILS.
3. REFER TO SHEETS E-3 AND E-4 FOR ELECTRICAL DETAILS.

500 YEAR FLOOD ELEVATION = 590'



**ADDENDUM 1**



CAD FILE: R:\020\020-1526 COLLECTION REHAB-MILTON- -Chas\Drawings\Contract 1\CI-New Lift Station Plans.dwg  
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 LAYOUT: LS-4  
 USER: kevin phillips

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NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - UPDATED PAD ELEVATION - ADDED JIB CRANE

SCALE: AS SHOWN  
 DRAWN: K. PHILLIPS DATE: APRIL 2021  
 CHECKED: J. CARPENTER DATE: APRIL 2021  
 APPROVED: C. SMITH DATE: APRIL 2021  
 SURVEY DATE:  
 SURVEY BY:  
 FIELD BOOK No.:

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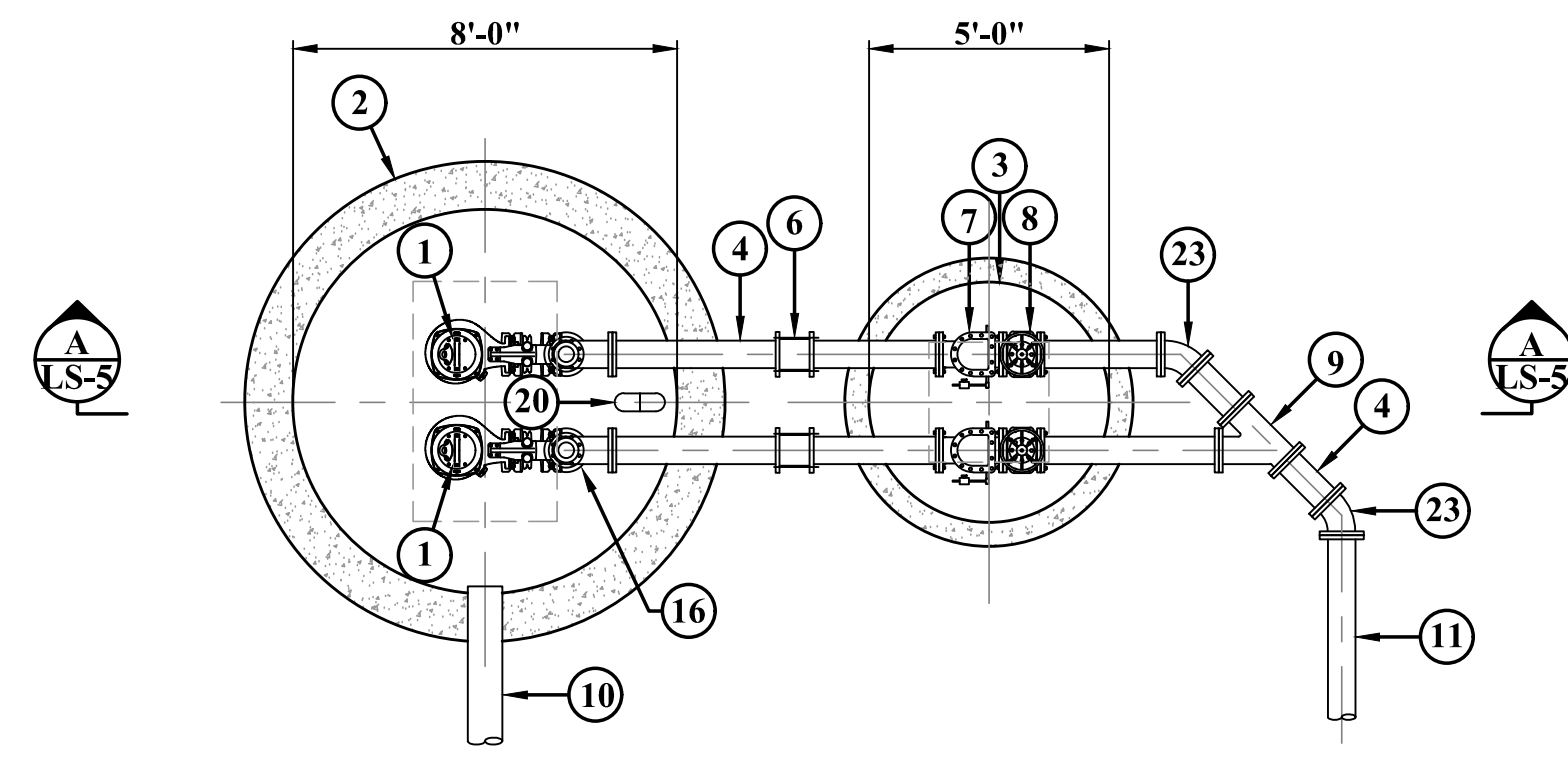
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CONTRACT No.	1
PROJECT No.	020-1526

MILTON MUNICIPAL UTILITY COMMISSION  
 CABELL COUNTY, WEST VIRGINIA  
 MORRIS MEMORIAL  
 SANITARY SEWER EXTENSION  
 GRAND PATRICIAN LIFT STATION SITE PLAN

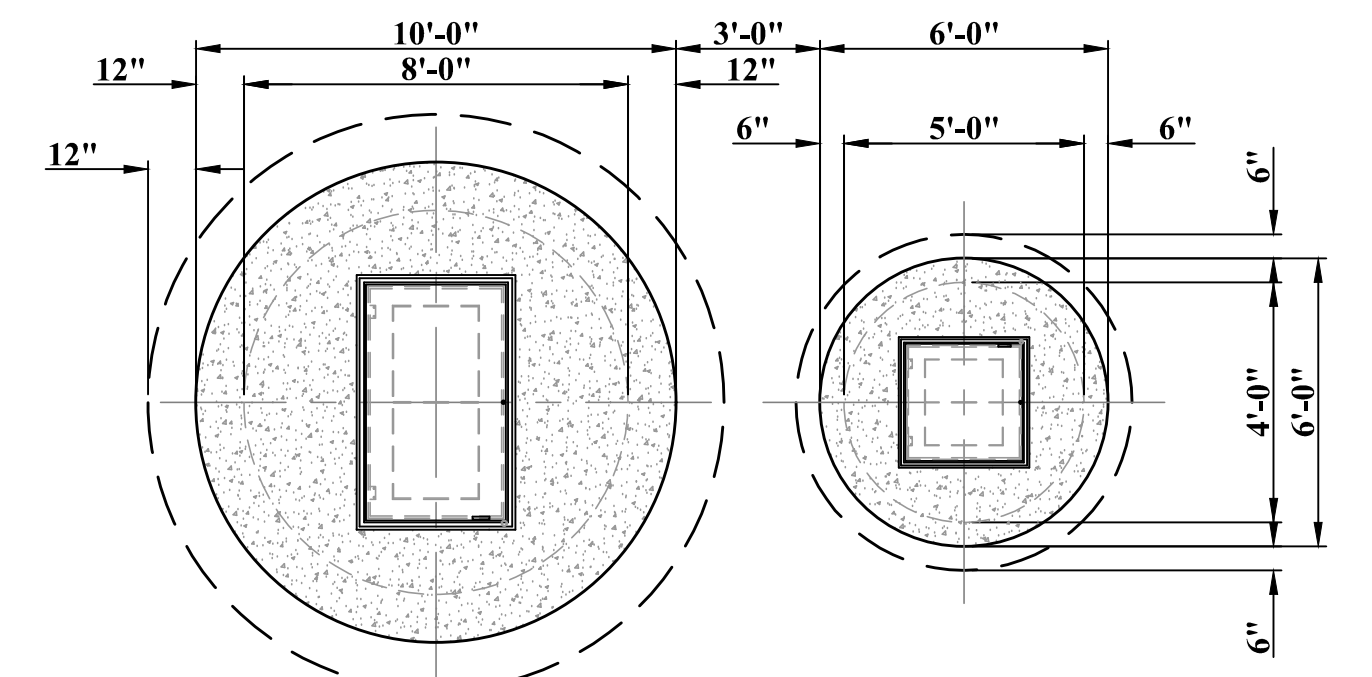
SHEET No.  
**LS-4**



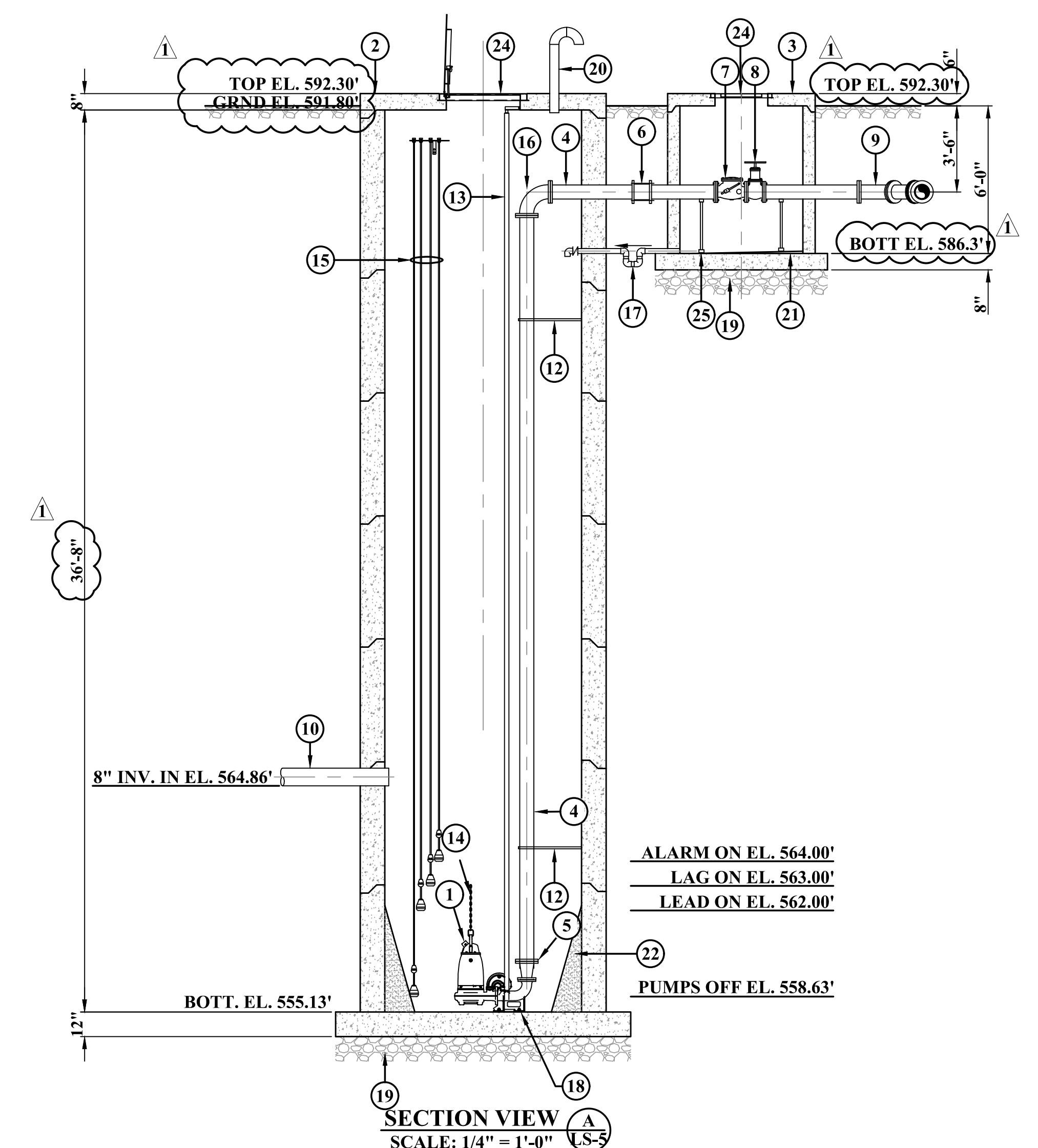
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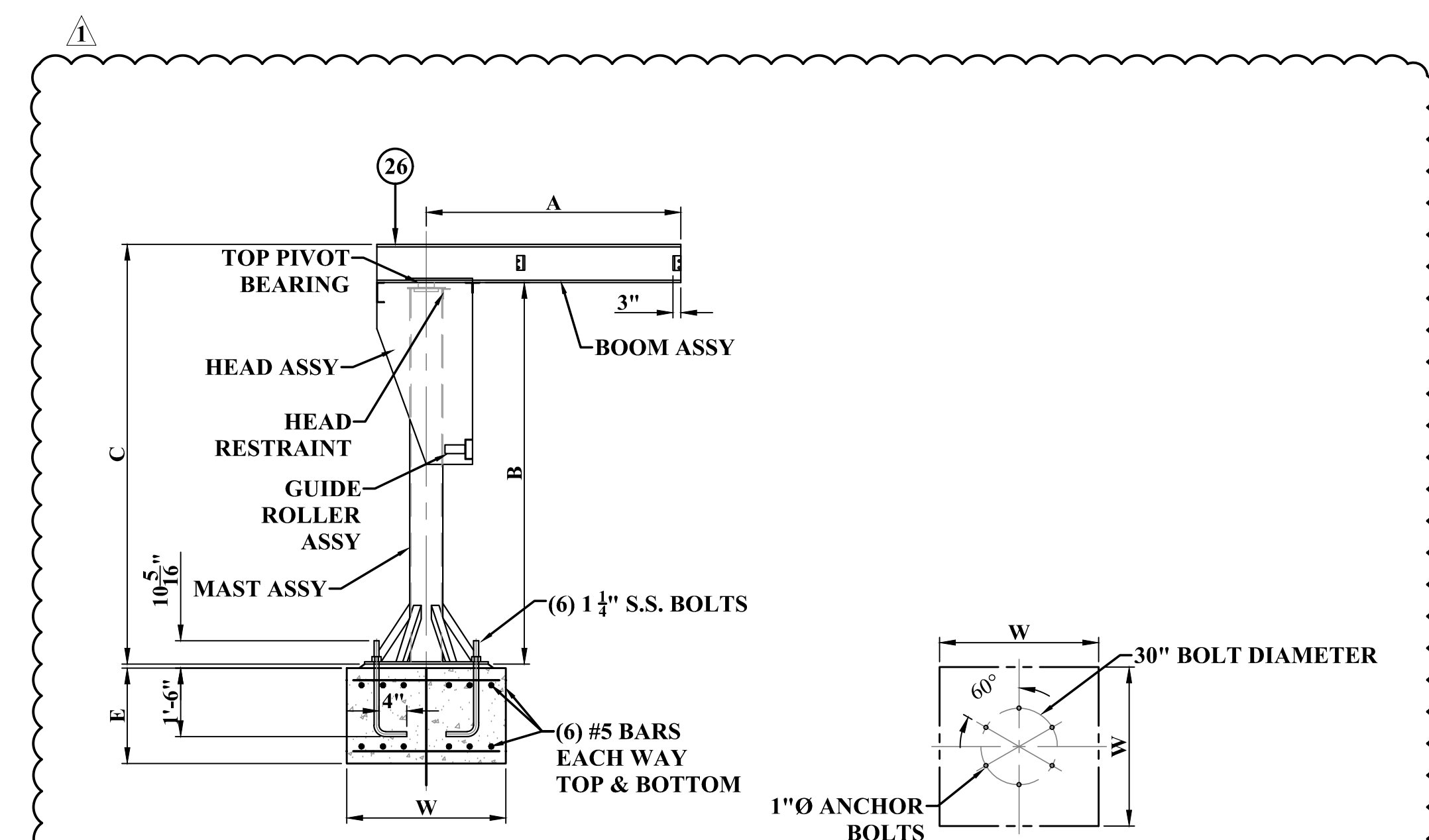
**GRAND PATRICIAN LIFT  
STATION PLAN VIEW**  
SCALE: 1/4" = 1'-0"



**GRAND PATRICIAN LIFT  
STATION LAYOUT VIEW**  
SCALE: 1/4" = 1'-0"



**SECTION VIEW**  
SCALE: 1/4" = 1'-0"



**JIB CRANE  
DETAILS**

**JIB CRANE FOUNDATION  
DETAILS**

CAPACITY (TONS)	SPAN (A)	BOOM HEIGHT (B)	OVERALL HEIGHT (C)	FOOTING DEPTH (E)	FOOTING WIDTH (W)
2 TONS	10'-0"	12'-0"	14'-0"	3'-0"	5'-0"

- KEY NOTES:**
- TWO (2) RAW SEWAGE PUMPS. SEE SPECIFICATION 432540.01 FOR DETAILS.
  - PROPOSED 8'-0" DIA. (36'-8") DEEP WET WELL W/36"x60" ACCESS HATCH. SEE SPECIFICATION 083500 FOR HATCH DETAILS.
  - PROPOSED 5'-0" DIA. x 6'-0" DEEP VALVE VAULT W/30" x 30" ACCESS HATCH. SEE SPECIFICATION 083500 FOR HATCH DETAILS.
  - 6" D.I. DISCHARGE PIPING.
  - 4" x 6" D.I. REDUCER. (TYP OF 2).
  - 6" MJ COUPLING W/UNIFLANGE RESTRAINTS. (TYP. OF 2)
  - 6" SWING TYPE CHECK VALVE. (TYP. OF 2)
  - 6" PLUG VALVE. (TYP OF 2)
  - 6" W.Y.E. TEE.
  - 8" PVC GRAVITY SEWER (LINE-4)
  - 6" PVC C-900 FORCE MAIN.
  - INTERMEDIATE STAINLESS STEEL PIPE SUPPORT. (TYP)
  - 2" STAINLESS STEEL GUIDERAIL. (TYP)
  - STAINLESS STEEL LIFTING CHAIN. (TYP)
  - PUMP LEVEL SYSTEM.
  - 6" D.I. 90° BEND. (TYP. OF 2)
  - 2" PVC DRAIN W/TRAP AND BALL TYPE CHECK VALVE SLOPED @ 1%.
  - ANCHOR BOLTS PER MANUFACTURERS RECOMMENDATIONS.
  - 12" COMPACTED #57 STONE BASE.
  - 4" SCH 80 COATED STEEL VENT W/STAINLESS STEEL BIRD SCREEN
  - GROUT FILL SLOPE TO DRAIN.
  - GROUT SLOPE, PER MANUFACTURERS RECOMMENDATIONS.
  - 6" D.I. 45° ELBOW
  - FLOOD PROOF HATCH.
  - PIPE SUPPORTS
  - JIB CRANE

**PAINTING NOTE:**  
1 PAINT ALL EXPOSED PIPING, FITTINGS AND VALVES IN THE WET WELL AND VALVE VAULT PER SPECIFICATION SECTION 099010.

**ADDENDUM 1**

**PUMP INFO**

MAKE	MODEL	HP	VOLT/PH	GPM	TDH
FLYGT	NP 3153HT	12	230/3	315	84'

**LIFT STATION INFORMATION TABLE**

LIFT STATION	SITE PLAN SHEET No.	WET WELL SCHEDULE			VALVE VAULT SCHEDULE			DISCHARGE PIPING & ELEV.	INFLUENT GRAVITY SEWER		GRADE ELEV.	500 YEAR FLOOD ELEVATION
		DIAMETER	TOP ELEV.	BOT ELEV.	DIMENSIONS	TOP ELEV.	BOT ELEV.		8"	--		
GRAND PATRICIAN	LS-4	8'-0"	592.30'	555.13'	5'-0" DIA.	592.30'	586.30'	587.50'	564.86'	--	591.80'	590.00'

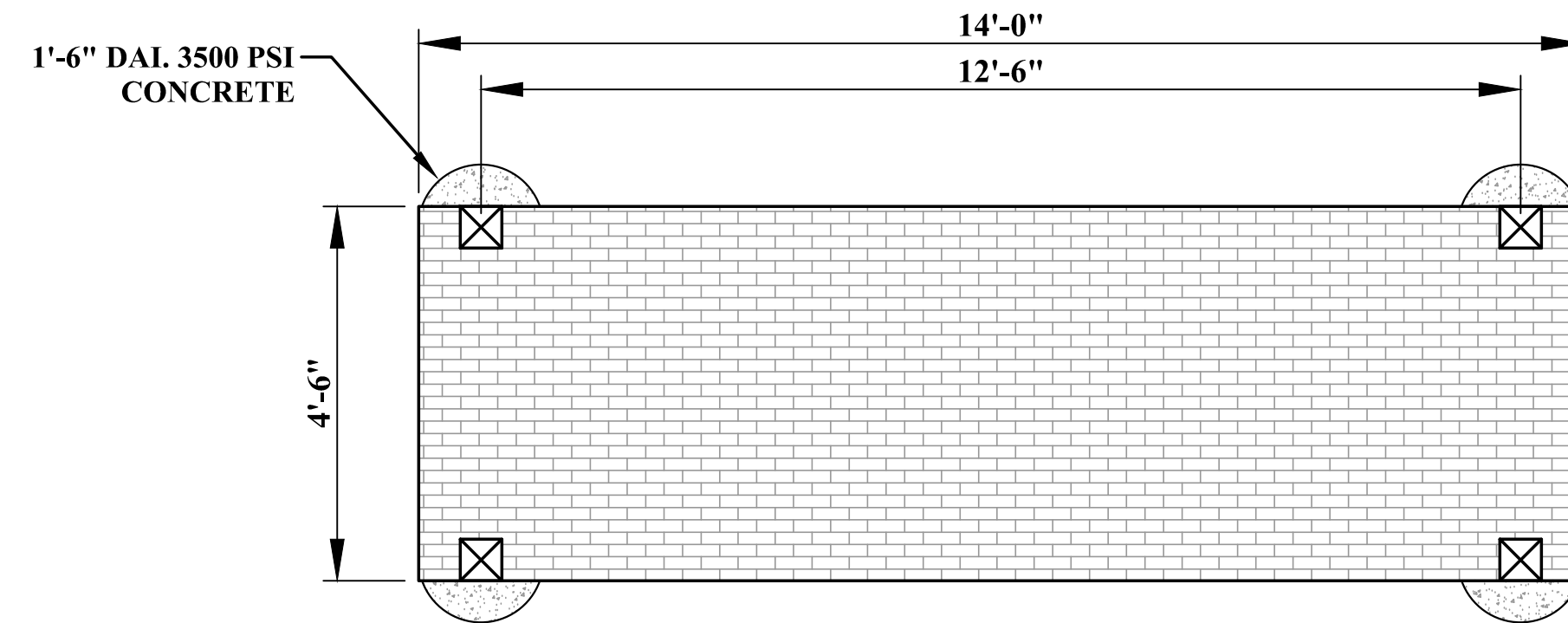
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SCALE: AS SHOWN  
 DRAWN: K. PHILLIPS DATE: APRIL 2021  
 CHECKED: J. CARPENTER DATE: APRIL 2021  
 APPROVED: C. SMITH DATE: APRIL 2021  
 SURVEY DATE:  
 SURVEY BY:  
 FIELD BOOK No.:

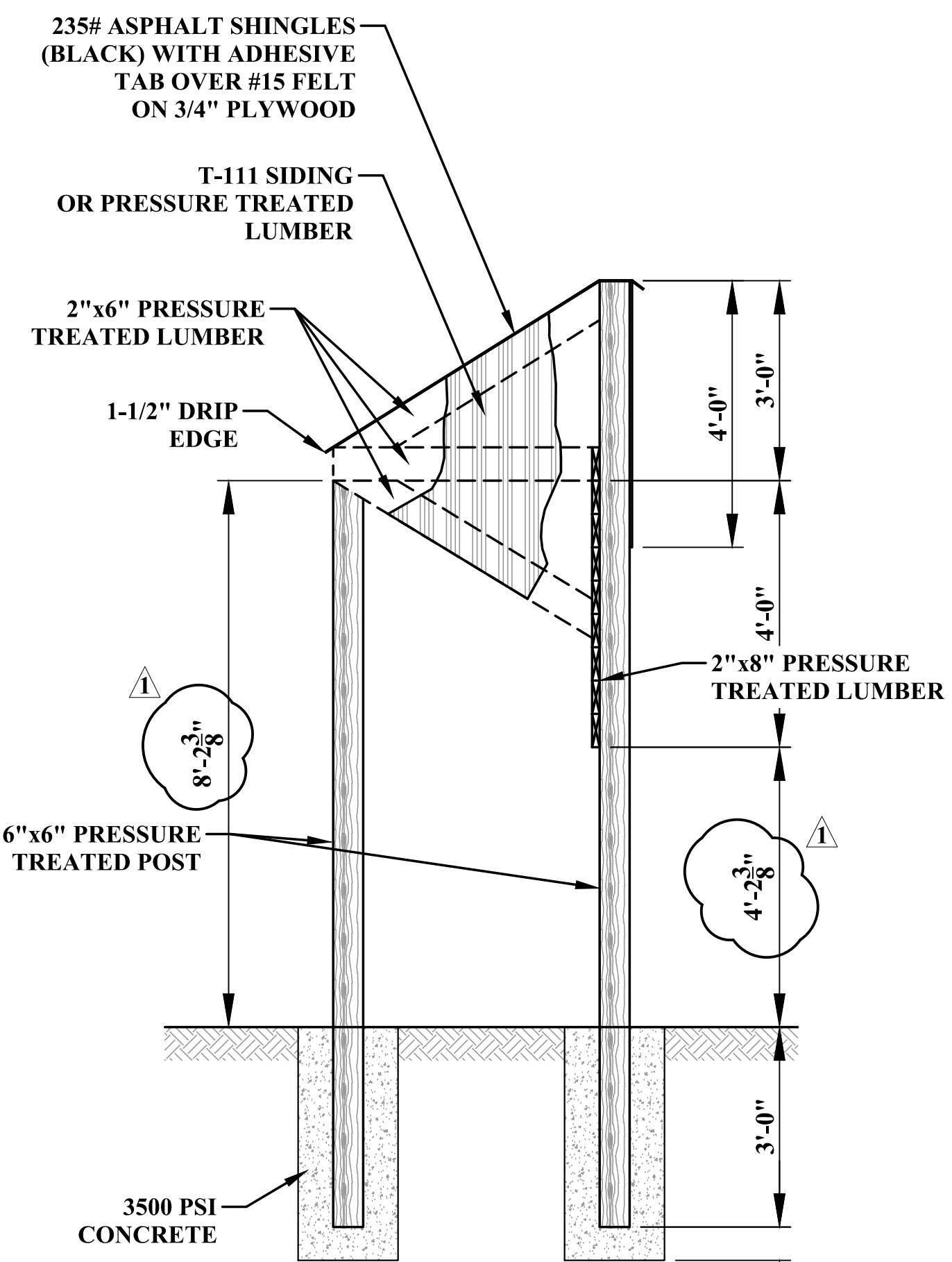
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PHASE No. 1  
 CONTRACT No. 1  
 PROJECT No. 020-1526  
 MILTON MUNICIPAL UTILITY COMMISSION  
 CABELL COUNTY, WEST VIRGINIA  
 MORRIS MEMORIAL  
 SANITARY SEWER EXTENSION  
 GRAND PATRICIAN LS PLAN & SECTION  
 SHEET No. **LS-5**

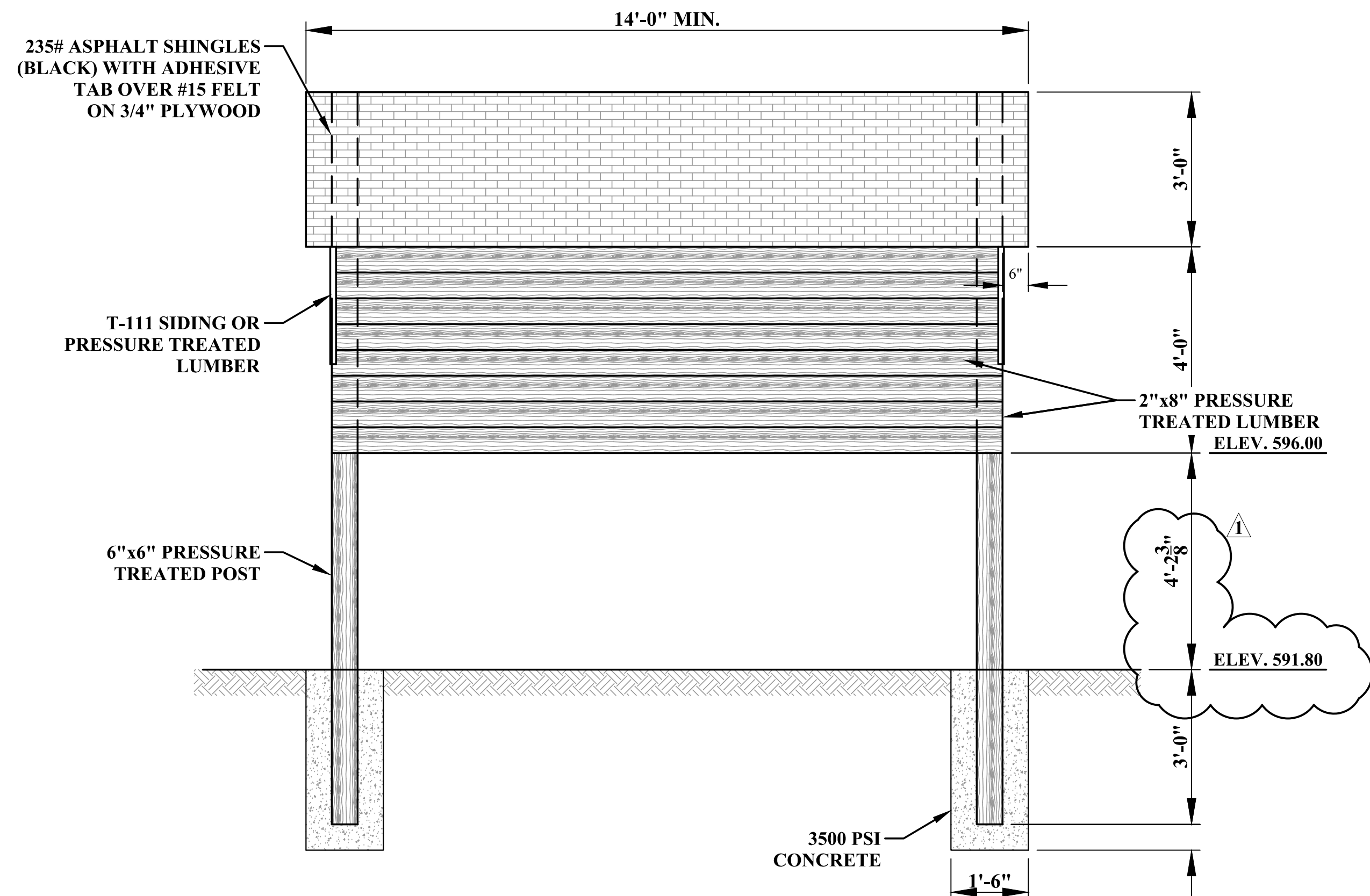
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**TOP VIEW**  
SCALE: 1/2" = 1'-0"



**SIDE VIEW**  
SCALE: 1/2" = 1'-0"



**FRONT VIEW**  
SCALE: 1/2" = 1'-0"

**CONTROL PANEL DETAILS**

- NOTE:**
- CONTRACTOR TO SUBMIT CONTROL PANEL LAYOUT WITH SUBMITTAL PACKAGE PRIOR TO ORDERING MATERIALS.
  - ALL MATERIALS USED TO BE PRESSURE TREATED

**ADDENDUM 1**

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1	KMP	1/2022	ADDENDUM 1 - UPDATED PAD ELEVATION - UPDATED DIMENSIONS
NO.	BY	DATE	DESCRIPTION

SCALE: AS SHOWN	DATE: APRIL 2021
DRAWN: K. PHILLIPS	DATE: APRIL 2021
CHECKED: J. CARPENTER	DATE: APRIL 2021
APPROVED: C. SMITH	DATE: APRIL 2021
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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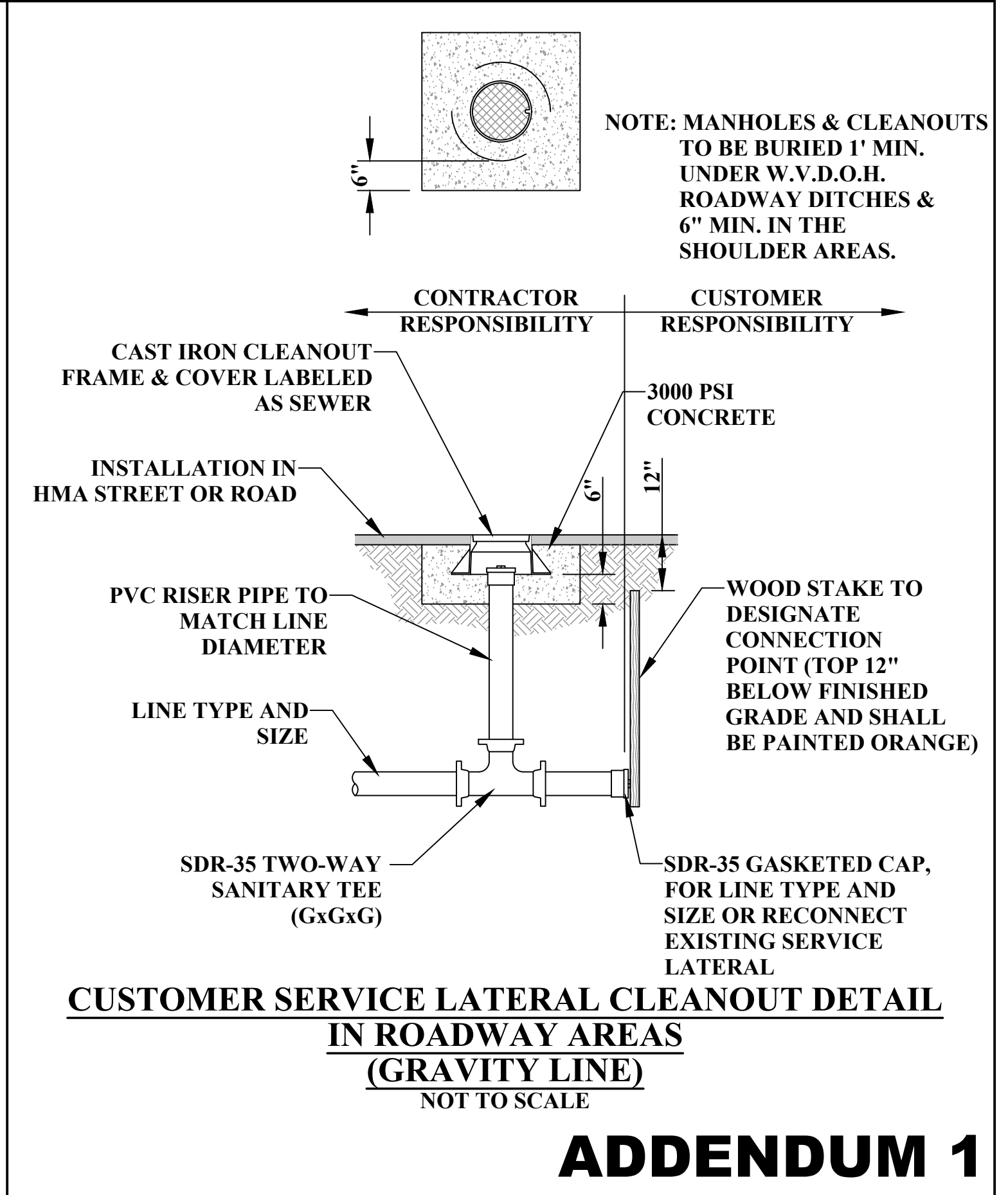
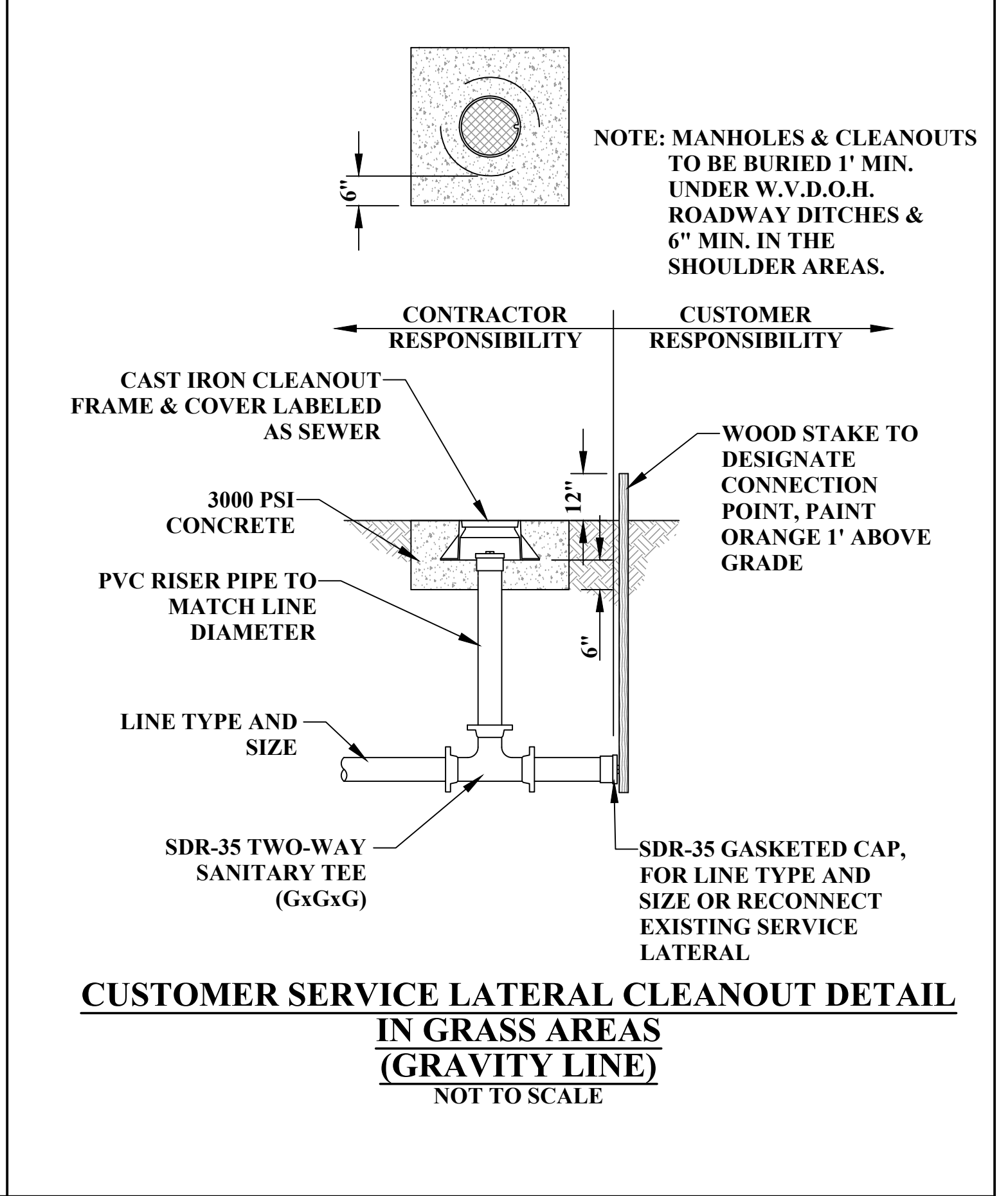
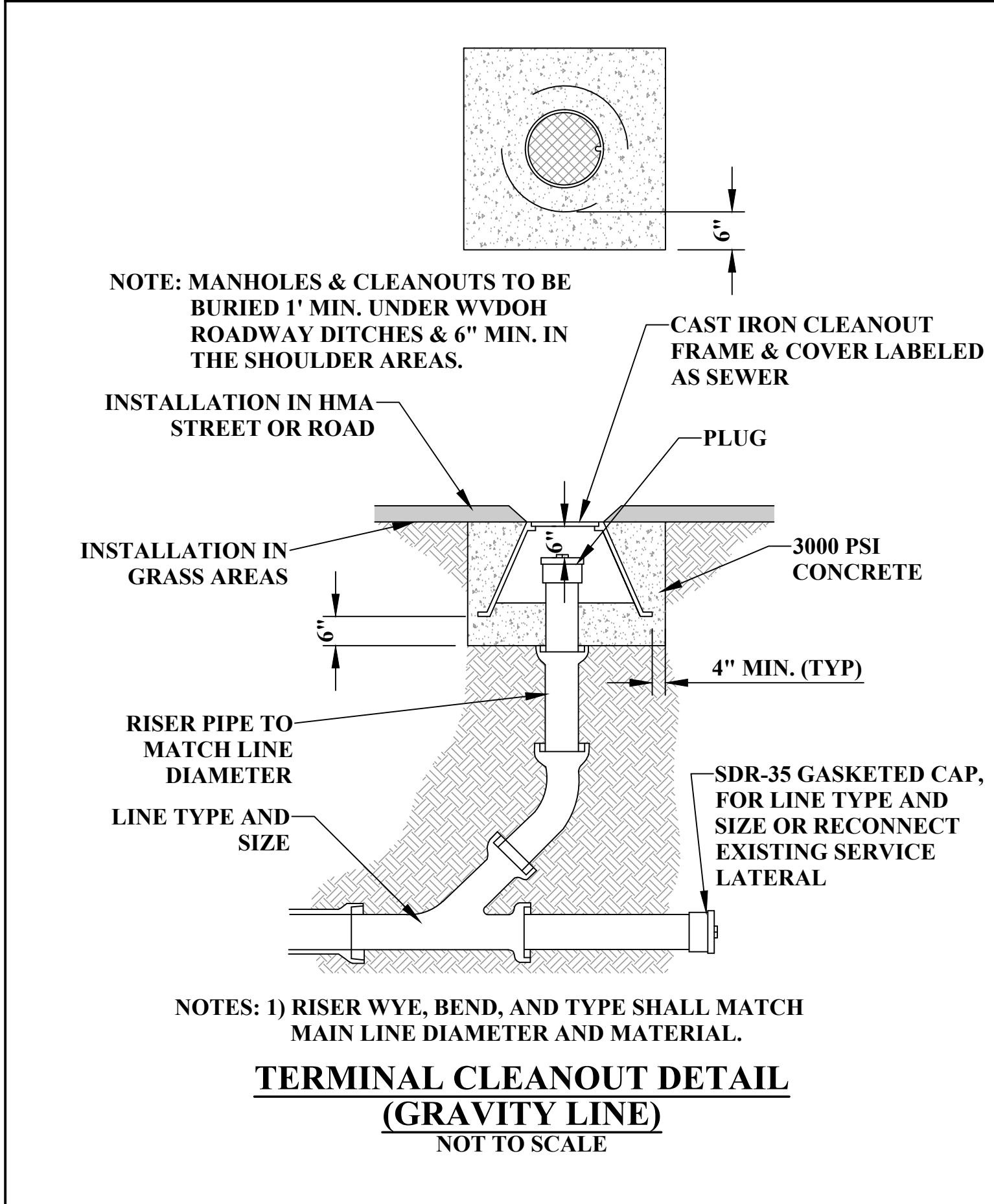
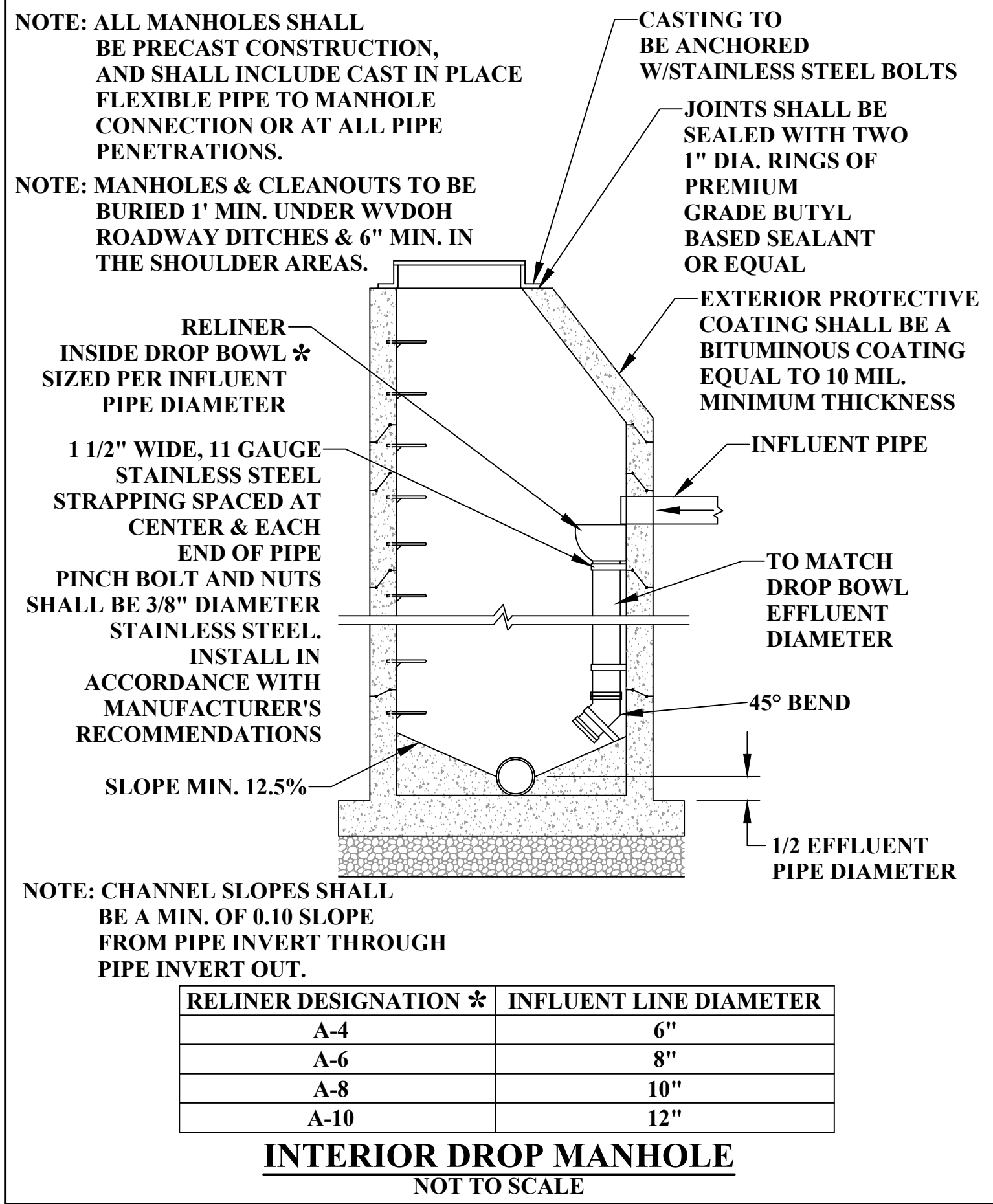
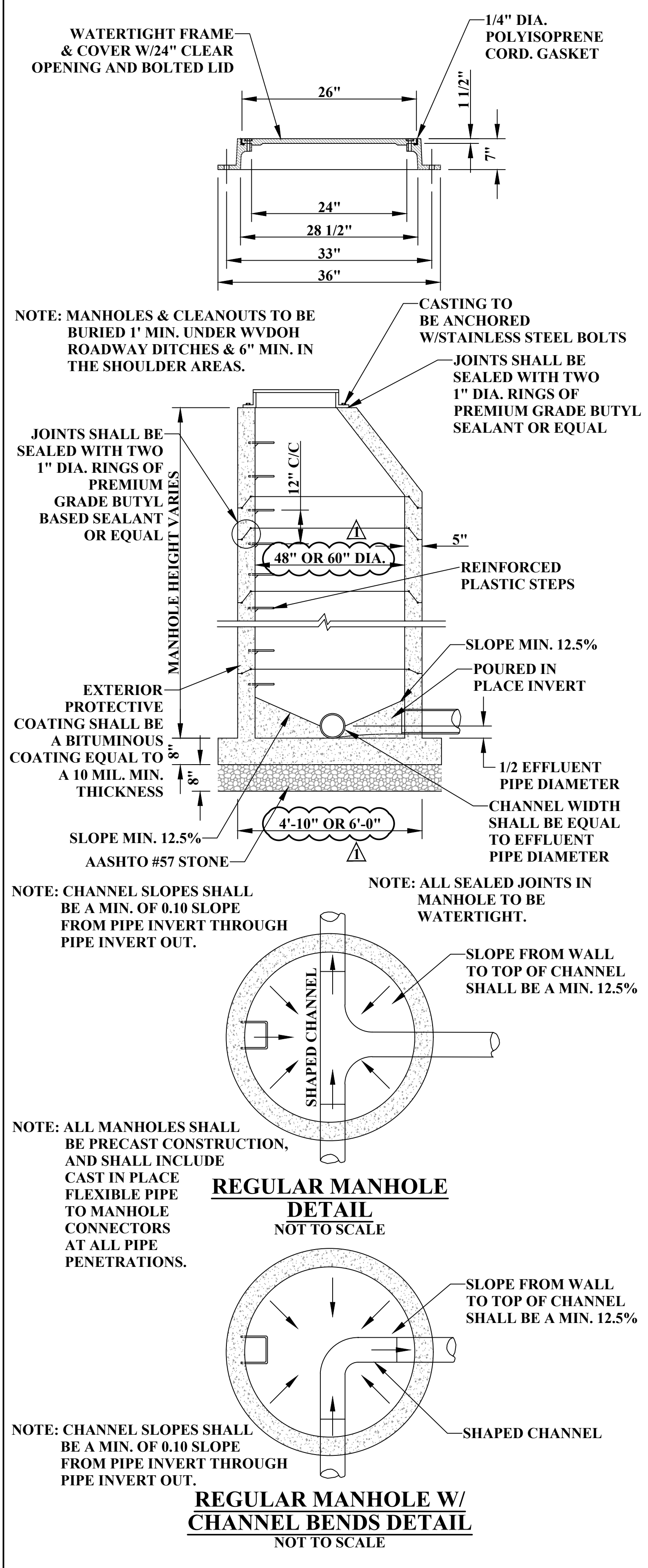
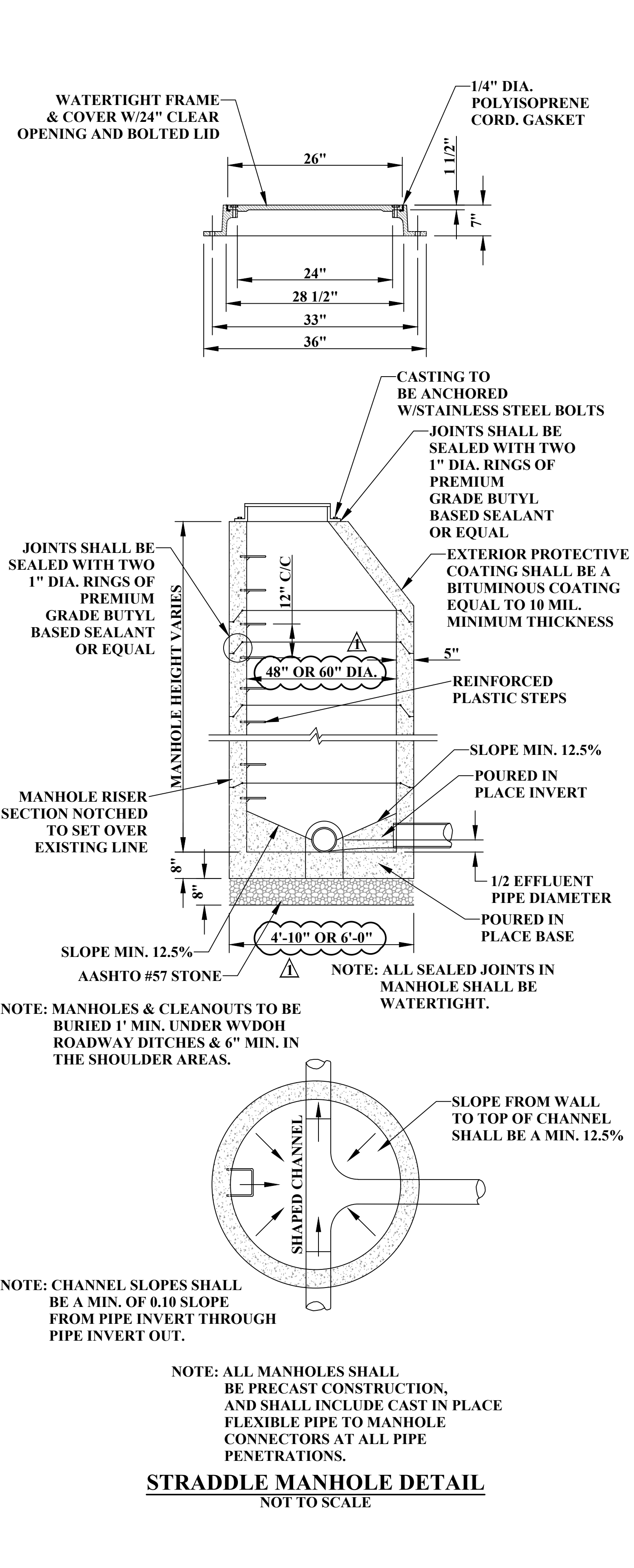
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CONTRACT No.	1
PROJECT No.	020-1526

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 MORRIS MEMORIAL  
 SANITARY SEWER EXTENSION  
 GRAND PATRICIAN LS CONTROL PANEL

SHEET No.	<b>LS-6</b>
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USER: kevin.phillips  
 LAYOUT: DET-1  
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**ADDENDUM 1**

NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - REVISED DETAIL MANHOLE DIAMETER DIMENSIONS

SCALE: AS SHOWN	DATE: APRIL 2021
DRAWN: K. PHILLIPS	DATE: APRIL 2021
CHECKED: J. CARPENTER	DATE: APRIL 2021
APPROVED: C. SMITH	DATE: APRIL 2021
SURVEY DATE:	
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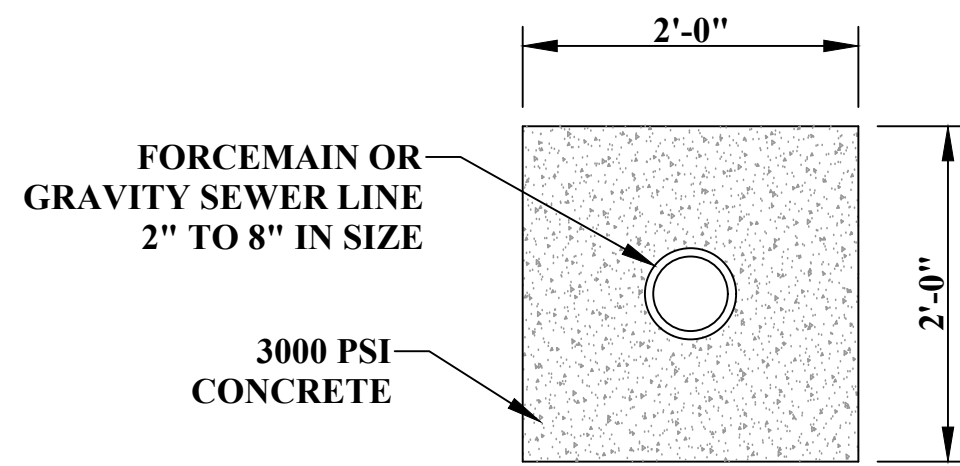
MILTON MUNICIPAL UTILITY COMMISSION  
 CABELL COUNTY, WEST VIRGINIA  
 MORRIS MEMORIAL  
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 STANDARD DETAILS

SHEET No.  
**DET-1**

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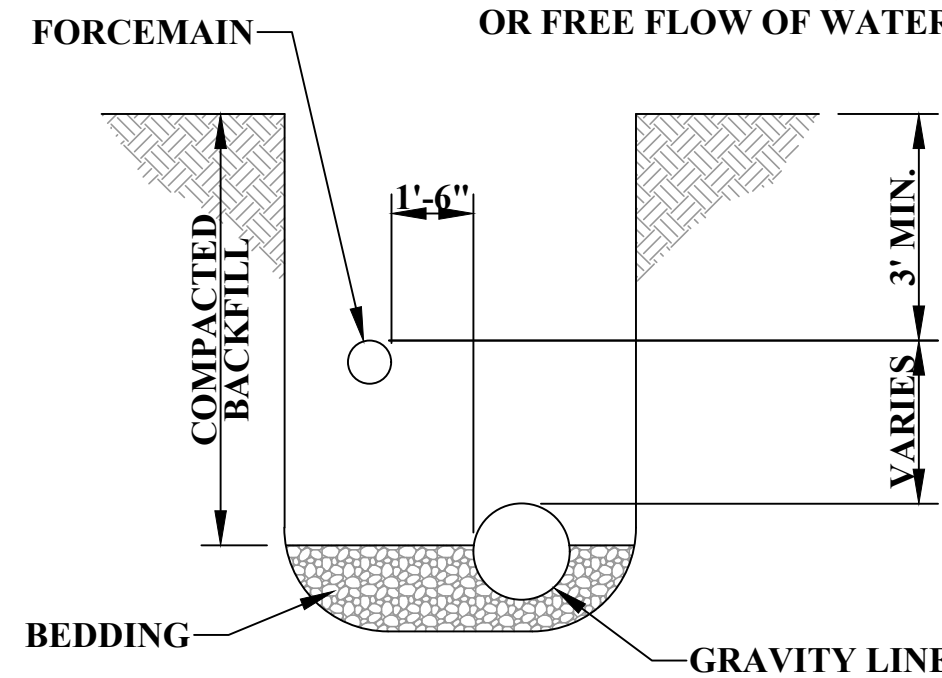


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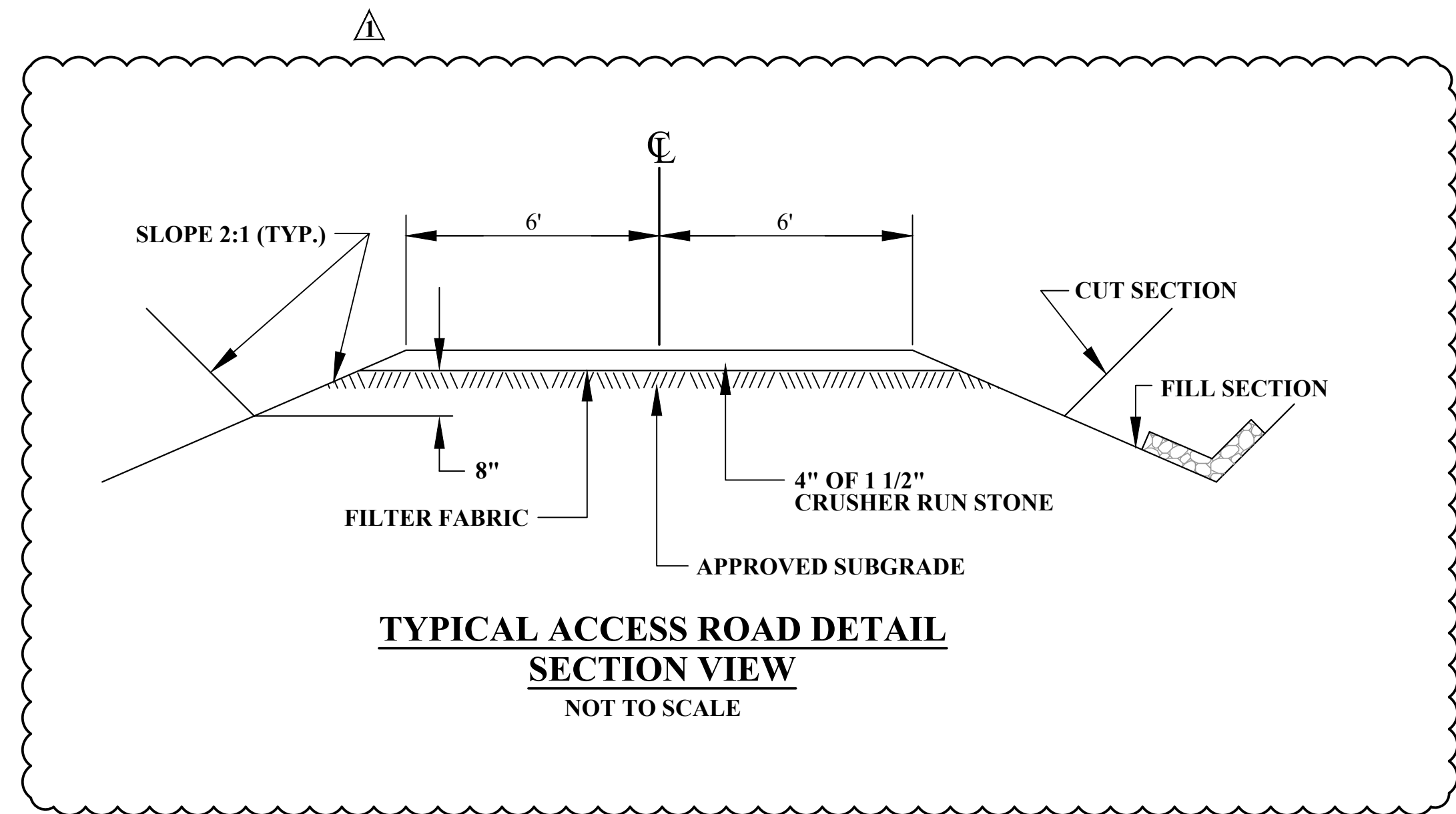


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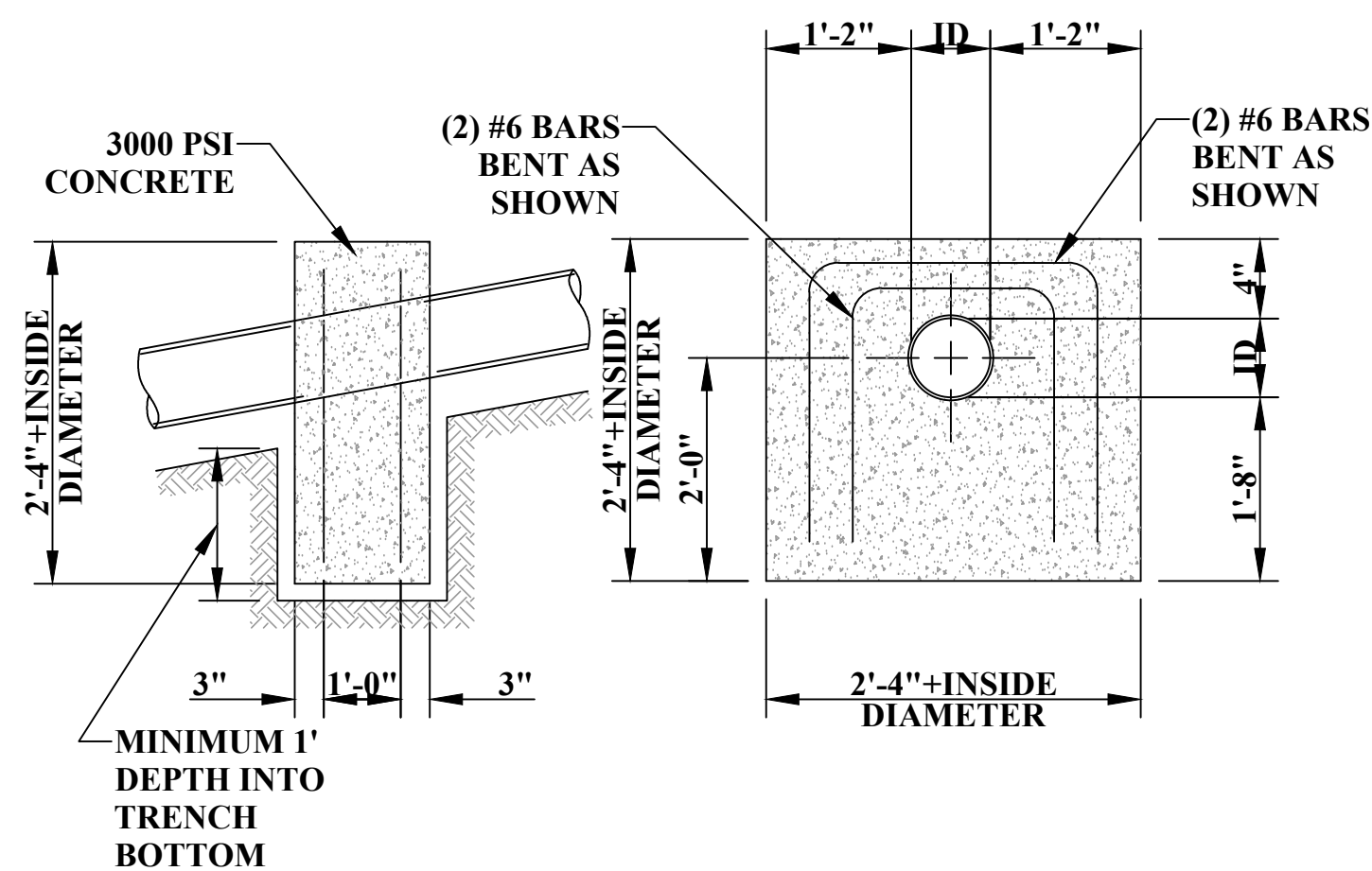
NOTE: ALL LINES AND/OR CASINGS SHALL BE INSTALLED UNDER OR AROUND DRAINAGE STRUCTURES IN A MANNER THAT WILL NOT OBSTRUCT THE MAINTENANCE, REPLACEMENT, OR FREE FLOW OF WATER.



**DETAIL SHOWING GRAVITY SEWER LINE & FORCE MAIN IN SAME TRENCH**  
NOT TO SCALE

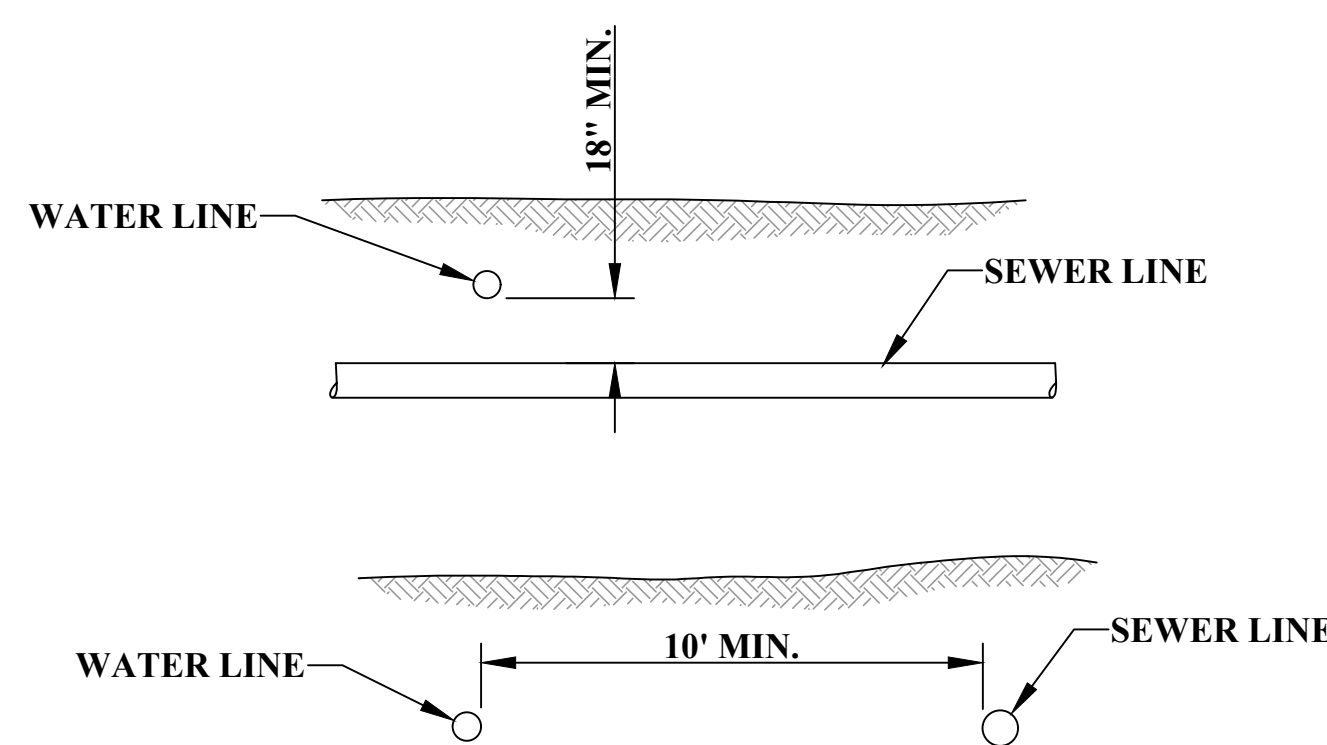


**TYPICAL ACCESS ROAD DETAIL**  
**SECTION VIEW**  
NOT TO SCALE

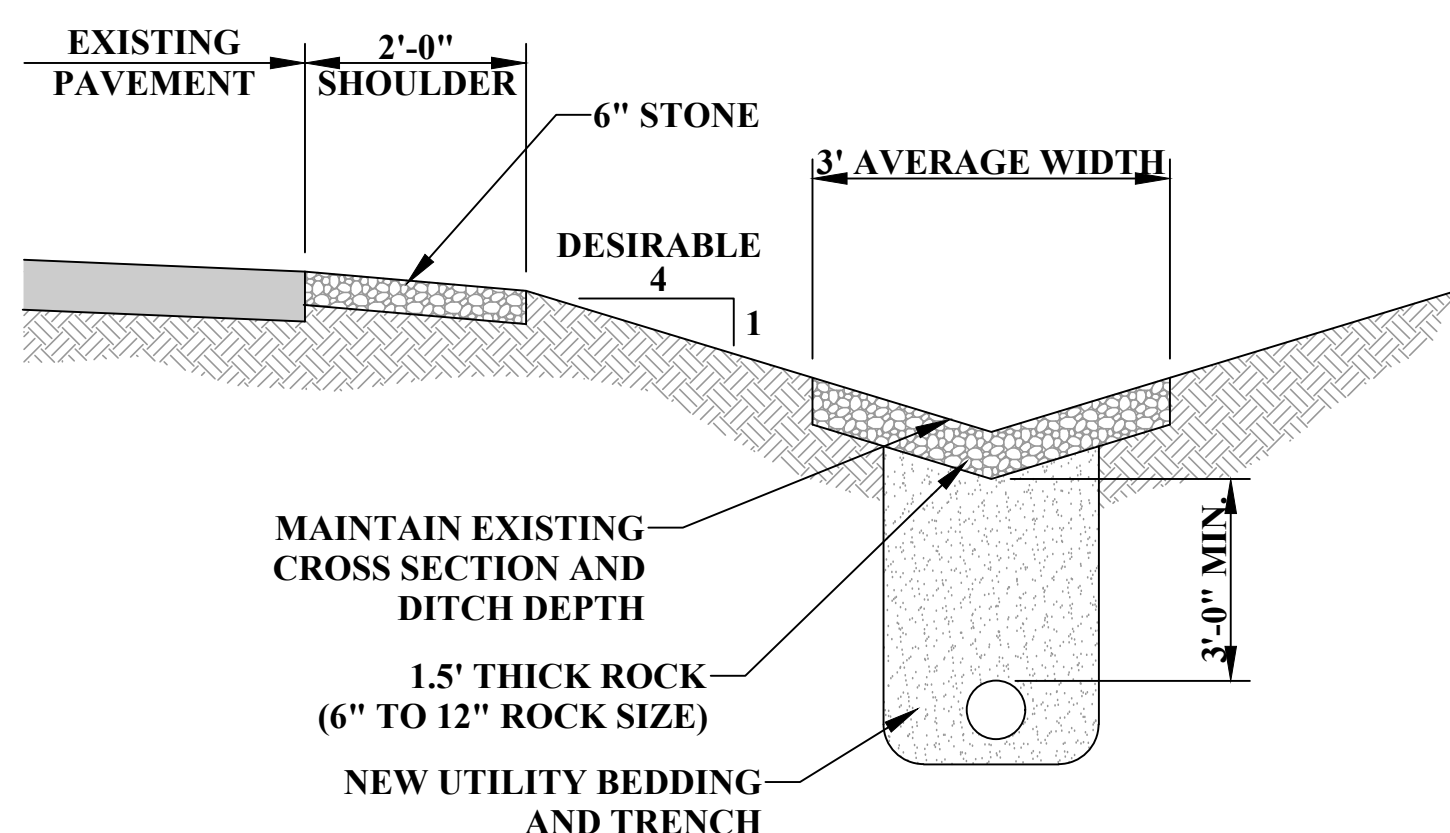


NOTE: USE ANCHORS WHEN SLOPES ARE GREATER THAN 20%  
 WHEN SLOPE IS: 20% TO 35% - USE 36' SPACING MAX. C/C  
 35% TO 50% - USE 24' SPACING MAX. C/C  
 50% & UP - USE 16' SPACING MAX. C/C

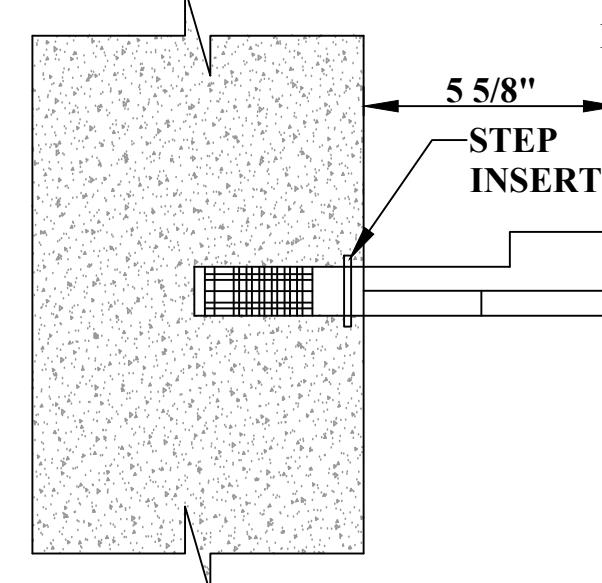
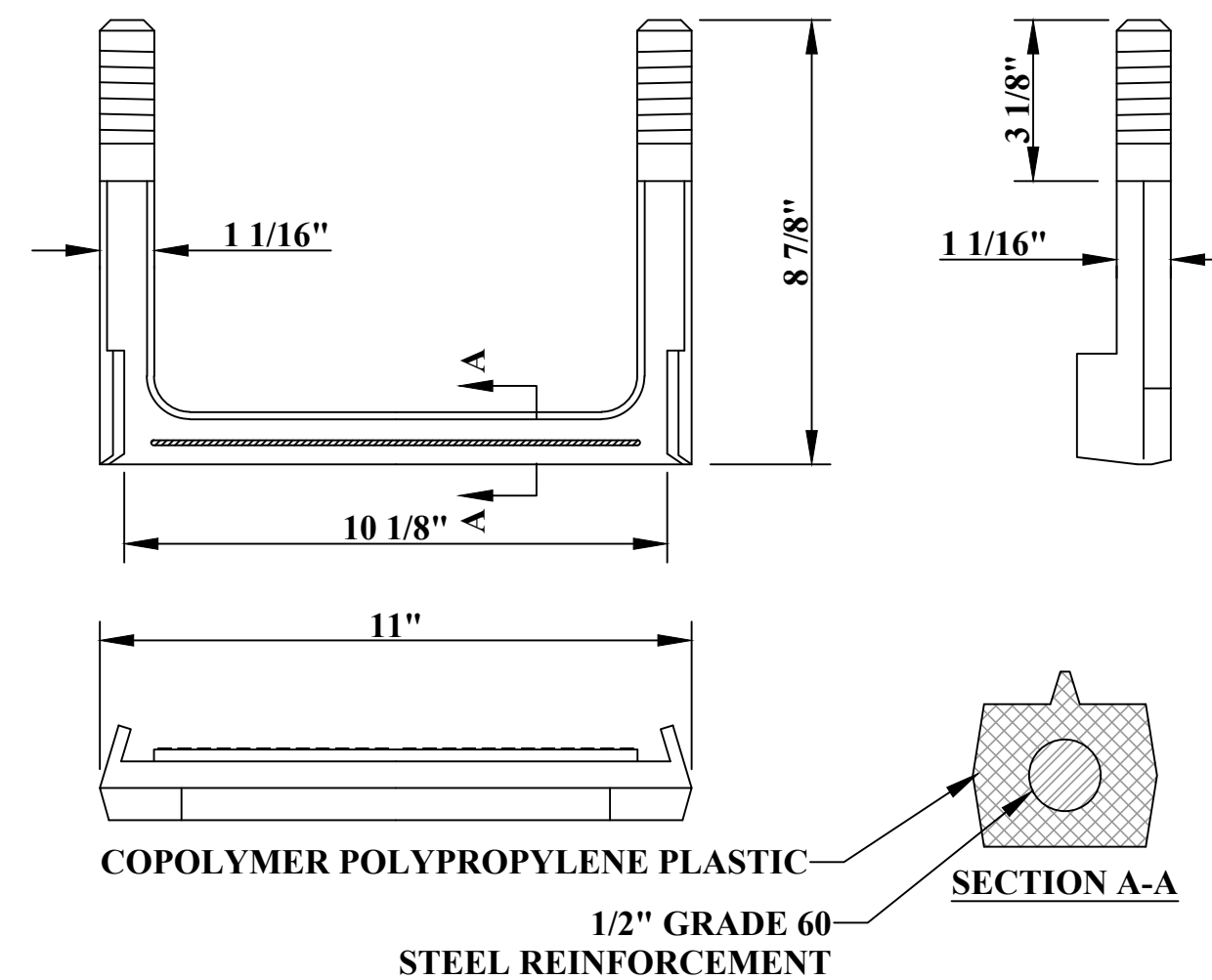
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NOT TO SCALE



**DETAIL SHOWING SEPARATION OF SEWER AND WATER LINES**  
NOT TO SCALE

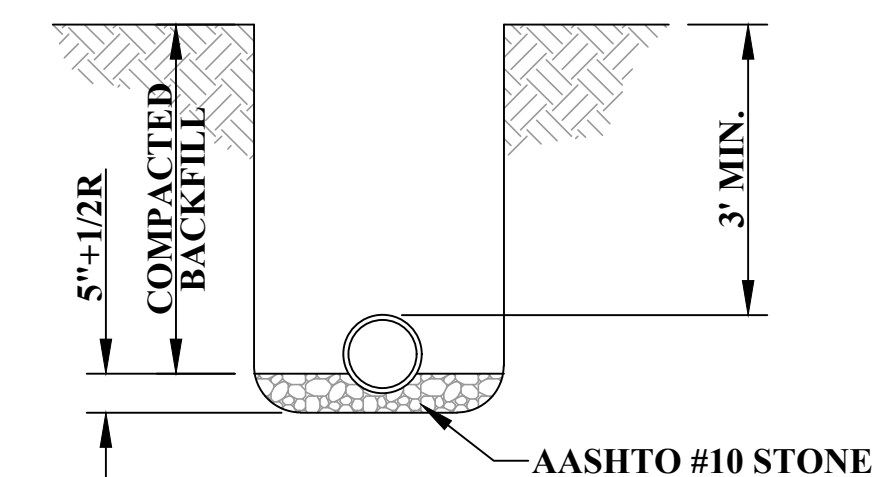


**WVDOH ROCK LINED DITCH DETAIL**  
NOT TO SCALE



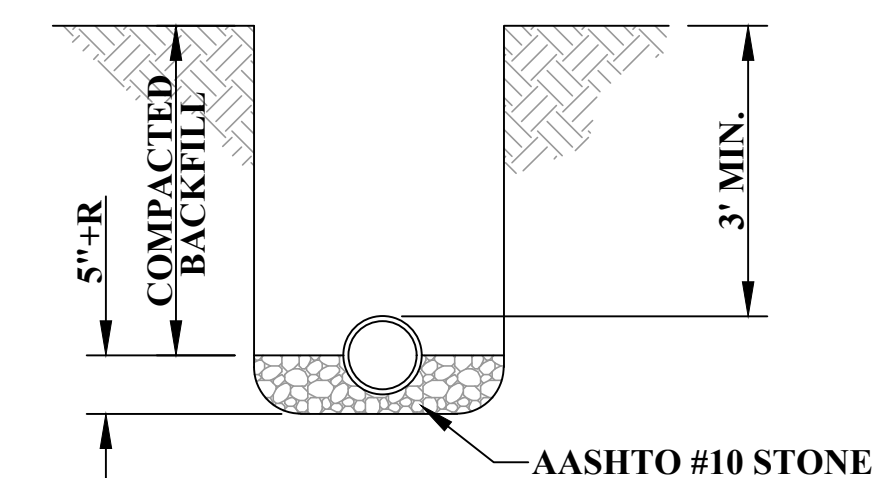
NOTES: 1) MANHOLE STEPS SHALL BE IMPACT RESISTANT CO-POLYMER POLYPROPYLENE PLASTIC MOLDED AROUND 1/2" DIAMETER GRADE 60 REINFORCED STEEL. STEPS SHALL BE STANDARD BLACK IN COLOR AND SHALL HAVE NON-SLIP TREAD ON BOTH SIDES.  
 2) TOP STEP SHALL NOT BE GREATER THAN 2'-0" FROM TOP OF MANHOLE.  
 3) LANDING TO BOTTOM STEP SHALL NOT BE GREATER THAN 2'-0".

**MANHOLE STEP DETAIL**  
NOT TO SCALE  
 MEETS: ASTM C-478  
 ASTM D-4101  
 ASTM A-615  
 AASHTO M-199



**BEDDING FOR RIGID PIPE**

NOTE: ALL LINES AND/OR CASINGS SHALL BE INSTALLED UNDER OR AROUND DRAINAGE STRUCTURES IN A MANNER THAT WILL NOT OBSTRUCT THE MAINTENANCE, REPLACEMENT, OR FREE FLOW OF WATER.



**BEDDING FOR NON-RIGID PIPE**

**TYPICAL CROSS SECTION OF TRENCHES**  
NOT TO SCALE

**ADDENDUM 1**

NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - ADDED TYPICAL ACCESS ROAD DETAIL

SCALE: AS SHOWN	DATE: APRIL 2021
DRAWN: K. PHILLIPS	DATE: APRIL 2021
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APPROVED: C. SMITH	DATE: APRIL 2021
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MILTON MUNICIPAL UTILITY COMMISSION  
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SHEET No.  
**DET-3**

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 LAYOUT: Flea Market  
 USER: levin\_phillips

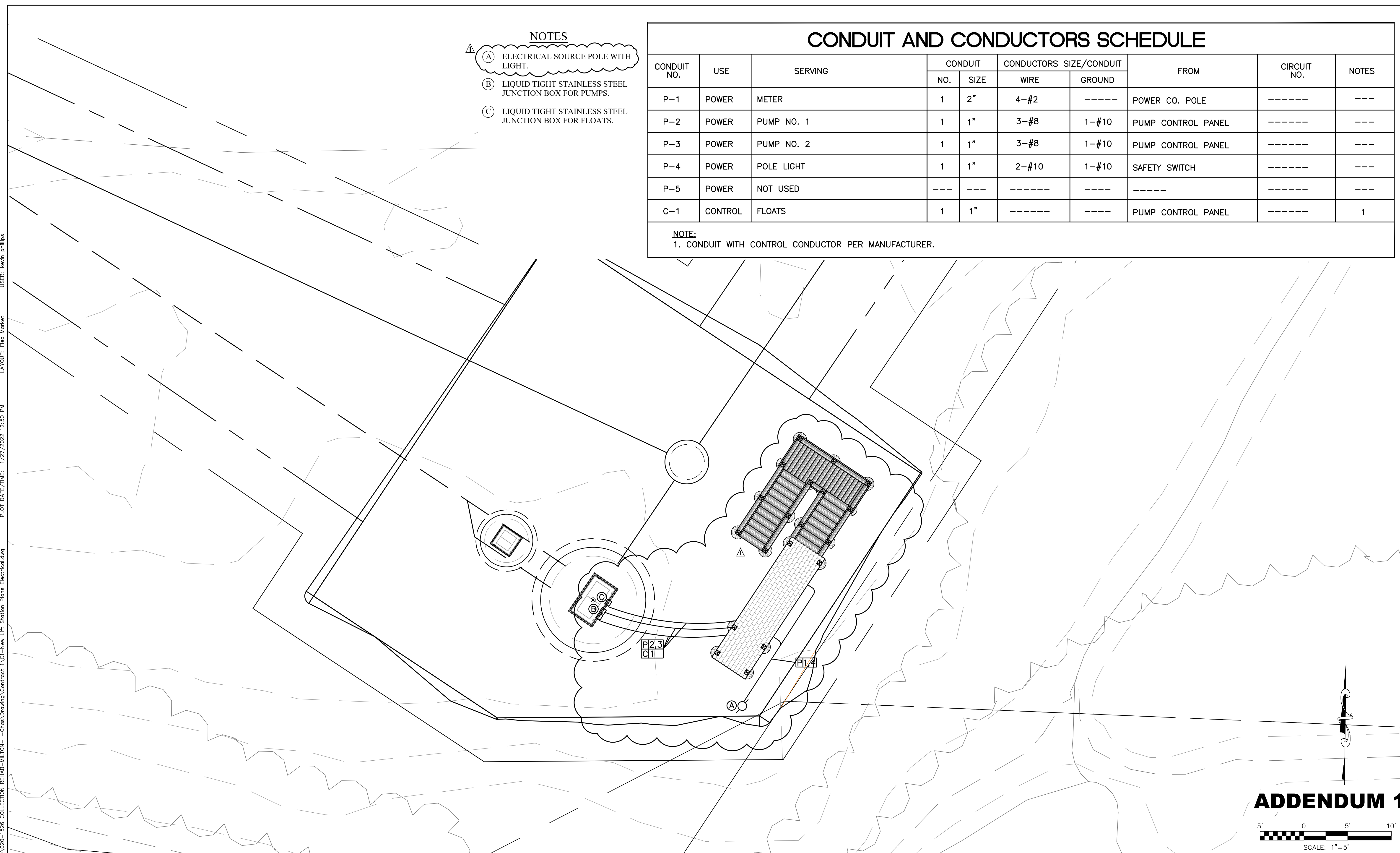
**NOTES**

- (A) ELECTRICAL SOURCE POLE WITH LIGHT.
- (B) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX FOR PUMPS.
- (C) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX FOR FLOATS.

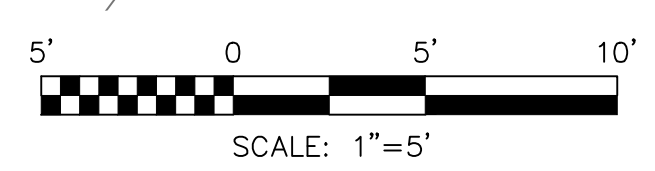
**CONDUIT AND CONDUCTORS SCHEDULE**

CONDUIT NO.	USE	SERVING	CONDUIT		CONDUCTORS SIZE/CONDUIT		FROM	CIRCUIT NO.	NOTES
			NO.	SIZE	WIRE	GROUND			
P-1	POWER	METER	1	2"	4-#2	-----	POWER CO. POLE	-----	---
P-2	POWER	PUMP NO. 1	1	1"	3-#8	1-#10	PUMP CONTROL PANEL	-----	---
P-3	POWER	PUMP NO. 2	1	1"	3-#8	1-#10	PUMP CONTROL PANEL	-----	---
P-4	POWER	POLE LIGHT	1	1"	2-#10	1-#10	SAFETY SWITCH	-----	---
P-5	POWER	NOT USED	---	---	-----	----	-----	-----	---
C-1	CONTROL	FLOATS	1	1"	-----	----	PUMP CONTROL PANEL	-----	1

**NOTE:**  
1. CONDUIT WITH CONTROL CONDUCTOR PER MANUFACTURER.



**ADDENDUM 1**



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NO.	BY	DATE	DESCRIPTION	PHONE (304)-343-7601	FAX (304)-343-7604	020-1526				



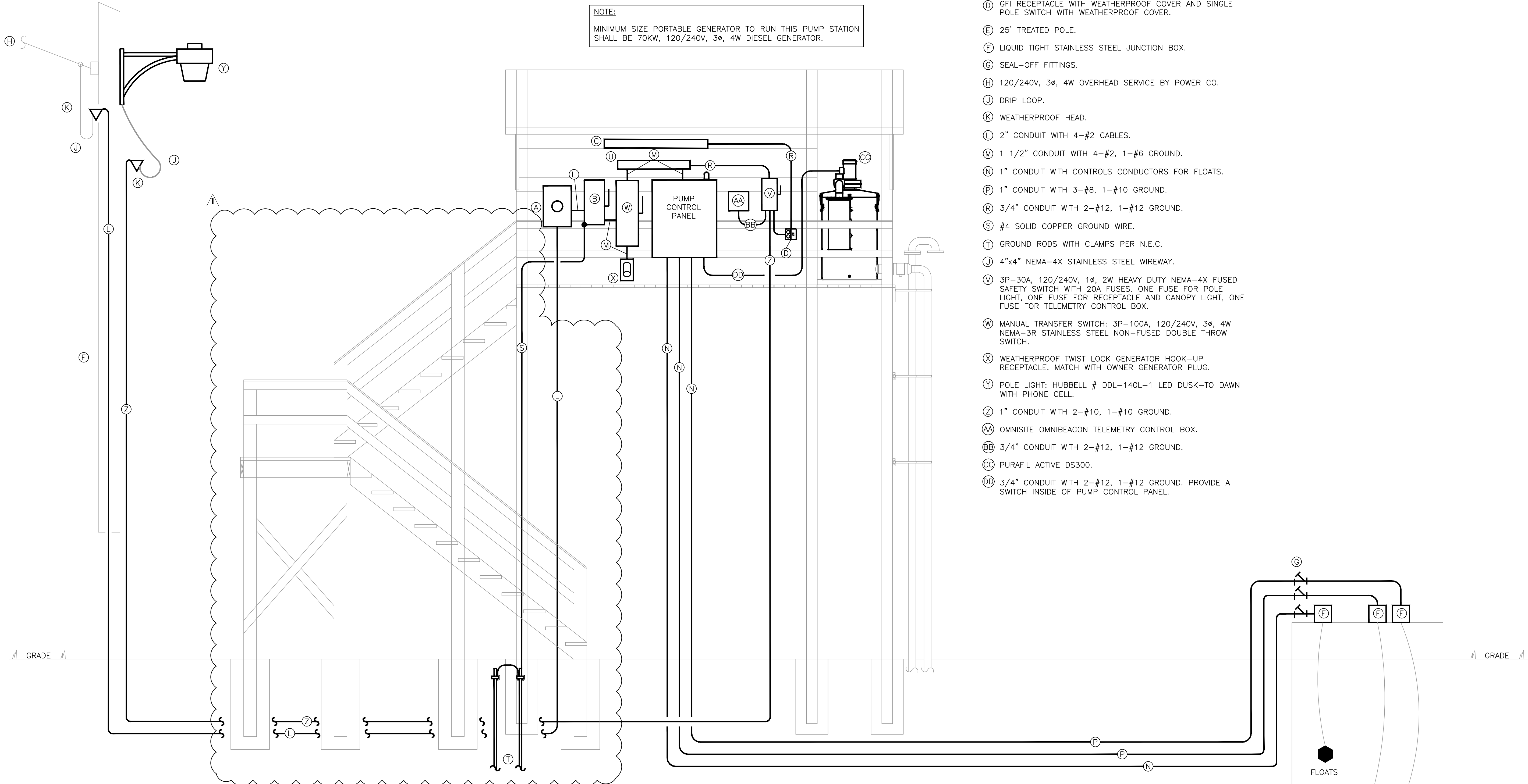
# START STEPS FOR PORTABLE GENERATOR

- STEP-1: (0 SEC. DELAY) 1. LIGHTING, RECEPTACLES AND MISCELLANEOUS  
2. PUMP NO. 1
- STEP-2: (10 SEC. DELAY) 1. PUMP NO. 2

**NOTE:**  
MINIMUM SIZE PORTABLE GENERATOR TO RUN THIS PUMP STATION SHALL BE 70KW, 120/240V, 3Ø, 4W DIESEL GENERATOR.

# RISER NOTES:

- (A) METER.
- (B) MAIN SWITCH: 3P-100A, 120/240V, 3Ø, 4W HEAVY DUTY NEMA-4X STAINLESS STEEL SERVICE RATED FUSED SAFETY SWITCH WITH 100A FUSES.
- (C) CANOPY LIGHT: LITHONIA #FEM48 4000LM IMAFL 4' LED ENCLOSED AND GASKETED ACRYLIC LINEAL RIBBED LENS.
- (D) GFI RECEPTACLE WITH WEATHERPROOF COVER AND SINGLE POLE SWITCH WITH WEATHERPROOF COVER.
- (E) 25' TREATED POLE.
- (F) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX.
- (G) SEAL-OFF FITTINGS.
- (H) 120/240V, 3Ø, 4W OVERHEAD SERVICE BY POWER CO.
- (J) DRIP LOOP.
- (K) WEATHERPROOF HEAD.
- (L) 2" CONDUIT WITH 4-#2 CABLES.
- (M) 1 1/2" CONDUIT WITH 4-#2, 1-#6 GROUND.
- (N) 1" CONDUIT WITH CONTROLS CONDUCTORS FOR FLOATS.
- (P) 1" CONDUIT WITH 3-#8, 1-#10 GROUND.
- (R) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND.
- (S) #4 SOLID COPPER GROUND WIRE.
- (T) GROUND RODS WITH CLAMPS PER N.E.C.
- (U) 4"x4" NEMA-4X STAINLESS STEEL WIREWAY.
- (V) 3P-3Ø, 120/240V, 1Ø, 2W HEAVY DUTY NEMA-4X FUSED SAFETY SWITCH WITH 20A FUSES. ONE FUSE FOR POLE LIGHT, ONE FUSE FOR RECEPTACLE AND CANOPY LIGHT, ONE FUSE FOR TELEMETRY CONTROL BOX.
- (W) MANUAL TRANSFER SWITCH: 3P-100A, 120/240V, 3Ø, 4W NEMA-3R STAINLESS STEEL NON-FUSED DOUBLE THROW SWITCH.
- (X) WEATHERPROOF TWIST LOCK GENERATOR HOOK-UP RECEPTACLE. MATCH WITH OWNER GENERATOR PLUG.
- (Y) POLE LIGHT: HUBBELL # DDL-140L-1 LED DUSK-TO DAWN WITH PHONE CELL.
- (Z) 1" CONDUIT WITH 2-#10, 1-#10 GROUND.
- (AA) OMNISITE OMNIBEACON TELEMETRY CONTROL BOX.
- (BB) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND.
- (CC) PURAFIL ACTIVE DS300.
- (DD) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND. PROVIDE A SWITCH INSIDE OF PUMP CONTROL PANEL.



**ELECTRICAL RISER DIAGRAM FOR FLEA MARKET LIFT STATION**  
SCHEMATIC

# ADDENDUM 1

LAYOUT TAB: File Market\_LS  
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PLOT DATE/TIME: 1/27/2022 1:21 PM  
USER: kevin\_phillips

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NO.	BY	DATE	DESCRIPTION
1	KMP	1/2022	ADDENDUM 1 - ADDED REVISED STAIR ACCESS

SCALE: 1/2" = 1'-0"	DATE: APRIL 2021
DRAWN: F. DELDUQUE	DATE: APRIL 2021
CHECKED: C. SMITH	DATE: APRIL 2021
APPROVED: C. SMITH	DATE: APRIL 2021
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No.	
CONTRACT No.	1
PROJECT No.	020-1526

MILTON MUNICIPAL UTILITIES COMMISSION  
CABELL COUNTY, WEST VIRGINIA  
MORRIS MEMORIAL  
SANITARY SEWER EXTENSION  
FLEA MARKET LS ELECTRICAL RISER DIAGRAM

SHEET No.  
**E-2**



CAD FILE: R:\020\020-1526 COLLECTION REHAB-MILTON--Chas\Drawing\Contract 1\C1-New Lift Station Plans Electrical.dwg  
 USER: kevin.phillips  
 LAYOUT: Grand Patrician  
 PLOT DATE/TIME: 1/24/2022 11:10 AM

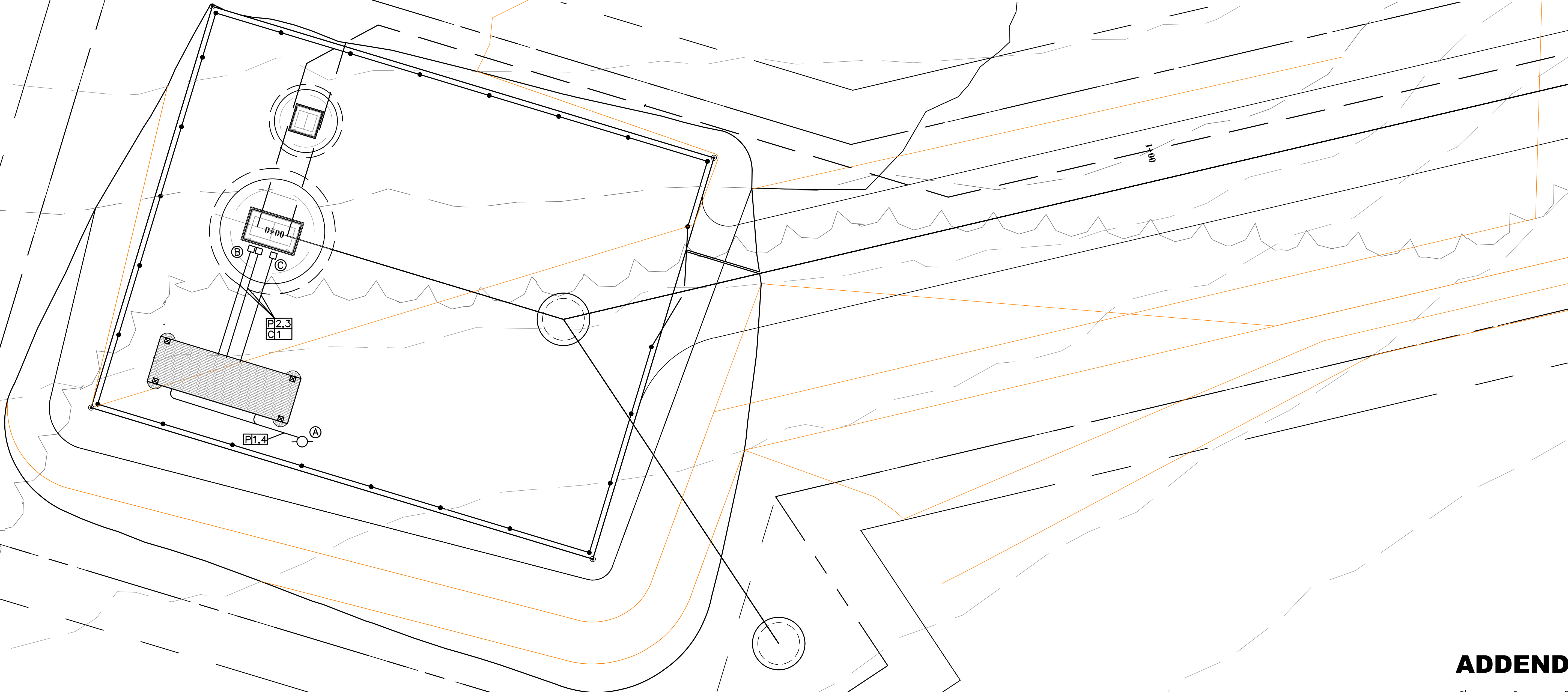
**NOTES**

- (A) ELECTRICAL SERVICE POLE WITH LIGHT.
- (B) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX FOR PUMPS.
- (C) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX FOR FLOATS.

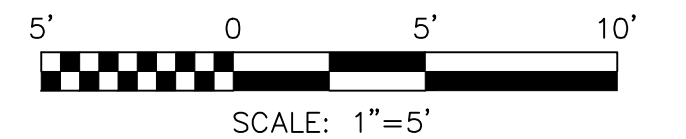
**CONDUIT AND CONDUCTORS SCHEDULE**

CONDUIT NO.	USE	SERVING	CONDUIT		CONDUCTORS SIZE/CONDUIT		FROM	CIRCUIT NO.	NOTES
			NO.	SIZE	WIRE	GROUND			
P-1	POWER	METER	1	3"	4-1/0	-----	POWER CO. POLE	-----	---
P-2	POWER	PUMP NO. 1	1	1 1/4"	3-#4	1-#8	PUMP CONTROL PANEL	-----	---
P-3	POWER	PUMP NO. 2	1	1 1/4"	3-#4	1-#8	PUMP CONTROL PANEL	-----	---
P-4	POWER	POLE LIGHT	1	1"	2-#10	1-#10	SAFETY SWITCH	-----	---
P-5	POWER	NOT USED	---	---	-----	----	-----	-----	---
C-1	CONTROL	FLOATS	1	1"	-----	----	PUMP CONTROL PANEL	-----	1

**NOTE:**  
1. CONDUIT WITH CONTROL CONDUCTOR PER MANUFACTURER.



**ADDENDUM 1**



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1	KMP	1/2022	ADDENDUM 1 - REVISED NOTE																	
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